GE Corporate
Environmental Programs

Robert G. Gibson
Engineering Project Manager
Hudson River Project

General Electric Company
320 Great Oaks Office Park
Suite 323
Albany, NY 12203
(518) 862-2736
Fax: (518) 862-2731
E-Mail: Bob.Gibson@corporate.ge.com
Pager: 518-349-1732

February 11, 2000

Douglas J. Tomchuk
U.S. EPA Region II
Emergency & Remedial Response Division
290 Broadway, 20th Floor
New York, NY 10007

RE: HUDSON RIVER MONITORING PROGRAM 1998 SUMMARY REPORT AND UPDATED SAMPLING AND ANALYSIS PLAN

Dear Mr. Tomchuk:

The General Electric Company (GE) is forwarding the following reports for your information: *"Hudson River Monitoring Program – 1998 Summary Report"* and *"Post-Construction Remnant Deposit Monitoring Program – Sampling and Analysis Plan"*. These reports have been prepared by Quantitative Environmental Analysis, LLC (QEA). Data validation of the 1998 monitoring data was completed by O'Brien and Gere Engineers, Inc. (OBG).

The Sampling and Analysis Plan (SAP) has been updated to reflect QEA as the contractor responsible for implementing the monitoring program. The SAP and attached Quality Assurance Project Plan (QAPP) have also been updated to reflect the requirements of the new EPA guidance on QAPPs dated November 1999.

Should you have any questions, please let me know.

Sincerely,

Robert G. Gibson

RGG/bi

316186

Enclosure

cc: Mr. William Daigle - NYSDEC
Mr. Robert Montione - NYSDOH
Mr. Jay Field – NOAA
Mr. John Haggard - GE
Mr. Mark LaRue – QEA (w/o enclosure)
Ms. Diane Achman – QEA (w/o enclosure)
Mr. Bob Wagner – NEA (w/o enclosure)

Quantitative Environmental Analysis, LLC

FINAL

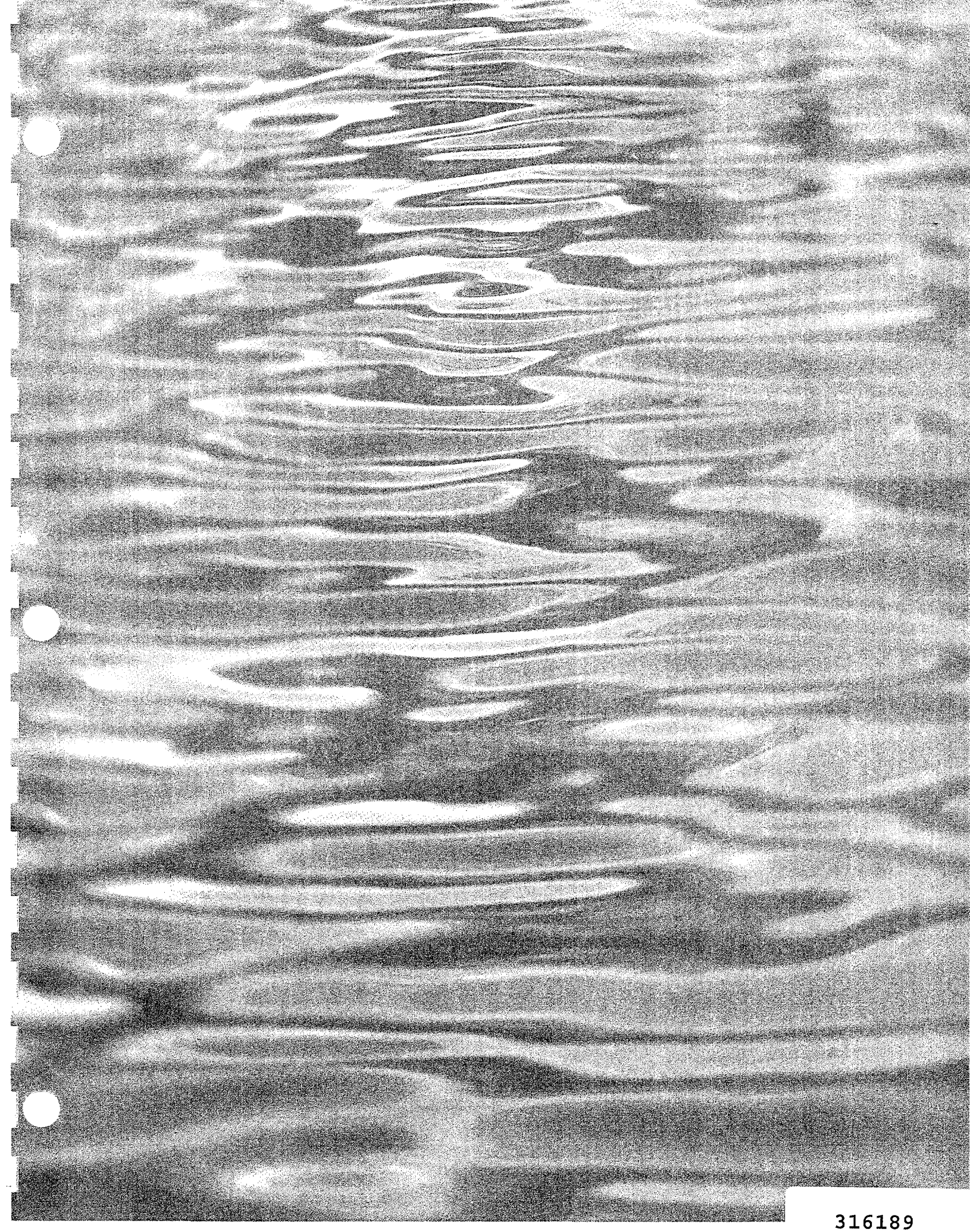
Hudson River Monitoring Program

1998 Summary Report

Prepared for:

General Electric
Albany, NY

February 2000



FINAL

Hudson River Monitoring Program

1998 Summary Report

Prepared for:

General Electric
Albany, New York

Job Number:
GENhrm 131

February 2000

QEA, LLC
February 2000

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

FIGURES (Cont.)

FIGURES (Cont.)

LIST OF APPENDICES

INTRODUCTION

SECTION 1
INTRODUCTION

This annual summary report has been developed by Quantitative Environmental Analysis, LLC (QEA) on behalf of the General Electric Company (GE) to document the results of the 1998 Hudson River Monitoring Program (HRMP). The monitoring activities were conducted by O'Brien & Gere Engineers, Inc. (O'Brien & Gere), and included activities performed for the Post-Construction Remnant Deposit Monitoring Program (PCRDMP) and additional sampling and analysis programs. The monitoring was performed in accordance with the requirements of a consent decree (Consent Decree 1990; 90- CV-575) between GE and the federal government, and a Sampling and Analysis Plan (SAP). This SAP includes a Field Sampling Plan (FSP; O'Brien & Gere 1992a), a Quality Assurance Project Plan (QAPP; O'Brien & Gere, 1992b), and a Health and Safety Plan (HASP; O'Brien & Gere, 1992c).

1.1 BACKGROUND

A detailed description of the environmental history of the Hudson River is presented in a report prepared by QEA entitled "*PCBs in the Upper Hudson River, Volume 1 Historical Perspective and Model Overview*" (QEA, 1999a). A summary of this history is presented below.

Over an approximate 30 year period, ending in 1977, two GE capacitor manufacturing facilities in Fort Edward and Hudson Falls, New York discharged PCBs into the upper Hudson River (Figure 1-1). Much of the PCBs were contained in sediment deposited in the pool behind the Fort Edward Dam located at Hudson River Mile (HRM)[1] 194.9 (Figure 1-2). Removal of the 100-year-old dam by Niagara Mohawk Power Corporation in 1973 dropped water levels in the pool.

[1] For reference, the HRM system begins at the southern tip of Manhattan (the battery) in New York City, and increases travelling upstream.

As a result, an estimated 1.5 million cubic yards of sediment deposits (referred to as the Remnant Deposits) were left along the banks of the river up to 1.5 miles upstream of Fort Edward (NUS 1984).

Five discrete Remnant Deposits (Figure 1-2) were identified upstream of Fort Edward (NUS 1984). Remnant Site 1 originally appeared as an island; however, floods in 1976 and 1983 reportedly scoured much of the sediment associated with this deposit, submerging portions of the island during high flow periods (NUS 1984). Remnant Site 1 currently consists of several small islands spread out over approximately 1,500 feet, centered at HRM 196.1. Remnant Site 2 occupies approximately eight acres along the west bank of the river at HRM 195.7. Remnant Site 3 is located along the east bank of the river at HRM 195.5 and encompasses approximately 19 acres. Remnant Site 4 occupies 21 acres located on the west and south banks of the river where the river bends sharply to the east. Remnant Site 5 is located immediately upstream of the old Fort Edward Dam on the north bank of the Hudson River occupying approximately four acres (NUS 1984). Several limited remedial activities were performed on the Remnant Deposits by New York State between 1974 and 1978 (O'Brien & Gere 1996; NUS 1984).

A feasibility study (FS) of the Hudson River Superfund site, which included Hudson River sediment and the Remnant Deposits, was performed by NUS (1984) for the United States Environmental Protection Agency (USEPA). The purpose of the FS was to examine potential remedial alternatives and recommend one that met the goals and objectives established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In September 1984, USEPA issued a Record of Decision (ROD; USEPA 1984) for the Hudson River, which specified no action for Hudson River sediment. Additionally, the ROD contained plans for in-place containment of Remnant Sites 2, 3, 4, and 5 by application of soil cover, vegetation of the cover and bank stabilization (USEPA 1984). No action was selected for Site 1. The consent decree (Consent Decree 1990; 90- CV-575) with the federal government specified the scope of the remediation work to be done, and required post-construction monitoring. In-place

containment of the Remnant Deposits was completed by General Electric during the fall of 1990 (O'Brien & Gere 1996; JL Engineering 1992). The objectives of this containment were to control the release of PCBs from the Remnant Deposits to the Hudson River, and to minimize potential human exposure to PCBs as a result of direct contact or volatilization (Consent Decree, 1990). Post-construction monitoring has been conducted since 1991.

1.2 ADDITIONAL REMEDIAL ACTIVITIES

GE has performed additional remedial activities at the GE Hudson Falls plant site and the adjacent abandoned Allen Mill located on Bakers Falls in Hudson Falls, N.Y. During the post-construction monitoring performed by GE, a significant increase in water column PCB loading was detected after mid-September 1991. This loading originated upstream of the Fort Edward and downstream of the Bakers Falls Bridge stations (Figure 1-2). Within a week's time, PCB levels within the river increased from less than 100 ng/L to approximately 4000 ng/L (O'Brien & Gere, 1993). After significant investigation, the source of the increased water column PCB loading was attributed to the collapse of a wooden gate structure within an abandoned paper mill (Allen Mill) located adjacent to the Hudson Falls capacitor plant on Bakers Falls (O'Brien & Gere, 1994a; Figure 1-2). The gate had kept water from flowing through a tunnel cut into bedrock beneath the mill, presumably since the mills closure in the early 1900s. The tunnel contained dense non-aqueous phase liquid (DNAPL) PCBs that had migrated from beneath the Hudson Falls plant site through subsurface bedrock fractures and into the tunnel.

In January 1993, with the cooperation of Adirondack Hydro Development Corporation (AHDC) and the NYSDEC, the water flow through the mill was largely controlled. By spring 1993, two of the three waterways within the mill were isolated from the river and the removal of PCB containing material from within the Allen Mill commenced. Removal activities continued until the fall of 1995. Approximately 45 tons of PCBs were contained in the 3,430 tons of sediment removed from the Allen Mill (O'Brien & Gere, 1996a).

In 1994, during the construction of the new dam at Bakers Falls, PCB DNAPL was observed seeping from bedrock fractures in the portion of the falls adjacent to the Hudson Falls plant site. A number of actions have been taken to contain and control these PCB seeps including grouting of bedrock fractures, manual collection of PCB oils when accessible, and the installation and operation of pumping wells to hydraulically control the seeps (HIS GeoTrans, 1999). The release of PCB DNAPL through these bedrock seeps has declined significantly in response to mitigation efforts. In an additional effort to control the seeps, sediment and debris from the Hudson River in the vicinity of the original wastewater outfall was removed in 1998. The original outfall was located immediately upstream of the dam and the area where the seeps are concentrated.

In addition to the activities to control riverbed PCB seeps and PCB movement from the Allen Mill, GE has conducted an intensive investigation and remedial program at the Hudson Falls plant site. DNAPL PCB have been discovered in the fractured bedrock below the site. To date, over 4,100 gallons of DNAPL have been removed from the subsurface (GE, 1999). A ground water recovery system has been installed to create a hydraulic barrier between the site and the river, not only to collect PCB-containing ground water but also DNAPL (HSI GeoTrans, 1999). The effectiveness of this system in reducing PCB flux from the site to the river is being assessed through the measurement of PCB levels in the river adjacent to and downstream of the site.

1.3 PREVIOUS MONITORING ACTIVITIES SUMMARY

1.3.1 Construction Phase Monitoring

An environmental monitoring program was initiated prior to, and continued throughout the in-place containment construction activities performed on the Remnant Deposits. Between 1989 and 1991, this environmental monitoring was conducted and documented by Harza Engineering Company (Harza, 1990, 1992a, 1992b). The environmental activities performed by Harza included the collection and analysis of water, sediment, air, and aquatic biota samples employing various

techniques. The results of this monitoring indicate that there was little, if any, measurable concentrations of PCB leaving the Remnant Deposit areas.

1.3.2 Post-Construction Monitoring

Beginning in 1991, the water column of the Hudson River has been monitored for PCBs utilizing state-of-the-art capillary column analytical techniques with a total PCB method detection limit (MDL) of 11 ng/L (O'Brien & Gere, 1992). The PCRDMP was initiated by O'Brien & Gere in 1992, and has been performed on an annual basis since. Annual reports have been prepared summarizing the results of each year's activities (O'Brien & Gere, 1993, 1994b, 1995, 1996b, 1997, 1998b). QEA began monitoring activities on the Hudson River in February of 1999.

1.4 PROJECT OBJECTIVES

The objectives of the HRMP are to:

- monitor the effectiveness of the remedial action performed on the Remnant Deposits;
- monitor the effectiveness of remediation activities conducted at, and adjacent to, the GE Hudson Falls plant site;
- provide data to evaluate the significance of other sources of PCBs to the Hudson River; and
- allow continued evaluation of long term trends in PCB concentrations and composition in Hudson River water.

1.5 REPORT ORGANIZATION

This remainder of this report is organized as follows:

Section 2 - presents the methods and materials used to perform the monitoring program.

Section 3 - presents the results and a discussion for monitoring performed for each sampling location on a station by station basis, and presents a spatial and temporal evaluation of the monitoring results for the entire program.

Section 4 – presents a summary of the results of the 1998 monitoring program.

METHODS

Section 2

Quantitative Environmental Analysis, LLC

SECTION 2
METHODS

2.1 ROUTINE WATER SAMPLING LOCATIONS

Water column samples were obtained on a weekly basis from seven stations on the river during 1998. The routine HRMP sampling stations are described in detail in Table 2-1, illustrated in Figure 1-2, and are summarized in the table below. The station descriptions are generally consistent with the nomenclature used in the GE Hudson River Database.

Sampling Station	Approximate HRM	Significance
Bakers Falls Bridge	197.0	Upstream (background).
Plunge Pool	196.9	Immediately downstream of GE Hudson Falls plant site area, indicator of source activity.
Boat Launch	196.9	Immediately downstream of GE Hudson Falls plant site area, adjacent to Allen Mill tailrace tunnel outlet, indicator of source activity.
Route 197 Bridge	194.2	First monitoring station downstream of the Remnant Deposit reach of the Hudson River.
TID-WEST	188.5	Sampled historically to monitor PCB concentrations in water flowing out of Thompson Island Pool. Data collected from this station are biased high. Sampling continues to provide continuity in database.
TID-PRW2	188.49	Sampling initiated at this location in 1997 to provide more representative data in vicinity of Thompson Island Dam.
Schuylerville	181.4	Furthest downstream station routinely monitored.

2.1.1 Sampling Bias at TID-WEST

Concerns regarding the representativeness of the TID-WEST sampling station are summarized in Table 2-1, and discussed in detail in a report entitled "*Thompson Island Pool Sediment PCB Sources*" (QEA, 1998). The results of several investigations conducted throughout Thompson Island Pool (TIP), and adjacent to and downstream of TID, indicated that the PCB concentrations in samples collected from the western dam abutment of TID (TID-WEST) are biased high compared to the bulk of the flow over Thompson Island Dam (TID). This bias is likely due to the influence of near shore sediment PCB sources located just upstream of the dam, which increase

the PCB concentrations in water near the shoreline, biasing samples collected from TID-WEST. Concerns regarding the sampling bias have resulted in the addition of the sampling station at a location downstream of the dam (TID-PRW2; Figure 1-2) considered to be more representative of cross-sectional average conditions. Therefore, data from the TID-PRW2 sampling station have been used for the much of the interpretation presented later in this report. However, the sampling program has continued to include the TID-WEST station to provide data that are comparable to historical data collected at this location, facilitating evaluation of long term trends in PCB concentration.

Data collected from the TID-WEST and TID-PRW2 sampling stations are being evaluated in 1999 to identify relationships between the two sites. Changes in the sampling protocol in the vicinity of Thompson Island Dam may be recommended based on the results of this evaluation.

2.2 ROUTINE SAMPLE COLLECTION PROCEDURES

Sample collection procedures are summarized for each sampling location in Table 2-1. Samples consisted of either vertically stratified composites, near bottom grabs, or surface grabs, depending on the river characteristics and access. Vertically stratified composites were collected at all of the routine sampling locations except the plunge pool (near bottom grab), boat launch (near bottom grab), and TID-WEST (surface grab) stations. Duplicate samples were collected at the routine sampling stations and archived to provide a reserve sample in the event that the handling or analysis of the original samples compromised the integrity of the original sample. Laboratory analyses were conducted in accordance with the procedures discussed in Section 2.8.

Sample collection activities were restricted during winter weather conditions due to river ice conditions, particularly at the TID-PRW2 and plunge pool stations. The affected dates and locations are documented in Section 3.

2.3 ADDITIONAL WATER SAMPLING PROGRAMS

2.3.1 January 1998 High Flow Sampling

A high flow event having a return frequency of approximately 15 years (O'Brien & Gere, 1999a) occurred on the upper Hudson River during the week of January 5, 1999. A storm system that included heavy rainfall throughout much of the drainage basin and ambient temperatures above freezing triggered the event. Flow in the river increased from approximately 3,300 cfs on January 6, 1998 to a maximum of 35,300 cfs on January 10, 1998. Flow receded to below 15,000 cfs on January 12, 1998. Ten rounds of sampling conducted during this period focused on the Route 197 Bridge, TID-WEST and the Route 29 Bridge sampling stations. Less frequent sampling was conducted at Bakers Falls Bridge, and from the eastern dam abutment of Thompson Island Dam. Laboratory analyses were consistent with the procedures presented in Section 2.8. Additional details regarding this sampling program are presented in the 1998 High Flow Monitoring Program Report (O'Brien & Gere, 1999a).

2.3.2 Additional Plunge Pool Area Sampling

As described in Section 2.1, water samples were collected from two locations in the plunge pool (Plunge Pool and Boat Launch) on a routine basis throughout 1998. In addition to these routine locations, water samples were collected on several occasions from other locations in the plunge pool. These samples were collected to more fully characterize PCB concentrations in Hudson River water within the plunge pool area, identifying potential source areas of PCBs in DNAPL form. These additional sampling locations are depicted in Figure 2-1, and include the following:

- HR-20 East;
- HR-50 East;
- Plunge Pool – 2 ft;

- Plunge Pool – 16 ft;
- Plunge Pool – 24 ft;
- HR-1 BL;
- HR-2 BL;
- HR-3 BL; and
- HR-4 BL.

The collection methods used to obtain samples at these locations were consistent with the boat launch and plunge pool samples. The measurements associated with the plunge pool samples listed above (2 ft, 16 ft, 24 ft) indicate the approximate depth below the water surface that the sample was collected. Other samples collected in the plunge pool area were obtained approximately 1-2 ft above the bottom. Laboratory analyses were consistent with the procedures presented in Section 2.8. Additional information regarding this sampling is presented in HSI GeoTrans, 1999.

2.3.3 Bakers Falls/Wing Dam Pool Area Sampling

Water sampling and flow monitoring were conducted from several stations on Bakers Falls in 1998, in the vicinity of the wing dam pool (Figure 2-1) to identify potential source areas of PCBs in DNAPL form. These samples were collected from small rivulets that feed isolated pools on the face of the falls, which is typically dry due to operation of the adjacent hydroelectric facility. The small flows originate from water seepage under the dam. Surface grab samples were collected from the small flows and were submitted for laboratory analysis. Laboratory analyses were consistent with the procedures presented in Section 2.8. Additional information regarding this sampling is presented in HSI GeoTrans, 1999. The locations of these sampling stations are illustrated in Figure 2-1, and were designated as follows:

- BFWD-1;
- BFWD-2;
- BFWD-4;

- BFWD-5; and
- BFWD-7.

2.3.4 GE Hudson Falls Facility Pump House IRM

Water sampling was conducted during 1998 to monitor PCB concentrations in the Hudson River during the GE Hudson Falls plant pump house interim remedial measure (IRM) (Figure 2-1). This IRM involved removal of PCB-containing sediment and debris from an isolated area in the river between the pump house and Bakers Falls Dam (Figure 2-1). The IRM was initiated in October of 1997, and continued until the operation was temporarily suspended in January 1998 due to winter weather conditions. IRM activities resumed in July of 1998, and were completed in October 1998. The sediment and debris were removed using diver-assisted pumping and a crane equipped with a clam shell.

The IRM area was isolated from the river by a double silt curtain system that extended from the surface of the water to the water/sediment interface. The monitoring included collection of surface grab samples from within the area isolated from the river (designated as "IRM-IN"), and from a location in the river approximately 5-10 feet away from the silt curtain (designated as "IRM-OUT") (Figure 2-1). These samples were analyzed for PCBs by USEPA Method 8082 and total suspended solids (TSS).

2.4 FLOW MONITORING

The flow rate in the Hudson River is measured to assess the affects of flow on PCB concentrations in water, and to allow the evaluation of PCB loading in the river on a mass basis. The approach for the use of flow data to estimate PCB loading is discussed in Section 3. Flow was monitored at the United States Geological Survey (USGS) gaging station located in Fort Edward (station no. 01327750). This gauging station is located approximately 0.4 miles upstream of the Route 197 Bridge in Fort Edward, near the location of the former Fort Edward Dam (Figure 1-2).

Instantaneous flows are estimated when samples are collected from the Route 197 Bridges by contacting the gauging station and obtaining the river stage. The stage is then converted to flow in cubic feet per second (cfs) based on the rating table developed by USGS. Provisional flow data are also obtained electronically from USGS. Provisional data are made available by USGS prior to quality assurance review; therefore, the data may change when USGS issues finalized data. Flow data after 10/1/98 are provisional data. The data include instantaneous flows recorded every 15 minutes and daily mean flow for the river at Fort Edward. These data are presented in Section 3, and are included in the GE Hudson River Database.

2.5 FIELD DATA

Field data were recorded at the time of sample collection on field log forms. The field log forms are included in Appendix A. The data recorded on the field log forms included:

- Sample location;
- date and time of sample collection;
- sample type;
- sampling method;
- water temperature;
- depths of sample collection;
- QA/QC samples collected, including the location of blind duplicate samples;
- flow rate at Fort Edward USGS gaging station;
- observations of flow over Bakers Falls;
- weather data; and
- other observations and comments.

2.6 EQUIPMENT DECONTAMINATION

New sampling equipment, including a "whale" pump and polyethylene tubing, was used to collect the near-bottom grab samples from the boat launch and the plunge pool during each sampling event; therefore, decontamination was not required. Sampling equipment used for the other routine HRMP sampling locations were decontaminated between uses according to procedures specified in the QAPP (O'Brien & Gere. 1992b). These procedures included rinsing the portions of the equipment that come in contact with samples with acetone, then hexane, and finally distilled water. Waste solvent was containerized and delivered to the laboratory for appropriate disposal.

2.7 SAMPLE HANDLING PROCEDURES

Upon collection, the samples were placed in appropriate containers, chilled to approximately 4°C with ice, and transported to the analytical laboratory in accordance with appropriate chain of custody procedures. Each sample was assigned a unique sample designation identifying sample location, date, and time. Chain of custody procedures and container specifications are presented in the QAPP (O'Brien & Gere, 1992b).

2.8 ANALYTICAL TESTING PROGRAM FOR ROUTINE SAMPLING

Laboratory analyses were performed by Northeast Analytical Inc. (NEA). Water samples were analyzed for congener specific PCBs using method NEA-608 CAP, Rev. 3.0 (NEA, 1990) and total suspended solids (TSS) using USEPA method 160.2. Specific analytical methods and protocols are presented in the QAPP (O'Brien & Gere, 1992b). The method detection limit (MDL) and the practical quantitation limit (PQL) for the congener specific PCB analyses are 11 ng/L and 44 ng/L, respectively (O'Brien & Gere, 1992b). Homolog and congener distributions in samples containing PCBs at concentrations between the MDL and PQL are considered to be estimates due

to a decreased sensitivity of the method for lower chlorinated congeners at these concentrations. PCB concentrations falling between the MDL and PQL are reported with a "P" qualifier.

The congener specific PCB analytical method and data management procedures have been revised to address analytical calibration errors and coelution biases that have been identified (HydroQual, 1997). An error was detected in the original calibration of the Green Bay mixed Aroclor standard used by GE for DB-1 analyses (USEPA, 1987). The congener distribution of the Green Bay standard was apparently miscalculated, predominantly for components of DB-1 Peak 5, and a revision to the calibration was later published (USEPA, 1994). NEA has revised the congener specific PCB analytical method to incorporate the use of this revised calibration.

The DB1 peak coelution error resulted from the assumptions developed for deconvolution of peaks containing congeners with different chlorination levels (mixed peaks), which were based on mass spectrometry analysis of Aroclor mixtures (Frame et al., 1996). As mixed-peak congener mass ratios in Hudson River environmental samples deviate from those of commercial Aroclors, measurement errors are introduced into the quantitation of these peaks. Coelution correction factors were developed using Hudson River data; therefore, these factors are specific to the Hudson River project and represent an additional level of data interpretation beyond the purview of the laboratory. Specifically, congener DB-1 peaks 5, 8 and 14 were adjusted using media-specific coelution correction factors (HydroQual 1997) prior to presentation in this report and inclusion in the GE Hudson River Database.

2.8.1 Data Reporting

The NYSDEC – Analytical Services Protocol (ASP; NYSDEC, 1991) does not include specific requirements for reporting congener specific PCB analytical data. Therefore, a data reporting program has been developed that generally conforms to the guidelines presented in the NYSDEC ASP Superfund PCB/Pesticide requirements and provides the information required for validation of the data (Section 2.9). The data have been organized into a compilation of laboratory

generated data in both bound and electronic file format. Laboratory data reports are included as an appendix to the 1998 Data Validation Report (O'Brien & Gere, 1999b).

The data reduction and handling activities included integration of the data electronically into the GE Hudson River Database, which was updated and provided to USEPA, NYSDEC, and GE on a regular basis throughout 1998.

2.9 QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance/quality control (QA/QC) procedures have been designed to provide data of sufficient quality to support both qualitative and quantitative determinations regarding PCB flux from the Fort Edward Dam Remnant Deposit sites to Hudson River water (O'Brien & Gere, 1992b). In addition to following the sample collection procedures specified in the QAPP (O'Brien & Gere, 1992b), the QA/QC procedures included the collection and analysis of field QA/QC samples. These field QA/QC samples were collected during each routine sampling event, and included matrix spike, blind duplicate, and equipment blank samples.

The results of the laboratory analyses performed on the field QA/QC samples were evaluated as part of the data validation process. The results of the data validation are presented in the 1998 Data Validation Report (O'Brien & Gere, 1999b). These results indicate that approximately 93% of the data are useable for quantitative purposes. Data qualifiers assigned as a result of data validation are included in the data summary tables presented in this report. Data that were assigned a qualifier of "R" were not used in any quantitative assessments for this program.

2.9.1 Analytical Issues

Samples collected from the Bakers Falls Bridge and the Route 197 Bridge monitoring stations between April 22 and June 25 exhibited elevated levels of DB-1 peak 5 in 1998[2]. Detectable levels of DB-1 peak 5 are uncharacteristic of samples collected historically from this region of the river. Analysis of a single sample collected from this time period on a different GC column (CP-SIL5/18) suggested that the elevated DB-1 peak 5 concentrations may be attributed to the presence of a non-PCB analyte in the system (O'Brien and Gere, 1999c). Routine samples collected from the same time period in 1999 at Bakers Falls Bridge and the Route 197 Bridge did not exhibit any detectable levels of DB-1 peak 5. A complete analysis of this uncharacteristic peak 5 concentration observed in 1998 is documented in Appendix C of O'Brien and Gere, 1999c.

Based on this evaluation, PCB concentrations from samples collected from Bakers Falls Bridge and the Route 197 Bridge between April 22 and June 25, 1998 were adjusted by reducing the total concentration by the contribution of peak 5. A list of all samples adjusted for peak 5 is included in O'Brien and Gere (1999b), and in the GE Hudson River PCB database. Also included in the database are the original results exhibiting the uncharacteristic levels of peak 5[3].

Samples collected on December 21st and 28th, 1998 were found to contain an unknown lab contaminant eluting at the DB-1 peak 2 retention time. Therefore, samples collected at locations in which peak 2 is typically detected (i.e., TID-WEST, TID-PRW2, the boat launch, and Schuylerville) were reanalyzed, and the original lab contaminated samples were removed from the GE Hudson River PCB database. Additionally, peak 2 was removed from samples collected at locations that do not typically contain detectable levels of peak 2 (i.e., Bakers Falls Bridge and Route 197 Bridge).

[2] The DB-1 capillary column gas chromatograph is typically used for PCB analysis on Hudson River samples.

[3] These samples are denoted in the database with an "X" at the end of the "NEA_FILE" name. These data are currently being evaluated to determine if they are to remain in the GE database.

RESULTS AND DISCUSSION

Section 3

SECTION 3
RESULTS AND DISCUSSION

In this section, the results from the 1998 Hudson River routine water column monitoring are presented and discussed by sampling location, in upstream to downstream order. For each station, a brief discussion of PCB and TSS concentrations and PCB loading and composition data is provided. This section concludes with a discussion of short and long-term temporal trends, spatial trends across the monitored reach, and the various sources of PCB loading to the river. Data that were rejected (qualified with an "R") during data validation (O'Brien & Gere, 1999b) were not included in the evaluations performed in this report.

Temporal profiles (i.e., plots of parameters in chronological order throughout 1998) are presented for river flow, TSS, and PCB concentration and mass loading, at each station. In general, data points are connected by lines on these figures to facilitate trend analysis. A break in the line indicates a lapse in sampling for one or more weeks. Data points not connected to the line indicate blind duplicate results. Data points indicating a concentration less than the MDL are represented as open symbols, plotted at the MDL. PCB concentrations less than the MDL were set to the MDL of 11 ng/L for PCB mass loading calculations. This is a conservative approach, and likely overestimates loading under these conditions.

Estimating PCB loading requires assigning a representative flow rate to a representative PCB concentration over a selected period of time. It is important to recognize that the short term temporal variability typically observed in both flow rate and PCB concentrations affects the accuracy of the estimated loading. The use of daily average flow for each day that a PCB concentration was obtained has been adopted, and the PCB concentration has been assumed to be constant for the entire day. The relatively large size of the database is expected to minimize the impact of the uncertainty associated with individual load estimates. For the high flow sampling, where multiple PCB concentrations are available on a single day, loading has been calculated using the 15-minute flow

data from the Fort Edward gaging station at the time each sample was collected at the Route 197 Bridge sampling station, and then integrated to obtain a daily mean load.

Loadings were calculated using 1998 USGS daily average flow data from the Fort Edward gaging station. USGS flow data recorded after October 1, 1998 are provisional data. As discussed in Section 2.4, provisional data have not undergone USGS quality assurance review, and may change when finalized. The Fort Edward flow data (both daily average and instantaneous) were adjusted by proration factors[4] for stations located downstream of Fort Edward, to account for flow increases that arise from tributary inputs and direct drainage. The proration factors used in loading calculations were based on the upper Hudson River flow balance presented in QEA (1999b) and are 1.043 and 1.167 for TID and Schuylerville, respectively.

The water column PCB composition for each station is examined through the use of homolog distributions. In these plots, the 1998 average mass percent of each PCB homolog is plotted in a bar chart. The variability in PCB composition throughout the year is represented by error bars that correspond to ± 2 standard errors of the mean (2 SEM). Water column PCB homolog composition is compared to that of Aroclor 1242 (Frame et al., 1996), which was the predominant Aroclor used at GE's Hudson Falls and Fort Edward facilities.

3.1 BAKERS FALLS BRIDGE (BACKGROUND) MONITORING STATION

A total[5] of 52 water column samples were collected from the Bakers Falls Bridge sampling station, which is upstream (i.e., indicative of background PCB levels) of the GE Hudson Falls plant site area and the Remnant Deposit region of the river (Figure 1-2). PCB and TSS data for this sampling station are listed in Table 3-1, and temporal profiles of flow, TSS concentration, PCB concentration, and PCB mass loading at Bakers Falls Bridge are plotted in Figure 3-1.

[4] Proration factors represent the ratio of flow at a downstream station to that at an upstream station.

During routine monitoring in 1998, TSS concentrations at Bakers Falls Bridge ranged from less than 1 mg/L to 16 mg/L (mean 1.9 mg/L), with the highest values occurring during periods of elevated river flow (Figure 3-1). Two samples were collected from Bakers Falls Bridge during the January 1998 high flow event[6], with TSS concentrations of 15 and 28 mg/L. PCB concentrations were below the MDL of 11 ng/L for 94% of the routine monitoring samples collected in 1998 (Figure 3-1), and were also below the MDL for the high flow event samples. Three of the 52 samples collected had PCB concentrations greater than the MDL, at levels between 12 and 16 ng/L. Because PCB concentrations at Bakers Falls Bridge are usually below the MDL, PCB loadings are generally not calculable. Moreover, the less than detectable concentrations preclude analysis of PCB composition. However, the presence of occasional detectable PCB concentrations indicates that a small upstream source may be present (Figure 3-1). Possible PCB sources upstream of Bakers Falls Bridge are being evaluated through further sampling efforts in 1999 (QEA, 1999c).

3.2 HUDSON FALLS PLANT SITE MONITORING STATIONS

In 1998, Dames & Moore, Inc. collected routine water column samples from two locations at the base of Bakers Falls. These locations, designated as BOATLAUNCH and PLUNGEPOOL are illustrated in Figure 2-1. Quantitative estimates of plant site loadings cannot be made using measured PCB concentrations at these locations. This is due to the complex hydrodynamics produced by the falls and operation of the hydroelectric facility within this region of the river. The amount of water and its PCB concentration leaving the plunge pool cannot be determined directly.

---

[5] Total sample numbers presented for each water column monitoring station in this section exclude samples that were rejected by data qualification criteria specified in Table 1 of the 1998 Data Validation Report (O'Brien & Gere, 1999b).

[6] As discussed in Section 2, monitoring of PCBs and TSS was performed during the January 1998 flood event, but not as part of the Hudson River routine monitoring program. The sampling methods and results from the 1998 high flow program are documented in O'Brien and Gere, 1999b. The high flow results have been included in this section for completeness. However, since the sampling frequency for the high flow event differed from the routine program, the data are plotted separately in this report.

However, PCB data from these two sampling locations can be used as qualitative indicators of source activity[7].

The 1998 PCB and TSS data collected from both the plunge pool and boat launch monitoring stations are presented in Table 3-2, and Figures 3-2 and 3-3, respectively. Forty-eight samples were collected at the plunge pool sampling station in 1998. TSS concentrations in these samples ranged from less than 1 to 4 mg/L, and PCB concentrations ranged from less than 11 to 201 ng/L (Figure 3-2). Neither PCB nor TSS concentrations produced any distinctive temporal trends (Figure 3-2).

Seventy water column samples were collected from the boat launch sampling station in 1998. TSS concentrations ranged from less than 1 to 24 mg/L, and PCB concentrations ranged from less than 11 to 5,145 ng/L (Figure 3-3). A single sample was collected from the boat launch on January 11, 1998 on the falling limb of the hydrograph during the high flow event. The PCB concentration in this sample was less than the 11 ng/L MDL. While there may be a weak correlation between flow and PCB concentrations measured in the plunge pool area, the complex hydrodynamics in the area described above preclude quantitative assessment of these data.

PCB composition data collected at the boat launch and plunge pool demonstrate that water column PCBs in the vicinity of the Hudson Falls plant site continue to resemble the unaltered Aroclor 1242 pattern observed in previous years (Figure 3-4; O' Brien and Gere, 1998a). The similarity of PCB homolog composition to Aroclor 1242, in conjunction with the increased concentrations observed relative to the background station (Bakers Falls Bridge; HRM 197.0), indicate that the GE Hudson Falls plant site area source(s), while greatly reduced in magnitude from previous years, continued to contribute PCBs to the water column during 1998.

[7] Previous studies indicate that the monitoring data generated at the station in Fort Edward (Section 3.3) provide a better basis upon which to estimate the magnitude of the Hudson Falls plant site loadings than these two stations (O'Brien and Gere, 1996a).

3.2.1 Additional Plant Site Area Sampling

3.2.1.1 Plunge Pool Area

In addition to the routine samples, a number of additional samples were collected by Dames & Moore, Inc. in the plunge pool (Figure 2-1). These sampling locations were selected to further characterize PCB concentrations in the plunge pool, and to identify potential PCB source areas.

The results of this sampling are discussed more fully in a report prepared by HSI GeoTrans, Inc. (HSI GeoTrans, 1999). The data generated for these samples are presented in Table 3-2a. TSS levels from these samples were all less than 4 mg/L, indicative of the low flow conditions under which these samples were collected. PCB levels in the additional plunge pool samples ranged from less than 11 to 107 ng/L, and averaged approximately 20-25 ng/L. Composition data indicate that the water column PCBs from the additional plunge pool sampling were essentially unaltered Aroclor 1242 (Figure 3-5), which is consistent with PCB DNAPL found in seepage on Bakers Falls, the Allen Mill, and beneath the GE Hudson Falls facility. As discussed in Section 3.2, the complex hydrodynamics that exist within the plunge pool prevent performing a quantitative PCB loading analysis from this area; however, these data support the conclusion that the GE Hudson Falls plant site area source(s), while greatly reduced in magnitude from previous years, continued to contribute PCBs to the water column during 1998.

3.2.1.2 Bakers Falls / Wing Dam Pool Area Sampling

Water samples were collected on the face of Bakers Falls during the summer of 1998 at several locations (Figure 2-1). These samples were collected to evaluate the source and concentration of PCBs transported by small flows over Bakers Falls, and to identify additional potential sources of PCBs to the plunge pool and Hudson River from the bedrock near Bakers Falls. The samples were collected from small flows that resulted from seepage past Bakers Falls Dam when the falls were dewatered as a result of the operation of the adjacent hydroelectric facility.

The results of this sampling are discussed more fully in a report prepared by HSI GeoTrans, Inc. (HSI GeoTrans, 1999). The data for this sampling are presented in Table 3-2a. The composition of the PCBs was essentially unaltered Aroclor 1242 (Figure 3-6), which is consistent with PCB DNAPL found in seepage on Bakers Falls, the Allen Mill, and beneath the GE Hudson Falls facility. The PCB concentrations and flow rates (HSI GeoTrans, 1999) measured in the wing dam pool area indicate that this area contributed PCBs to the water column during 1998; however, the measured PCB loading due to these small flows only accounted for a small portion of the PCB loading measured downstream at the Route 197 Bridge sampling station.

3.2.1.3 GE Hudson Falls Facility Pump House IRM

Water sampling was conducted during 1998 to monitor PCB concentrations in the Hudson River in the vicinity of the GE Hudson Falls facility pump house (Figure 2-1). This monitoring was conducted to measure PCB concentrations in the Hudson River during an interim remedial measure (IRM) that involved removal of PCB-containing sediment and debris from an area in the river between the pump house and Bakers Falls Dam. The IRM was initiated in October of 1997, and continued until the operation was temporarily suspended in January 1998 due to winter weather conditions. IRM activities resumed in July of 1998, and were completed in October 1998.

Water samples were collected on a weekly basis (during periods of IRM activity) from within the IRM area and from the Hudson River, outside of the silt curtain isolation system. The results of this sampling are presented in Table 3-2a. These data indicate that PCB concentrations in the Hudson River outside of the isolation system were typically 1-2 orders of magnitude lower than inside the IRM area. However, PCB concentrations in the Hudson River outside the isolation system ranged from 0.065 to 54 ug/L, well above background concentrations measured at Bakers Falls Bridge (typically <0.011 ug/L). During normal flow conditions, there was limited flow through or adjacent to the IRM area, as this area of the river is quiescent whenever there is no flow over Bakers Falls Dam. Therefore, evaluating the PCB loading from the IRM on a mass basis is not

feasible, as it is not possible to quantify flow leaving the IRM area. However, the PCB concentrations measured outside of the isolation barrier suggest that the IRM was responsible for some PCB loading to the river.

3.3 ROUTE 197 BRIDGE (FORT EDWARD) MONITORING STATIONS

The Route 197 Bridge sampling location in Fort Edward is downstream of the Remnant Deposits region of the river at HRM 194.2 (Figure 1-2). There are four potential sources of the PCBs observed at the Route 197 Bridge:

- source(s) upstream of Bakers Falls;
- the Hudson Falls plant site;
- the five Remnant Deposits between Hudson Falls and Rogers Island; and
- the outfall 004 area in the vicinity of the Fort Edward plant site.

Figure 1-2 illustrates the position of the Route 197 Bridge sampling location with respect to the plant site, Remnant Deposits, and outfall 004.

As discussed in Section 2.1, samples collected at the Route 197 Bridge station consist of equal-volume composites from the east and west channels of Rogers Island. However, during October 1998 samples collected from the Route 197 Bridge were not composited. PCB and TSS were quantified individually for both the east and west channels of Rogers Island and are denoted as HRM 194.2E and HRM 194.2W in the GE Hudson River PCB database, respectively. Individual east and west channel samples were also collected in conjunction with composite samples during September 1998 and the January 1998 high flow program.

In 1998, a total of 61 composite samples and 9 rounds of separate east and west channel discrete samples were collected from the Route 197 Bridge. PCB and TSS data for the Fort Edward monitoring station are presented in Table 3-3, and temporal profiles of flow, TSS concentration,

PCB concentration, and PCB mass loading are plotted in Figure 3-7. Results from the time-intensive sampling during the January 1998 high flow event are plotted in Figure 3-8. TSS results from Fort Edward during 1998 ranged from less than 1 to 16 mg/L (mean 1.9 mg/L) during routine monitoring and peaked at 35 mg/L during high flow. Qualitative comparison between flow and TSS generally indicates a positive relationship (Figure 3-7). PCB concentrations at the Route 197 Bridge during routine monitoring in 1998 ranged from less than 11 to 60 ng/L (mean 17.6 ng/L), and ranged between 22 and 190 ng/L during the January high flow event. A slight seasonal trend is apparent in the low flow Fort Edward PCB data, with concentrations increasing in mid to late summer and decreasing in early fall. Under low flow conditions, PCB mass loadings observed at the Route 197 Bridge during 1998 were generally less than 0.5 lb/d, except for the June - September period, during which loadings averaged between approximately 0.5 and 1.0 lb/d (Figure 3-7).

During high flows, PCB loading at Fort Edward generally was higher than during low flow periods (Figures 3-7 and 3-8). Estimates of instantaneous loading during the January event ranged between 8 and 36 lb/d, with daily average loading peaking at 18 lb/d and then decreasing to 2-3 lb/d on the falling limb of the hydrograph (Figure 3-8). As shown by Figure 3-7, PCB concentrations and loading at Rogers Island exhibited a positive correlation with river flow at flows over 15,000 cfs in January, April, and June-July. However, in the low to moderate flow range, PCB concentration and loading did not appear to be correlated with river flow.

The average water column PCB composition at Fort Edward closely resembles the PCB composition in samples collected at the boat launch and plunge pool (Figure 3-9). This similarity suggests that the PCB loading observed at the Route 197 Bridge is largely derived from PCBs entering the river in the vicinity of Bakers Falls. The PCB composition at Fort Edward during the January high flow period was generally consistent with that observed during the balance of the year (Figure 3-10).

PCB concentrations measured at the Route 197 Bridge sampling station in 1998 were higher than those measured during 1997 (annual mean of approximately 13 ng/L in 1997 compared to 19

ng/L in 1998), primarily during late summer and early fall (Figure 3-11). As described in Section 3.2, quantifying PCB loading to the Hudson River from the GE Hudson Falls plant site area and Bakers Falls is not possible due to the complex hydrodynamics in the area.

3.4 THOMPSON ISLAND DAM MONITORING STATIONS

Routine monitoring was conducted at TID during 1998 to evaluate water column PCB loadings across TIP. This monitoring is not required by the PCRDMP Consent Decree (Consent Decree, 1990). However, the data from these monitoring stations are documented by this report.

Sampling at TID historically has been conducted from the west wing wall of the dam at the western channel of Thompson Island (TID-WEST). However, studies conducted in 1996-97 indicated that this sampling location is not representative of the actual PCB load passing TID (QEA, 1998; O'Brien and Gere, 1998a). Beginning in October 1997, a sampling location downstream of the dam was added to the routine monitoring program, (TID-PRW2; Figure 1-2). This sampling location was found to produce water column samples which more accurately represent average PCB concentrations exiting TIP (QEA, 1998). As discussed in Section 2.2, sampling at TID-WEST has been continued to provide continuity with the historical database.

3.4.1 TID-WEST

In 1998, 67 routine samples were collected from TID-WEST. For the January flood event, eight samples were collected at TID-WEST. PCB and TSS analytical results for TID-WEST are presented in Table 3-4. Temporal profiles of flow, TSS concentration, and PCB concentration are presented in Figures 3-12 and 3-13 for routine monitoring and high flow data, respectively. TID-WEST data cannot be used to accurately estimate PCB loading, as samples collected from this station are not considered to be representative of average PCB concentrations exiting TIP (QEA, 1998). Therefore, evaluation of PCB loading at TID utilizes data collected from the TID-PRW2 station whenever data is available for this station. However, TID-WEST data has been used to semi-

quantitatively assess PCB loading during high flow events, as it is not possible to collect data safely at the TID-PRW2 station.

During routine monitoring in 1998, TSS concentrations at TID-WEST ranged from less than 1 mg/L to 110 mg/L (mean 5.1 mg/L; Figure 3-12), and were between 15 and 41 mg/L during the January 1998 high flow sampling (Figure 3-13). Similar to the upstream stations, qualitative comparison of TSS and flow data suggests a positive relationship, with higher TSS concentrations being observed at higher flows. PCB concentrations at TID-WEST during routine monitoring 1998 ranged from 16 ng/L to 183 ng/L (mean 75.7 ng/L; Figure 3-12). During high flow, PCB concentrations at TID-WEST ranged from 54 to 213 ng/L (Figure 3-13). Calculated average daily PCB loadings at TID during the high flow were between 27 and 37 lb/d during the peak of the hydrograph, and rapidly decreased to 10 lb/d and then to 3 lb/d in the two days following the peak flow (Figure 3-13).

A seasonal trend in PCB concentration at TID-WEST can be observed during low river flow periods (<10,000 cfs at Fort Edward) in 1998 (Figure 3-12). This trend consists of low concentrations throughout the winter months, an increase beginning in mid April to a peak in early June, followed by a decline through the remainder of the year (Figure 3-12). This trend is consistent with data collected in past years at the same location (O'Brien & Gere, 1998b). As shown by Figures 3-12, the highest PCB concentrations at TID-WEST occurred during periods of elevated river flow and TSS (e.g., January, April, and June-July).

The water column PCB composition for TID-WEST samples collected in 1998 continues to exhibit the altered Aroclor 1242 homolog signature observed in previous years (Figure 3-14; O'Brien and Gere, 1998b). On average, the mono- and di- homolog fraction of samples collected at TID-WEST made up more than 55% of the total PCB mass, compared to approximately 15% in Aroclor 1242. The composition of PCBs in water at TID is discussed in detail in the *Thompson Island Pool Sediment PCB Sources* Report (QEA, 1998).

3.4.2 TID-EAST

In 1998, 3 samples were taken from the east wingwall at the east channel (TID-EAST; Figure 1-2) during the January 1998 high flow event. Data from this sampling are presented in Table 3-4. PCB concentrations at TID-EAST ranged from 192 to 230 ng/L. These concentrations were similar to those measured at TID-WEST during the corresponding rounds of sampling (192 to 213 ng/L). TSS concentrations at TID-EAST ranged from 47 to 55 mg/L, compared to 37 to 41 mg/L measured at TID-WEST. The higher TSS concentrations at TID-EAST were likely due to suspended solids loading from Moses Kill (Figure 1-2).

3.4.3 TID-PRW2

Analytical results for TID-PRW2 in 1998 are contained in Table 3-4 and Figure 3-12. A total of 49 samples was collected during 1998 from the TID-PRW2. Due to safety considerations, sampling in 1998 did not occur at this location from January 6th until March 23rd. TSS concentrations at TID-PRW2 ranged from less than 1 mg/L to 14 mg/L (mean 2.3 mg/L). TSS concentrations observed at TID-PRW2 are similar to those at TID-WEST, and therefore exhibit a similar correlation with flow, particularly during higher flow periods. During routine monitoring at TID-PRW2 in 1998, PCB concentrations ranged from 13 ng/L to 146 ng/L (mean 56.6 ng/L) and PCB mass loading ranged from less than 0.5 to approximately 6 lb/d. The same seasonal trend in PCB concentration that is observed in the TID-WEST monitoring data is also present at this location (Figure 3-12). PCB mass loadings at TID-PRW2 (Figure 3-12) are larger than those at Fort Edward (Figure 3-7). The incremental loading across the TIP is discussed further in Section 3.9. PCB mass loadings from TID-PRW2 are highest at elevated river flow and TSS concentrations, but the relationship between PCB concentration and flow and TSS is less apparent.

The average homolog pattern observed in samples collected at TID-PRW2 is similar to that from TID-WEST (Figure 3-14). On average, mono- and di- chlorobiphenyls made up more than 50% of the total PCB mass in 1998 TID-PRW2 samples. This homolog signature is consistent with

PCBs derived from surface sediments in TIP (QEA, 1999a). The water column PCB homolog composition at TID-WEST during the January 1998 high flow period differs significantly from the yearly mean composition (Figure 3-15). The shift to higher chlorination levels at TID during the high flow event suggests that the PCB loading at TID during elevated flow events represents a combination of two potential sources:

1) unaltered Aroclor 1242-like PCBs that enter the TIP at Fort Edward and pass through the pool, and
2) relatively less chlorinated PCBs derived from surface sediments that are resuspended within the pool and transported over the dam.

At lower river flows, the TIP surface sediment PCB loadings are consistent with pore water PCB transport (i.e., partitioned from the particulate phase). This is due to the reduced Fort Edward PCB loading and general lack of sediment resuspension during these periods. Loading mechanisms are discussed further in QEA, 1999b and in Section 3.9.

3.4.4 Comparison between TID-WEST and TID-PRW2

As plotted in Figures 3-12 and 3-16, TSS concentrations at the two TID stations were similar in 1998. As shown in Figure 3-14, the PCB composition at the two stations was similar in 1998, with TID-WEST samples containing a slightly larger proportion of mono- and di- PCB homologs than those at TID-PRW2. PCB data collected during 1998 are consistent with the sampling bias observed at TID-WEST, as documented in QEA (1998). Figure 3-16 also presents a comparison of PCB concentrations at TID-PRW2 and TID-WEST. In the 42 events from 1998 in which samples were collected from both stations, 38 of these resulted in a higher PCB concentration at TID-WEST than at TID-PRW2. The PCB concentration at TID-WEST ranged from approximately 54% lower to 84% higher than TID_PRW2. On average, the PCB concentration was 30% (2 standard errors of the mean = 8%) higher at TID-WEST than TID-PRW2.

Although the PCB concentrations at TID-WEST are statistically higher than those at TID-PRW2, the variability in this high bias (Figure 3-16) precludes the development of a statistically robust technique for predicting unbiased TID concentrations based on the TID-WEST data. To account for the bias in their PCB fate modeling effort, USEPA developed correction factors to predict the unbiased concentration at TID as a function of PCB concentration at Fort Edward, PCB concentration at TID, and the flow at Fort Edward (USEPA, 1998; USEPA 1999). The statistical robustness of the stratified data regression technique is not adequate to estimate PCB loadings at TID because of both within-year and year-to-year variability in the bias at TID-WEST. Moreover, the flow component of the bias is uncertain, as sampling TID-PRW2 at elevated flows is not possible due to limited accessibility. As discussed in QEA (1998) the results from TID-PRW2 are considered to be most representative of the PCB load passing TID.

3.5 ROUTE 29 BRIDGE (SCHUYLERVILLE) MONITORING STATION

The Route 29 Bridge sampling location in Schuylerville is located approximately seven miles downstream of TID at HRM 181.4. The Route 29 Bridge is the furthest downstream station routinely sampled in GE's Hudson River Monitoring Program. Monitoring at this station is not required by the PCRDMP Consent Decree (Consent Decree, 1990). However, the data from this monitoring station are documented by this report.

Sixty-six samples were collected from the Route 29 Bridge in 1998. PCB and TSS analytical data from Schuylerville are presented in Table 3-5. Temporal profiles of flow, TSS concentration, PCB concentration, and PCB mass loading at Schuylerville are presented in Figures 3-17 and 3-18 for routine monitoring and high flow data, respectively. TSS results ranged from less than 1 mg/L to 61 mg/L (mean 4.6 mg/L) during routine monitoring at the Route 29 Bridge (Figure 3-17). At high flow, TSS concentrations at Schuylerville were between 21 and 76 mg/L. As with the upstream stations, the higher TSS concentrations during routine monitoring at Schuylerville occurred at periods of high river flow (Figure 3-17). PCB concentrations ranged from 22 to 159 ng/L (mean 66.0 ng/L) during 1998 routine monitoring at Schuylerville, and calculated PCB mass loadings

typically ranged from less than 0.5 to approximately 8 lb/d (Figure 3-17). During the January 1998 high flow event, PCB concentrations at Schuylerville ranged from 104 to 517 ng/L, corresponding to estimated instantaneous PCB mass loading rates of approximately 15 to 113 lb/d. Daily average loadings at Schuylerville during the January flood were calculated to be between 54 and 74 lb/d at peak flow, and from 19 to 5 lb/d along the falling limb of the hydrograph (Figure 3-18).

Comparison of Figures 3-17 and 3-12 indicates that PCB loadings at Schuylerville are higher than those observed at TID-PRW2. A seasonal trend in PCB concentration and mass loading, similar to that observed at Thompson Island Dam, is evident in the data from Schuylerville. The approximate fourfold increase in PCB concentration between winter and early summer at Schuylerville is similar in magnitude to that at TID. Similar to the 1998 data from TID, the PCB loading at Schuylerville correlates with flow and TSS but this correlation is not apparent for PCB concentration due to the elevated concentrations observed at low flows.

On average, the PCB homolog composition at Schuylerville closely resembles the altered Aroclor 1242 signature seen at TID (Figure 3-19). This water column PCB homolog composition is consistent with the current understanding of PCB sources to this reach of the river (i.e. upstream load passing TID and surface sediment PCB sources between TID and Schuylerville). A discussion of PCB loading and sources for each monitoring station is presented in Sections 3-8 and 3-9, respectively. Similar to TID, the PCB composition at Schuylerville during the January high flow sampling is more chlorinated than the yearly average due to the influence of PCB loadings originating upstream of Rogers Island (Figure 3-20).

3.6 TEMPORAL TRENDS IN HUDSON RIVER WATER COLUMN PCBS

The temporal trends in 1998 Hudson River Monitoring data during both routine monitoring and high-flow periods are generally consistent with previous years' results and the conceptual model of PCB fate and transport in the upper Hudson River (QEA, 1999a).

3.6.1 PCBs During Routine Monitoring

Temporal trends in 1998 PCB concentration and PCB mass loading for routine monitoring at all sampling locations are presented in Figures 3-21 and 3-22, respectively. This comparison between the stations illustrates the increase in magnitude in both PCB concentration and mass loading from upstream to downstream. The figures also demonstrate the seasonal trend observed at the sampling locations downstream of the Route 197 Bridge. As discussed in Section 3.5, the strong seasonal patterns observed at Thompson Island Dam and Schuylerville share nearly the same fourfold increase in PCBs between early April and mid June. This seasonality is consistent with the trend observed in previous years, as shown in Figure 3-23, which compares the temporal trends in total PCBs observed at both Fort Edward and TID-WEST since 1996. Figure 3-23 does not include TID-PRW2 and Schuylerville data because these locations were not routinely sampled until September of 1997.

3.6.2 High Flow PCBs

During the January 1998 flood event, PCB concentrations increased in response to the rapid rise in river flow, which mobilized Aroclor 1242-like PCBs from the vicinity of the Hudson Falls Plant and resuspended surface sediment PCBs within TIP and downstream of TID. This flood event is considered rare, with a return frequency of approximately 10-15 years (Section 2.3.1; QEA, 1999a). PCB concentrations at all the stations sampled (i.e., Fort Edward, TID, and Schuylerville) were highest during peak flow, and decreased along the falling limb of the hydrograph. A temporal chart of the calculated daily-average PCB loading during the January flood is plotted in Figure 3-24. At all 3 stations, the PCB loading was five to six times greater during the peak flows (January 9-10) than on subsequent days (January 11-12). This rapid increase and decrease in response to an elevated flow event is expected and consistent with monitoring during previous years' events (O'Brien and Gere, 1999b). Also evident on Figure 3-24 is the large increase is PCB loading with downstream distance. This is attributable to sediment PCB sources, which will be discussed in Section 3.9.2. Typical spring high flows in the Hudson have much lower flows and associated PCB

loadings than those observed during the 1998 flood (QEA, 1999b). For comparison, during the 1997 high-flow event, which peaked at 19,200 cfs, PCB concentrations at TID were below 50 ng/L, and the maximum instantaneous PCB load was approximately 5 lb/d.

3.6.3 Long Term Temporal Trends in Water Column PCBs

A plot of PCB concentration at Fort Edward and TID-WEST from 1991 to 1998 is presented in Figure 3-25. Long term trends in PCB concentration at Bakers Falls are not presented because PCBs have been largely below MDL for this period. PCB concentrations at Schuylerville and TID-PRW2 are not shown because these stations were not routinely sampled for most of this period. Although the TID-WEST data are biased high, analysis of relative changes are still useful for examining the long term temporal trend.

As shown in Figure 3-25, PCB concentrations at Fort Edward have significantly decreased since the early 1990's. Mean concentrations on the order of 200-300 ng/L in the early 1990's were reduced to approximately 50 ng/L in the mid-1990's, and were further reduced to approximately 13 ng/L in 1997. The average PCB concentration was higher in 1998 at 19 ng/L than in 1997. As described in Section 3.3, the cause for this increase is unclear. However, the average PCB concentration in 1998 at Fort Edward is significantly lower than the levels in the early 1990's. The higher levels and variability (i.e., shaded regions) in PCB concentrations at Fort Edward in the early 1990's signify active plant site sources (e.g., the 1991 Allen Mill event discussed in Section 1.2). In later years (i.e., 1996-98), the variability in PCB concentrations is less due to mitigation of the Hudson Falls Plant Site sources. Post-1997, PCB concentrations at Fort Edward have exhibited some correlation with flow, as increases in concentrations within a given year typically coincided with high-flow events.

Since the early 1990's, PCB concentrations at TID-WEST have declined in response to reduced PCB inputs from upstream and lower mean surface sediment PCB concentrations in TIP (QEA, 1999a). Annual average PCB concentrations at TID-WEST of approximately 300-400 ng/L

in 1991-92 decreased to approximately 100-150 ng/L in 1993-95, and have remained between 70 and 90 ng/L since 1996. This decline is partially due the reduction in PCB loadings upstream of Fort Edward due to the aggressive remedial measures at the Hudson Falls Plant Site (e.g., Dames and Moore, 1997; O'Brien and Gere, 1996c). Moreover, the sediments in TIP, which contribute to the TID loading, are declining in response to natural recovery through the deposition of clean solids onto the sediment surface (QEA, 1999a). The rate of the decline in PCB concentrations at TID-WEST is therefore controlled by both the rate of sediment deposition and the reductions in upstream loadings to the TIP (QEA, 1999b).

3.6.4 PCB Composition

Temporal trends in 1998 average total chlorines per biphenyl (Cl/BP) are presented in Figure 3-26. Chlorination levels observed at the Route 197 Bridge were relatively constant during 1998, and are consistent with an Aroclor 1242 source. As discussed above, the lower Cl/BP levels at TID and Schuylerville indicate the water column PCBs at these stations are derived through partitioning and diffusion processes from surface sediment sources. The 1998 temporal profiles of Cl/BP for TID and Schuylerville also exhibit a slight seasonality characterized by higher chlorination levels in the winter and spring months and decreases in the early summer and mid-autumn months. The decline in chlorination levels coincides with increases in PCB concentration at these stations. Samples collected at TID-WEST are slightly less chlorinated than samples collected from TID-PRW2 (Figure 3-26; QEA, 1998). As with PCB concentration and mass loading, the 1998 total chlorines per biphenyl data are consistent with those observed in previous years (Figure 3-27). Moreover, the seasonal variation in Cl/BP observed in 1998 is also apparent in the data from previous years. Mechanisms potentially responsible for the observed seasonality in PCB composition downstream of Fort Edward are discussed in QEA (1999b).

3.7 SPATIAL TRENDS IN HUDSON RIVER WATER COLUMN PCBS

Spatial trends in PCB concentrations, loadings at low and high flows, and PCB composition are discussed for 1998 in this section. The 1998 data are also compared with previous years' results in this section.

3.7.1 Monthly-Average PCB Concentrations

Monthly-average spatial profiles of routine monitoring PCB data collected in 1998 are presented in Figure 3-28. In this plot, the average PCB concentration (± 2 SEM) is plotted for each month's data against river mile, for the four routine monitoring stations (i.e., Bakers Falls, Fort Edward, TID-PRW2, and Schuylerville). A general increase in PCB concentration from upstream to downstream is observed in all months, with the exception of August. The large error bars for the TID-PRW2 average in the month of August indicate the presence of an outlier in the data (the August 26th event). The relative magnitude of the increase in PCBs with downstream distance is greatest in May and June (approximate eightfold increase from Fort Edward to Schuylerville), and lowest in February and March (increase of less than threefold between Fort Edward and Schuylerville). On average, the PCB concentration increase between Bakers Falls and Fort Edward is smaller than that between Fort Edward and TID-PRW2 and between TID and Schuylerville. This suggests that sediment PCB sources downstream of Fort Edward are largely responsible for the upstream-to-downstream increase in 1998 monthly average PCB concentrations. As discussed in Section 3.9.2, modeling (QEA, 1999b) and data analyses indicate that the PCB loadings to the water column downstream of Fort Edward are consistent with transport of PCBs from the surficial sediment (i.e., top few cm) layer.

3.7.2 Low Flow PCB Loadings

Figure 3-29 presents a spatial profile of the average low-flow[8] PCB mass loading for 1998. The trend shown is a near-linear increase in PCB mass loading with distance downstream, from Fort Edward to Schuylerville. This trend is consistent with the current understanding of a surface sediment PCB loading source within TIP and in the reach from TID to Schuylerville (QEA, 1999a).

3.7.3 High Flow PCB Loadings

Spatial profiles in daily average PCB loading calculated from instantaneous loading estimates for the January high-flow sampling are shown in Figure 3-30. On all four days of sampling, the PCB loading increased from Fort Edward to TID and from TID to Schuylerville. On the days near peak flow (January 9-10), the magnitude of the loading at all stations and the increase between stations (i.e., Fort Edward to TID and TID to Schuylerville) was greater than on the days of decreasing flow (January 11-12). The larger incremental increases at peak flow can be attributed to resuspension of surface sediment in TIP and between TID and Schuylerville.

Due to the limited number of high flow sampling events, and the inherent short-term variability in PCB loadings during such events (e.g., Figure 3-30), the spatial patterns in 1998 high-flow PCB loadings are presented on an event-by-event basis (Figure 3-31). In addition to the January high-flow sampling, there were only 3 rounds of sampling in 1998 at flows greater than 10,000 cfs (March 10th, April 1st, and June 25th). As shown by Figure 3-31, PCB loading increased with downstream distance for all high-flow events in 1998. The magnitude of the PCB loadings and the incremental increases in loading from station to station exhibit a non-linear correlation with flow. For example, while the peak flow in the January event was approximately three times larger than that in the March event, the PCB loadings in January were approximately seven to ten times greater than

[8] Low flow is defined as less than 10,000 cfs measured by the USGS at the Fort Edward gaging station.

in March. This non-linear relationship is consistent with the non-linear relationship between sediment resuspension and river flow.

To facilitate comparison between events, the high-flow loadings in Figure 3-31 are also plotted normalized to the Schuylerville loading. Although the differences in loading magnitude were large between events, the spatial pattern in normalized PCB loading at high flow was similar throughout 1998 (Figure 3-31). In three of four 1998 high-flow events, the PCB loading at Fort Edward was approximately 25% of the loading at Schuylerville. During the April event, the Fort Edward Load was approximately 40% of that at Schuylerville. The spatial pattern in this event may not adequately be represented by the single round of samples due to the short-term variabilities in loading at higher flows (e.g., Figure 3-30). The 1998 high-flow PCB load at TID was between 40% and 70% of that at Schuylerville for all four events. This consistency between events suggests that the loading mechanisms responsible for the increases between stations (i.e., sediment resuspension processes) are similar in TIP and the reach between TID and Schuylerville.

The average normalized loading for 1998 high flows is compared with that calculated for low flows in Figure 3-32. At low flows, the average PCB loadings measured at Route 197 Bridge were approximately 20% of the loading measured at Schuylerville. PCB loading measured at TID-PRW2, which includes loading measured at the Route 197 Bridge, was approximately 70% of the loading measured at Schuylerville. These proportions are similar to those at high flows, as the error bars for the averages overlap in Figure 3-32. The similar spatial pattern of normalized loading at low and high flows indicates that although different mechanisms are responsible for PCB loading (i.e., sediment resuspension at high flow and pore water transport at low flow; QEA, 1999b), the sediments contribute in similar proportions under the two different flow regimes.

3.7.4 PCB Composition

A spatial comparison of the average (± 2 SEM) 1998 ortho, meta + para, and total chlorines per biphenyl for the routine monitoring data, and for Aroclor 1242 is shown in Figure 3-33. The

average ortho chlorine per biphenyl level in 1998 was relatively constant from upstream to downstream, and was generally consistent with the level present in Aroclor 1242. This trend is expected since ortho-substituted chlorines are largely resistant to environmental degradation processes (QEA, 1999a). Meta + para and total chlorine per biphenyl data indicate higher chlorination levels at the Plunge Pool, Boat Launch, and Route 197 Bridge stations, consistent with an Aroclor 1242 source. However, the chlorination levels observed at these stations are slightly higher than those in Aroclor 1242. This may be attributable to a more chlorinated Aroclor (e.g., 1248 or 1254) component of the sources contributing to the PCBs found at these stations. Total and meta + para chlorines per biphenyl observed at downstream locations (i.e., TID and Schuylerville) are substantially lower than those at upstream stations, consistent with homolog patterns discussed in Sections 3.4 and 3.5 and our current understanding of PCB fate within the system. These lower chlorination levels indicate inputs from surface sediment PCBs, which are less chlorinated than Aroclor 1242 due to biologically-mediated dechlorination and preferential partitioning of the lower-chlorinated congeners to the aqueous phase (QEA, 1999a).

The spatial profile of chlorines per biphenyl during the January high-flow event is generally consistent with the yearly averages (Figure 3-34). Levels at Fort Edward are consistent with Aroclor 1242, while those at TID and Schuylerville are relatively lower. However, the chlorination levels at TID and Schuylerville at high flow are slightly higher than the low-flow averages in Figure 3-33 (mean difference of approximately 0.2 Cl/BP). This difference is attributed to the influence of PCB loadings originating upstream of Fort Edward and particulate phase PCBs resuspended downstream of Fort Edward.

3.8 PCB LOADINGS

3.8.1 Low Flow Loadings

An evaluation of the average low-flow PCB loading sources to the monitored reach of the river in 1998 is presented in Figure 3-35. In general, loadings calculated at the background station

located at Bakers Falls Bridge are below the MDL. Data from the plunge pool are general indicators of PCB sources, but river hydrodynamics in this area are too complex to accurately quantify the mass loading. Therefore, the input loading generated from the Hudson Falls plant site is best measured from data collected at the Route 197 Bridge. The average 1998 low-flow PCB loading measured at Fort Edward is approximately 0.4 lb/d (Figure 3-35). As discussed previously, the PCB loads at Fort Edward in 1998 were higher than 1997. The average mass loading measured at Fort Edward in 1997 during low-flow conditions was approximately 0.2 lb/d (O'Brien and Gere, 1998b).

Also shown in Figure 3-35 are the average 1998 low-flow water column delta loadings[9] computed for TIP and the reach from TID to Schuylerville. The water column PCB delta loading was calculated as the difference between water column PCB mass loading at Fort Edward and the unbiased TID-PRW2 location for TIP, and the difference between mass loading at TID-PRW2 and the Route 29 Bridge for the reach between TID and Schuylerville. The increase in loading observed in TIP and from TID to Schuylerville is greater than the mean load entering the pool at Fort Edward. The magnitude of this increase in loading is consistent with our understanding of sediment-water exchange processes within the Hudson River (QEA, 1999b). The large degree of variability in the delta loadings shown in Figure 3-35 is mainly due to the seasonality in low-flow delta loads.

As shown in Figure 3-36, the delta loading for both reaches (i.e., TIP and TID to Schuylerville) is less than 1.0 lb/d in the winter. The delta loadings increase in late spring to early summer, and peaks at approximately 2.0 and 1.5 lb/d for TIP and TID to Schuylerville, respectively. The 1998 delta loadings decrease throughout the mid to late summer and early fall, exhibit a slight increase to approximately 1 lb/d in mid fall, and then decrease in late fall to the low wintertime levels. The similar magnitudes and seasonal patterns of the low-flow delta loadings calculated for TIP and TID to Schuylerville suggests that similar mechanisms are likely responsible for sediment PCB flux within these reaches.

[9] A delta loading is the difference in PCB mass loading between a downstream station and an upstream station. A positive delta loading represents a net mass input to the water column, and a negative delta loading represents a net loss of water column mass. Delta loadings in this report were computed from paired flow and concentration data at the two stations, by event, and averages were calculated for all events.

3.8.2 High Flow Loadings

As discussed previously, 1998 daily PCB loadings in the upper Hudson at high flows exceeded those at low flows. Also, PCB loadings at high flows varied significantly by event such that calculation of yearly averages is not statistically meaningful. However, similar to low-flow periods, the high-flow Fort Edward PCB loading is compared with the TIP and TID to Schuylerville high-flow delta loadings in Figure 3-37, by event. The relative magnitude of these loading sources at high flows differed between events. For the January event, the delta load between TID and Schuylerville was almost twice that from TIP and the load at Fort Edward. For the March and June events, the relative contribution of the three loading sources was similar, while for the April event, the load at Fort Edward was the largest of the three. As discussed above, the events comprising only a single sampling round (i.e., March, April, and June) are subject to sampling artifacts that add uncertainty to the interpretation of the spatial loading patterns. In particular, short-term variability in loading at higher flows (e.g., Figures 3-8, 3-13, and 3-18) and the timing of sampling may impact the comparability of the samples from the three stations. For example, it is possible that the high loading of 8 lb/d at Fort Edward during the April event could have been the peak of a short-term pulse that passed TID and Schuylerville before or after these stations were sampled.

3.9 PCB SOURCES

3.9.1 PCB Sources Upstream of Fort Edward

Potential PCB sources upstream of Fort Edward include the Hudson Falls Plant Site DNAPL releases in the Bakers Falls area, the Remnant Deposits, and the former outfall 004 area near the Fort Edward plant site. The monitoring near Hudson Falls (i.e., the plunge pool and boat launch locations) indicates that sources in this area were active in 1998. Loadings upstream of Fort Edward increased with increasing flow, as evidenced by the large difference in the mean low-flow loading of 0.4 lb/d and the estimated loadings during the 15-year flood event in January 1998, which were

locations) indicates that sources in this area were active in 1998. Loadings upstream of Fort Edward increased with increasing flow, as evidenced by the large difference in the mean low-flow loading of 0.4 lb/d and the estimated loadings during the 15-year flood event in January 1998, which were above 10 lb/d. The composition of the PCBs at Fort Edward in 1998 was consistently similar to Aroclor 1242, suggesting water column PCBs upstream of Fort Edward were primarily derived from the Hudson Falls Plant Site PCB DNAPL sources.

3.9.2 Evaluation of Sediment PCB Sources

PCB congener patterns were used to evaluate potential sources of TIP water column PCB loading. Congener patterns are typically examined on a weight percent basis, in which each PCB congener's mass is represented as a percent of the total PCB in the sample. By plotting weight percent against the ordinal congener number (which increases with chlorination level), a "signature" or "chemical fingerprint" of the PCB composition is created for a given sample. Congener patterns have been useful for evaluation of upper Hudson River sediment PCB sources because deeper sediments typically contain a higher weight percent of the less chlorinated congeners than surface sediments (QEA, 1999a). In addition, differences in physicochemical properties among the PCB congeners result in differential transport under different loading mechanisms (i.e., PCB loadings from pore water diffusion and sediment resuspension result in different water column PCB compositions). Therefore, PCB congener patterns from 1998 water column loading data were evaluated in conjunction with sediment congener patterns to examine potential sediment PCB sources and loading mechanisms.

The composition of the 1998 summer (June-August) low-flow water column PCB delta load from TIP was used to infer the nature of the sediment PCB source (i.e., deep versus surface). Based on the mean water column congener composition and the assumption of a pore water source in equilibrium with surface sediment PCBs, the composition of the sediment source required to produce the water column PCB congener delta loadings observed from the TIP in 1998 was calculated. The calculated sediment source composition matches very closely with the average surface sediment

PCB composition from the 0-2 cm data collected from the TIP in 1998 (O'Brien and Gere, 1999a; Figure 3-38). This analysis indicates that the primary source of the low-flow water column PCB delta load within TIP appears to be consistent with PCBs that are partitioned from surface sediments to the aqueous phase. Similarities in PCB congener composition at Schuylerville and TID suggests that the surface sediment sources within this reach contribute to the water PCB delta loading between these to stations *via* a similar mechanism. However, recent sediment data from this reach to facilitate a similar comparison are not available.

In a similar manner, the average PCB congener composition at TID-WEST during the January high-flow event was compared with the surface sediment PCB composition, as shown in Figure 3-39. The congener patterns are very similar, which suggests that the PCB loading at TID-WEST during the high-flow event consisted, at least partially, of particulate phase PCBs resuspended from the TIP sediment bed.

SUMMARY

Quantitative Environmental Analysis, LLC

SECTION 4
SUMMARY

The 1998 HRMP has resulted in the collection and laboratory analysis of approximately 430 water samples. The data produced as a result of these analyses have been evaluated to satisfy the following program objectives:

- monitor the effectiveness of the remedial action performed on the Remnant Deposits;
- monitor the effectiveness of remediation activities conducted at, and adjacent to, the GE Hudson Falls plant site;
- provide data to evaluate the significance of other sources of PCBs to the Hudson River; and
- allow continued evaluation of long term trends in PCB concentrations in Hudson River water.

4.1 EFFECTIVENESS OF THE REMEDIAL ACTION PERFORMED ON THE REMNANT DEPOSITS

The remedial action performed on the Remnant Deposits continued to be an effective measure for controlling the migration of PCBs to the Hudson River during 1998. The primary evidence for this is that the PCBs observed at the Route 197 Bridge monitoring station appear to originate primarily from the GE Hudson Falls plant site area, and not from the Remnant Deposit reach of the river. The similar PCB composition observed in samples collected near the GE Hudson Falls plant site area when compared to the Route 197 Bridge samples indicates that the GE Hudson Falls plant site area is the dominant PCB source in the Remnant Deposit reach of the river (Section 3.7.4). If the Remnant Deposits were a significant source of PCBs to the river, the PCB composition would be expected to be altered at the Route 197 Bridge monitoring station. Because the Remnant Deposits have been stabilized and capped, any PCB releases to the river are limited to dissolved phase loadings (e.g., leachate from rainwater infiltration and groundwater flow). These loadings

would consist of PCBs that partitioned from the capped sediments, and would therefore exhibit an altered (i.e., less chlorinated) composition due to the differential partitioning of the PCB congeners[10].

Additionally, the timing of the remedial actions performed at, and adjacent to, the GE Hudson Falls plant beginning in 1993 has coincided with significant reductions in PCB loading measured at the Route 197 Bridge, while the PCB composition has remained similar. This is a further indication that the PCB loading measured at the Route 197 Bridge originates upstream of the Remnant Deposits in the GE Hudson Falls plant site area.

4.2 EFFECTIVENESS OF GE HUDSON FALLS PLANT SITE REMEDIATION

Remediation of the GE Hudson Falls plant site area has been effective in reducing the PCB loading entering the Hudson River, as measured at the Route 197 Bridge. Annual mean PCB loading decreased approximately 85% between 1993 (when remediation was initiated) and 1997. PCB loading from the plant site did increase slightly in 1998 from 1997 levels.

4.3 SIGNIFICANCE OF OTHER PCB SOURCES TO THE HUDSON RIVER

The significance of other PCB sources to the Hudson River has been evaluated based on data collected during 1998 and previous years (Sections 3.8 and 3.9). The results of this evaluation confirm the conclusions presented previously (QEA, 1999a), and include the following:

- The primary source of PCBs in the Remnant Deposit reach of the river (as measured at the Route 197 Bridge) is the GE Hudson Falls plant site area;
- The primary source of PCBs across the TIP is the surface sediment (i.e., top few cm; QEA, 1999a) between the Route 197 Bridge and Thompson Island Dam; and

[10] In general, the partitioning of PCB congeners is inversely proportional to chlorination level. Therefore, aqueous phase PCBs in equilibrium with sediment phase PCBs consist of a higher mass fraction of the lighter (i.e., less chlorinated) congeners (QEA, 1999a).

- The primary source of PCBs between Thompson Island Dam and Schuylerville is from surface sediment in this reach of the river.

4.4 LONG TERM TRENDS IN PCB CONCENTRATIONS IN THE HUDSON RIVER

Evaluation of Hudson River water column PCB data from 1991 through 1998 indicates that PCB loading to the river has decreased significantly. PCB loading from the GE Hudson Falls plant site area, as measured by PCBs at the Route 197 Bridge sampling station, has decreased since 1993 due to the remedial activities that have been conducted at the GE Hudson Falls plant site area. This decrease is evidenced by the approximate 70% decline in yearly average PCB concentrations since 1993. The remedial activities at Hudson Falls were also instrumental in reducing the mean annual PCB concentrations at Thompson Island Dam, as measured at the TID-WEST sampling station, by approximately 60% between 1991-92 and 1993-94. Since 1995, PCB concentrations at TID-WEST have been approximately 30% of those measured in 1991-92.

REFERENCES

REFERENCES

Consent Decree. 1990. United States v. General Electric Company., No. 90-CV-575, April 6, 1990.

Dames and Moore. 1997. *Bedrock Remedial Investigation Report. Operable Unit 2C and 2D.* Prepared for General Electric Company, Hudson Falls, NY. October 1997.

Frame, G.M., R.E. Wagner, G.C. Carnahan, J.F. Brown Jr., R.J. May, L.A. Smullen, and D.B. Bedard. 1996. "Comprehensive, Quantitative, Congener-Specific Analyses of Eight Aroclors and Complete PCB Congener Assignments on DB-1 Capillary GC Columns." *Chemosphere,* 33:603-623.

GE. 1999. Weekly Status Reports to NYSDEC. Hudson Falls, New York. Site Code 5-58-013.

Harza Engineering Company. 1992a. Ft. Edward Dam PCB Remnant Deposit Containment, Environmental Monitoring Program. Report of 1991 Results. Volume I. Chicago, IL: Harza Engineering Company. March 1992.

Harza Engineering Company. 1992b. Ft. Edward Dam PCB Remnant Deposit Containment Environmental Monitoring Program. Report of 1990 Results. Chicago, IL: Harza Engineering Company. January 1992.

Harza Engineering Company. 1990. Ft. Edward Dam PCB Remnant Deposit Containment, Environmental Monitoring Program, Baseline Studies. Report of 1989 Results. Chicago, IL: Harza Engineering Company. February 1990a.

HSI GeoTrans. 1999. *1998 Hydrogeoloic Summary Report and 1999 Work Plan.* Two Volumes. Prepared for General Electric Company. February 1999.

HydroQual. 1997. Development of Corrections for Analytical Biases in the 1991-1997 GE Hudson River PCB Database. Prepared for General Electric Company, CEP, Albany, NY, June 1997.

J.L. Engineering. 1992. *Final Remedial Action Report: PCB Remnant Deposit Sites 2,3,4 and 5 Fort Edward, New York.* Report of Remediation and Construction Activities. September 1992.

Northeast Analytical, Inc. 1990. Method NEA-608CAP, Rev.3.0, 6/90. (Includes guidelines set forth in *Quality Assurance Plan,* Green Bay Mass Balance Study, I. PCBs and Dieldrin, U.S. EPA Great Lakes National Program Office. Prepared by Deborah L. Swackhamer, Quality Assurance Coordinator, Field and Analytical methods Committees, University of Minnesota, December 11, 1987.

NUS Corporation. 1984. *Feasibility Study, Hudson River PCB Site, New York.* Volume 1. Prepared for the U.S. Environmental Protection Agency.

New York State Department of Environmental Conservation. 1991. *Analytical Services Protocol.* December 1991.

O'Brien & Gere Engineers, Inc. 1999a. *1998 High Flow Monitoring Program – Data Summary Report.* Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. April 1999.

O'Brien and Gere, 1999b. 1998 Upper Hudson River Water Column Monitoring Program Data Validation Report. Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. June 1999.

O'Brien & Gere Engineers, Inc. 1998a. *1996-1997 Thompson Island Pool Studies – Data Summary Report*. Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. February 1998.

O'Brien & Gere Engineers, Inc. 1998b. *Fort Edward Dam PCB Remnant Deposit Containment, 1997 Post-Construction Monitoring Program.* Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. November 1998.

O'Brien & Gere Engineers, Inc. 1997. *Fort Edward Dam PCB Remnant Deposit Containment, 1996 Post-Construction Monitoring Program.* Prepared for the General Electric Company, Corporate Environmental Programs, Albany, N.Y., May 1997.

O'Brien & Gere Engineers, Inc. 1996a. *Hudson River Project, River Monitoring Test.* Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. January 1996.

O'Brien & Gere Engineers, Inc. 1996b. *Fort Edward Dam PCB Remnant Deposit Containment, 1995 Post-Construction Monitoring Program.* Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. July 1996.

O'Brien & Gere Engineers, Inc. 1996c. *Hudson Falls, Operable Unit 3, Interim Remedial Measures Report*. Prepared for the General Electric Company, Corporate Environmental Programs, Albany, NY. July 1996.

O'Brien & Gere Engineers, Inc. 1995. *Fort Edward Dam PCB Remnant Deposit Containment, 1994 Post-Construction Monitoring Program.* Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. November 1995.

O'Brien & Gere Engineers, Inc. 1994a. *Bakers Falls Operable Unit 3, Remedial Investigation Report.* Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. January 1994.

O'Brien & Gere Engineers, Inc. 1994b. *Fort Edward Dam PCB Remnant Deposit Containment, 1993 Post-Construction Monitoring Program.* Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. May 1994.

O'Brien & Gere Engineers, Inc. 1993. *Fort Edward Dam PCB Remnant Containment, 1992 Post-Construction Monitoring Program Report.* Prepared for General Electric Company Corporate Environmental Programs, Albany, NY. August 1993.

O'Brien & Gere Engineers, Inc. 1992a. Field Sampling Plan. Post Construction Monitoring Program. Fort Edward Dam PCB Remnant Deposit Containment. June 1992.

O'Brien & Gere Engineers, Inc. 1992b. Quality Assurance Project Plan. Post-Construction Monitoring Program. Fort Edward Dam PCB Remnant Deposit Containment. June 1992.

O'Brien & Gere Engineers, Inc. 1992c. Health and Safety Plan. Post-Construction Monitoring Program. Fort Edward Dam PCB Remnant Deposit Containment. June 1992.

Quantitative Environmental Analysis, LLC. 1999a. *PCBs in the Upper Hudson River - Volume I, Historical Perspective and Model Overview.* Prepared for General Electric Company, Albany, NY. May 1999.

Quantitative Environmental Analysis, LLC. 1999b. *PCBs in the Upper Hudson River - Volume II, A Model of PCB Fate Transport and Bioaccumulation.* Prepared for General Electric Company, Albany, NY. May 1999.

Quantitative Environmental Analysis, LLC. 1999c. *SPMD Sampling Plan*. Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. June 1999.

Quantitative Environmental Analysis, LLC. 1998. *Thompson Island Pool Sediment PCB Sources*. Prepared for General Electric Company, Corporate Environmental Programs, Albany, NY. March 1998.

U.S. Environmental Protection Agency. 1999. *Hudson River PCBs Reassessment RI/FS Further Site Characterization and Analysis, Volume 2D – Baseline Modeling Report*. May 1999.

U.S. Environmental Protection Agency. 1998. *Hudson River PCBs Reassessment RI/FS Responsiveness Summary for Volume 2C - Data Evaluation and Interpretation Report,* December 1998.

U.S. Environmental Protection Agency. 1994. Memorandum from M.D. Mullin of the U.S. EPA Environmental Research Laboratory - Duluth, Large Lakes Research Station to G. Frame of GE Corporate Research and Development dated 21 November 1994.

U.S. EPA Great Lakes National Program Office (prepared by D.L. Swackhamer). 1987. Quality Assurance Plan: Green Bay Mass Balance Study. I. PCBs and Dieldrin.

U.S. Environmental Protection Agency. 1984. *Record of Decision. Hudson River PCBs Site, New York.* Issued by the U.S. Environmental Protection Agency Region 2, New York, NY.

TABLES

Quantitative Environmental Analysis, LLC

TABLE 2-1. DESCRIPTION OF SAMPLING LOCATIONS AND PROCEDURES

Sampling Location(1)	Approx. HRM(2)	Description	Approx. Water Depth (3)	Sampling Method	Significance and Potential Data Limitations
Bakers Falls Bridge	197.0	Approximate center of the channel from the downstream side of the County Route 27 Bridge in Hudson Falls. Approximate distance from top of guardrail to river bed ~ 38 ft.	8 ft.	Depth integrated composite collected with 1.2 L stainless steel Kemmerer Bottle Sampler.	**Remnant Deposit Post-Construction monitoring station.** Measures background PCB concentrations in Hudson River upstream of GE facilities, remnant deposits, and PCB-containing sediment.
Boat Launch	196.9	Located approximately 10 ft. from east shore of the plunge pool located at the base of Bakers Falls. Immediately downstream of GE Hudson Falls facility, Allen Mill, and DNAPL bedrock seeps on Bakers Falls.	5 ft	Grab sample from ~ 1 ft. off bottom collected through vinyl tubing w/12v "Whale" pump.	Qualitative indicator of activity of source(s) of DNAPL to Hudson River. Complex hydrodynamics in the plunge pool prevent estimating magnitude of PCB loading to the river.
Plunge Pool	196.9	Located approximately 50 ft from east shore of Bakers Falls plunge pool. Deepest area of plunge pool.	33 ft	Grab sample from ~ 20 ft. off bottom collected through vinyl tubing w/12v "Whale" pump.	Qualitative indicator of activity of source(s) of DNAPL to Hudson River. Complex hydrodynamics in the plunge pool prevent estimating magnitude of PCB loading to the river.
Route 197 Bridges	194.2	Samples are collected from the east and west channels of the Hudson River and combined to form an equal volume composite. The west channel is sampled from the approximate center of the west channel from the upstream side of the Route 197 Bridge in Fort Edward. Distance from concrete deck to river bed ~ 29 ft. East channel is sampled from the upstream side of the Route 197 bridge in Fort Edward, in the approximate center of the navigational channel, which runs towards the west side of the east channel. Distance from edge of concrete deck to river bed ~ 34 ft.	8 ft. (West) 8 ft. (East)	Depth integrated composite made up of aliquots from both channels. Collected with 1.2 L stainless steel Kemmerer Bottle Sampler. Three aliquots are collected at each station: one 1-2 ft off bottom, one near mid-depth of the water column, and one near the surface.	**Remnant Deposit Post-Construction monitoring station.** Studies performed by O'Brien & Gere Engineers in 1995 (4) indicate that sampling from this location should provide representative data. Under mean flow conditions, approximately 65% of the river flow is in the west channel and 35% is in the east channel; however, the proportion of water flowing through each channel varies with flow rate. The east and west channel samples are composited at a ratio of 1:1
TID-West	188.5	Samples are collected from shore from the western abutment of Thompson Island Dam.	2 ft.	Surface Grab.	Studies performed by O'Brien & Gere Engineers in 1997 (5) and documented in QEA, 1998 indicate that samples collected from this location are biased high.

TABLE 2-1. DESCRIPTION OF SAMPLING LOCATIONS AND PROCEDURES

Sampling Location(1)	Approx. HRM(2)	Description	Approx. Water Depth (3)	Sampling Method	Significance and Potential Data Limitations
TID-PRW2	188.48	Samples are collected from the approximate center of the channel approximately 200 ft downstream of Thompson Island Dam from a boat.	11 ft.	Depth integrated composite collected with 1.2 L stainless steel Kemmerer Bottle Sampler.	Studies performed by O'Brien &Gere Engineers in 1997 (5) indicate that samples collected from this location are more representative of PCB concentrations in water leaving the TIP. Access to this location is often not possible during winter and high flow events.
Route 29 Bridge	181.4	Samples are collected from the approximate center of the eastern channel (main channel) from the upstream side of the Route 29 Bridge in Schuylerville. Distance from the top of the guardrail to the river bed ~ 53 ft.	17 ft.	Depth integrated composite collected with 1.2 L stainless steel Kemmerer Bottle Sampler.	Samples collected from this location are assumed to be representative of PCB loading past this station.

(1) - Designations presented correspond to those used in the Hudson River Database.
(2) - HRM refers to Hudson River Mile. HRM 0.0 is located at the Battery in New York City.
(3) - approximate water depth at typical mean flow of 5,000 cfs.
(4) - O'Brien & Gere. 1996. Hudson River Project, River Monitoring Test. Syracuse, New York. O'Brien & Gere Engineers, Inc., January, 1996.
(5) - O'Brien & Gere. 1998. Hudson River Project, 1996 - 1997 Thompson Island Pool Studies. Syracuse, New York. O'Brien & Gere Engineers, Inc., February, 1998.

TABLE 3-1. 1998 Hudson River water column monitoring results for Bakers Falls Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (5) (cfs)	Water Temperature (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
01/06/98	197	--	3,300	3,900	2	1.4	<11	----	----	----	----	----	----	----
01/10/98	197	HF	34000	33,800	----	28.0	<11	----	----	----	----	----	----	----
01/11/98	197	HF	27200	25,500	----	15.0	<11	----	----	----	----	----	----	----
01/12/98	197	--	16,100	16,800	0	5.0	<11	----	----	----	----	----	----	----
01/22/98	197	--	8,600	7,700	0	1.3	<11	----	----	----	----	----	----	----
01/28/98	197	--	7,900	6,200	0	1.0	<11	----	----	----	----	----	----	----
02/03/98	197	P, R	5,900	5,000	2	1.1	19*	0.0	0.0	3.2	7.2	26.1	38.6	24.8
02/03/98	197	RE, ARCH, UJ				1.1	<11	----	----	----	----	----	----	----
02/11/98	197	--	6,600	6,200	0.1	1.1	<11	----	----	----	----	----	----	----
02/17/98	197	--	7,000	6,700	0	<1.0	<11	----	----	----	----	----	----	----
02/25/98	197	J	7,000	6,600	0	<1.0	<11	----	----	----	----	----	----	----
03/04/98	197	--	7,200	7,000	1	<1.0	<11	----	----	----	----	----	----	----
03/10/98	197	UJ	13,400	11,700	1	2.2	<11	----	----	----	----	----	----	----
03/17/98	197	--	8,300	8,000	0	<1.0	<11	----	----	----	----	----	----	----
03/25/98	197	--	7,500	7,200	0	<1.0	<11	----	----	----	----	----	----	----
04/01/98	197	--	26,200	25,400	4	8.9	<11	----	----	----	----	----	----	----
04/08/98	197	--	9,500	8,800	4	2.5	<11	----	----	----	----	----	----	----
04/15/98	197	--	4,000	4,600	9	1.0	<11	----	----	----	----	----	----	----

TABLE 3-1. 1998 Hudson River water column monitoring results for Bakers Falls Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (5) (cfs)	Water Temperature (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
04/22/98	197	UJ	6,200	6,000	8	1.3	<11	----	----	----	----	----	----	----
04/29/98	197	UJ	3,600	6,500	9	1.7	<11	----	----	----	----	----	----	----
05/06/98	197	--	5,700	5,700	12	<1.0	<11 #	----	----	----	----	----	----	----
05/12/98	197	UJ	8,400	7,800	10	1.0	<11 #	----	----	----	----	----	----	----
05/21/98	197	UJ	3,600	3,300	14	<1.0	<11 #	----	----	----	----	----	----	----
05/28/98	197	UJ	2,300	2,300	15	2.1	<11 #	----	----	----	----	----	----	----
06/04/98	197	UJ	3,900	2,500	14	3.2	<11 #	----	----	----	----	----	----	----
06/09/98	197	P, J	2,100	2,300	14	1.9	12 #	0.0	12.4	37.8	24.1	20.5	5.2	0.0
06/17/98	197	UJ	9,200	9,200	15	16.0	<11 #	----	----	----	----	----	----	----
06/25/98	197	UJ	14,200	13,500	20	2.5	<11 #	----	----	----	----	----	----	----
07/01/98	197	--	9,700	9,500	18	2.4	<11	----	----	----	----	----	----	----
07/08/98	197	--	5,400	4,500	18	1.1	<11	----	----	----	----	----	----	----
07/15/98	197	P, U	3,500	3,200	23	<1.0	16	0.0	9.7	28.1	24.6	32.8	4.8	0.0
07/22/98	197	--	2,400	2,900	25	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
07/29/98	197	--	2,000	3,000	20	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
08/04/98	197	--	2,500	2,900	22	1.6	<11	-----	-----	-----	-----	-----	-----	-----
08/12/98	197	--	4,700	4,100	20	2.9	<11	-----	-----	-----	-----	-----	-----	-----
08/19/98	197	--	2,300	3,200	17	<1.0	<11	-----	-----	-----	-----	-----	-----	-----

TABLE 3-1. 1998 Hudson River water column monitoring results for Bakers Falls Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (5) (cfs)	Water Temperature (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
08/26/98	197	P, J	6,300	6,000	21	1.6	13	0.0	14.0	40.3	20.8	19.6	5.3	0.0
09/03/98	197	--	3,300	3,300	20	1.9	<11	-----	-----	-----	-----	-----	-----	-----
09/10/98	197	--	3,300	3,000	20	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
09/15/98	197	--	4,600	2,800	21	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
09/25/98	197	R	2,100	2,900	17	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
09/25/98	197	RE				<1.0	<11	-----	-----	-----	-----	-----	-----	-----
10/02/98	197	UJ	4,100	3,500	16	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
10/07/98	197	--	2,300	3,000	12	1.0	<11	-----	-----	-----	-----	-----	-----	-----
10/15/98	197	--	4,700	3,900	14	1.1	<11	-----	-----	-----	-----	-----	-----	-----
10/21/98	197	--	3,700	4,200	12	1.5	<11	-----	-----	-----	-----	-----	-----	-----
10/28/98	197	UJ	6,100	4,300	11	1.1	<11	-----	-----	-----	-----	-----	-----	-----
11/04/98	197	--	2,600	3,300	9	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
11/11/98	197	--	4,100	4,100	7	1.6	<11	-----	-----	-----	-----	-----	-----	-----
11/18/98	197	--	4,000	3,600	5	2.0	<11	-----	-----	-----	-----	-----	-----	-----
11/23/98	197	--	3,300	3,400	5	1.2	<11	-----	-----	-----	-----	-----	-----	-----
11/30/98	197	J	3,300	3,300	5	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
12/07/98	197	--	3,200	3,200	10	1.2	<11	-----	-----	-----	-----	-----	-----	-----

TABLE 3-1. 1998 Hudson River water column monitoring results for Bakers Falls Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (5) (cfs)	Water Temperature (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
12/15/98	197	--	3,100	3,100	3	1.1	<11	-----	-----	-----	-----	-----	-----	-----
12/21/98	197	R	2,200	2,700	2	1.0	<11	-----	-----	-----	-----	-----	-----	-----
12/28/98	197	R	2,400	2,800	1	<1.0	<11	-----	-----	-----	-----	-----	-----	-----

(1) Samples analyzed by capillary column using Method NEA608CAP unless otherwise noted. Method NEA608CAP data has been adjusted for analytical bias, as described in the report Correction of Analytical Biases in the 1991-1997 GE Hudson River PCB Database (O'Brien & Gere Engineers, Inc., September 1997).

(2) HRM = Hudson River Mile. HRM 0.0 is located at the Battery in New York City.

(3) Comments reflect PCB data qualifiers and additional information regarding sampling and analytical methods. Data qualifier definitions from USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (2/94).

(4) Instantaneous Flows recorded during sampling for the Fort Edward gaging station are presented.

(5) Daily flow is presented as mean daily flow for the Fort Edward gaging station from provisional data provided by USGS (6/98)

(6) Homolog groups octa-, nona-, and deca-chlorinated biphenyls were not detected greater than 0.02%.

Key:

BD= Blind Duplicate

P = Practical quantitation limit (PQL) note that identifies PCB concentrations between 11 and 44 ng/L.

DM = Samples collected by Dames & Moore personnel

HIS = Samples collected by HSI Geotrans personnel

= Laboratory identified unusual elevation of DB-1 capillary column peak 5 concentrations. Changes in PCB congeners typically associated with peak 5 were not observed; therefor, the elevated concentration was suspected to be a non PCB analyte. A sample containing this anomaly was analyzed using an alternative capillary column to separate DB-1 peak 5 congeners. The results indicated that the elevated concentrations observed in DB-1 peak 5 were not PCBs. The laboratory resolved the interference by excluding peak 5. Additional evaluation of this occurrence is planned.

* = Samples contained heptachlorobiphenyls uncharacteristic of typical PCB compositions detected in the river. Results of the archive sample analyses (ARCH) confirmed laboratory contamination of samples collected prior to September 1998.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

P The sample results are between the MDL (ll ng/L) and the PQL (44 ng/L)

316258

TABLE 3-2. 1998 Hudson River water column monitoring results for Boatlaunch and Plungepool (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
01/06/98	196.9	--	BOATLAUNCH	3,300	3,900	2	1.5	111	0	11.49	48.87	30.33	7	2.32	0
01/12/98	196.9	--	BOATLAUNCH	16,100	16,800	0	6.1	<11	----	----	----	----	----	----	----
01/22/98	196.9	RE	BOATLAUNCH	8,600	7,700	0	<1.0	54	0	15.66	45.56	25.04	11.41	2.33	0
01/22/98	196.9	ARCH	BOATLAUNCH				<1.0	192*	0	8.28	33.71	25.36	15.11	12.04	5.5
01/28/98	196.9	--	BOATLAUNCH	7,900	6,200	0	<1.0	116	0	12.18	47.62	32.26	6.75	1.18	0
02/03/98	196.9	--	BOATLAUNCH	5,900	5,000	2	<1.0	144	0	14.98	50.02	28.76	5.4	0.84	0
02/11/98	196.9	--	BOATLAUNCH	6,600	6,200	0.1	<1.0	163	0	12.97	50.02	30.98	5.4	0.63	0
02/17/98	196.9	--	BOATLAUNCH	7,000	6,700	0	<1.0	181	0	11.58	50.97	30	6.13	1.32	0
02/25/98	196.9	J	BOATLAUNCH	7,000	6,600	0	<1.0	144	1.65	14.06	49.37	29.57	4.59	0.77	0
03/04/98	196.9	--	BOATLAUNCH	7,200	7,000	1	<1.0	163	0	11.66	49.59	32.26	5.72	0.78	0
03/10/98	196.9	P, J	BOATLAUNCH	13,400	11,700	1	2.9	41	0	9.95	40.16	37.69	10.3	1.9	0
03/17/98	196.9	--	BOATLAUNCH	8,300	8,000	0	<1.0	48	0	12.46	52.2	25.69	8.15	1.5	0
03/25/98	196.9	--	BOATLAUNCH	7,500	7,200	0	<1.0	132	0	12.1	50.26	30.12	6.15	1.37	0
03/26/98	196.9		BOATLAUNCH	7,300	7,400	6	<1.0	192	0	12.99	50.27	30.01	6.06	0.68	0
04/01/98	196.9	--	BOATLAUNCH	26,200	25,400	4	9.8	52	0	5.84	42.82	38.32	11.38	1.64	0
04/08/98	196.9	P	BOATLAUNCH	9,500	8,800	4	1.7	24	0	24.45	45.01	20.74	7.36	2.44	0
04/15/98	196.9	P	PLUNGEPOOL	4,000	4,600	9	1.2	17	0	16.63	40.54	24.08	14.15	4.6	0
04/15/98	196.9	--	BOATLAUNCH				1.3	652	0.53	12.87	50.03	29.95	5.63	0.99	0

TABLE 3-2. 1998 Hudson River water column monitoring results for Boatlaunch and Plungepool (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
04/22/98	196.9	J	PLUNGEPOOL	6,200	6,000	8	1.1	70	0	14.26	50.27	26.09	7.88	1.5	0
04/22/98	196.9	J	BOATLAUNCH				1.2	366	0	11.94	48.97	32.56	5.55	0.98	0
04/29/98	196.9	P, J	PLUNGEPOOL	3600	6,500	9	1.7	16	0	8.38	42.17	36.63	9.92	2.9	0
04/29/98	196.9	P, J	BOATLAUNCH				2.4	185	0	14.39	46.74	32.57	5.77	0.52	0
05/06/98	196.9	P, J	PLUNGEPOOL	5,700	5,700	12	<1.0	32 #	0	7.67	48.71	34.8	7.83	0.99	0
05/06/98	196.9	J	BOATLAUNCH				4.9	70 #	0	7.07	48.25	36.71	7.07	0.9	----
05/12/98	196.9	P, UJ	PLUNGEPOOL	8,400	7,800	10	1.5	36	0	15.37	38.79	33.34	10.38	2.12	0
05/12/98	196.9	J	BOATLAUNCH				2.6	118	0	10.7	44.78	36.46	6.9	1.16	0
05/21/98	196.9	UJ	PLUNGEPOOL	3,600	7,800	14	<1.0	<11 #	----	----	----	----	----	----	----
05/21/98	196.9	P, J	BOATLAUNCH				<1.0	21	0	21.96	43.18	24.14	8.74	1.98	0
05/28/98	196.9	UJ	PLUNGEPOOL	2,300	2,300	15	1.9	<11 #	----	----	----	----	----	----	----
05/28/98	196.9	P, J	BOATLAUNCH				2	34 #	0	6.95	45.98	29.2	15.2	2.67	0
05/28/98	196.9	P, BD, J	PLUNGEPOOL				2.1	11 #	0	10.72	39.68	15.56	30.44	3.6	0
06/04/98	196.9	P, J	PLUNGEPOOL	3,900	2,500	14	2.4	11 #	0	7.95	31.09	31.22	25.78	3.96	0
06/04/98	196.9	P, J	BOATLAUNCH				2.4	16 #	0	9.94	45.51	27.2	14.44	2.91	0
06/04/98	196.9	BD, UJ	PLUNGEPOOL				2.6	<11	----	----	----	----	----	----	----
06/04/98	196.9	P, BD, J	BOATLAUNCH				2.4	15 #	0	9.91	40.34	28.8	16.93	4.01	0
06/09/98	196.9	UJ	PLUNGEPOOL	2,100	2,300	14	2.1	<11 #	----	----	----	----	----	----	----
06/09/98	196.9	P, J	BOATLAUNCH				2.3	30 #	0	8.23	48.09	29.72	11.61	2.36	0
06/09/98	196.9	BD, UJ	PLUNGEPOOL				2.1	<11 #	----	----	----	----	----	----	----
06/09/98	196.9	P BD, J	BOATLAUNCH				2.3	30 #	0	9.22	51.89	26.03	10.62	2.23	0

316260

TABLE 3-2. 1998 Hudson River water column monitoring results for Boatlaunch and Plungepool (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
06/17/98	196.9	J	PLUNGEPOOL	9,200	9,200	15	3.2	70 #	0	5.86	48.06	35.18	9.84	1.06	0
06/17/98	196.9	R, J	BOATLAUNCH				3	285	0	8.74	48.22	35.94	6.03	1.07	0
06/17/98	196.9	BD, J	PLUNGEPOOL				4.4	108 #	0	4.72	47.81	36.74	9	1.72	0
06/17/98	196.9	BD, J	BOATLAUNCH				3.7	251	0	8.1	48.54	35.55	6.76	1.06	0
06/25/98	196.9	J	BOATLAUNCH	14,200	13,500	20	2.1	102	0	4.87	47.96	36.44	9.03	1.69	0
06/25/98	196.9	BD, J	BOATLAUNCH				2	126	0	3.99	46.86	38.1	9.27	1.78	0
07/01/98	196.9	J	BOATLAUNCH	9,700	9,500	18	24	1078	0	2.73	28.98	53.01	10.92	3.32	0.95
07/01/98	196.9	BD, J	BOATLAUNCH				15	249	0	2.41	33.09	48.78	13	2.71	0
07/08/98	196.9	--	PLUNGEPOOL	5,400	4,500	18	<1.0	138	0	8.66	46.13	35.49	8.02	1.71	0
07/08/98	196.9	BD	BOATLAUNCH				1.2	143	0	6.71	46.81	35.96	8.9	1.63	0
07/09/98	196.9	P	PLUNGEPOOL	4,400	4,100	25	1.1	28	0	4.73	41.8	37.89	13.32	2.26	0
07/09/98	196.9	P, BD	BOATLAUNCH				1.3	32	0	5.18	44.51	35.58	12.32	2.4	0
07/15/98	196.9	P, UJ	PLUNGEPOOL	3,500	3,200	23	1	19	0	7.3	34.34	29.61	24.93	3.83	0
07/15/98	196.9	P	BOATLAUNCH				<1.0	144	0	5.91	36.12	41.58	13.21	3.17	0
07/15/98	196.9	P, BD, UJ	PLUNGEPOOL				<1.0	31	0	6.56	24.86	31.67	30.35	6.56	0
07/15/98	196.9	BD, UJ	BOATLAUNCH				1.1	152	0	6.07	39.08	43.69	9.68	1.48	0
07/22/98	196.9	P	PLUNGEPOOL	2,400	2,900	25	1	15	0	7.62	34.55	32.79	19.97	5.07	0
07/22/98	196.9	--	BOATLAUNCH				<1.0	82	0	6.11	48.27	36.71	7.94	0.97	0
07/22/98	196.9	P, BD	PLUNGEPOOL				1.1	19	0	11.92	36.28	29.14	19.3	3.36	0
07/22/98	196.9	BD	BOATLAUNCH				<1.0	84	0	6.34	47.42	37.5	7.95	0.78	0

TABLE 3-2. 1998 Hudson River water column monitoring results for Boatlaunch and Plungepool (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
07/29/98	196.9	P	PLUNGEPOOL	2,000	3,000	20	2	37	0	12.37	50.05	27.26	9.15	1.17	0
07/29/98	196.9	--	BOATLAUNCH				1.4	100	0	7.48	48.53	35.36	7.34	1.29	0
07/29/98	196.9	P, BD	PLUNGEPOOL				1.1	38	0	12.37	48.4	28.28	9.5	1.45	0
07/29/98	196.9	--	BOATLAUNCH				<1.0	97	0	7.19	47.61	36.59	7.18	1.42	0
08/04/98	196.9	P	PLUNGEPOOL	2,500	2,900	22	1.3	12	0	4.61	41.34	32.33	17.18	4.54	0
08/04/98	196.9	P	BOATLAUNCH				1.3	33	0	8.84	49.53	31.24	8.76	1.63	0
08/04/98	196.9	P, BD	PLUNGEPOOL				1.5	17	0	11.71	46.3	25.97	12.1	3.92	0
08/04/98	196.9	P, BD	BOATLAUNCH				1.2	33	0	10.45	47.03	29.81	10.45	2.26	0
08/12/98	196.9	P	PLUNGEPOOL	4,700	4,100	20	2.5	21	0	10.55	39.29	36.48	10.5	3.18	0
08/12/98	196.9	P	BOATLAUNCH				2.2	24	0	10.7	47.1	29.68	10	2.52	0
08/12/98	196.9	P, BD	PLUNGEPOOL				2.5	18	0	10.83	37.52	32.18	15.54	3.93	0
08/12/98	196.9	P, BD	BOATLAUNCH				2.5	29	0	9.14	46.29	31.25	10.59	2.73	0
08/19/98	196.9	P	PLUNGEPOOL	2,300	3,200	17	1.3	25	0	8.02	47.63	29.54	12.01	2.8	0
08/19/98	196.9	P	BOATLAUNCH				1.4	29	0	8.61	45.19	28.67	13.45	4.09	0
08/19/98	196.9	P, BD	PLUNGEPOOL				1.2	25	0	9.03	48.78	28.12	10.82	3.26	0
08/19/98	196.9	P, BD	BOATLAUNCH				1.2	26	0	7.64	46.1	31.8	12	2.45	0
08/26/98	196.9	P	PLUNGEPOOL	6,300	6,000	20	1.8	201	0	6.47	48.39	37.07	6.86	1.22	0
08/26/98	196.9	P	BOATLAUNCH				2.7	391	0	9.04	47.37	35	7.27	1.32	0
08/26/98	196.9	P, BD	PLUNGEPOOL				1.6	191	0	6.89	49.69	35.27	6.9	1.25	0
08/26/98	196.9	P, BD	BOATLAUNCH				2.9	364	0	9.47	48.24	34.96	6.43	0.91	0

TABLE 3-2. 1998 Hudson River water column monitoring results for Boatlaunch and Plungepool (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
09/03/98	196.9	P, R	PLUNGEPOOL	3,300	3,300	20	2.8	110	0	4.92	45.71	37.76	9.95	1.66	0
09/03/98	196.9	P, R	BOATLAUNCH				2	161	0	4.65	46.25	38.66	9.05	1.39	0
09/03/98	196.9	P, BD, R	PLUNGEPOOL				2.5	201	0	3.6	44.16	41.57	9.18	1.48	0
09/03/98	196.9	P, BD, R	BOATLAUNCH				2.1	330	0	3.13	26.3	24	17.78	19.12	9.24
09/10/98	196.9	P, J	PLUNGEPOOL	3,300	3,000	20	<1.0	23	0	6.18	54.31	28.65	8.82	2.03	0
09/10/98	196.9	P	BOATLAUNCH				<1.0	42	0	6.39	50.94	30.03	10.4	2.23	0
09/10/98	196.9	P, BD	PLUNGEPOOL				<1.0	22	0	5.68	50.71	27.66	13.59	2.37	0
09/10/98	196.9	P, BD, J	BOATLAUNCH				<1.0	33	0	7.07	53.55	28.1	9.62	1.67	0
09/15/98	196.9	P, J	PLUNGEPOOL	4,600	2,800	21	1.1	41	0	3.59	42.98	32.18	17.98	3.28	0
09/15/98	196.9	J	BOATLAUNCH				2.7	59	0	6.06	47.52	32.57	11.48	2.36	0
09/15/98	196.9	RE	BOATLAUNCH				2.7	64	0	4.86	46.42	34.56	13.23	0.93	0
09/15/98	196.9	P, BD, J	PLUNGEPOOL				1.5	25	0	6.77	48.1	31.23	11.79	2.12	0
09/15/98	196.9	P, BD, J	BOATLAUNCH				2.7	24	0	7.72	49.12	30.99	9.6	2.58	0
09/25/98	196.9	--	PLUNGEPOOL	2100	2,900	17	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
09/25/98	196.9	J	BOATLAUNCH				<1.0	50	0	7.01	40.13	38.84	11.22	2.8	0
09/25/98	196.9	P, BD	PLUNGEPOOL				<1.0	19	0	8.46	43.69	33.08	11.73	3.04	0
09/25/98	196.9	BD, J	BOATLAUNCH				1	<11	-----	-----	-----	-----	-----	-----	-----
10/02/98	196.9	J	PLUNGEPOOL	4,100	3,500	16	1.7	39	0	3.67	34.3	43.57	15.38	3.08	0
10/02/98	196.9	P	BOATLAUNCH				1	16	0	8.43	44.45	31.04	13.92	2.17	0
10/02/98	196.9	P, BD, J	PLUNGEPOOL				1.2	21	0	7.3	39.72	37.27	12.46	3.23	0
10/02/98	196.9	P, BD	BOATLAUNCH				1.1	16	0	11.48	39.21	31.83	15.1	2.37	0

TABLE 3-2. 1998 Hudson River water column monitoring results for Boatlaunch and Plungepool (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
10/07/98	196.9	P	PLUNGEPOOL	2,300	3,000	12	1.4	13	0	8.75	40.57	32.16	15.66	2.85	0
10/07/98	196.9	P	BOATLAUNCH				1.1	15	0	9.96	43.99	27.97	15.81	2.27	0
10/07/98	196.9	P, BD	PLUNGEPOOL				1.1	12	0	10.07	41.81	32.01	13.6	2.52	0
10/07/98	196.9	P, BD	BOATLAUNCH				1.4	16	0	8.21	45.64	31.5	13.23	1.41	0
10/15/98	196.9	P	PLUNGEPOOL	4,700	3,900	14	1	13	0	5.62	34.01	22.6	33.95	3.82	0
10/15/98	196.9	--	BOATLAUNCH				1.7	71	0	6.22	39.64	38.88	12.84	2.41	0
10/21/98	196.9	P	PLUNGEPOOL	3,700	4,200	12	1.2	11	0	5.1	31.37	24.83	32.76	5.94	0
10/21/98	196.9	P	BOATLAUNCH				1	14	0	5.82	35.97	27.53	26.85	3.82	0
10/28/98	196.9	P	PLUNGEPOOL	6,100	4,300	11	1.7	25	0	7.1	37.21	33.69	19.25	2.76	0
10/28/98	196.9	P	BOATLAUNCH				2.7	35	0	5.5	41.7	36.87	14.64	1.29	0
11/04/98	196.9	P	PLUNGEPOOL	2,600	3,300	9	<1.0	13	0	10.55	35.87	26.21	24.55	2.83	0
11/04/98	196.9	--	BOATLAUNCH				3.8	144	0	4.94	45.49	39.16	8.84	1.57	0
11/11/98	196.9	--	PLUNGEPOOL	4,100	4,100	7	1.8	153	0	2.95	39.51	45.17	10.52	1.86	0
11/11/98	196.9	--	BOATLAUNCH				4	500	0	4.75	42.25	42.33	9.09	1.58	0
11/18/98	196.9	P	PLUNGEPOOL	4,000	3,600	5	2.1	11	0	7.81	36.94	29.47	20.81	4.97	0
11/18/98	196.9	J	BOATLAUNCH				2	47	0	3.87	22.25	26.07	24.53	16.81	6.47
11/23/98	196.9	P	PLUNGEPOOL	3,300	3,400	5	1.4	13	0	4.41	37.47	29.75	23.2	5.18	0
11/23/98	196.9	--	BOATLAUNCH				2.7	5145	0	7	46.84	35.62	8.16	1.9	0.45
11/30/98	196.9	P, R	PLUNGEPOOL	3,300	3,300	5	<1.0	11	0	7.94	33.89	26.2	26.19	5.77	0
11/30/98	196.9	R	BOATLAUNCH				1.2	59	0	5.62	37.96	41.31	13.34	1.77	0
12/07/98	196.9	P	PLUNGEPOOL	3,200	3,200	10	<1.0	12	0	9.39	31.05	32.16	23.11	4.29	0
12/07/98	196.9	P	BOATLAUNCH				<1.0	17	0	11.13	43.46	29.47	13.35	2.6	0

TABLE 3-2. 1998 Hudson River water column monitoring results for Boatlaunch and Plungepool (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
12/15/98	196.9	P, R	PLUNGEPOOL	3,100	3,100	3	1.2	12	0	5.64	35.71	25.9	27.58	5.17	0
12/15/98	196.9	P, R	BOATLAUNCH				2.4	29	0	6.67	41.35	26.56	23.05	2.37	0
12/21/98	196.9	P, R	PLUNGEPOOL	2,200	2,700	2	<1.0	12	0	9.66	44.78	28.68	12.31	4.58	0
12/21/98	196.9	R	BOATLAUNCH				1.1	153	57.91	9.67	23.28	7.18	1.63	0.33	0
12/28/98	196.9	R	PLUNGEPOOL	2,400	2,800	1	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
12/28/98	196.9	P, R	BOATLAUNCH				<1.0	44	0	23.37	55.41	16.94	3.64	0.65	0

(1) Samples analyzed by capillary column using Method NEA608CAP unless otherwise noted. Method NEA608CAP data has been adjusted for analytical bias, as described in the report Correction of Analytical Biases in the 1991-1997 GE Hudson River PCB Database (O'Brien & Gere Engineers, Inc., September 1997).

(2) HRM = Hudson River Mile. HRM 0.0 is located at the Battery in New York City.

(3) Comments reflect PCB data qualifiers and additional information regarding sampling and analytical methods. Data qualifier definitions from USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (2/94).

(4) Instantaneous Flows recorded during sampling for the Fort Edward gaging station are presented.

(5) Daily flow is presented as mean daily flow for the Fort Edward gaging station from provisional data provided by USGS (6/98)

(6) Homolog groups octa-, nona-, and deca-chlorinated biphenyls were not detected greater than 0.02%.

Key:

BD= Blind Duplicate

P = Practical quantitation limit (PQL) note that identifies PCB concentrations between 11 and 44 ng/L.

DM = Samples collected by Dames & Moore personnel

HIS = Samples collected by HSI Geotrans personnel

= Laboratory identified unusual elevation of DB-1 capillary column peak 5 concentrations. Changes in PCB congeners typically associated with peak 5 were not observed; therefor, the elevated concentration was suspected to be a non PCB analyte. A sample containing this anomaly was analyzed using an alternative capillary column to separate DB-1 peak 5 congeners. The results indicated that the elevated concentrations observed in DB-1 peak 5 were not PCBs. The laboratory resolved the interference by excluding peak 5. Additional evaluation of this occurrence is planned.

* = Samples contained heptachlorobiphenyls uncharacteristic of typical PCB compositions detected in the river. Results of the archive sample analyses (ARCH) confirmed laboratory contamination of samples collected prior to September 1998.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

P The sample results are between the MDL (ll ng/L) and the PQL (44 ng/L)

316265

TABLE 3-2a. 1998 Hudson River water column monitoring results for Additional Plant Site Area Sampling (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
04/15/98	197.0	P	HR20 EAST	4,000	4,600	9	na	11	0.0	18.2	37.0	22.0	15.9	6.9	0.0
04/15/98	197.0	P	HR50 EAST				na	11	0.0	16.9	37.6	25.8	13.6	6.1	0.0
04/22/98	197.0	P, J	HR20 EAST	6,200	6,000	8	na	21	0.0	35.0	31.5	22.7	8.3	2.5	0.0
04/22/98	197.0	P, J	HR50 EAST				na	22	0.0	35.3	30.0	22.4	9.9	2.5	0.0
04/29/98	197.0	P, UJ	HR20 EAST	3,600	6,500	9	na	<11	----	----	----	----	----	----	----
04/29/98	197.0	P, UJ	HR50 EAST				na	<11	----	----	----	----	----	----	----
05/06/98	197.0	P, J	HR20 EAST	5,700	5,700	12	na	27 #	0.0	4.2	34.4	44.5	14.6	2.4	0.0
05/06/98	197.0	P, J	HR50 EAST				na	13 #	0.0	9.4	45.6	29.6	11.3	4.2	0.0
05/12/98	197.0	P, J	HR20 EAST	8,400	7,800	10	na	21 #	0.0	8.9	44.9	33.4	9.6	3.2	0.0
05/12/98	197.0	P, J	HR50 EAST				na	15 #	0.0	6.4	42.0	34.2	12.4	5.0	0.0
05/21/98	197.0	UJ	HR20 EAST	3,600	3,300	14	na	<11 #	----	----	----	----	----	----	----
05/21/98	197.0	UJ	HR50 EAST				na	<11 #	----	----	----	----	----	----	----
05/21/98	197.0		BFWD-5				<1.0	1335	0.0	8.9	42.4	40.0	7.3	1.3	0.0
05/28/98	197.0	P, J	HR20 EAST	2,300	2,300	21	na	<11 #	----	----	----	----	----	----	----
05/28/98	197.0	UJ	HR50 EAST				na	<11 #	----	----	----	----	----	----	----
05/28/98	196.9	UJ	PLUNGEPOOL 2FT				2.4	<11	----	----	----	----	----	----	----
05/28/98	196.9	P, J	PLUNGEPOOL 16FT				2.3	14	0.0	6.5	38.6	33.2	19.1	2.7	0.0
05/28/98	196.9	P, J	PLUNGEPOOL 24FT				2.1	15	0.0	7.0	37.7	31.7	19.5	4.2	0.0
05/28/98	197		BFWD-1			20.5	2.0	14045	0.2	5.8	40.6	44.4	7.7	1.2	0.1
05/28/98	197		BFWD-5				<1.0	1338	0.0	7.4	41.1	41.2	8.3	1.6	0.4

316266

TABLE 3-2a. 1998 Hudson River water column monitoring results for Additional Plant Site Area Sampling (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
06/04/98	197.0	R	HR20 EAST	2,800	2,500	19	na	70 #	0.0	2.0	6.4	11.3	25.1	30.4	24.9
06/04/98	197.0	UJ	HR50 EAST				na	<11 #	----	----	----	----	----	----	----
06/04/98	196.9	P, J	PLUNGEPOOL 2FT				2.3	13 #	0.0	10.1	35.3	26.1	23.2	5.3	0.0
06/04/98	196.9	P, J	PLUNGEPOOL 16FT				2.4	13 #	0.0	9.1	38.8	28.1	19.2	4.7	0.0
06/04/98	196.9	P, J	PLUNGEPOOL 24FT				2.4	13 #	0.0	11.8	38.5	25.7	20.0	4.0	0.0
06/06/98	197	--	BFWD-1	--	2,900	--	2.0	9889	0.1	5.5	41.0	45.1	7.3	1.0	0.1
06/06/98	197	--	BFWD-5				<1.0	1529	0.0	6.4	39.5	42.5	9.4	2.0	0.3
06/09/98	197.0	UJ	HR20 EAST	2,400	2,300	19	na	<11 #	----	----	----	----	----	----	----
06/09/98	197.0	UJ	HR50 EAST				na	<11 #	----	----	----	----	----	----	----
06/09/98	196.9	P, J	PLUNGEPOOL 2FT				2.4	14 #	0.0	14.7	32.2	26.6	22.6	4.0	0.0
06/09/98	196.9	P, J	PLUNGEPOOL 16FT				1.8	11 #	0.0	13.7	36.1	25.5	19.0	5.7	0.0
06/09/98	196.9	UJ	PLUNGEPOOL 24FT				1.9	<11 #	----	----	----	----	----	----	----
06/17/98	197.0	P, J	HR20 EAST	9,200	9,200	15	na	26 #	0.0	8.0	37.8	29.3	20.0	5.0	0.0
06/17/98	197.0	P, J	HR50 EAST				na	31 #	0.0	11.5	42.0	30.2	13.2	3.1	0.0
06/17/98	196.9	J	PLUNGEPOOL 2FT				3.5	70 #	0.0	5.6	50.2	34.7	8.6	1.0	0.0
06/17/98	196.9	R	PLUNGEPOOL 16FT				3.5	107 #	0.0	6.0	48.4	36.1	8.4	1.2	0.0
06/17/98	196.9	R	PLUNGEPOOL 24FT				3.6	98 #	0.0	5.9	51.5	34.6	6.9	1.2	0.0
07/08/98	197	--	BFWD-1	5137	4,500	21.3	<1.0	8736	0.2	5.5	44.8	41.1	7.0	1.1	0.2
07/08/98	197	--	BFWD-2				<1.0	92	0.0	22.8	48.8	21.1	6.5	0.8	0.0
07/08/98	197	--	BFWD-4				1.1	1965	0.0	6.3	45.2	39.6	7.2	1.4	0.4

TABLE 3-2a. 1998 Hudson River water column monitoring results for Additional Plant Site Area Sampling (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
07/08/98	197	--	BFWD-5				<1.0	1824	0.0	6.4	45.1	39.5	7.2	1.4	0.4
07/08/98	197	P	BFWD-7				<1.0	22	0.0	15.5	39.5	28.1	15.0	2.0	0.0
07/09/98	196.9	P	PLUNGEPOOL 2FT	4,400	4,300	25	2.0	25	0.0	5.1	39.4	37.6	15.7	2.3	0.0
07/09/98	196.9	P	PLUNGEPOOL 16FT				1.7	38	0.0	5.7	43.2	34.3	15.2	1.5	0.0
07/09/98	196.9	P	PLUNGEPOOL 24FT				1.3	28	0.0	6.1	39.6	38.0	14.7	1.7	0.0
07/09/98	197.0	P	HR20 EAST				<1.0	33	0.0	4.7	38.7	34.9	18.5	3.2	0.0
07/09/98	197.0	P	HR50 EAST				1.4	25	0.0	5.1	36.7	40.1	15.7	2.5	0.0
07/15/98	197.0	P, U	HR20 EAST	3,500	3,200	28	1.1	26	0.0	7.4	28.6	33.8	27.0	3.2	0.0
07/15/98	197.0	P, U	HR50 EAST				<1.0	16	0.0	9.6	30.0	23.5	31.8	5.2	0.0
07/15/98	196.9	P, U	PLUNGEPOOL 2FT				1.7	19	0.0	7.7	33.7	29.1	25.0	4.5	0.0
07/15/98	196.9	P, U	PLUNGEPOOL 16FT				1.1	18	0.0	8.7	35.9	25.3	25.9	4.2	0.0
07/15/98	196.9	P, U	PLUNGEPOOL 24FT				<1.0	18	0.0	8.5	29.3	30.7	27.1	4.4	0.0
07/15/98	197	--	BFWD-1				1.1	6546	0.1	4.5	41.7	43.0	8.7	1.7	0.3
07/15/98	197	J	BFWD-2				<1.0	902	2.7	22.6	47.1	19.9	4.6	2.0	1.1
07/15/98	197	J	BFWD-4				<1.0	3565	0.1	5.4	43.3	42.3	7.4	1.2	0.2
07/15/98	197	J	BFWD-5				<1.0	3254	0.2	5.6	43.5	42.2	7.2	1.2	0.2
07/15/98	197	UJ	BFWD-7				<1.0	57	0.0	7.8	23.6	40.0	21.1	7.5	0.0
07/22/98	197.0	P	HR20 East	2,400	2,900	28	<1.0	11	0.0	8.8	34.3	38.7	18.3	0.0	0.0
07/22/98	197.0	P	HR50 East				1.0	13	0.0	11.5	33.9	28.1	22.5	4.1	0.0
07/22/98	196.9	P	PLUNGEPOOL 2FT				<1.0	14	0.0	7.0	44.8	30.3	14.7	3.1	0.0

TABLE 3-2a. 1998 Hudson River water column monitoring results for Additional Plant Site Area Sampling (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
07/22/98	196.9	P	PLUNGEPOOL 16FT				1.2	21	0.0	7.1	37.7	32.8	19.2	3.3	0.0
07/22/98	196.9	P	PLUNGEPOOL 24FT				<1.0	16	0.0	8.6	40.4	28.6	18.8	3.6	0.0
07/22/98	197	--	BFWD-1				<1.0	7969	0.2	5.1	43.8	42.5	7.2	1.1	0.2
07/22/98	197	--	BFWD-2				<1.0	167	0.0	23.9	49.1	21.7	4.6	0.7	0.0
07/22/98	197	--	BFWD-4				<1.0	2207	0.3	8.5	46.3	36.6	6.5	1.3	0.5
07/22/98	197	--	BFWD-5				<1.0	2033	0.5	8.5	46.3	36.5	6.6	1.4	0.4
07/22/98	197	--	BFWD-7				1.0	35	0.0	10.5	39.0	30.8	18.2	1.6	0.0
07/29/98	197.0	--	HR20 East	2,000	3,000	23	<1.0	49	0.0	12.0	47.7	29.2	9.7	1.4	0.0
07/29/98	197.0	P	HR50 East				<1.0	24	0.0	13.5	48.1	25.3	11.0	2.1	0.0
07/29/98	196.9	P	PLUNGEPOOL 2FT				<1.0	35	0.0	11.4	50.7	24.8	11.5	1.7	0.0
07/29/98	196.9	P	PLUNGEPOOL 16FT				<1.0	41	0.0	12.4	51.4	26.7	8.2	1.4	0.0
07/29/98	196.9	--	PLUNGEPOOL 24FT				1.9	48	0.0	12.4	52.5	25.2	8.5	1.4	0.0
07/30/98			IRM - IN				30.0	740000	-----	-----	-----	-----	-----	-----	-----
07/30/98			IRM - OUT				ND	2600	-----	-----	-----	-----	-----	-----	-----
08/04/98	197.0	P	HR20 East	2,400	2,900	24	2.1	17	0.0	9.0	39.1	29.0	18.7	4.2	0.0
08/04/98	197.0	P	HR50 East				2.4	20	0.0	11.0	37.4	30.3	16.7	4.6	0.0
08/04/98	196.9	--	PLUNGEPOOL 2FT				1.6	73	0.0	4.8	34.1	42.7	14.5	3.9	0.0
08/04/98	196.9	P	PLUNGEPOOL 16FT				1.6	19	0.0	12.4	42.5	27.2	13.7	4.1	0.0
08/04/98	196.9	--	PLUNGEPOOL 24FT				1.4	<11	-----	-----	-----	-----	-----	-----	-----
08/04/98			IRM - IN				20.0	220000	-----	-----	-----	-----	-----	-----	-----
08/04/98			IRM - OUT				1.0	533	-----	-----	-----	-----	-----	-----	-----

316269

TABLE 3-2a. 1998 Hudson River water column monitoring results for Additional Plant Site Area Sampling (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
08/12/98	197.0	P	HR20 East	4,000	4,100	24.1	2.7	22	0.0	7.7	44.4	32.7	12.1	3.1	0.0
08/12/98	197.0	--	HR50 East				2.5	49	0.0	8.0	48.6	31.7	9.9	1.8	0.0
08/12/98	196.9	P	PLUNGEPOOL 2FT				2.8	18	0.0	12.2	42.8	31.2	11.3	2.6	0.0
08/12/98	196.9	P	PLUNGEPOOL 16FT				2.2	18	0.0	8.7	43.8	30.2	14.1	3.3	0.0
08/12/98	196.9	P	PLUNGEPOOL 24FT				2.2	20	0.0	9.5	43.7	30.2	13.7	2.9	0.0
08/12/98		--	IRM - IN				12	206000	-----	-----	-----	-----	-----	-----	-----
08/12/98		--	IRM - OUT				1.5	188	-----	-----	-----	-----	-----	-----	-----
08/19/98		--	IRM - IN	--	3,200	--	110	506000	-----	-----	-----	-----	-----	-----	-----
08/19/98		--	IRM - OUT				1.0	44500	-----	-----	-----	-----	-----	-----	-----
08/26/98		--	IRM - IN		6,000		6.0	80400	-----	-----	-----	-----	-----	-----	-----
08/26/98		--	IRM - OUT				ND	362	-----	-----	-----	-----	-----	-----	-----
09/03/98		--	IRM - IN	--	3,300	--	12.0	139000	-----	-----	-----	-----	-----	-----	-----
09/03/98		--	IRM - OUT				ND	640	-----	-----	-----	-----	-----	-----	-----
09/10/98		--	IRM - IN	--	3,000	--	12.0	203000	-----	-----	-----	-----	-----	-----	-----
09/10/98		--	IRM - OUT				1.0	1090	-----	-----	-----	-----	-----	-----	-----
09/17/98		--	IRM - IN	--	3,340	--	ND	99500	-----	-----	-----	-----	-----	-----	-----
09/17/98		--	IRM - OUT				ND	930	-----	-----	-----	-----	-----	-----	-----
09/18/98	197	--	BFWD-1	--	4,100	--	<1.0	10577	0.3	5.8	44.0	41.3	7.3	1.2	0.1
09/25/98		--	IRM - IN	--	2,900	--	1.5	28900	-----	-----	-----	-----	-----	-----	-----
09/25/98		--	IRM - OUT				3.0	4560	-----	-----	-----	-----	-----	-----	-----
10/07/98		--	IRM - IN	--	3,000	--	ND	7000	-----	-----	-----	-----	-----	-----	-----
10/07/98		--	IRM - OUT				ND	650	-----	-----	-----	-----	-----	-----	-----

316270

TABLE 3-2a. 1998 Hudson River water column monitoring results for Additional Plant Site Area Sampling (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp.(C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
10/15/98		--	IRM - IN	--	3,900	--	ND	3000	-----	-----	-----	-----	-----	-----	-----
10/15/98		--	IRM - OUT				ND	190	-----	-----	-----	-----	-----	-----	-----
10/21/98		--	IRM - IN	--	4,200	--	2.5	11000	-----	-----	-----	-----	-----	-----	-----
10/21/98		--	IRM - OUT				ND	64	-----	-----	-----	-----	-----	-----	-----

(1) Samples analyzed by capillary column using Method NEA608CAP unless otherwise noted. Method NEA608CAP data has been adjusted for analytical bias, as described in the report Correction of Analytical Biases in the 1991-1997 GE Hudson River PCB Database (O'Brien & Gere Engineers, Inc., September 1997).

(2) HRM = Hudson River Mile. HRM 0.0 is located at the Battery in New York City.

(3) Comments reflect PCB data qualifiers and additional information regarding sampling and analytical methods. Data qualifier definitions from USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (2/94).

(4) Instantaneous Flows recorded during sampling for the Fort Edward gaging station are presented.

(5) Daily flow is presented as mean daily flow for the Fort Edward gaging station from provisional data provided by USGS (6/98)

(6) Homolog groups octa-, nona-, and deca-chlorinated biphenyls were not detected greater than 0.02%.

Key:

BD= Blind Duplicate

P = Practical quantitation limit (PQL) note that identifies PCB concentrations between 11 and 44 ng/L.

DM = Samples collected by Dames & Moore personnel

HIS = Samples collected by HSI Geotrans personnel

= Laboratory identified unusual elevation of DB-1 capillary column peak 5 concentrations. Changes in PCB congeners typically associated with peak 5 were not observed; therefor, the elevated concentration was suspected to be a non PCB analyte. A sample containing this anomaly was analyzed using an alternative capillary column to separate DB-1 peak 5 congeners. The results indicated that the elevated concentrations observed in DB-1 peak 5 were not PCBs. The laboratory resolved the interference by excluding peak 5. Additional evaluation of this occurrence is planned.

* = Samples contained heptachlorobiphenyls uncharacteristic of typical PCB compositions detected in the river. Results of the archive sample analyses (ARCH) confirmed laboratory contamination of samples collected prior to September 1998.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

P The sample results are between the MDL (11 ng/L) and the PQL (44 ng/L)

316271

TABLE 3-3. 1998 Hudson River water column monitoring results for the Route 197 Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
01/06/98	194.2	--	Rt.197 Br.	3,300	3,900	2	1.7	<11	----	----	----	----	----	----	----
01/09/98	194.2	HF	Rt.197 Br.	32,000	32,300	----	37.0	71	0.0	2.5	35.9	44.4	14.2	3.0	0.0
01/09/98	194.2	HF	HRM 194.2E	34,000		----	32.0	57	0.0	2.9	36.0	46.8	12.3	2.0	0.0
01/10/98	194.2	HF	HRM 194.2E	34,800	33,800	----	34.0	190	0.0	10.7	41.5	33.9	8.6	3.4	1.8
01/10/98	194.2	HF, BD	HRM 194.2W	35,000		----	35.0	48	0.0	4.6	42.6	36.6	14.3	1.9	0.0
01/10/98	194.2	HF	HRM 194.2E	35,300		----	33.0	87	0.0	3.3	37.0	40.9	12.0	4.7	2.2
01/10/98	194.2	HF	HRM 194.2W	35,000		----	31.0	54	0.0	7.1	45.7	34.7	10.5	2.0	0.0
01/10/98	194.2	HF	HRM 194.2E	35,000		----	35.0	72	0.0	9.2	42.4	35.3	11.1	2.0	0.0
01/10/98	194.2	HF	HRM 194.2W	35,000		----	34.0	43	0.0	9.1	37.0	38.9	12.6	2.5	0.0
01/10/98	194.2	HF	HRM 194.2E	35,000		----	33.0	77	0.0	7.3	34.9	39.6	12.7	4.8	0.8
01/10/98	194.2	HF	HRM 194.2W	34,700		----	33.0	137	0.0	4.1	37.0	43.8	11.5	3.3	0.4
01/10/98	194.2	HF	HRM 194.2E	34,700		----	34.0	49	0.0	9.6	38.5	34.0	14.5	3.4	0.0
01/11/98	194.2	HF	Rt.197 Br.	27,200	25,500	----	17.0	22	0.0	7.9	40.1	31.7	16.9	3.5	0.0
01/11/98	194.2	HF	Rt.197 Br.	22,400		----	13.0	26	0.0	11.9	40.0	28.3	15.9	4.0	0.0
01/12/98	194.2	P	Rt.197 Br.	16,100	16,800	0	6.3	19	0.0	10.4	39.6	29.4	16.2	4.4	0.0
01/12/98	194.2	P, BD	HRM 194.2E				6.5	18	0.0	11.4	37.2	28.9	18.6	3.9	0.0
01/22/98	194.2	P	Rt.197 Br.	8,600	7,700	0	1.7	20	0.0	5.8	40.6	34.7	14.6	4.3	0.0
01/28/98	194.2	P	Rt.197 Br.	7,900	6,200	0	1.0	13	0.0	8.5	26.8	37.6	19.3	7.8	0.0

TABLE 3-3. 1998 Hudson River water column monitoring results for the Route 197 Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
02/03/98	194.2	--	Rt.197 Br.	5,900	5,000	2	<1.0	<11	----	----	----	----	----	----	----
02/03/98	194.2	BD	Rt.197 Br.				1.3	<11	----	----	----	----	----	----	----
02/11/98	194.2	--	Rt.197 Br.	6,600	6,200	0.1	1.5	<11	----	----	----	----	----	----	----
02/17/98	194.2	P	Rt.197 Br.	7,000	6,700	0	1.1	15	0.0	22.8	26.3	22.4	21.0	7.4	0.0
02/25/98	194.2	J	Rt.197 Br.	7,000	6,600	0	<1.0	<11	----	----	----	----	----	----	----
03/04/98	194.2	P	Rt.197 Br.	7,200	7,000	1	<1.0	16	0.0	23.5	31.0	21.0	17.3	7.2	0.0
03/04/98	194.2	P, BD	Rt.197 Br.				<1.0	11	0.0	27.8	25.0	21.9	18.5	6.8	0.0
03/10/98	194.2	P, J	Rt.197 Br.	13,400	11,700	1	4.1	15	0.0	13.2	34.9	32.6	15.5	3.8	0.0
03/17/98	194.2	P	Rt.197 Br.	8,300	8,000	0	<1.0	12	0.0	9.9	31.2	30.2	18.5	10.2	0.0
03/17/98	194.2	BD	Rt.197 Br.				<1.0	<11	----	----	----	----	----	----	----
03/25/98	194.2	--	Rt.197 Br.	7,500	7,240	0	<1.0	<11	----	----	----	----	----	----	----
04/01/98	194.2	--	Rt.197 Br.	26,200	25,400	4	10.0	60	0.0	10.6	44.1	33.3	9.9	2.1	0.0
04/08/98	194.2	--	Rt.197 Br.	9,500	8,800	4	1.8	<11	----	----	----	----	----	----	----
04/08/98	194.2	BD	Rt.197 Br.				2.1	<11	----	----	----	----	----	----	----
04/15/98	194.2	P	Rt.197 Br.	4,000	4,600	9	1.2	13	0.0	14.5	34.1	24.6	19.7	7.2	0.0
04/22/98	194.2	P, J	Rt.197 Br.	6,200	6,000	8	2.0	19	0.0	40.3	23.9	21.1	11.1	3.6	0.0
04/29/98	194.2	UJ	Rt.197 Br.	3,600	6,500	9	1.7	<11	----	----	----	----	----	----	----
05/06/98	194.2	UJ	Rt.197 Br.	5,700	5,700	12	<1.0	<11 #	----	----	----	----	----	----	----
05/06/98	194.2	BD, UJ	Rt.197 Br.				<1.0	<11 #	----	----	----	----	----	----	----

316273

TABLE 3-3. 1998 Hudson River water column monitoring results for the Route 197 Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
05/12/98	194.2	J	Rt.197 Br.	8,400	7,800	10	1.2	<11 #	----	----	----	----	----	----	----
05/21/98	194.2	UJ	Rt.197 Br.	3,600	3,000	14	<1.0	<11 #	----	----	----	----	----	----	----
05/21/98	194.2	BD, UJ	Rt.197 Br.				<1.0	<11 #	----	----	----	----	----	----	----
05/28/98	194.2	P, J	Rt.197 Br.	2,300	2,300	15	2.2	17 #	0.0	8.3	38.1	24.9	22.4	6.3	0.0
06/04/98	194.2	P, UJ	Rt.197 Br.	3,900	2,500	14	2.3	12 #	0.0	10.1	35.5	26.4	24.0	4.0	0.0
06/04/98	194.2	P, BD, J	Rt.197 Br.				2.1	14 #	0.0	11.8	26.9	34.9	22.4	4.0	0.0
06/09/98	194.2	P, J	Rt.197 Br.	2,100	2,300	14	2.0	14 #	0.0	11.3	32.8	34.4	17.8	3.7	0.0
06/17/98	194.2	P, J	Rt.197 Br.	9,200	9,200	15	16.0	29 #	0.0	8.4	36.5	35.9	16.2	3.0	0.0
06/25/98	194.2	P, J	Rt.197 Br.	14,200	13,500	20	2.7	25 #	0.0	5.3	38.2	39.7	13.9	3.0	0.0
06/25/98	194.2	P, BD, J	Rt.197 Br.				2.5	25 #	0.0	5.9	37.6	34.8	17.9	3.8	0.0
07/01/98	194.2	P	Rt.197 Br.	9,700	9,500	18	2.9	17	0.0	4.5	34.5	38.2	17.4	5.5	0.0
07/08/98	194.2	P	Rt.197 Br.	5,400	4,500	18	1.2	17	0.0	6.0	34.8	34.7	21.4	3.1	0.0
07/08/98	194.2	BD	Rt.197 Br.				1.1	18	0.0	6.8	38.0	34.5	17.4	3.3	0.0
07/15/98	194.2	P, U	Rt.197 Br.	3,500	3,200	23	<1.0	20	0.0	8.2	31.4	32.2	23.9	4.3	0.0
07/22/98	194.2	P	Rt.197 Br.	2,400	2,900	25	1.0	12	0.0	10.9	35.4	30.3	18.7	4.6	0.0
07/22/98	194.2	P, BD	Rt.197 Br.				<1.0	14	0.0	9.9	34.0	31.9	19.4	4.8	0.0
07/29/98	194.2	--	Rt.197 Br.	2,000	3,000	20	<1.0	51	0.0	12.1	47.7	29.9	9.1	1.3	0.0
08/04/98	194.2	P	Rt.197 Br.	2,500	2,900	22	2.0	21	0.0	7.3	37.6	31.4	18.5	5.1	0.0
08/04/98	194.2	P, BD	Rt.197 Br.				2.0	21	0.0	11.8	42.5	27.3	15.5	3.0	0.0

TABLE 3-3. 1998 Hudson River water column monitoring results for the Route 197 Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
08/12/98	194.2	P	Rt.197 Br.	4,700	4,100	20	3.0	22	0.0	5.5	46.5	31.2	13.2	3.5	0.0
08/19/98	194.2	P	Rt.197 Br.	2,300	3,200	17	<1.0	34	0.0	7.8	48.4	30.2	11.4	2.3	0.0
08/19/98	194.2	P, BD	Rt.197 Br.				<1.0	28	0.0	8.2	48.8	29.1	11.7	2.2	0.0
08/26/98	194.2	J	Rt.197 Br.	6,300	6,000	20	1.9	41	0.0	7.1	45.1	34.9	11.1	1.8	0.0
09/03/98	194.2	P	Rt.197 Br.	3,300	3,300	20	2.2	42	0.0	5.7	42.7	35.7	14.3	1.6	0.0
09/03/98	194.2	P	HRM 194.2E	4,100			2.2	28	0.0	7.0	37.9	36.3	16.3	2.5	0.0
09/03/98	194.2	R	HRM 194.2W	4,100			2.5	22	0.0	6.3	40.0	34.8	16.1	2.8	0.0
09/03/98	194.2	BD	Rt.197 Br.				2.4	40	0.0	5.3	43.5	35.8	13.7	1.7	0.0
09/10/98	194.2	P	Rt.197 Br.	3,300	3,000	20	<1.0	29	0.0	4.6	50.3	31.9	11.1	2.1	0.0
09/10/98	194.2	P, R	HRM 194.2E				<1.0	34	0.0	5.8	47.6	29.7	14.5	2.5	0.0
09/10/98	194.2	--	HRM 194.2W				<1.0	85	0.0	6.5	46.9	32.9	11.9	1.8	0.0
09/15/98	194.2	P	Rt.197 Br.	4,600	2,800	21	<1.0	20	0.0	5.7	44.7	34.6	12.1	2.9	0.0
09/15/98	194.2	P	HRM 194.2E				1.1	15	0.0	4.6	46.4	33.4	12.6	3.0	0.0
09/15/98	194.2	P	HRM 194.2W				1.3	20	0.0	5.6	48.8	32.0	11.5	2.1	0.0
09/25/98	194.2	P	Rt.197 Br.	2,100	2,900	17	<1.0	15	0.0	6.2	40.3	33.2	16.0	4.3	0.0
09/25/98	194.2	P	HRM 194.2E				<1.0	16	0.0	7.5	42.4	28.2	16.6	5.4	0.0
09/25/98	194.2	P	HRM 194.2W				<1.0	14	0.0	8.3	44.7	27.5	15.2	4.4	0.0
10/02/98	194.2	P, J	HRM 194.2E	4,100	3,500	16	2.4	14	0.0	5.3	41.9	32.8	17.3	2.7	0.0
10/02/98	194.2	P, J	HRM 194.2W				1.7	13	0.0	4.6	48.2	26.3	14.9	6.1	0.0

316275

TABLE 3-3. 1998 Hudson River water column monitoring results for the Route 197 Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
10/07/98	194.2	--	HRM 194.2E	2,300	3,000	12	1.1	<11	-----	-----	-----	-----	-----	-----	-----
10/07/98	194.2	--	HRM 194.2W				1.0	<11	-----	-----	-----	-----	-----	-----	-----
10/15/98	194.2	P	HRM 194.2E	4,700	3,900	14	1.5	14	0.0	9.3	27.7	35.3	23.3	4.4	0.0
10/15/98	194.2	P	HRM 194.2W				1.2	11	0.0	10.3	26.6	31.2	27.5	4.4	0.0
10/21/98	194.2	P	HRM 194.2E	3,700	4,200	12	1.7	11	0.0	9.7	31.1	29.3	25.8	4.0	0.0
10/21/98	194.2	--	HRM 194.2W				1.4	<11	-----	-----	-----	-----	-----	-----	-----
10/21/98	194.2	P, BD	HRM 194.2W				1.5	11	0.0	8.2	18.8	28.4	35.1	9.5	0.0
10/28/98	194.2	P	HRM 194.2E	6,100	4,300	11	2.3	14	0.0	9.0	30.6	29.0	27.3	4.3	0.0
10/28/98	194.2	P	HRM 194.2W				1.6	12	0.0	7.3	33.7	27.0	26.0	6.0	0.0
11/04/98	194.2	P	Rt.197 Br.	2,600	3,300	9	<1.0	19	0.0	6.6	29.9	33.2	27.0	3.4	0.0
11/04/98	194.2	P, BD	Rt.197 Br.				<1.0	17	0.0	9.9	33.6	24.5	29.2	2.8	0.0
11/11/98	194.2	--	Rt.197 Br.	4,100	4,100	7	1.3	<11	-----	-----	-----	-----	-----	-----	-----
11/18/98	194.2	P	Rt.197 Br.	4,000	3,600	5	2.1	12	0.0	5.0	31.1	30.3	29.0	4.6	0.0
11/23/98	194.2	--	Rt.197 Br.	3,300		5	1.3	<11	-----	-----	-----	-----	-----	-----	-----
11/30/98	194.2	J	Rt.197 Br.	3,300	3,300	5	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
12/07/98	194.2	P	Rt.197 Br.	3,200	3,200	10	1.5	12	0.0	7.0	27.1	27.4	28.6	10.0	0.0
12/07/98	194.2	BD	Rt.197 Br.				1.5	<11	-----	-----	-----	-----	-----	-----	-----
12/15/98	194.2	--	Rt.197 Br.	3,100	3,100	3	1.4	<11	-----	-----	-----	-----	-----	-----	-----
12/15/98	194.2	P, BD	Rt.197 Br.				<1.0	12	0.0	6.1	29.3	35.6	25.0	4.0	0.0

TABLE 3-3. 1998 Hudson River water column monitoring results for the Route 197 Bridge (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
12/21/98	194.2	R	Rt.197 Br.	2,200	2,700	2	1.5	<11	-----	-----	-----	-----	-----	-----	-----
12/28/98	194.2	R	Rt.197 Br.	2,400	2,800	1	<1.0	<11	-----	-----	-----	-----	-----	-----	-----
12/28/98	194.2	BD, R	Rt.197 Br.				<1.0	<11	-----	-----	-----	-----	-----	-----	-----

(1) Samples analyzed by capillary column using Method NEA608CAP unless otherwise noted. Method NEA608CAP data has been adjusted for analytical bias, as described in the report Correction of Analytical Biases in the 1991-1997 GE Hudson River PCB Database (O'Brien & Gere Engineers, Inc., September 1997).

(2) HRM = Hudson River Mile. HRM 0.0 is located at the Battery in New York City.

(3) Comments reflect PCB data qualifiers and additional information regarding sampling and analytical methods. Data qualifier definitions from USEPA Contract Laboratory Program National

(4) Instantaneous Flows recorded during sampling for the Fort Edward gaging station are presented.

(5) Daily flow is presented as mean daily flow for the Fort Edward gaging station from provisional data provided by USGS (6/98)

(6) Homolog groups octa-, nona-, and deca-chlorinated biphenyls were not detected greater than 0.02%.

Key:

BD= Blind Duplicate

P = Practical quantitation limit (PQL) note that identifies PCB concentrations between 11 and 44 ng/L.

DM = Samples collected by Dames & Moore personnel

HIS = Samples collected by HSI Geotrans personnel

= Laboratory identified unusual elevation of DB-1 capillary column peak 5 concentrations. Changes in PCB congeners typically associated with peak 5 were not observed; therefor, the elevated concentration was suspected to be a non PCB analyte. A sample containing this anomaly was analyzed using an alternative capillary column to separate DB-1 peak 5 congeners. The results indicated that the elevated concentrations observed in DB-1 peak 5 were not PCBs. The laboratory resolved the interference by excluding peak 5. Additional evaluation of this occurrence is planned.

* = Samples contained heptachlorobiphenyls uncharacteristic of typical PCB compositions detected in the river. Results of the archive sample analyses (ARCH) confirmed laboratory contamination of samples collected prior to September 1998.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

P The sample results are between the MDL (ll ng/L) and the PQL (44 ng/L)

316277

TABLE 3-4. 1998 Hudson River water column monitoring results for TID-WEST, TID-PRW2, and TID-EAST (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
01/06/98	188.5	P	TID-WEST	3,300	3,900	2	3.7	21	0.0	24.2	37.3	21.1	13.1	4.3	0.0
01/06/98	188.49	P	TID-PRW2				2.4	18	0.0	25.1	40.5	21.0	9.6	3.8	0.0
01/06/98	188.49	P, BD	TID-PRW2				2.5	20	0.0	23.7	41.8	19.5	11.6	3.4	0.0
01/09/98	188.5	HF	TID-WEST	34,000	32,300	----	37.0	142	12.2	29.1	33.9	18.2	5.9	0.8	0.0
01/10/98	188.5	HF	TID-WEST	34,800	33,800	----	37.0	161	18.4	28.0	27.8	16.8	4.8	2.2	2.1
01/10/98	188.5	HF	TID-WEST	35,300		----	40.0	158	11.7	29.5	31.7	19.3	7.0	0.9	0.0
01/10/98	188.5	HF	TID-WEST	35,000		----	41.0	213	13.9	24.6	33.6	19.3	6.2	2.3	0.2
01/10/98	188.5	HF	TID-WEST	35,000		----	55.0	210	12.9	28.0	31.0	18.6	6.2	2.2	1.3
01/10/98	188.5	HF	TID-WEST	35,000		----	38.0	204	10.1	24.9	34.6	21.5	6.3	2.5	0.1
01/10/98	188.5	HF	TID-WEST	35,000		----	50.0	192	17.8	27.6	30.1	17.6	6.1	0.9	0.0
01/10/98	188.5	HF	TID-WEST	34,700		----	37.0	192	13.8	26.8	31.0	18.9	6.8	2.4	0.3
01/10/98	188.5	HF	TID-WEST	34,700		----	47.0	230	14.6	27.3	30.6	18.5	6.0	2.6	0.4
01/10/98	188.5	HF	TID-EAST	35000		----	55.0	210	12.9	28.0	31.0	18.6	6.2	2.2	1.3
01/10/98	188.5	HF	TID-EAST	35000		----	50.0	192	17.8	27.6	30.1	17.6	6.1	0.9	0.0
01/10/98	188.5	HF	TID-EAST	34700		----	47.0	230	14.6	27.3	30.6	18.5	6.0	2.6	0.4
01/11/98	188.5	HF	TID-WEST	27,200	25,500	----	20.0	83	19.0	28.2	28.0	16.4	6.8	1.7	0.0
01/11/98	188.5	HF, BD	TID-WEST	27,200		----	21.0	80	13.8	24.7	31.6	20.7	7.8	1.5	0.0
01/11/98	188.5	HF	TID-WEST	22,400		----	15.0	54	10.9	24.3	30.7	24.7	7.8	1.8	0.0
01/12/98	188.5	P	TID-WEST	16,100	16,800	0	7.9	32	12.7	25.9	32.3	18.9	8.1	2.1	0.0

TABLE 3-4. 1998 Hudson River water column monitoring results for TID-WEST, TID-PRW2, and TID-EAST (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
01/22/98	188.5	P	TID-WEST	8,600	7,700	0	1.7	22	0.0	26.0	31.3	22.1	15.9	4.7	0.0
01/28/98	188.5	P	TID-WEST	7,900	6,200	0	1.2	30	25.1	24.0	19.5	17.1	9.6	4.7	0.0
01/28/98	188.5	BD, P	TID-WEST				1.1	27	11.7	34.2	20.2	17.9	11.8	4.2	0.0
02/03/98	188.5	P	TID-WEST	5,900	5,000	2	1.5	25	0.0	42.5	25.1	15.5	12.2	4.7	0.0
02/11/98	188.5	P	TID-WEST	6,600	6,200	0.1	1.0	34	19.1	35.4	21.1	13.3	8.0	3.2	0.0
02/11/98	188.5	BD	TID-WEST				1.2	33	11.8	41.4	22.7	13.1	7.9	3.2	0.0
02/17/98	188.5	P	TID-WEST	7,000	6,700	0	1.1	23	0.0	39.3	24.0	19.0	13.5	4.2	0.0
02/25/98	188.5	P, J	TID-WEST	7,000	6,600	0	<1.0	16	10.5	39.1	19.6	15.3	11.2	4.4	0.0
02/25/98	188.5	R, BD	TID-WEST				<1.0	118	2.3	8.6	4.8	13.6	26.5	30.1	14.2
02/25/98	188.5	ARCH, P, BD, J	TID-WEST				<1.0	19	0.0	47.0	19.5	17.9	10.4	5.3	0.0
03/04/98	188.5	P	TID-WEST	7,200	7,000	1	3.3	24	0.0	37.5	23.5	18.8	14.3	5.9	0.0
03/10/98	188.5	P, J	TID-WEST	13,400	11,700	1	49.0	40	12.0	35.3	23.1	18.8	8.6	2.3	0.0
03/17/98	188.5	P	TID-WEST	8,300	8,000	0	1.7	20	0.0	27.5	31.1	22.8	13.1	5.5	0.0
03/25/98	188.5	P	TID-WEST	7,500	7,200	0	1.6	24	15.1	24.3	27.9	18.4	11.7	2.6	0.0
03/25/98	188.49	P	TID-PRW2				1.2	13	0.0	25.8	27.6	22.4	16.9	7.3	0.0
03/25/98	188.49	P, BD	TID-PRW2				1.1	13	0.0	24.0	32.7	23.0	14.3	6.0	0.0
04/01/98	188.5	--	TID-WEST	26,200	25,400	4	13.0	81	14.0	28.6	30.0	19.2	7.2	1.1	0.0
04/01/98	188.49	--	TID-PRW2				14.0	86	11.2	23.7	32.4	22.9	8.2	1.7	0.0
04/01/98	188.5	BD	TID-WEST				12.0	82	9.0	27.7	29.5	21.0	10.3	2.5	0.0

TABLE 3-4. 1998 Hudson River water column monitoring results for TID-WEST, TID-PRW2, and TID-EAST (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
04/08/98	188.5	P	TID-WEST	9,500	8,800	4	2.4	21	0.0	42.7	23.8	18.9	10.4	4.3	0.0
04/08/98	188.49	P	TID-PRW2				2.2	25	13.9	34.5	20.3	17.0	10.9	3.6	0.0
04/15/98	188.5	--	TID-WEST	4,000	4,600	9	1.0	48	19.7	36.7	21.7	13.0	7.1	1.7	0.0
04/15/98	188.49	P	TID-PRW2				<1.0	38	30.7	23.4	21.4	13.2	8.6	2.8	0.0
04/22/98	188.5	J	TID-WEST	6,200	6,000	8	2.1	62	20.6	44.5	20.0	9.7	4.3	0.9	0.0
04/22/98	188.49	P, J	TID-PRW2				2.4	38	19.5	32.3	22.4	15.0	8.8	2.0	0.0
04/22/98	188.49	BD, P, J	TID-PRW2				2.4	43	11.9	47.9	19.0	12.8	6.4	1.9	0.0
04/29/98	188.5	J	TID-WEST	3,600	6,500	9	1.9	105	24.7	42.7	20.2	9.5	2.5	0.4	0.0
04/29/98	188.49	J	TID-PRW2				1.5	54	16.7	45.0	19.4	13.7	3.9	1.4	0.0
04/29/98	188.5	BD, J	TID-WEST				1.9	109	24.7	44.6	18.2	9.6	2.3	0.7	0.0
05/06/98	188.5	J	TID-WEST	5,700	5,700	12	3.3	91	21.1	50.1	17.3	9.1	1.8	0.5	0.0
05/06/98	188.49	J	TID-PRW2				4.2	67	14.4	50.4	17.9	12.2	3.8	1.3	0.0
05/12/98	188.5	J	TID-WEST	8,400	7,800	10	4.8	69	21.7	41.6	20.8	11.6	3.3	1.0	0.0
05/12/98	188.49	J	TID-PRW2				5.1	49	11.7	45.2	21.5	14.1	6.3	1.3	0.0
05/21/98	188.5	J	TID-WEST	3,600	3,000	14	1.5	179	26.0	41.5	20.3	8.9	2.9	0.4	0.0
05/21/98	188.49	J	TID-PRW2				<1.0	108	20.9	44.2	20.0	10.0	4.1	0.8	0.0
05/28/98	188.5	J	TID-WEST	2,300	2,300	15	2.1	156	23.6	43.9	19.4	8.4	4.2	0.5	0.0
05/28/98	188.49	J	TID-PRW2				1.1	146	24.8	42.6	18.7	9.3	3.9	0.6	0.0
05/28/98	188.5	BD, J	TID-WEST				2.3	166	25.6	42.2	19.3	8.6	4.0	0.5	0.0

316280

TABLE 3-4. 1998 Hudson River water column monitoring results for TID-WEST, TID-PRW2, and TID-EAST (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
06/04/98	188.5	J	TID-WEST	3,900	2,500	14	2.4	183	28.0	39.7	18.7	9.2	4.0	0.5	0.0
06/04/98	188.49	J	TID-PRW2				3.3	108	25.1	37.5	20.5	10.0	6.1	0.9	0.0
06/09/98	188.5	J	TID-WEST	2,100	2,300	14	1.9	150	23.9	44.2	19.6	8.6	3.3	0.5	0.0
06/09/98	188.49	J	TID-PRW2				2.3	94	25.3	42.1	17.6	9.7	4.5	0.7	0.0
06/09/98	188.49	BD, J	TID-PRW2				2.3	88	27.6	42.6	16.3	8.3	4.3	0.8	0.0
06/17/98	188.5	J	TID-WEST	9,200	9,200	15	36.0	82	16.3	31.5	28.9	16.0	6.7	0.8	0.0
06/17/98	188.49	J	TID-PRW2				5.4	61 #	8.1	30.6	28.2	21.6	9.8	1.7	0.0
06/17/98	188.5	BD, J	TID-WEST				110.0	82	16.9	30.2	29.4	16.5	6.0	1.0	0.0
06/25/98	188.5	J	TID-WEST	14,200	13,500	20	4.1	66	10.7	28.2	32.3	20.2	7.6	1.0	0.0
06/25/98	188.49	J	TID-PRW2				4.0	80 #	2.9	24.0	36.2	25.7	9.7	1.4	0.0
07/01/98	188.5	--	TID-WEST	9,700	9,500	18	5.6	78	13.7	37.8	24.5	16.3	6.4	1.3	0.0
07/01/98	188.49	--	TID-PRW2				6.3	60	9.5	30.2	27.5	22.1	9.5	1.1	0.0
07/08/98	188.5	--	TID-WEST	5,400	4,500	18	1.2	66	23.1	35.8	21.4	13.0	5.9	0.8	0.0
07/08/98	188.49	--	TID-PRW2				1.6	46	12.8	31.3	28.0	17.2	9.4	1.3	0.0
07/15/98	188.5	UJ	TID-WEST	3,500	3,200	23	<1.0	84	14.9	41.4	23.5	13.0	6.4	0.8	0.0
07/15/98	188.49	UJ	TID-PRW2				<1.0	59	12.5	30.8	24.4	17.4	13.0	2.0	0.0
07/15/98	188.5	BD, U	TID-WEST				<1.0	88	14.0	40.5	23.0	14.3	7.1	1.2	0.0
07/22/98	188.5	--	TID-WEST	2,400	2,900	25	<1.0	117	18.0	44.3	22.6	10.8	3.9	0.4	0.0
07/22/98	188.49	--	TID-PRW2				<1.0	79	9.6	43.0	25.0	14.3	6.9	1.2	0.0

TABLE 3-4. 1998 Hudson River water column monitoring results for TID-WEST, TID-PRW2, and TID-EAST (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
07/29/98	188.5	--	TID-WEST	2,000	3,000	20	<1.0	131	16.5	39.4	27.9	12.4	3.4	0.4	0.0
07/29/98	188.49	--	TID-PRW2				<1.0	102	18.6	35.7	26.4	13.5	5.3	0.5	0.0
08/04/98	188.5	--	TID-WEST	2,500	2,900	22	1.3	104	18.0	39.3	25.0	11.6	5.2	0.9	0.0
08/04/98	188.49	J	TID-PRW2				1.7	77	16.7	37.6	24.0	15.0	5.3	1.5	0.0
08/12/98	188.5	--	TID-WEST	4,700	4,100	20	4.0	95	15.8	37.3	27.0	14.3	4.9	0.8	0.0
08/12/98	188.49	--	TID-PRW2				5.9	68	10.7	31.5	35.7	14.7	6.4	1.0	0.0
08/12/98	188.5	BD	TID-WEST				4.3	100	19.5	36.3	24.0	14.2	5.4	0.7	0.0
08/19/98	188.5	--	TID-WEST	2,300	3,200	17	<1.0	73	18.1	32.8	28.1	13.8	6.3	0.9	0.0
08/19/98	188.49	--	TID-PRW2				1.0	65	12.4	35.6	29.5	16.3	4.8	1.5	0.0
08/26/98	188.5	J	TID-WEST	6,300	6,000	20	2.3	92	4.5	23.6	41.5	23.4	6.3	0.7	0.0
08/26/98	188.49	J	TID-PRW2				3.9	142	1.8	16.1	44.9	29.6	6.5	1.2	0.0
09/03/98	188.5	--	TID-WEST	3,300	3,300	20	1.7	66	8.5	33.5	32.8	17.3	6.9	1.0	0.0
09/03/98	188.49	--	TID-PRW2				2.2	65	8.0	33.6	30.8	19.6	7.0	1.0	0.0
09/10/98	188.5	--	TID-WEST	3,300	3,000	20	<1.0	59	9.2	34.0	33.3	16.9	5.6	1.1	0.0
09/10/98	188.49	--	TID-PRW2				<1.0	46	7.1	29.3	36.3	18.4	7.4	1.5	0.0
09/15/98	188.5	--	TID-WEST	4,600	2,800	21	2.3	67	18.2	30.2	30.4	15.3	5.2	0.7	0.0
09/15/98	188.49	--	TID-PRW2				1.3	59	3.3	32.4	36.4	17.9	8.8	1.3	0.0
09/15/98	188.5	BD, J	TID-WEST				2.1	59	12.6	30.7	31.4	18.0	5.9	1.4	0.0

TABLE 3-4. 1998 Hudson River water column monitoring results for TID-WEST, TID-PRW2, and TID-EAST (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
09/25/98	188.5	J	TID-WEST	2,100	2,900	17	<1.0	89	22.9	40.3	20.9	10.7	4.3	0.9	0.0
09/25/98	188.49	--	TID-PRW2				<1.0	46	21.1	33.8	24.9	12.9	6.2	1.1	0.0
09/25/98	188.5	BD	TID-WEST				<1.0	95	25.9	39.3	20.3	9.8	4.3	0.6	0.0
10/02/98	188.5	--	TID-WEST	4,100	3,500	16	<1.0	100	44.6	30.8	14.6	6.2	3.3	0.5	0.0
10/02/98	188.49	--	TID-PRW2				1.4	64	25.0	36.5	18.8	12.1	5.7	1.9	0.0
10/07/98	188.5	--	TID-WEST	2,300	3,000	12	<1.0	89	31.4	40.6	15.4	7.6	4.5	0.5	0.0
10/07/98	188.49	--	TID-PRW2				1.1	49	26.7	41.9	14.8	9.8	6.0	0.8	0.0
10/15/98	188.5	--	TID-WEST	4,700	3,900	14	1.1	72	33.8	41.4	14.3	5.8	3.9	0.8	0.0
10/15/98	188.49	--	TID-PRW2				1.2	48	19.9	41.8	14.2	12.9	9.4	1.8	0.0
10/15/98	188.5	BD	TID-WEST				<1.0	79	33.0	38.8	13.5	6.4	7.5	0.8	0.0
10/21/98	188.5	--	TID-WEST	3,700	4,200	12	1.1	89	33.5	42.3	12.0	7.4	4.2	0.6	0.0
10/21/98	188.49	--	TID-PRW2				1.3	61	32.8	40.9	11.7	8.1	5.8	0.8	0.0
10/28/98	188.5	--	TID-WEST	6,100	4,300	11	1.3	100	31.1	41.2	13.7	7.3	6.1	0.6	0.0
10/28/98	188.49	--	TID-PRW2				1.1	49	20.9	44.9	13.7	10.0	9.2	1.3	0.0
10/28/98	188.49	BD	TID-PRW2				1.3	50	26.3	40.5	13.9	9.9	8.3	1.1	0.0
11/04/98	188.5	--	TID-WEST	2,600	3,300	9	<1.0	91	34.6	37.5	14.2	7.0	5.9	0.7	0.0
11/04/98	188.49	--	TID-PRW2				<1.0	64	37.2	27.0	17.0	10.0	7.8	1.1	0.0

TABLE 3-4. 1998 Hudson River water column monitoring results for TID-WEST, TID-PRW2, and TID-EAST (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
11/11/98	188.5	U	TID-WEST	4,100	4,100	7	1.6	79	36.4	35.9	15.8	8.2	3.1	0.6	0.0
11/11/98	188.49	P	TID-PRW2				1.6	37	24.2	32.0	20.8	12.3	8.8	1.9	0.0
11/11/98	188.5	BD	TID-WEST				1.9	78	33.6	37.5	15.7	7.6	4.9	0.8	0.0
11/18/98	188.5	--	TID-WEST	4,000	3,600	5	2.3	52	25.6	39.8	16.4	9.0	7.9	1.3	0.0
11/18/98	188.49	P	TID-PRW2				2.5	36	19.0	34.3	19.0	12.7	12.2	2.8	0.0
11/18/98	188.5	BD	TID-WEST				2.3	56	33.7	35.7	14.5	8.6	6.4	1.2	0.0
11/23/98	188.5	--	TID-WEST	3,300	3,400	5	1.4	61	27.7	39.5	17.2	9.3	5.3	1.1	0.0
11/23/98	188.49	P	TID-PRW2				1.3	36	23.8	39.5	17.3	11.7	6.2	1.5	0.0
11/23/98	188.49	BD	TID-PRW2				1.9	32	31.3	34.9	15.5	11.8	5.0	1.5	0.0
11/30/98	188.5	J	TID-WEST	3,300	3,300	5	<1.0	69	24.2	40.5	20.0	8.7	5.5	1.2	0.0
11/30/98	188.49	P, J	TID-PRW2				<1.0	28	18.2	37.9	17.3	14.1	9.9	2.6	0.0
12/07/98	188.5	J	TID-WEST	3,200	3,200	10	1.6	104	29.9	41.5	16.2	7.7	4.3	0.6	0.0
12/07/98	188.49	P	TID-PRW2				1.5	41	34.2	32.1	13.5	10.3	7.3	2.6	0.0
12/15/98	188.5	--	TID-WEST	3,100	3,100	3	1.5	99	29.9	39.8	16.5	8.6	4.6	0.6	0.0
12/15/98	188.49	P	TID-PRW2				1.1	33	29.3	34.4	14.6	10.8	9.2	1.8	0.0
12/21/98	188.5	R	TID-WEST	2,200	2,700	2	1.6	157	43.3	32.4	14.9	6.4	2.5	0.6	0.0
12/21/98	188.49	R	TID-PRW2				1.2	47	58.1	17.5	11.5	7.7	4.0	1.2	0.0

TABLE 3-4. 1998 Hudson River water column monitoring results for TID-WEST, TID-PRW2, and TID-EAST (1)

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Location	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
									Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
12/28/98	188.5	P, R	TID-WEST	2,400	2,800	1	1.3	35	0.0	59.7	22.5	11.5	5.0	1.3	0.0
12/28/98	188.49	P, R	TID-PRW2				<1.0	15	0.0	51.9	18.8	17.1	9.8	2.5	0.0

(1) Samples analyzed by capillary column using Method NEA608CAP unless otherwise noted. Method NEA608CAP data has been adjusted for analytical bias, as described in the report Correction of Analytical Biases in the 1991-1997 GE Hudson River PCB Database (O'Brien & Gere Engineers, Inc., September 1997).

(2) HRM = Hudson River Mile. HRM 0.0 is located at the Battery in New York City.

(3) Comments reflect PCB data qualifiers and additional information regarding sampling and analytical methods. Data qualifier definitions from USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (2/94).

(4) Instantaneous Flows recorded during sampling for the Fort Edward gaging station are presented.

(5) Daily flow is presented as mean daily flow for the Fort Edward gaging station from provisional data provided by USGS (6/98)

(6) Homolog groups octa-, nona-, and deca-chlorinated biphenyls were not detected greater than 0.02%.

Key:

BD= Blind Duplicate

P = Practical quantitation limit (PQL) note that identifies PCB concentrations between 11 and 44 ng/L.

DM = Samples collected by Dames & Moore personnel

HSI = Samples collected by HSI Geotrans personnel

= Laboratory identified unusual elevation of DB-1 capillary column peak 5 concentrations. Changes in PCB congeners typically associated with peak 5 were not observed; therefor, the elevated concentration was suspected to be a non PCB analyte. A sample containing this anomaly was analyzed using an alternative capillary column to separate DB-1 peak 5 congeners. The results indicated that the elevated concentrations observed in DB-1 peak 5 were not PCBs. The laboratory resolved the interference by excluding peak 5. Additional evaluation of this occurrence is planned.

* = Samples contained heptachlorobiphenyls uncharacteristic of typical PCB compositions detected in the river. Results of the archive sample analyses (ARCH) confirmed laboratory contamination of samples collected prior to September 1998.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

P The sample results are between the MDL (11 ng/L) and the PQL (44 ng/L)

TABLE 3-5. 1998 Hudson River water column monitoring results for Schuylerville

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
01/06/98	181.4	P	3,300	3,900	2	4.0	22	15.6	37.5	19.0	13.1	11.1	3.7	0.0
01/09/98	181.4	HF	34,000	32,300	----	76.0	253	8.3	26.5	33.6	20.9	7.4	2.5	0.9
01/10/98	181.4	HF	34,800	33,800	----	72.0	517	16.2	35.2	27.5	14.0	5.0	1.6	0.5
01/10/98	181.4	HF	35,300		----	68.0	225	9.3	30.3	34.3	18.1	7.0	1.0	0.0
01/10/98	181.4	HF	35,000		----	62.0	293	11.7	27.0	32.1	19.3	6.8	2.3	1.0
01/10/98	181.4	HF, BD	34,700		----	53.0	286	12.8	29.9	31.5	17.5	5.9	2.0	0.5
01/10/98	181.4	HF	35,000		----	50.0	311	17.1	30.0	27.6	17.2	5.8	2.0	0.3
01/10/98	181.4	HF	34,700		----	51.0	340	17.1	27.0	29.5	17.5	6.3	2.3	0.2
01/11/98	181.4	HF	27,200	25,500	----	27.0	131	14.2	25.2	33.1	19.9	6.7	0.9	0.0
01/11/98	181.4	HF	22,400		----	21.0	104	12.5	28.6	32.1	17.6	7.8	1.4	0.0
01/12/98	181.4	--	16,100	16,800	0	9.5	52	12.0	27.9	32.0	19.1	7.5	1.5	0.0
01/22/98	181.4	RE	8,600	7,700	0	1.7	40	0.0	23.9	34.8	23.9	13.5	3.9	0.0
01/22/98	181.4	ARCH, P				1.7	94*	3.0	8.3	16.9	21.4	21.4	19.0	10.0
01/22/98	181.4	P, BD				1.8	32	0.0	23.6	36.1	24.1	13.2	3.0	0.0
01/28/98	181.4	P	7,900	6,200	0	1.2	27	15.4	31.8	19.3	19.3	10.5	3.9	0.0
02/03/98	181.4	P, BD	5,900	5,000	2	1.5	44	0.0	27.8	25.7	27.0	14.8	4.7	0.0
02/11/98	181.4	P	6,600	6,200	0.1	1.6	40	18.6	31.1	24.0	14.9	8.7	2.8	0.0
02/17/98	181.4	P, J	7,000	6,700	0	1.7	26	0.0	35.5	23.2	17.8	20.9	2.7	0.0
02/17/98	181.4	P, BD				1.3	31	0.0	29.0	19.9	18.8	24.3	7.9	0.0
02/17/98	181.4	ARCH, P, BD				1.3	24	0.0	29.7	26.0	23.3	15.7	5.2	0.0

TABLE 3-5. 1998 Hudson River water column monitoring results for Schuylerville

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
02/25/98	181.4	P	7,000	6,600	0	1.0	30	9.5	41.8	21.1	15.1	10.3	2.3	0.0
03/04/98	181.4	P	7,200	7,000	1	5.2	30	0.0	31.0	33.4	21.1	11.3	3.1	0.0
03/10/98	181.4	P, J	13,400	11,700	1	59.0	42	4.8	24.7	27.5	28.7	11.7	2.7	0.0
03/10/98	181.4	BD, J				61.0	63	9.5	24.0	28.4	24.6	11.5	2.1	0.0
03/17/98	181.4	P	8,300	8,000	0	1.8	25	0.0	26.1	33.2	24.0	13.3	3.4	0.0
03/25/98	181.4	P	7,500	7,200	0	1.8	24	11.7	27.9	28.4	17.4	10.8	3.8	0.0
04/01/98	181.4	--	26,200	25,400	4	15.0	117	9.2	26.6	31.5	20.3	10.2	2.2	0.0
04/08/98	181.4	P	9,500	8,800	4	2.6	37	20.7	27.3	22.5	16.6	10.6	2.4	0.0
04/15/98	181.4	--	4,000	4,600	9	1.8	57	14.7	36.2	23.3	14.3	9.3	2.2	0.0
04/15/98	181.4	BD				1.7	51	18.2	33.8	24.7	15.4	6.6	1.4	0.0
04/22/98	181.4	J	6,200	6,000	8	3.1	52	7.5	51.2	20.1	11.9	7.4	1.9	0.0
04/29/98	181.4	J	3,600	6,500	9	2.2	73	19.6	46.2	18.8	11.4	3.4	0.6	0.0
05/06/98	181.4	J	5,700	5,700	12	2.0	120	14.7	45.6	21.9	12.7	4.5	0.6	0.0
05/12/98	181.4	J	8,400	7,800	10	8.0	84	10.7	41.0	25.3	15.8	5.9	1.4	0.0
05/12/98	181.4	BD, J				6.9	79	11.7	40.3	25.9	15.7	5.6	0.9	0.0
05/21/98	181.4	J	3,600	3,000	14	2.0	148	22.0	43.0	21.8	9.8	3.0	0.4	0.0
05/28/98	181.4	J	2,300	2,300	15	3.3	159	20.8	43.4	21.0	10.1	4.4	0.5	0.0

TABLE 3-5. 1998 Hudson River water column monitoring results for Schuylerville

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
06/04/98	181.4	J	3,900	2,500	14	3.6	129	19.9	40.8	22.6	10.6	5.2	0.8	0.0
06/09/98	181.4	J	2,100	2,300	14	2.5	120	24.1	42.1	17.7	10.1	5.5	0.6	0.0
06/17/98	181.4	J	9,200	9,200	15	16.0	101	10.7	27.4	32.0	19.1	9.7	1.1	0.0
06/25/98	181.4	J	14,200	13,500	20	4.9	86	11.2	30.0	30.6	19.3	7.8	1.1	0.0
07/01/98	181.4	--	9,700	9,500	18	10.0	84	9.5	32.9	29.7	19.8	7.1	1.0	0.0
07/01/98	181.4	BD				10.0	80	15.6	32.0	27.4	16.6	7.3	1.1	0.0
07/08/98	181.4	--	5,400	4,500	18	2.1	72	13.7	37.1	25.9	16.3	6.0	1.0	0.0
07/15/98	181.4	U	3,500	3,200	23	<1.0	67	9.0	33.8	25.0	18.6	12.0	1.6	0.0
07/22/98	181.4	--	2,400	2,900	25	<1.0	92	10.1	42.5	26.6	13.6	6.2	1.0	0.0
07/29/98	181.4	--	2,000	3,000	20	<1.0	80	9.4	43.8	25.5	14.7	5.9	0.7	0.0
07/29/98	181.4	BD				<1.0	82	8.7	37.8	29.4	15.7	7.0	1.4	0.0
08/04/98	181.4	--	2,500	2,900	22	1.1	79	11.6	39.6	28.4	14.0	5.6	0.8	0.0
08/12/98	181.4	--	4,700	4,100	20	4.1	96	19.3	38.0	23.8	12.7	5.4	0.9	0.0
08/19/98	181.4	--	2,300	3,200	17	<1.0	75	14.0	36.0	29.2	15.2	4.8	0.8	0.0
08/26/98	181.4	J	6,300	6,000	20	3.7	50	4.9	32.6	29.7	21.5	9.4	2.0	0.0
08/26/98	181.4	P, BD, J				3.4	62	5.1	30.6	33.2	21.3	8.6	1.3	0.0
09/03/98	181.4	P	3,300	3,300	20	2.2	78	9.6	33.0	29.6	19.4	7.4	1.1	0.0
09/10/98	181.4	P	3,300	3,000	20	1.0	38	8.2	31.8	34.4	18.5	6.1	1.0	0.0
09/10/98	181.4	BD				<1.0	45	4.1	35.6	32.4	18.8	7.9	1.4	0.0

TABLE 3-5. 1998 Hudson River water column monitoring results for Schuylerville

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
09/15/98	181.4	--	4,600	2,800	21	1.5	48	12.6	21.2	38.3	19.0	7.3	1.7	0.0
09/25/98	181.4	--	2,100	2,900	17	<1.0	63	14.3	36.3	25.9	15.1	7.4	1.0	0.0
10/02/98	181.4	--	4,100	3,500	16	1.1	77	23.9	38.0	21.0	11.7	4.8	0.7	0.0
10/02/98	181.4	BD				1.4	77	23.0	40.6	21.0	10.7	3.9	0.9	0.0
10/07/98	181.4	--	2,300	3,000	12	<1.0	74	17.0	41.2	21.1	12.4	7.4	1.0	0.0
10/07/98	181.4	BD				<1.0	50	16.9	40.0	16.8	12.0	11.5	2.9	0.0
10/15/98	181.4	--	4,700	3,900	14	1.2	75	29.5	41.6	13.3	7.5	7.3	0.8	0.0
10/21/98	181.4	--	3,700	4,200	12	1.8	86	25.3	44.4	15.8	6.9	7.0	0.6	0.0
10/28/98	181.4	J	6,100	4,300	11	1.1	85	34.0	41.1	13.0	6.6	4.7	0.6	0.0
11/04/98	181.4	--	2,600	3,300	9	1.0	92	28.6	39.8	18.4	7.4	5.2	0.6	0.0
11/11/98	181.4	--	4,100	4,100	7	1.6	73	26.3	39.9	18.2	10.7	4.3	0.6	0.0
11/18/98	181.4	--	4,000	3,600	5	1.7	73	26.6	42.2	17.1	7.3	6.1	0.8	0.0
11/23/98	181.4	--	3,300	3,400	5	1.5	63	33.9	40.5	14.9	6.7	3.3	0.7	0.0
11/30/98	181.4	J	3,300	3,300	5	<1.0	46	21.3	44.4	17.0	9.1	6.6	1.5	0.0
11/30/98	181.4	BD, J				<1.0	57	26.4	43.8	15.8	8.1	5.1	0.8	0.0
12/07/98	181.4	--	3,200	3,200	10	1.6	59	23.8	40.0	20.4	10.7	4.4	0.8	0.0
12/15/98	181.4	J	3,100	3,100	3	1.2	63	21.8	43.5	18.6	10.4	5.0	0.7	0.0

TABLE 3-5. 1998 Hudson River water column monitoring results for Schuylerville

Date Collected	Approx. HRM (2)	Comments QA/QC (3)	Instantaneous Flow (cfs) (4)	Daily Flow (cfs)(5)	Water Temp. (C)	TSS (mg/L)	Total PCB (ng/L)	Homolog Distribution (weight percent) (6)						
								Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
12/21/98	181.4	P, R	2,200	2,700	2	1.3	35	0.0	49.0	30.1	12.9	6.3	1.8	0.0
12/21/98	181.4	P, BD, R				1.6	36	0.0	51.0	26.5	14.5	6.5	1.6	0.0
12/28/98	181.4	P, R	2,400	2,800	1	1.3	22	0.0	48.5	24.1	17.2	8.7	1.5	0.0

(1) Samples analyzed by capillary column using Method NEA608CAP unless otherwise noted. Method NEA608CAP data has been adjusted for analytical bias, as described in the report Correction of Analytical Biases in the 1991-1997 GE Hudson River PCB Database (O'Brien & Gere Engineers, Inc., September 1997).

(2) HRM = Hudson River Mile. HRM 0.0 is located at the Battery in New York City.

(3) Comments reflect PCB data qualifiers and additional information regarding sampling and analytical methods. Data qualifier definitions from USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (2/94).

(4) Instantaneous Flows recorded during sampling for the Fort Edward gaging station are presented.

(5) Daily flow is presented as mean daily flow for the Fort Edward gaging station from provisional data provided by USGS (6/98)

(6) Homolog groups octa-, nona-, and deca-chlorinated biphenyls were not detected greater than 0.02%.

Key:

BD= Blind Duplicate

P = Practical quantitation limit (PQL) note that identifies PCB concentrations between 11 and 44 ng/L.

DM = Samples collected by Dames & Moore personnel

HIS = Samples collected by HSI Geotrans personnel

= Laboratory identified unusual elevation of DB-1 capillary column peak 5 concentrations. Changes in PCB congeners typically associated with peak 5 were not observed; therefor, the elevated concentration was suspected to be a non PCB analyte. A sample containing this anomaly was analyzed using an alternative capillary column to separate DB-1 peak 5 congeners. The results indicated that the elevated concentrations observed in DB-1 peak 5 were not PCBs. The laboratory resolved the interference by excluding peak Additional evaluation of this occurrence is planned.

* = Samples contained heptachlorobiphenyls uncharacteristic of typical PCB compositions detected in the river. Results of the archive sample analyses (ARCH) confirmed laboratory contamination of samples collected prior to September 1998.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

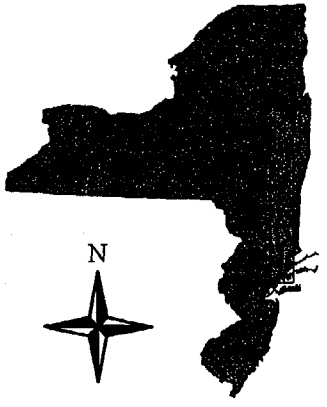
P The sample results are between the MDL (11 ng/L) and the PQL (44 ng/L)

316290

FIGURES

Quantitative Environmental Analysis, LLC

LOCATION MAP OF THE HUDSON RIVER



Upper Hudson Scale

3 0 3 Miles

Lower Hudson Scale

7 0 7 14 Miles

GENERAL ELECTRIC COMPANY
Hudson River Monitoring Program
1998 Annual Summary Report

FINAL

Figure 1-1.
Hudson River location map.

Note: Numbers along river indicate river miles measured from the Battery

\\MikeAD_Drive\GENland\gis\projects\hrmp.apr

QEA
Quantitative Environmental Analysis, LLC

Project: GE/Item 151 February, 2000

Upper Hudson River

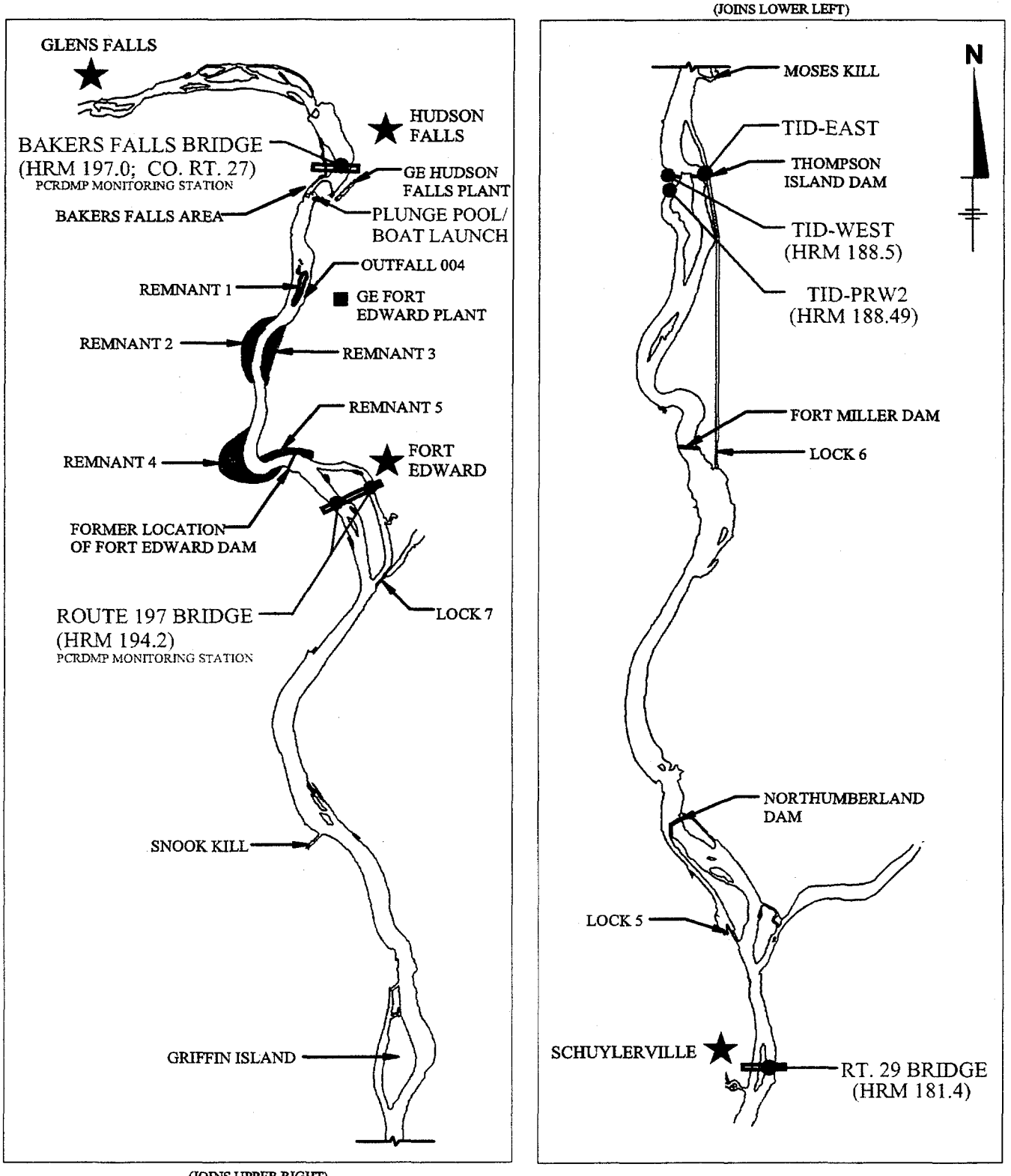
Hadley
Sacandaga River
Glens Falls
Hudson Falls
Corinth
Fort Edward
Roger's Island
Champlain Canal
Snook Kill
Griffin Island
Moses Kill
Thompson Island Dam
Thompson Island
Fort Miller Dam
Batten Kill
Northumberland Dam
Saratoga County
Schuylerville
Washington County
Stillwater
Stillwater Dam
Upper Mechanicville Dam
Hoosic River
Mechanicville
Lower Mechanicville Dam
Rensselaer County
Waterford Dam
Waterford
Mohawk River
Albany County
Troy Dam

Lower Hudson River

Albany County
Rensselaer County
Greene County
Columbia County
Ulster County
Dutchess County
Orange County
Putnam County
Rockland County
Westchester County
Bergen County
Bronx County
Hudson County

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10

316292



GENERAL ELECTRIC COMPANY
HUDSON RIVER MONITORING PROGRAM
SAMPLE LOCATION MAP

98rpt_sample_location_map.TCW

FIGURE 1-2

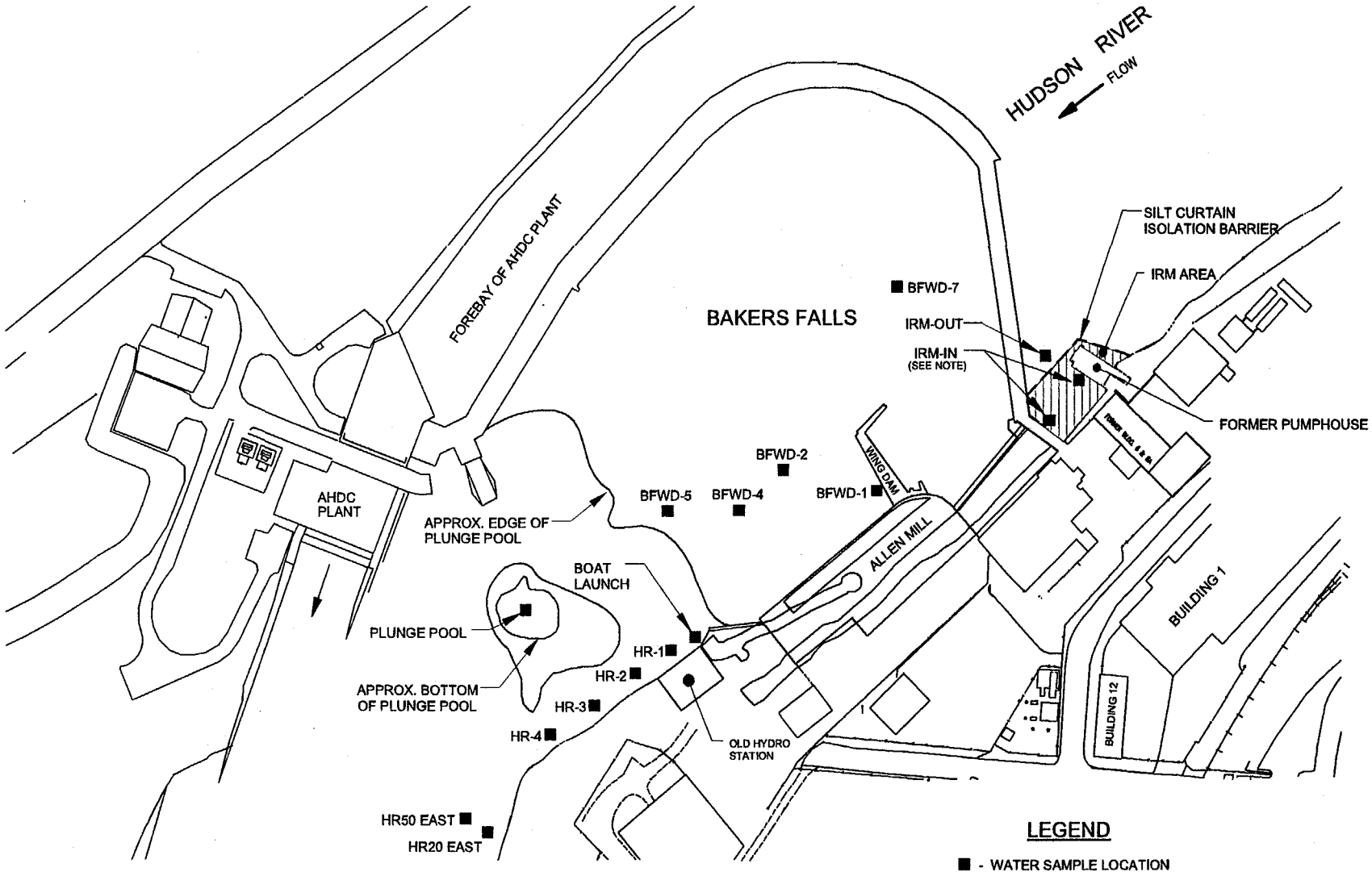
SCALE: 1 in. = 1 mile

FINAL

QEA Quantitative Environmental Analysis, LLC

GENhrm 131 FEBRUARY 2000

316293



NOTE: IRM-IN SAMPLES WERE COLLECTED FROM EITHER THE PUMP HOUSE WALKWAY OR FROM THE EASTERN RACEWAY GATE STRUCTURE, DEPENDING ON ACCESSIBILITY

GENERAL ELECTRIC COMPANY
HUDSON RIVER MONITORING PROGRAM
BAKERS FALLS AREA SAMPLING LOCATIONS

GENhrm\BAKERSFALLS.TCW

FIGURE 2-1

SCALE: 1 in. = 200 ft.

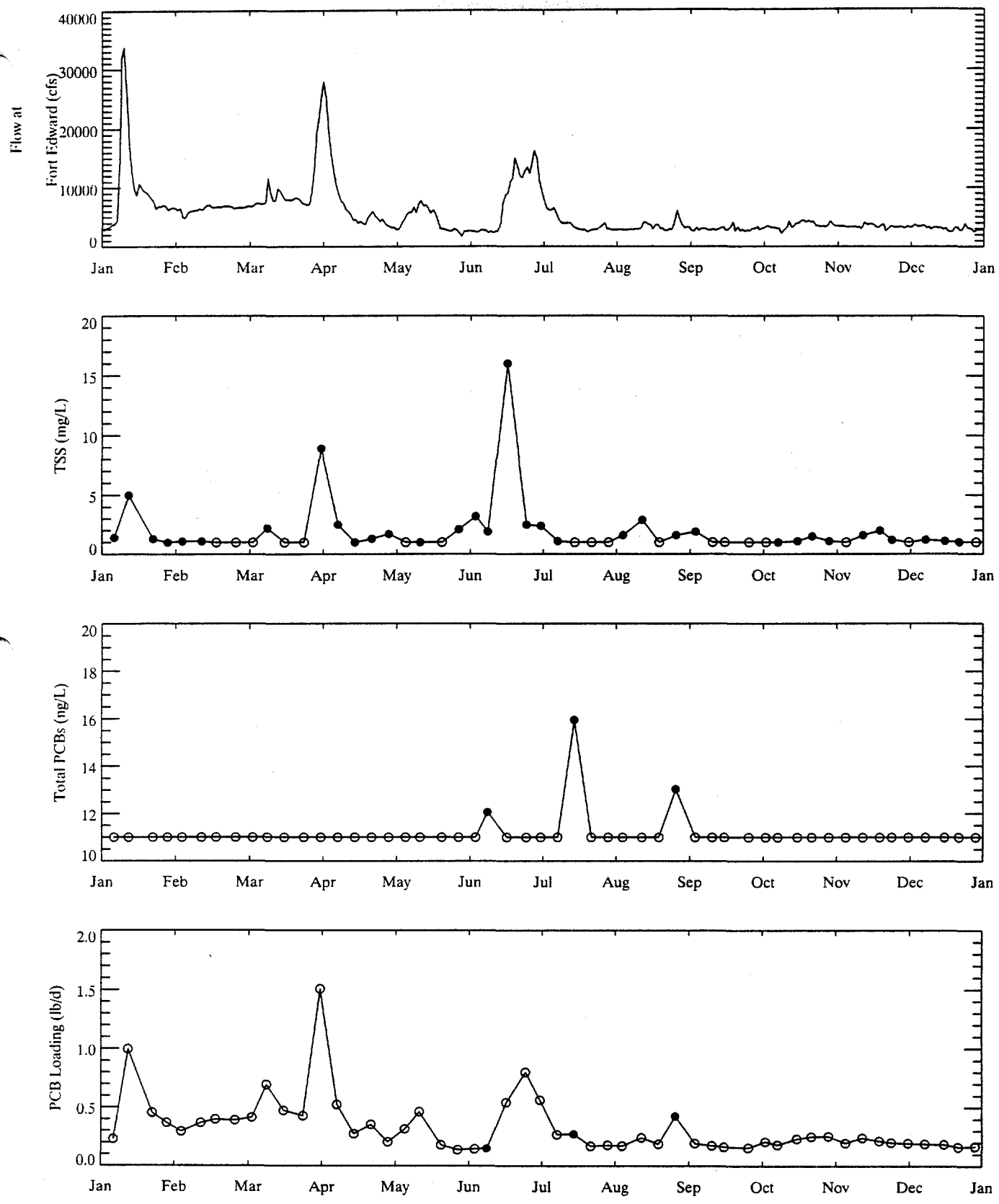
FINAL

QEA Quantitative Environmental Analysis, LLC

GENhrm 131

FEBRUARY 2000

316294



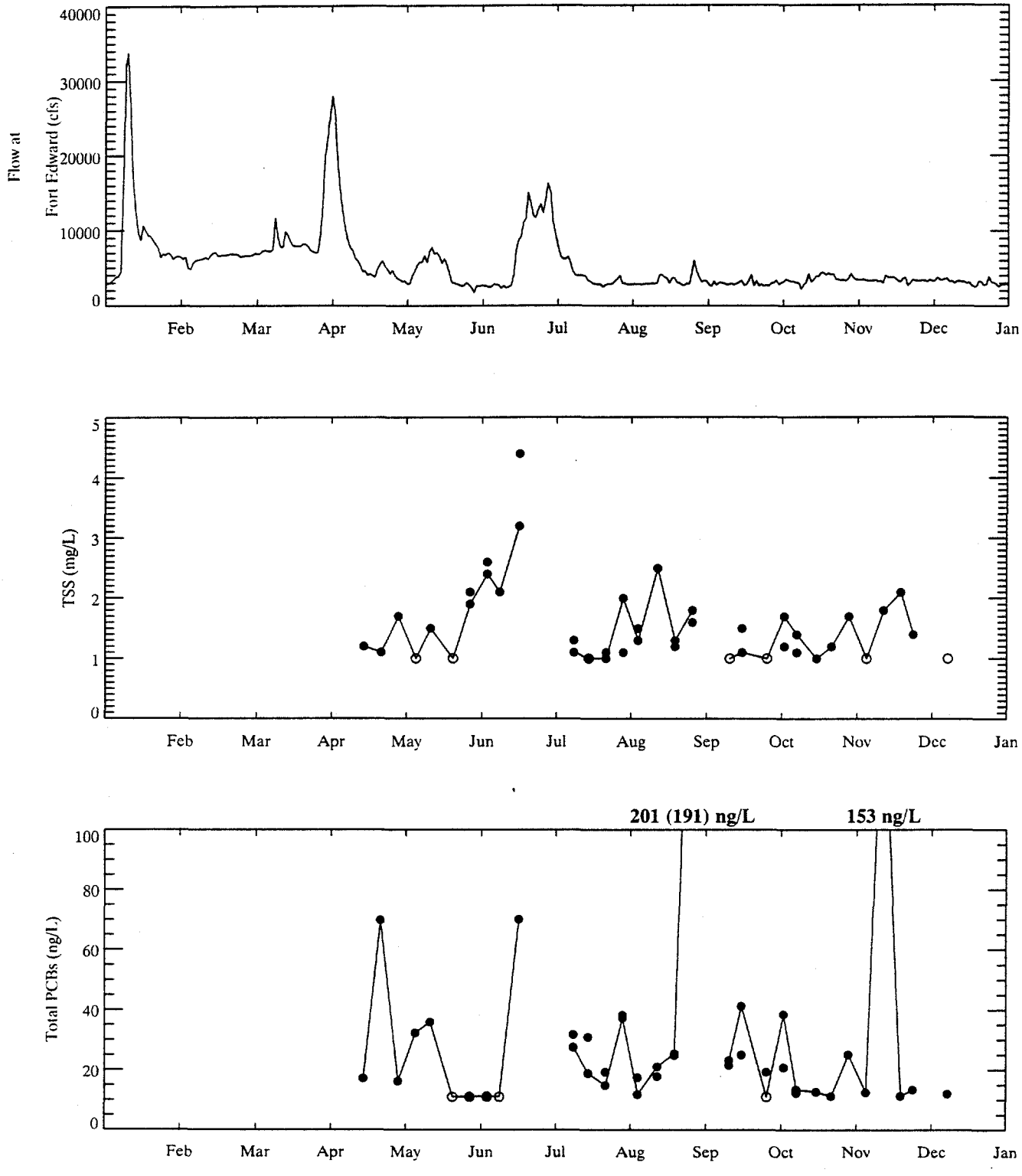
Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-1. Temporal profile of 1998 routine monitoring data collected at Bakers Falls Bridge.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted and used in loading calculations after 10/1/98 are USGS provisional daily averages. January high flow monitoring data not shown.

MJW - G:\GENhrm\documents\reports\yearly\1998\figures\bakers_falls\fig3-1_bftemp.pro

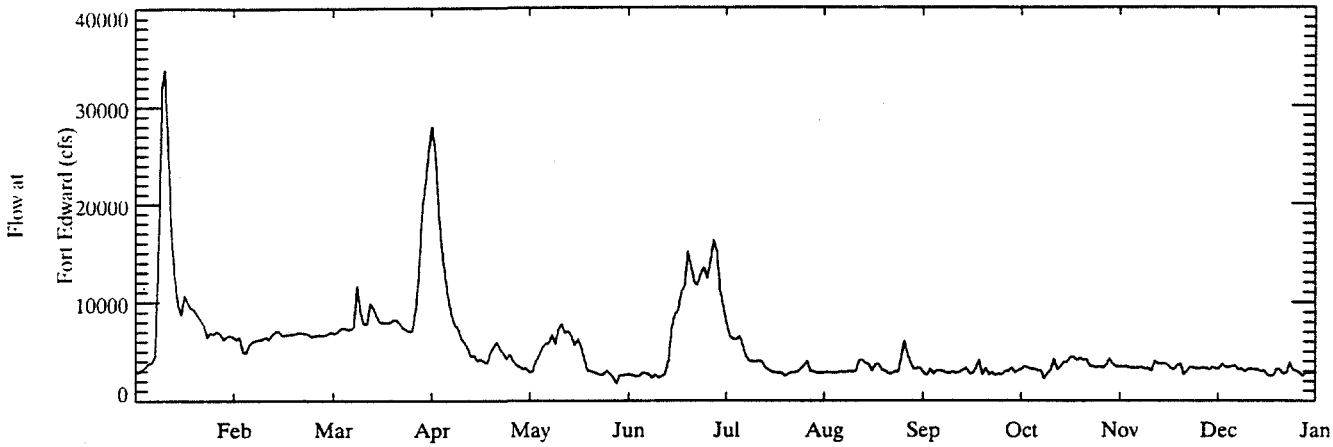
Fri Feb 11 15:31:14 2000

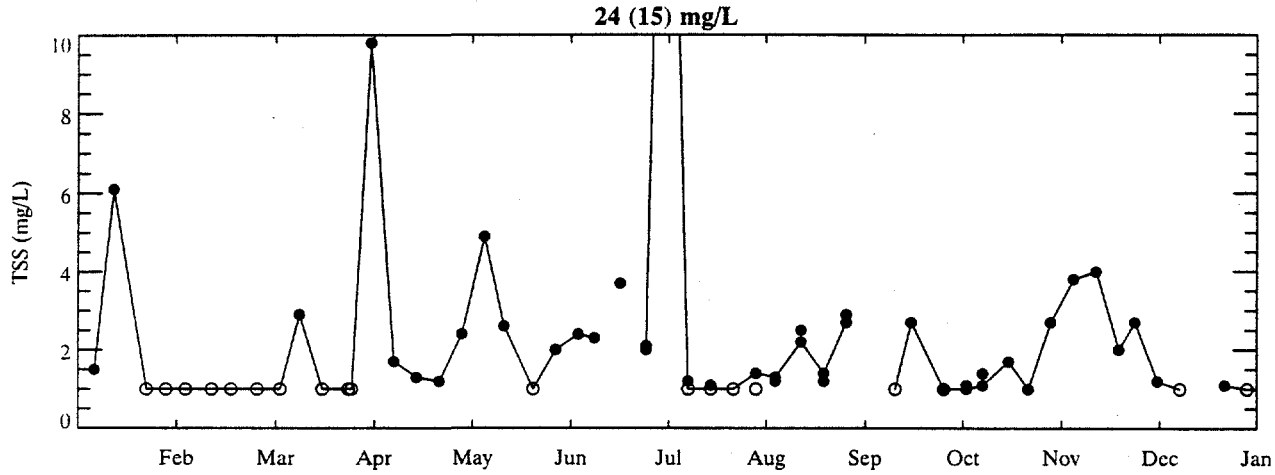


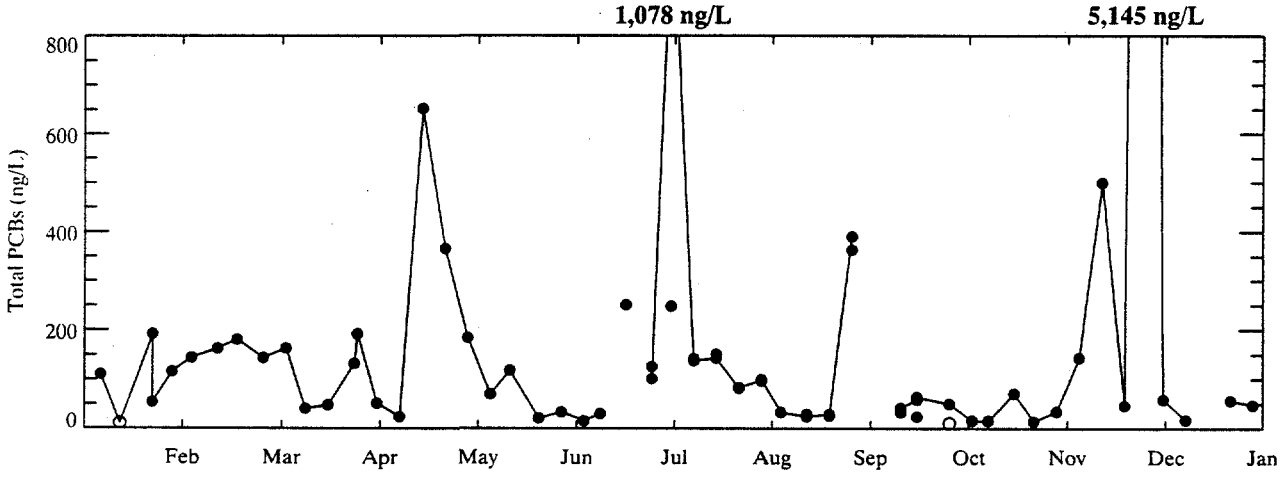
Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-2. Temporal profile of 1998 routine monitoring data collected at the plunge pool.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted after 10/1/98 are USGS provisional daily averages. Samples not plotted on lines are blind duplicate results. Breaks in line indicate a gap in the data.







Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-3. Temporal profile of 1998 routine monitoring data collected at the boat launch.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted after 10/1/98 are USGS provisional daily averages. Samples not plotted on lines are blind duplicate results. Breaks in line indicate a gap in the data. January high flow monitoring data not shown.

JW - G:\GENhrm\documents\reports\yearly\1998\figures\plant_site\fig3-3_bltemp.pro
Fri Feb 11 15:32:19 2000

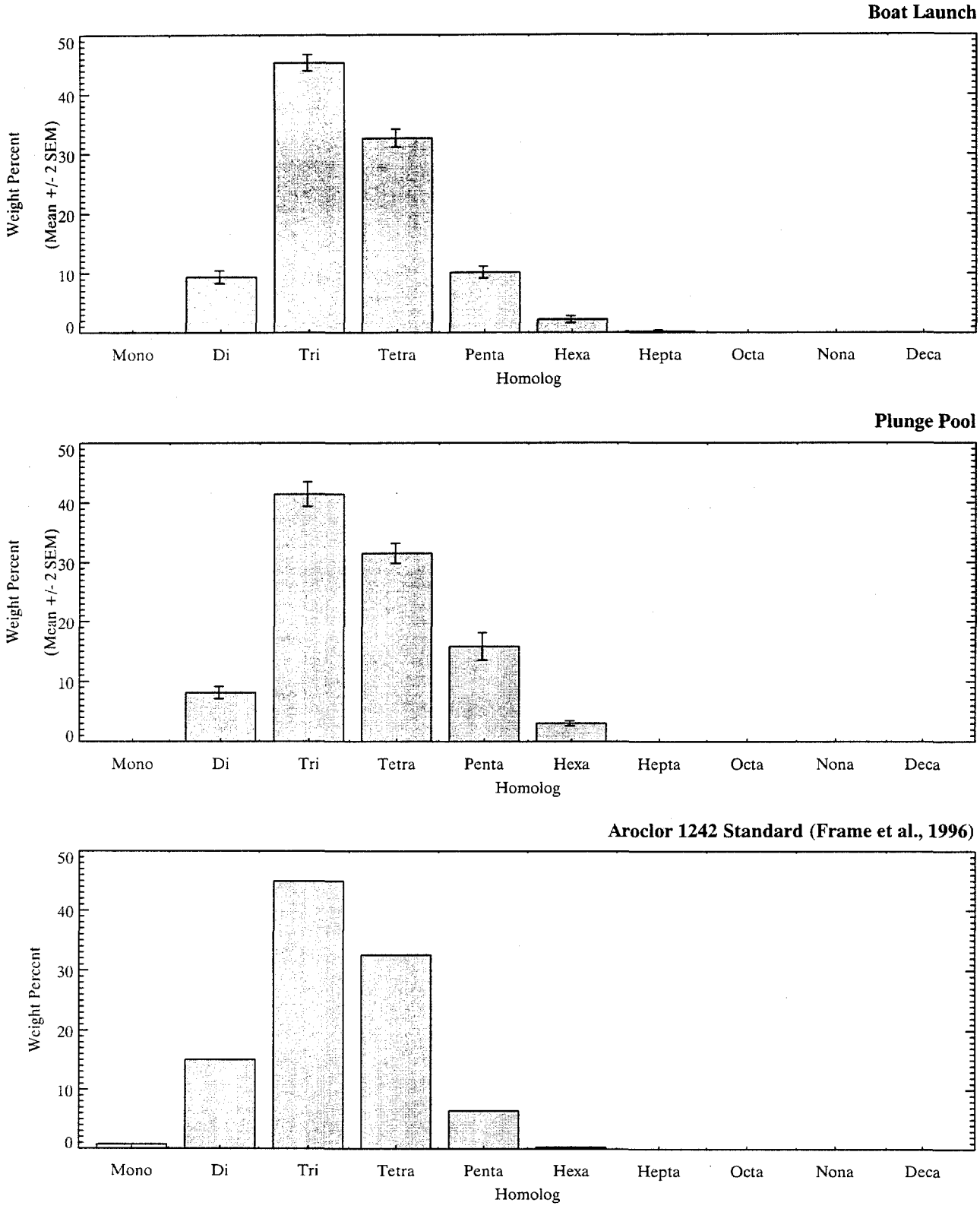


Figure 3-4. Comparison of the average homolog composition for 1998 routine monitoring data collected in the vicinity of the Hudson Falls Plant Site with an Aroclor 1242 standard.

Notes: Non-detects not included in data averages. January high flow monitoring data not included.

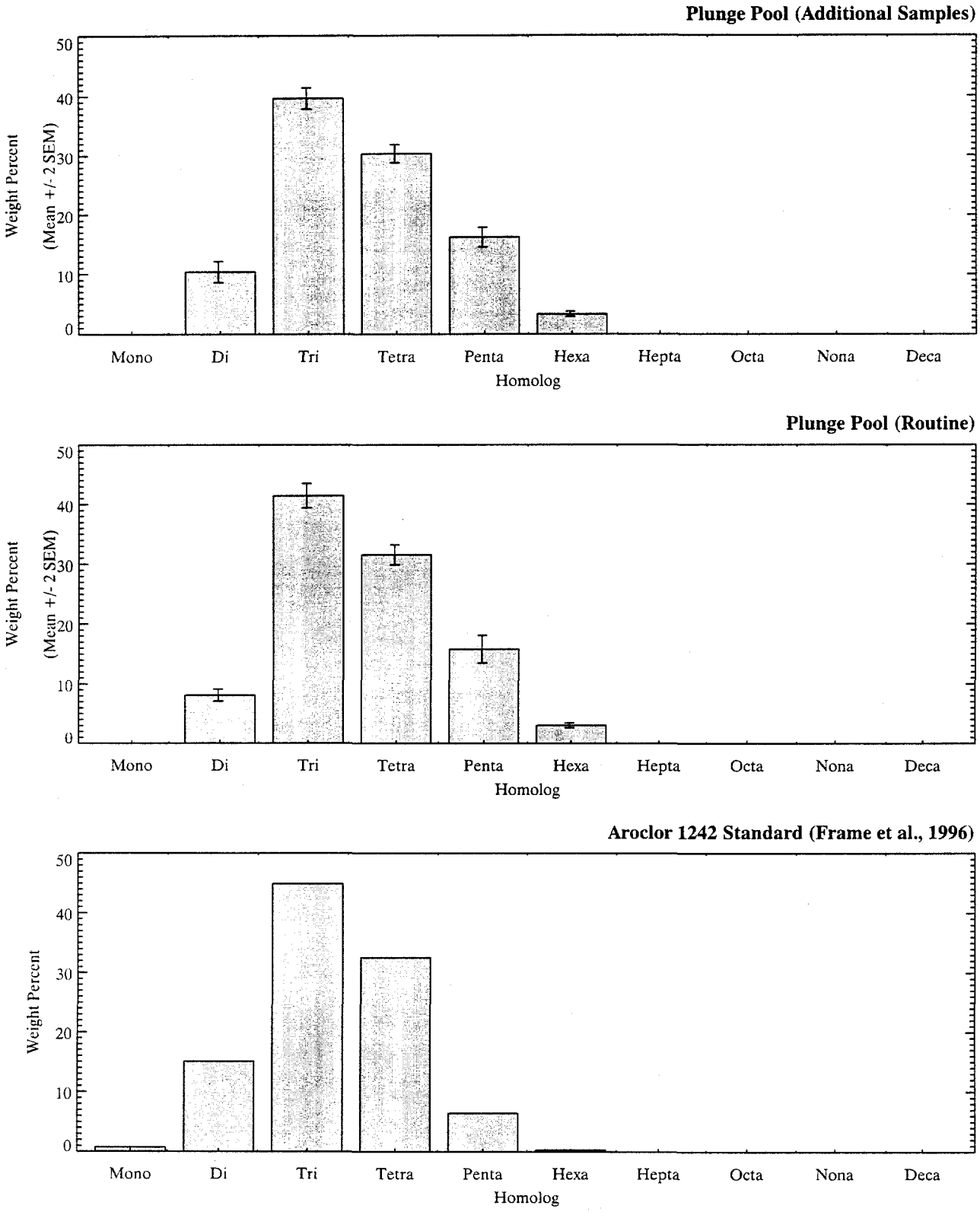
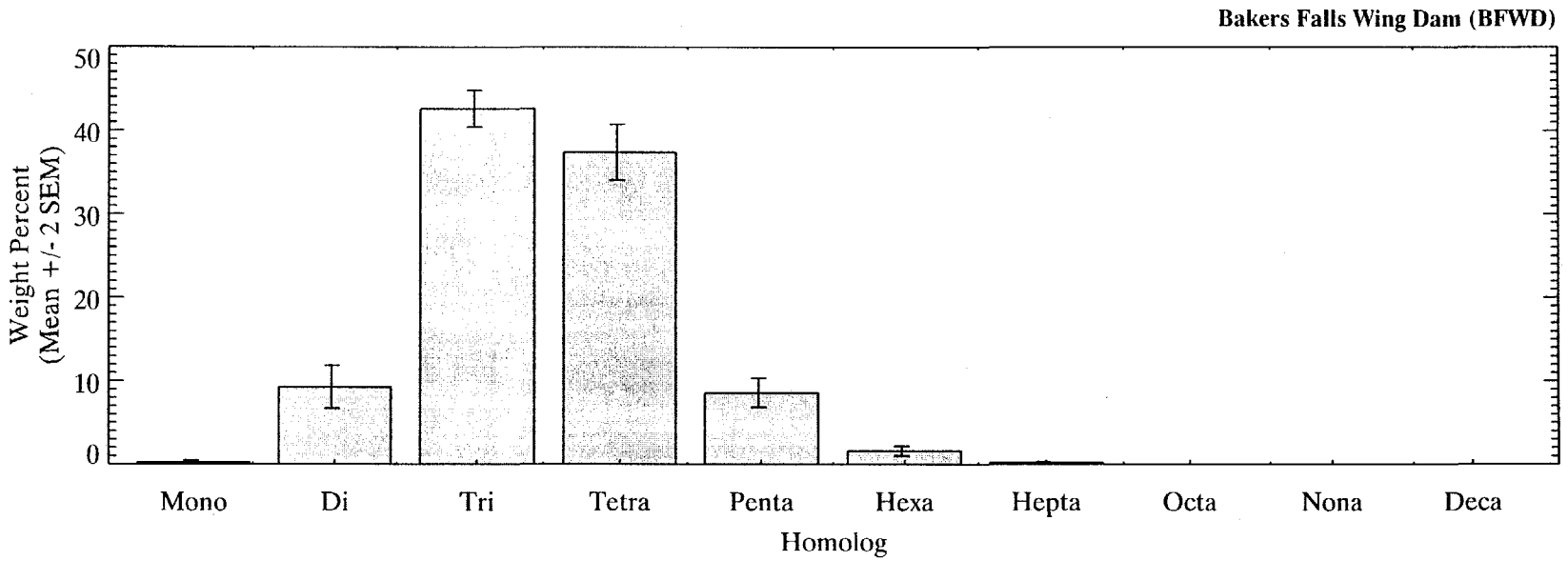
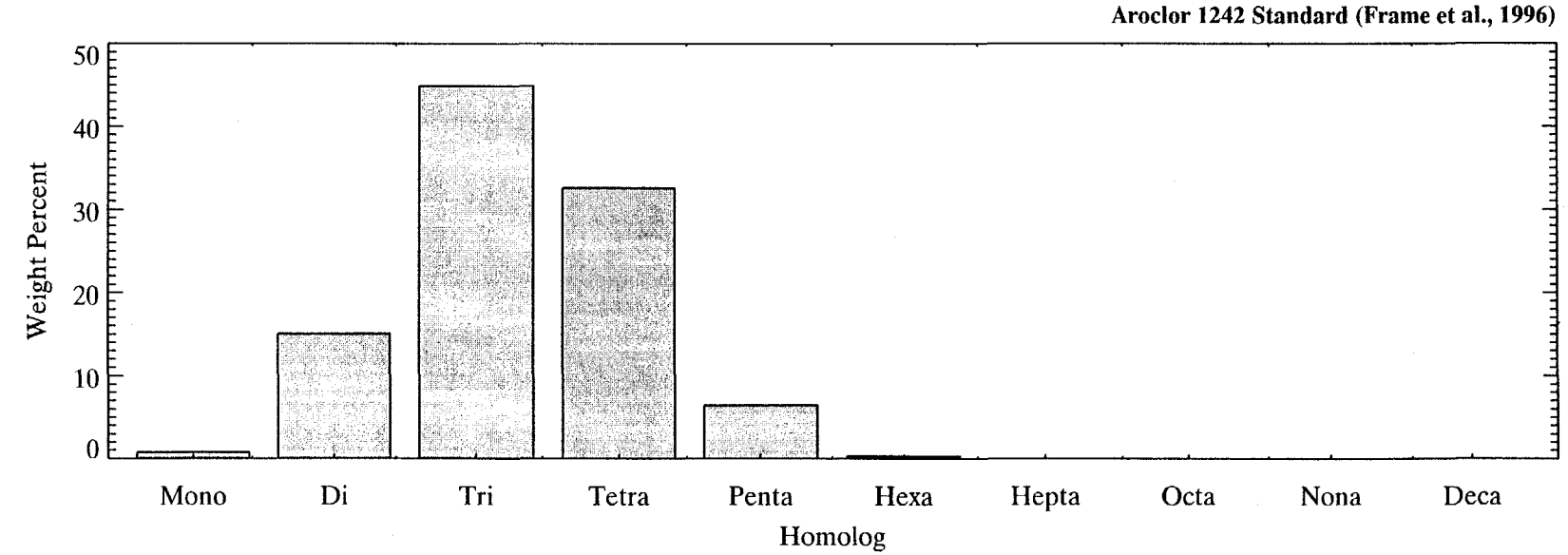


Figure 3-5. Comparison of the average homolog composition for additional samples collected from the plunge pool with 1998 routine plunge pool data and an Aroclor 1242 standard.

Notes: Non-detects not included in data averages. January high flow monitoring data not included.

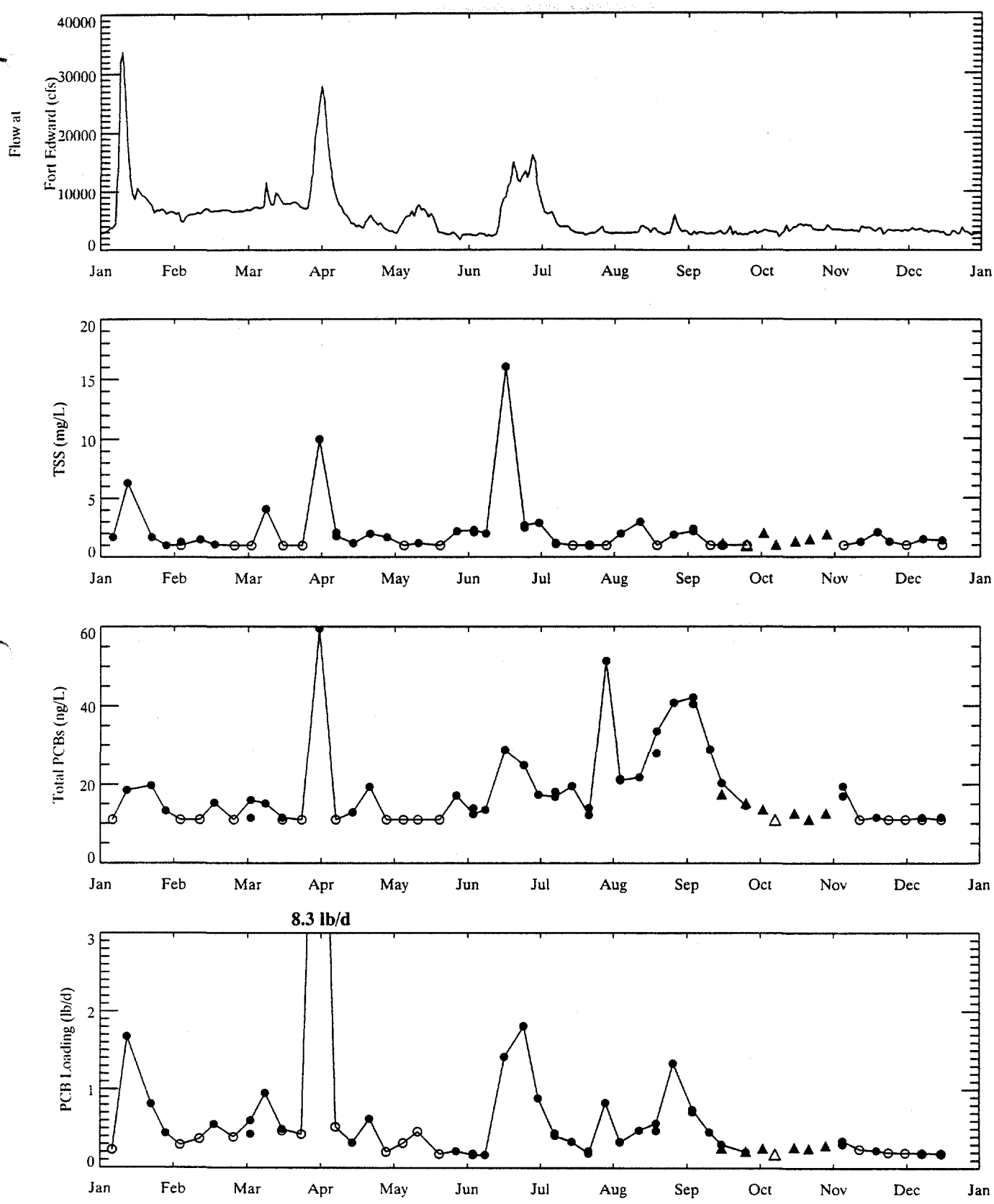




316300

Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-6. Comparison of the average homolog composition for 1998 Bakers Falls Wing Dam data with an Aroclor 1242 standard.
Note: Non-detects not included in data average.

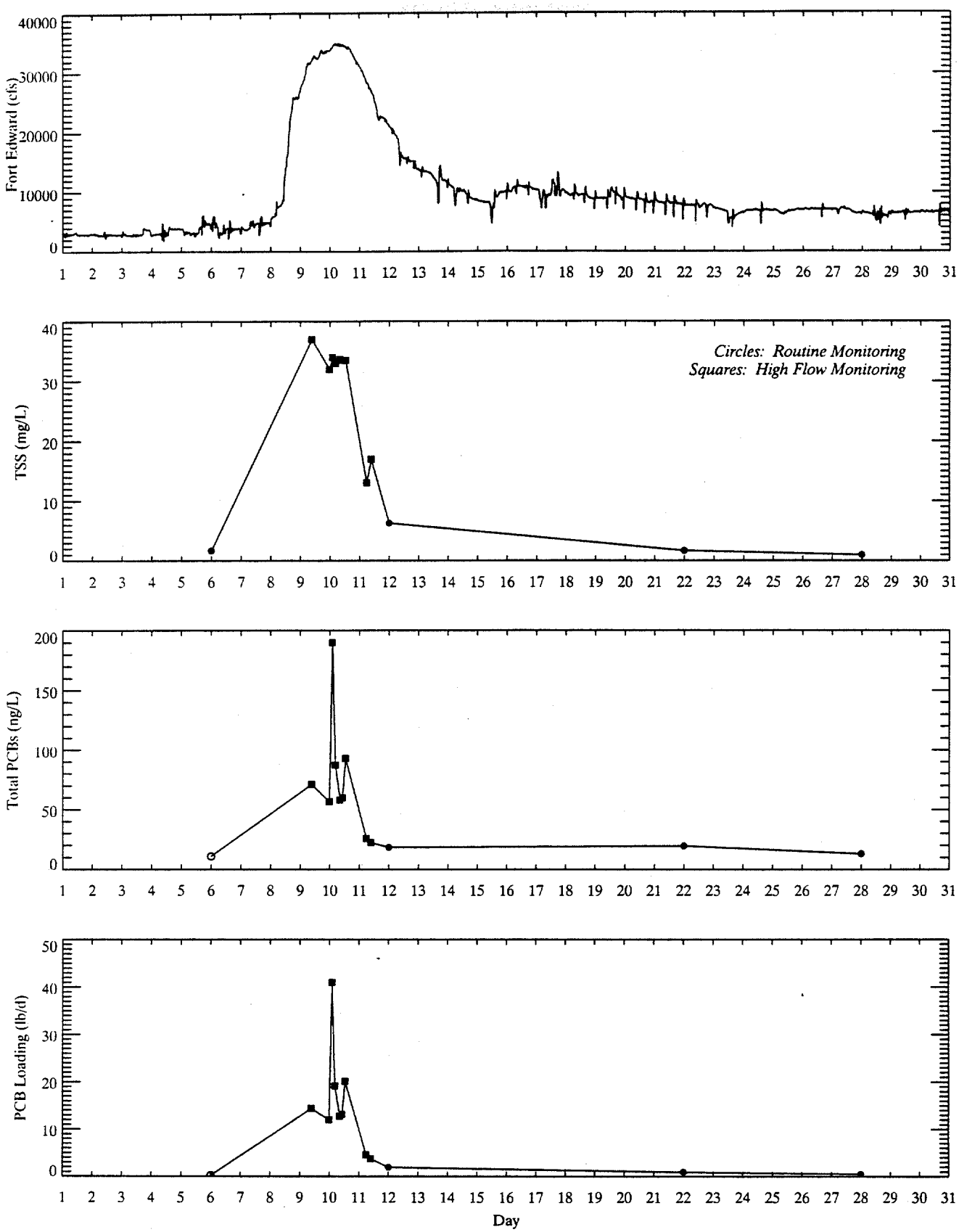


Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-7. Temporal profile of 1998 routine monitoring data collected at Route 197 Bridge.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted and used in loading calculations after 10/1/98 are USGS provisional daily averages. Samples not plotted on lines are blind duplicate results. January high flow monitoring data not shown. Triangles represent the average of samples collected from HRM 194.2E and HRM 194.2W.

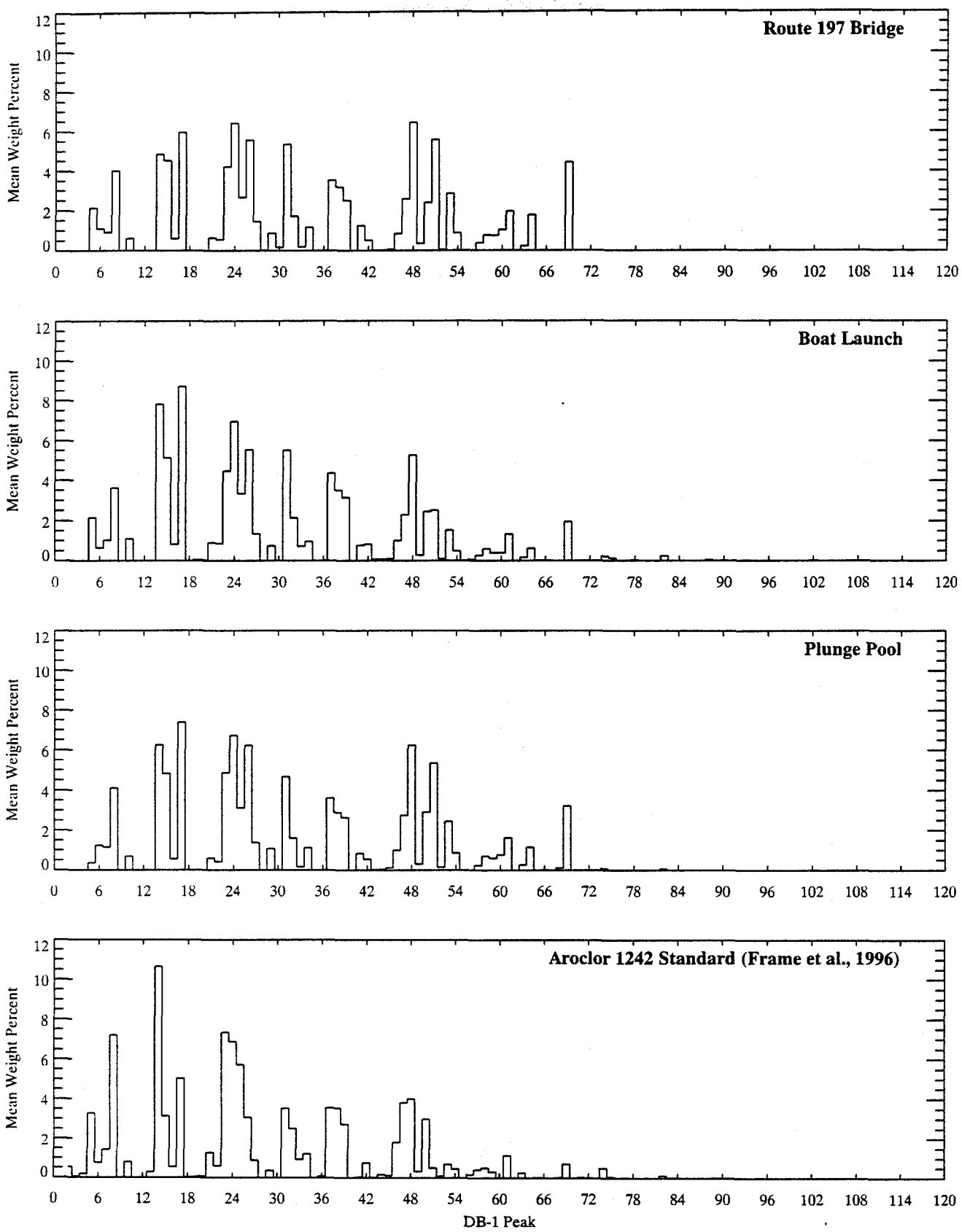
MJW - G:\GENhrm\documents\reports\yearly\1998\figures\fort_edward\fig3-7_fetemp.pro
Fri Feb 11 15:35:15 2000



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-8. Temporal profile of January 1998 routine and high flow data collected at Fort Edward.

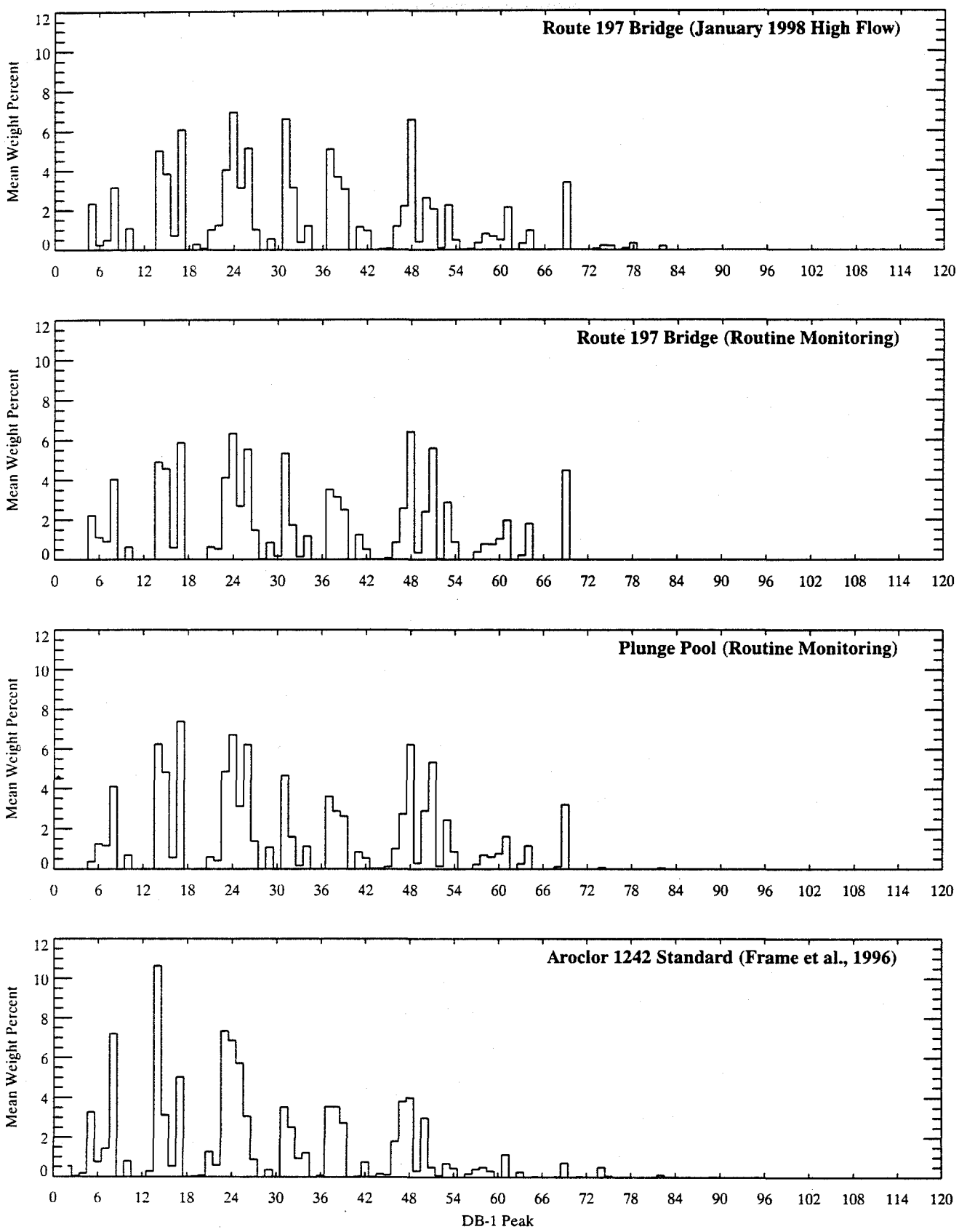
Notes: Non-detects plotted as open symbols at MDL. Flow data plotted is USGS 15-minute flow data. High flow loadings calculated using 15-minute flow data. Routine monitoring loadings calculated using daily average flow data. High flow samples collected at HRM 194.2E and HRM 194.2W averaged.



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-9. Comparison of the average congener composition for 1998 routine monitoring data collected at the Route 197 Bridge with the average composition in the vicinity of the Hudson Falls Plant Site and an Aroclor 1242 standard.

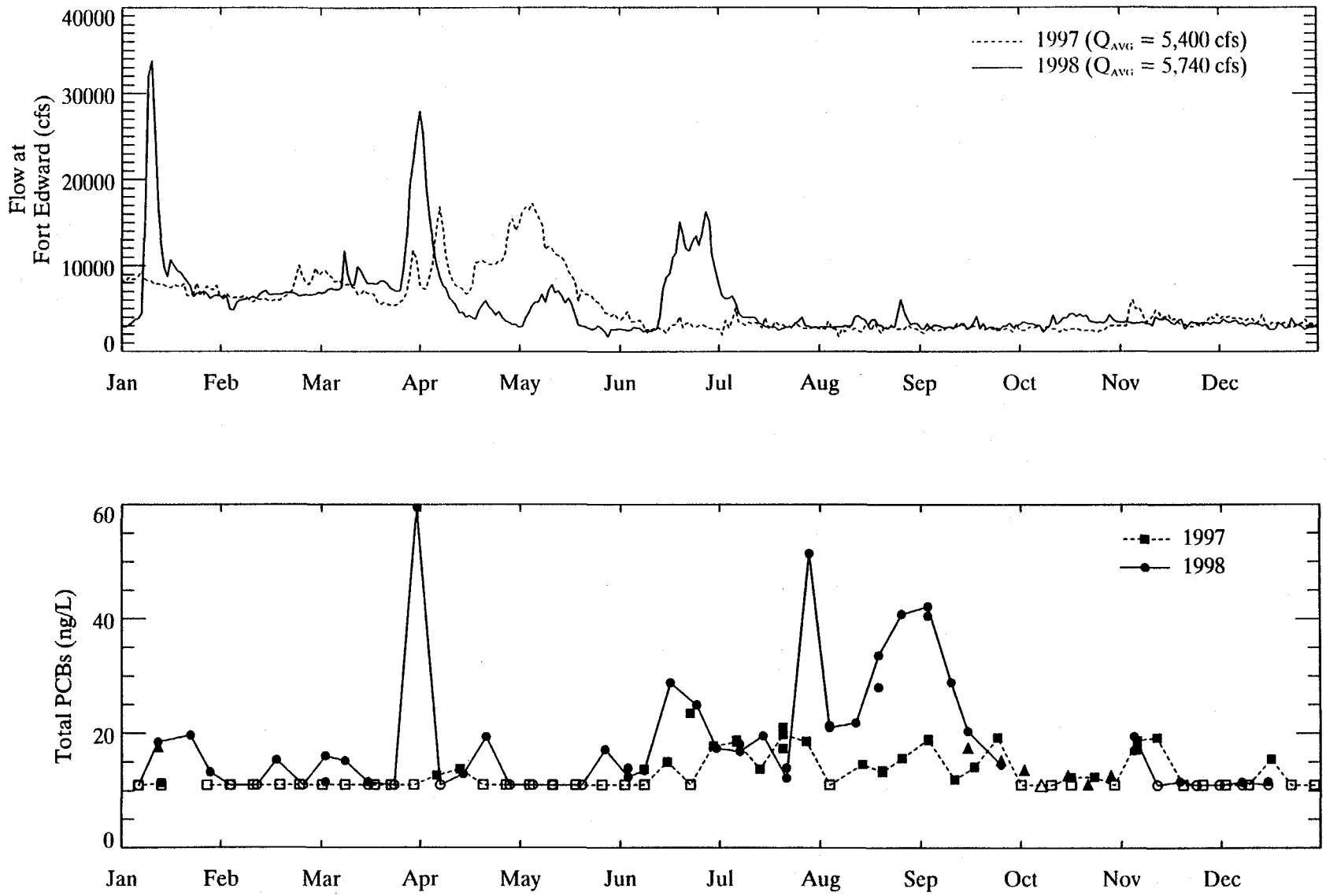
Notes: Non-detects not included in data averages. January high flow monitoring data not included.



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-10. Comparison of the average congener composition for 1998 data collected at Route 197 Bridge during January high flow with routine monitoring data and an Aroclor 1242 standard.

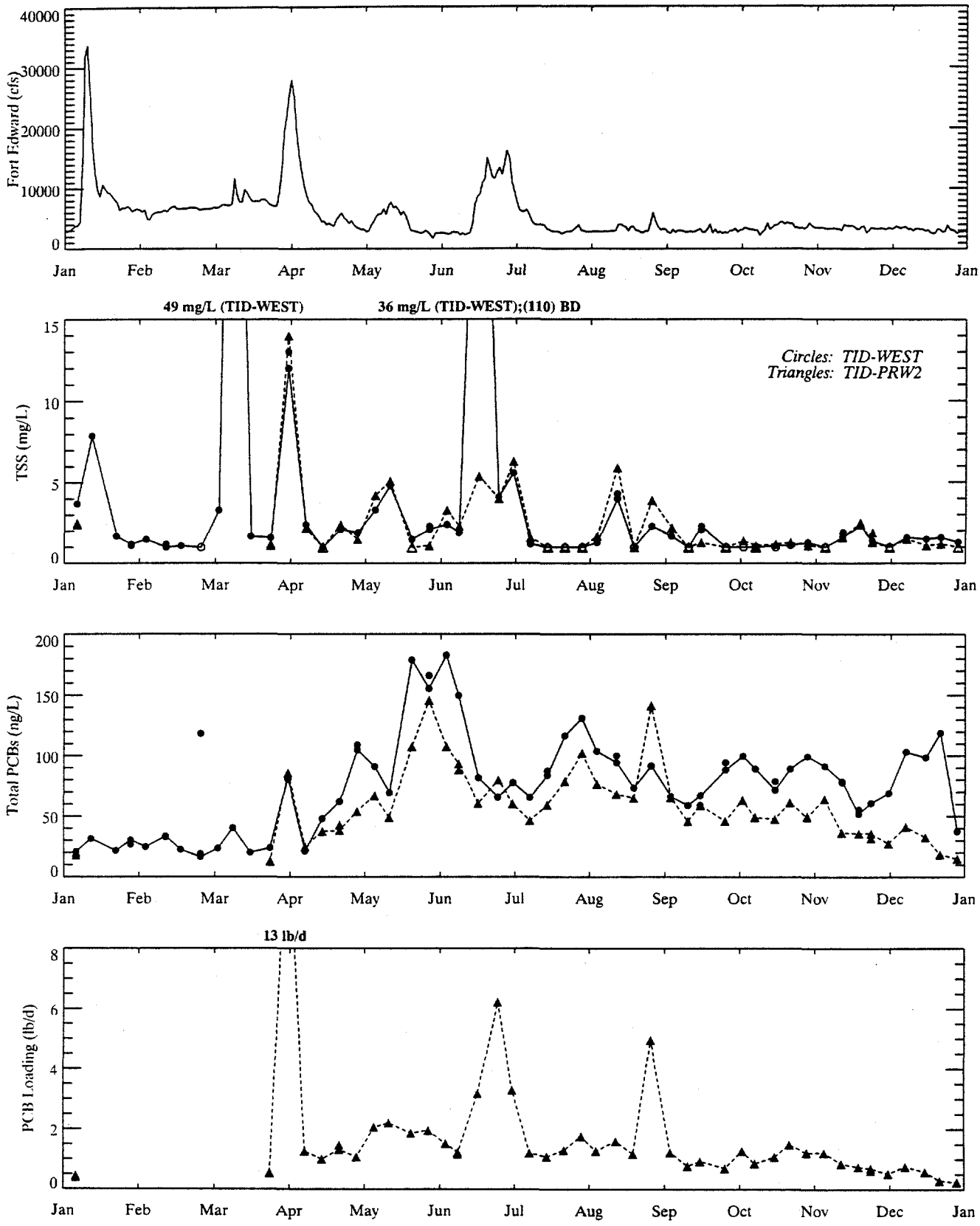
Notes: Non-detects not included in data averages. Samples collected at HRM 194.2E and 194.2W included in average.



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-11. Temporal profile of 1997-98 routine monitoring data collected at Route 197 Bridge.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted after 10/1/98 are USGS provisional daily averages. Samples not plotted on lines are blind duplicate results. January high flow monitoring data not shown. Triangles represent the average of samples collected from HRM 194.2E and HRM 194.2W.

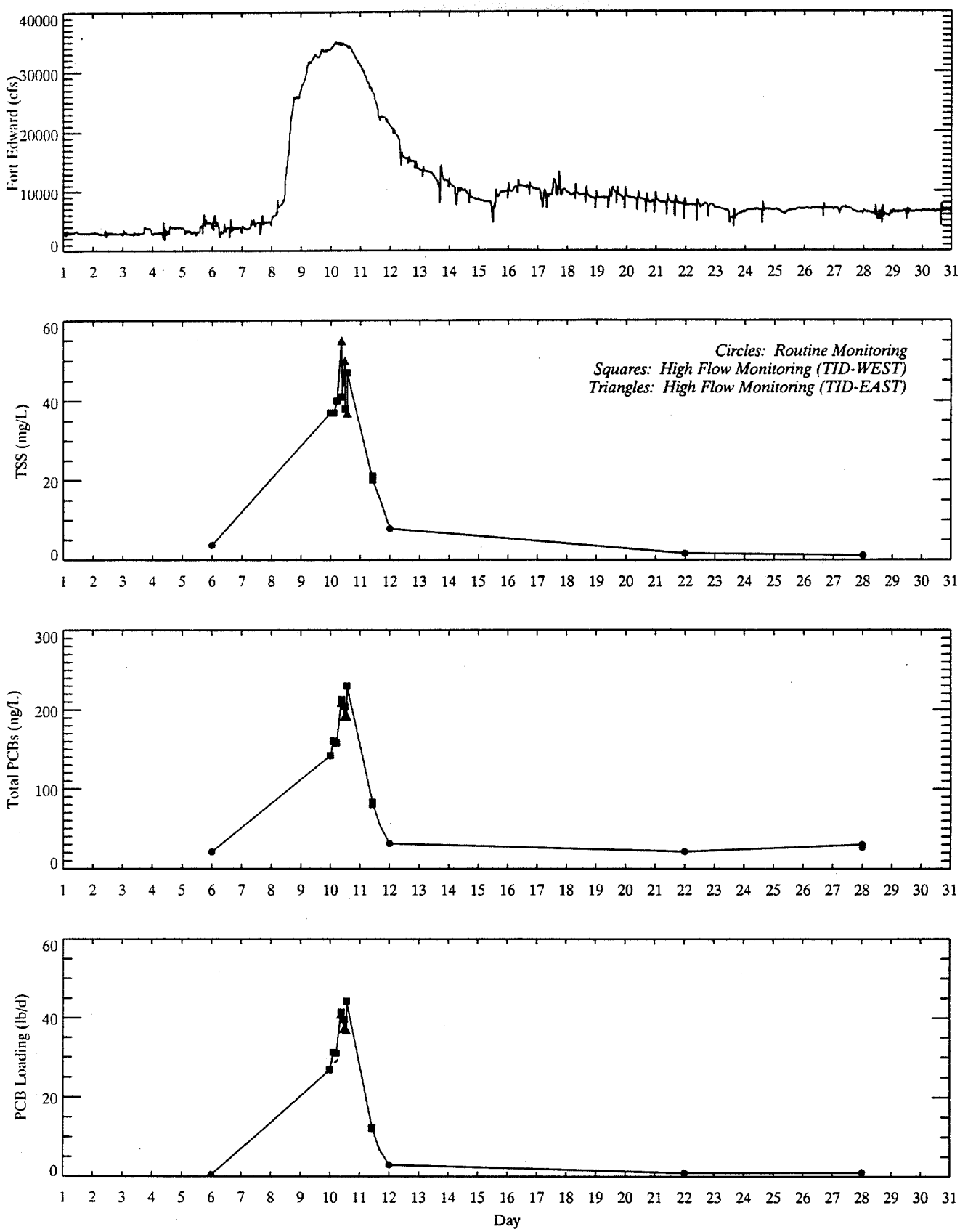


Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-12. Temporal profile of 1998 routine monitoring data collected at Thompson Island Dam.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted after 10/1/98 and used in loading calculations are USGS provisional daily averages. Samples not plotted on lines are blind duplicate results. Breaks in line indicate a gap in the data. Flow at Fort Edward prorated by a factor of 1.043 to calculate TID loading. January high flow monitoring data not shown.

JW - G:\GENhrm\documents\reports\yearly\1998\figures\tid\fig3-12_tidtemp.pro
Fri Feb 11 15:39:06 2000



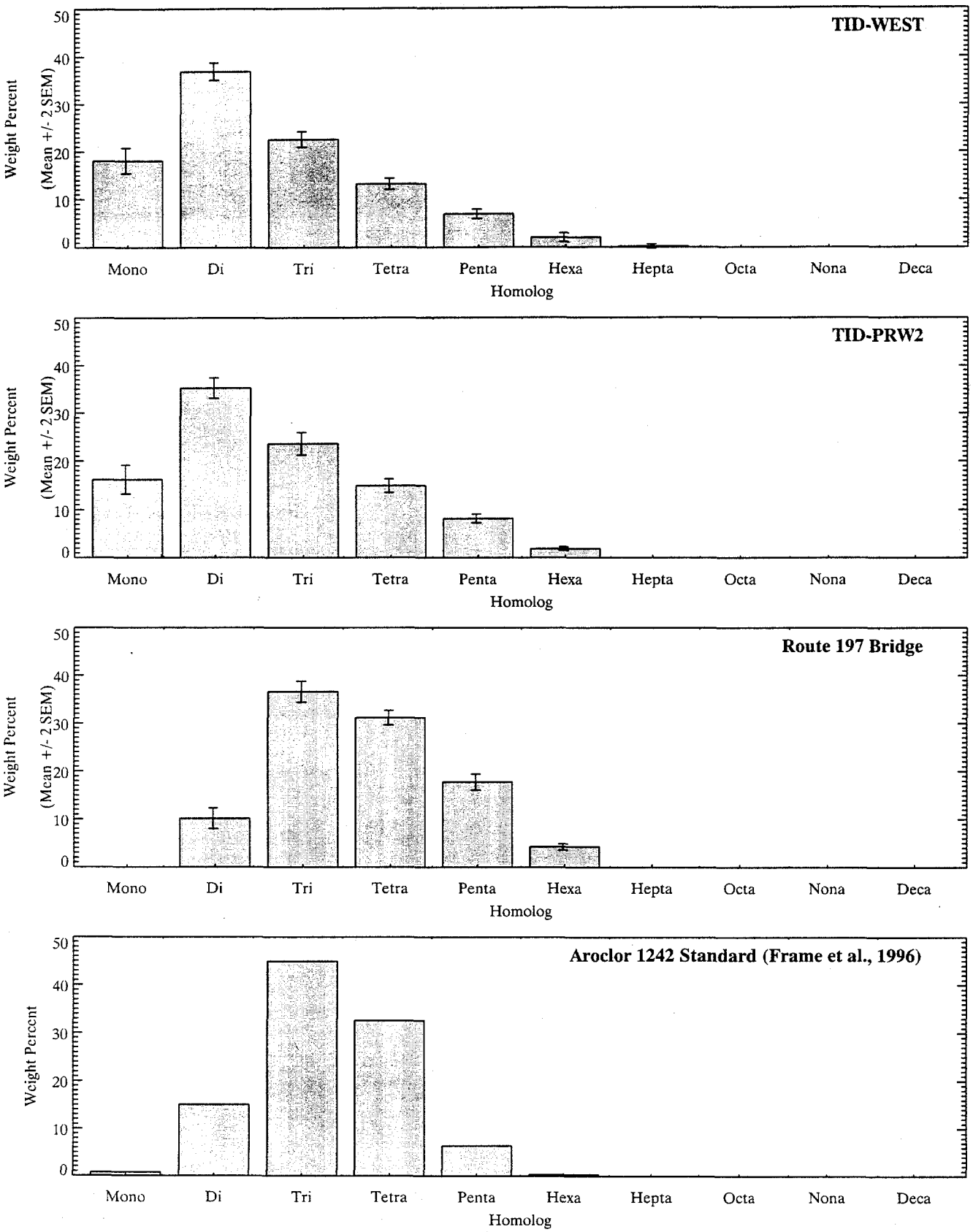
Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-13. Temporal profile of January 1998 routine and high flow data collected at Thompson Island Dam.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted are USGS 15-minute flow data. High flow loadings calculated using 15-minute flow data. Routine monitoring loadings calculated using daily average flow data. Flow at Fort Edward prorated by a factor of 1.043 to calculate TID loading.

JW - G:\GENhrm\documents\reports\yearly\1998\figures\tid\fig3-13_tidhqtemp.pro

ri Feb 11 15:40:14 2000



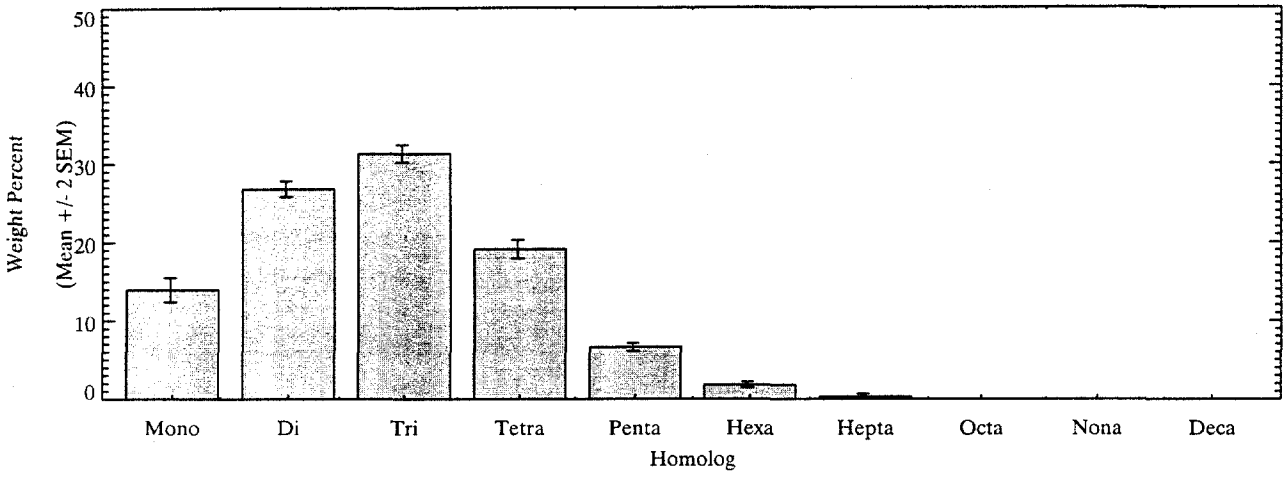
Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-14. Comparison of the average homolog composition for 1998 data collected at Thompson Island Dam with that at Route 197 Bridge and an Aroclor 1242 standard.

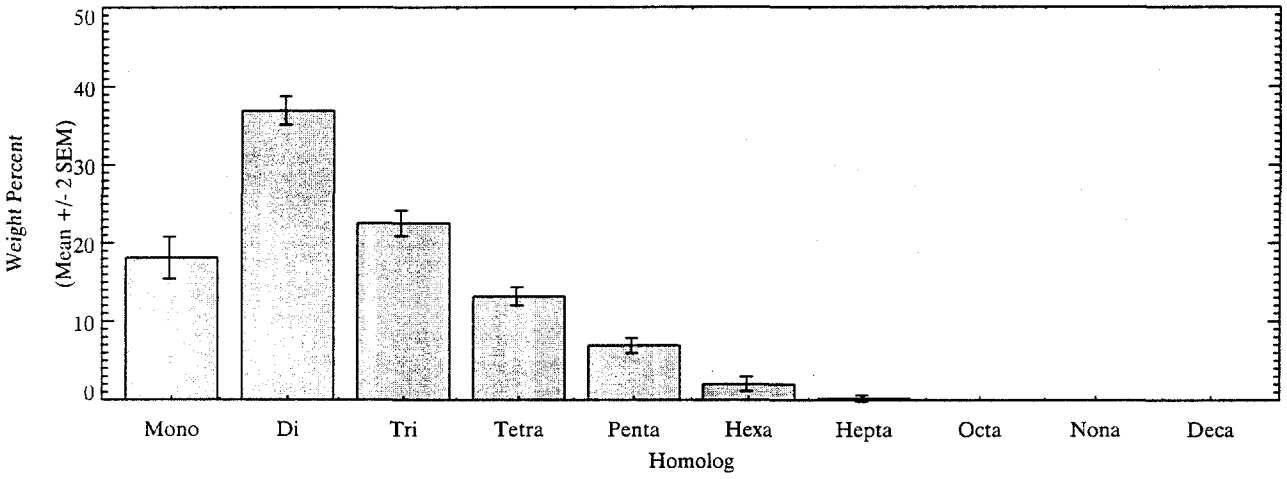
Notes: Non-detects not included in data averages. January high flow monitoring data not included.

MJW - G:\GENhrm\documents\reports\yearly\1998\figures\tid\fig3-14_tidaro.pro
Thu Feb 10 15:36:28 2000

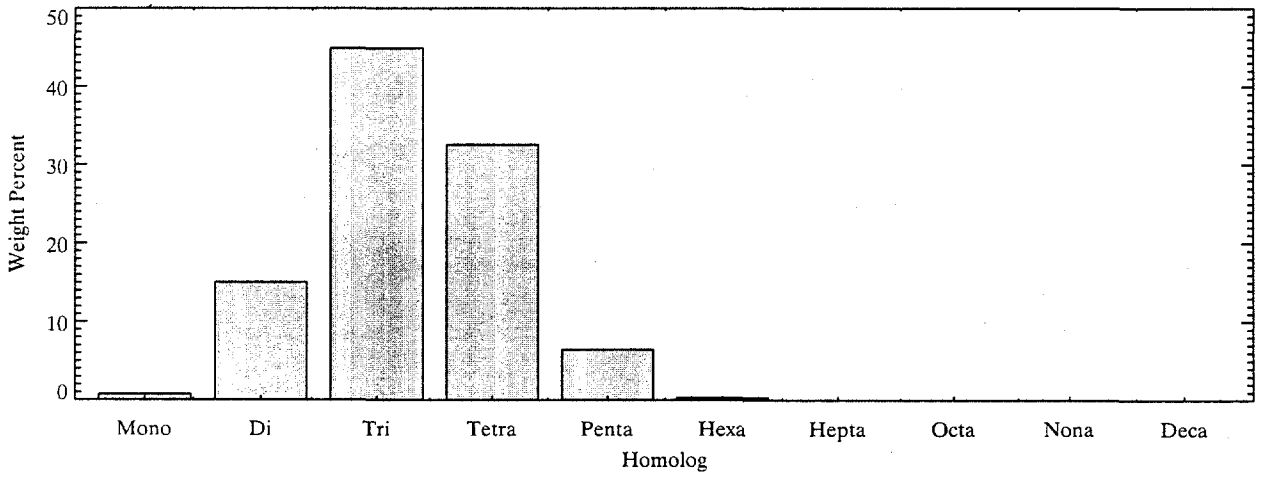
TID-WEST (January 1998 High Flow)



TID-WEST (Routine Monitoring)



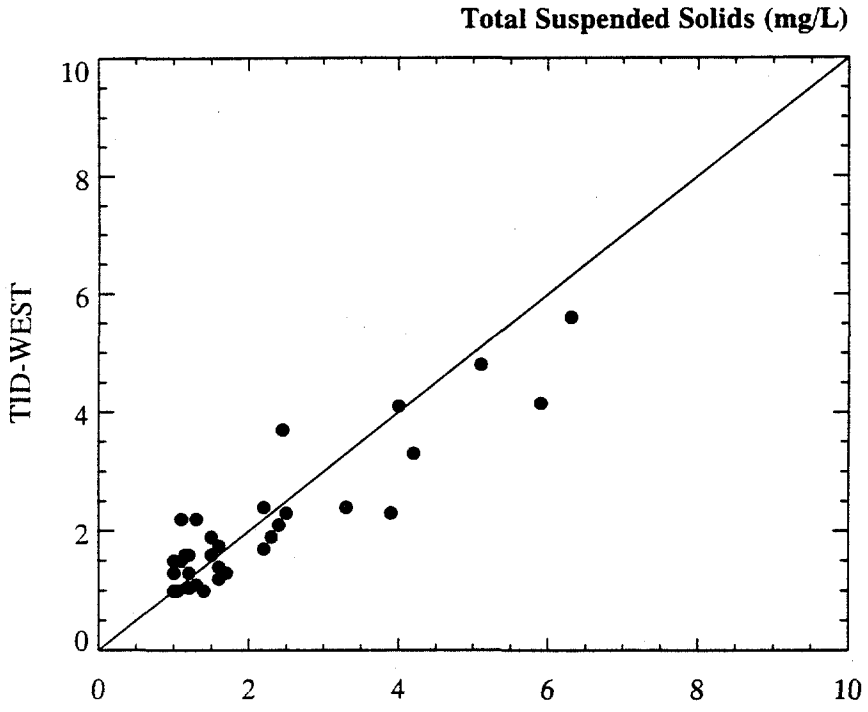
Aroclor 1242 Standard (Frame et al., 1996)

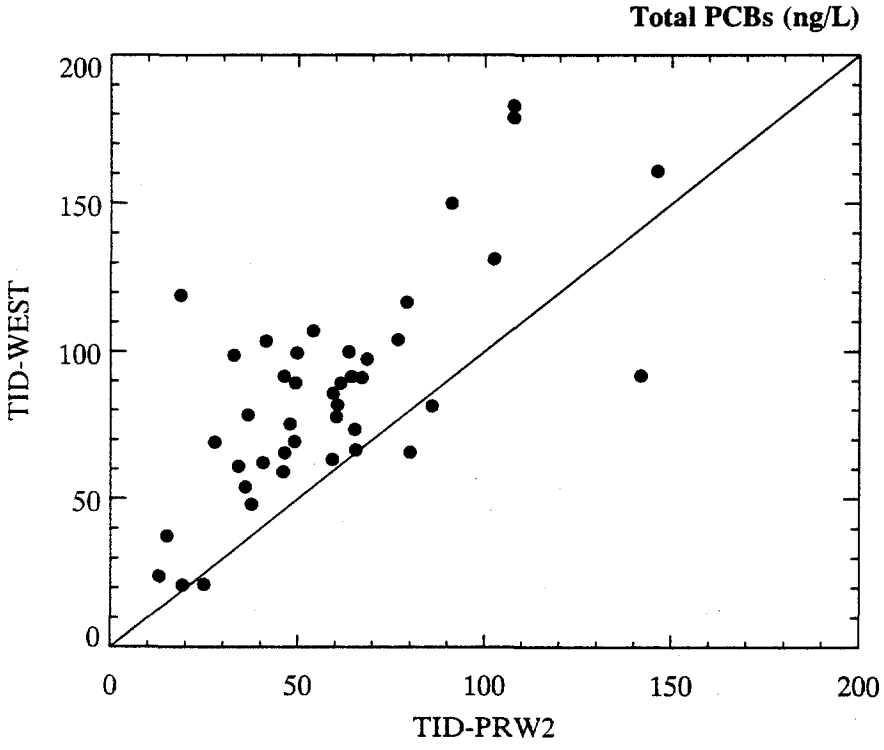


Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-15. Comparison of the average homolog composition for January 1998 high flow data collected at Thompson Island Dam with routine monitoring data and an Aroclor 1242 standard.

Notes: Non-detects not included in data averages. Samples collected at TID-EAST included in high flow average.

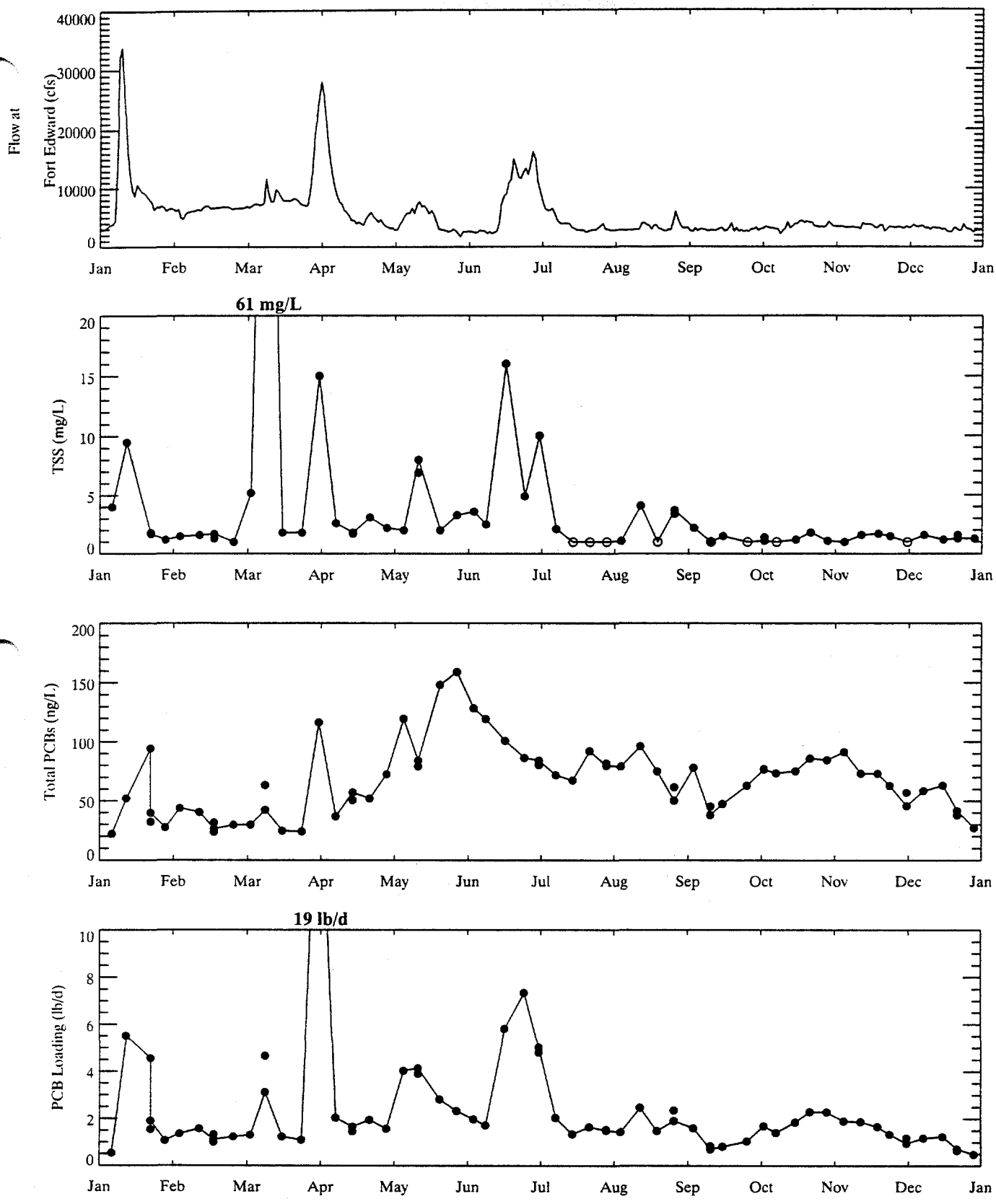




Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-16. Comparison between 1998 water column TSS and total PCB data collected at TID-WEST and TID-PRW2

Notes: Duplicate samples averaged. January high flow monitoring data not included. Two outliers excluded from TSS chart.

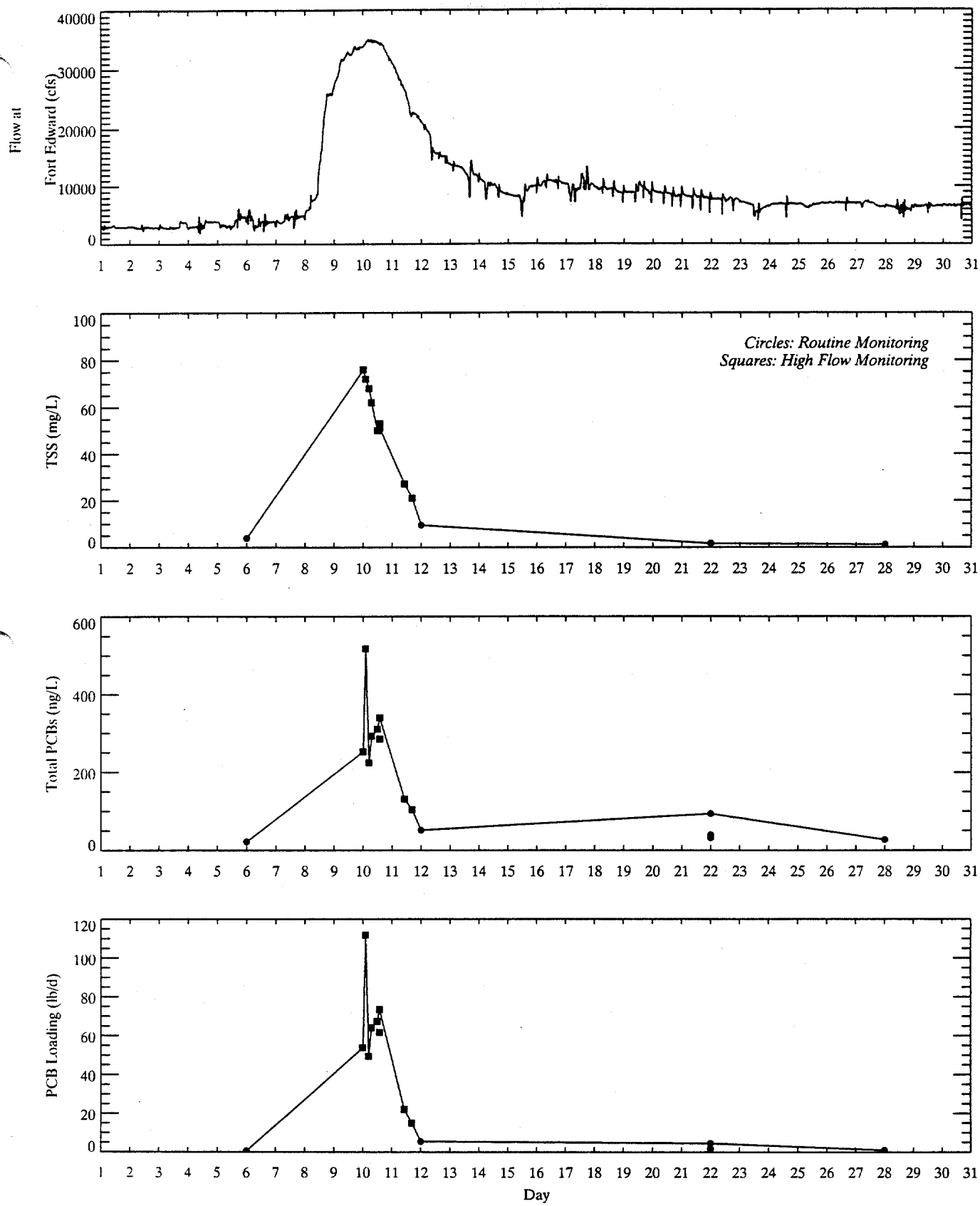


Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-17. Temporal profile of 1998 routine monitoring data collected at Schuylerville.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted after 10/1/98 and used in loading calculations are USGS provisional daily averages. Samples not plotted on lines are blind duplicate results. January high flow monitoring data not shown. Flow at Fort Edward prorated by a factor of 1.167 to calculate Schuylerville loading.

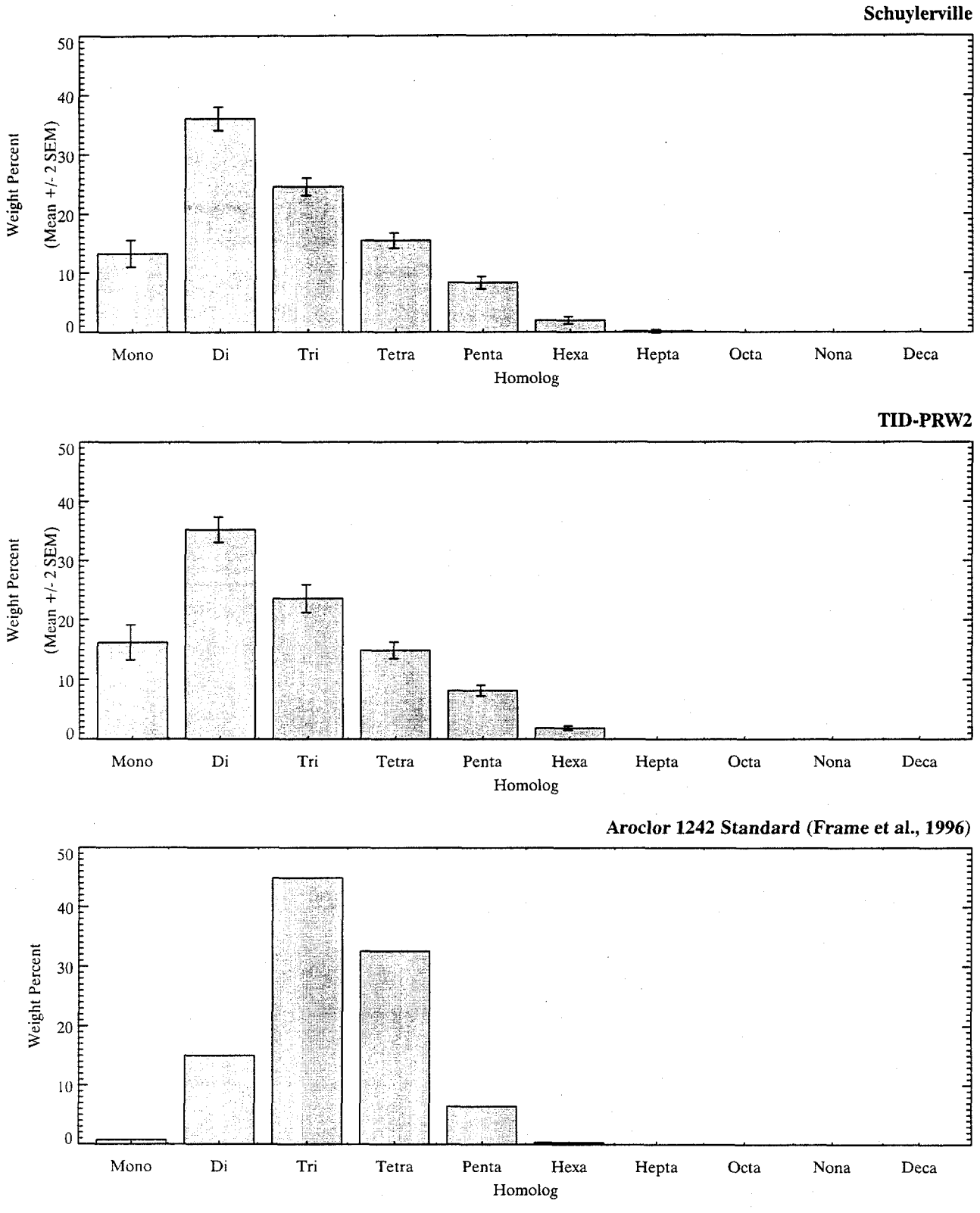
JW - G:\GENhrm\documents\reports\yearly\1998\figures\schuylerville\fig3-17_schtemp.pro
i Feb 11 15:43:27 2000



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-18. Temporal profile of January 1998 routine and high flow data collected at Schuylerville.

Notes: Non-detects plotted as open symbols at MDL. Flow data plotted are USGS 15-minute flow data. High flow loadings calculated using 15-minute flow data. Routine monitoring loadings calculated using daily average flow data. Flow at Fort Edward prorated by a factor of 1.167 to calculate Schuylerville loading.

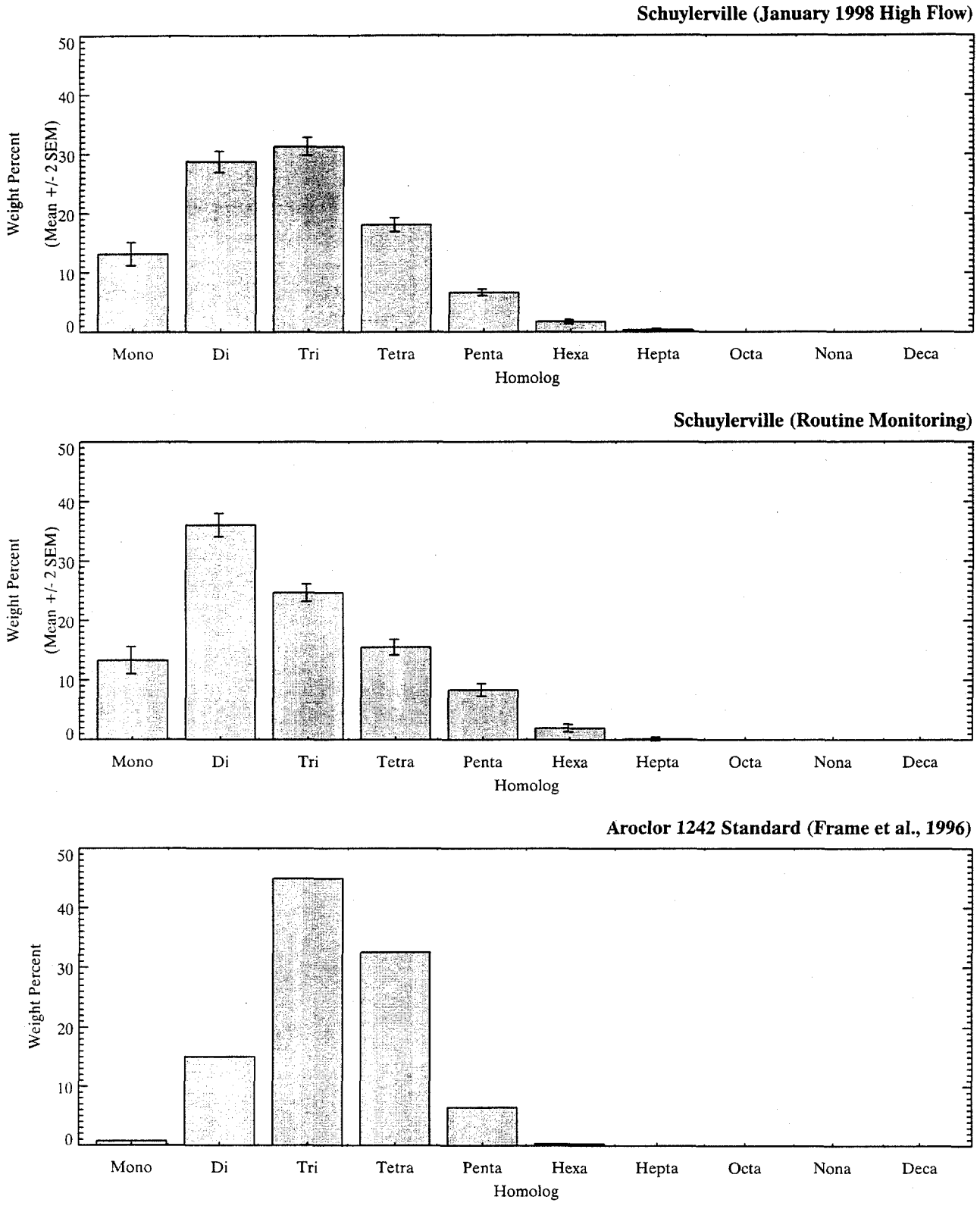


Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-19. Comparison of the average homolog composition for 1998 routine monitoring data collected at Schuylerville with TID-PRW2 and an Aroclor 1242 standard.

Note: Non-detects not included in data averages. January high flow monitoring data not included.

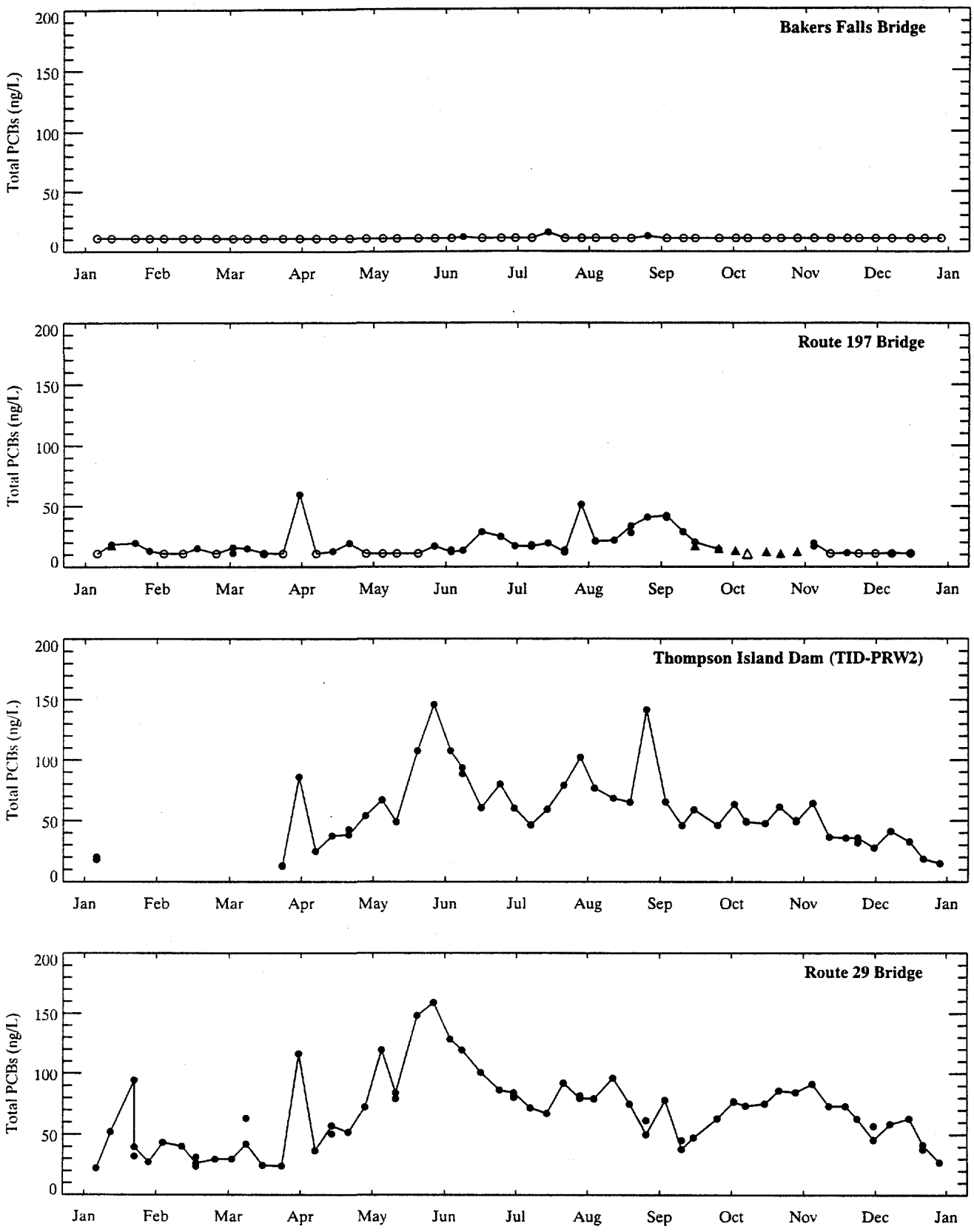
MJW - G:\GENhrm\documents\reports\yearly\1998\figures\schuylerville\fig3-19_scharo.pro
Thu Feb 10 15:37:55 2000



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-20. Comparison of the average homolog composition for 1998 January high flow data collected at Schuylerville with routine monitoring data and an Aroclor 1242 standard.

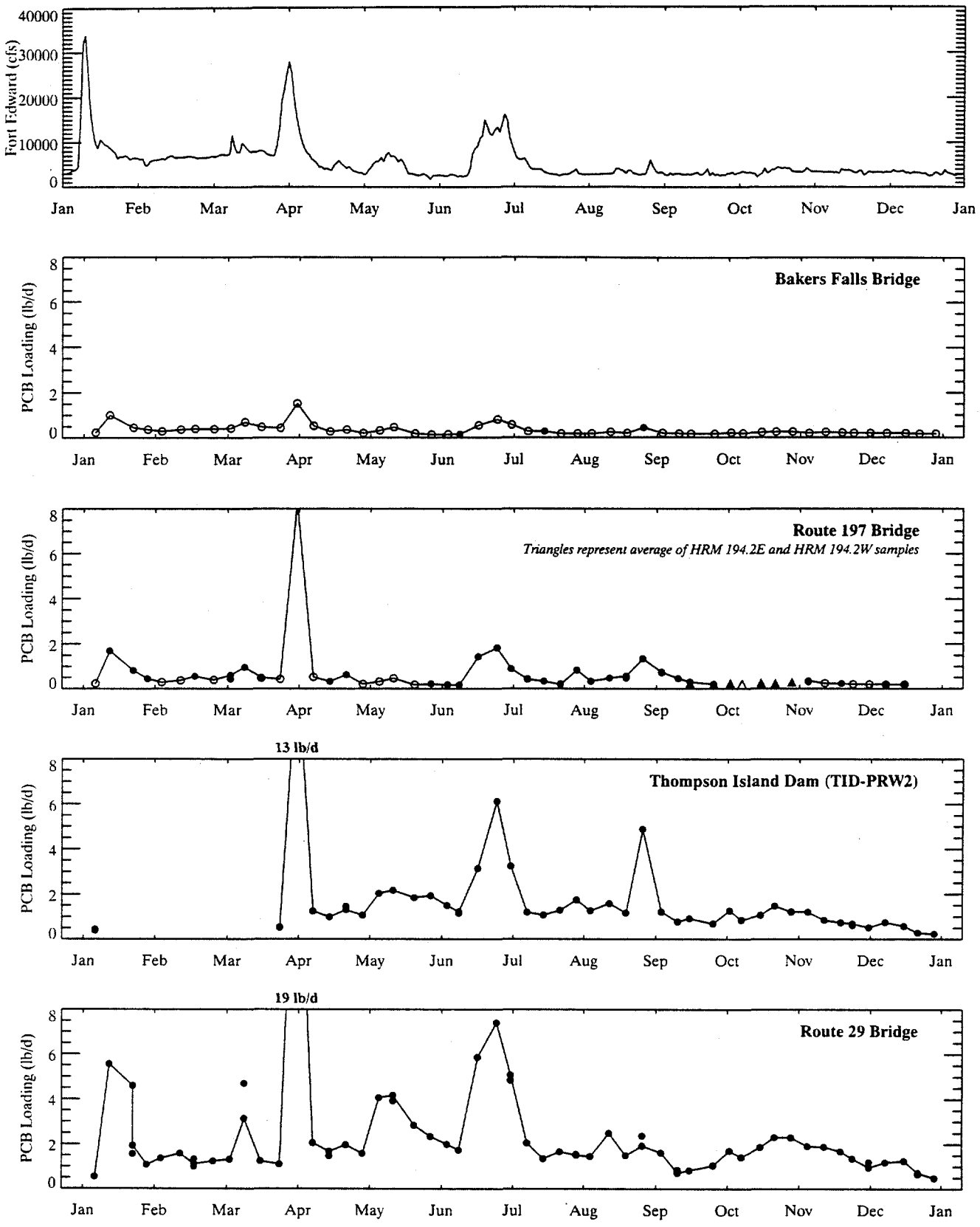
MJW - G:\GENhrm\documents\reports\yearly\1998\figures\schuylerville\fig3-20_schhqaro.pro
Thu Feb 10 15:38:29 2000



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-21. Temporal profiles of 1998 water column PCB data collected during routine monitoring.

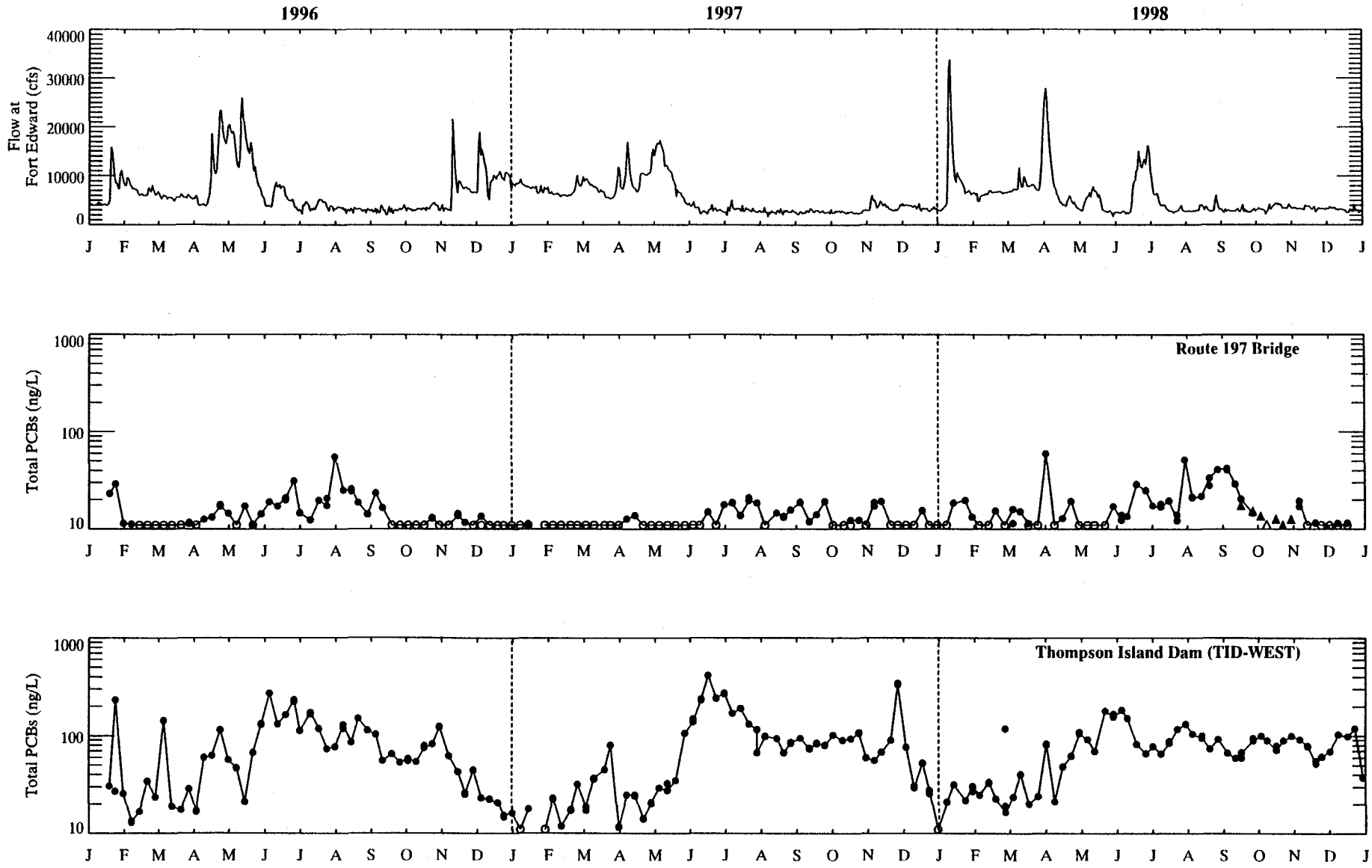
Note: Non-detects plotted as open symbols at MDL. Samples not plotted on lines are blind duplicate results. Breaks in line indicate a gap in the data. January high flow monitoring data not shown. Triangles represent the average of samples collected from HRM 194.2E and HRM 194.2W.



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-22. Temporal profiles of 1998 water column PCB mass loadings for samples collected during routine monitoring.

Notes: Non-detects plotted as open symbols at MDL. Flow data used in loading calculations after 10/1/98 are USGS provisional daily averages. Samples not plotted on lines are blind duplicate results. Breaks in line indicate a gap in the data. January high flow monitoring data not shown. Thompson Island Dam and Schuylerville flows have been prorated for loading calculations.

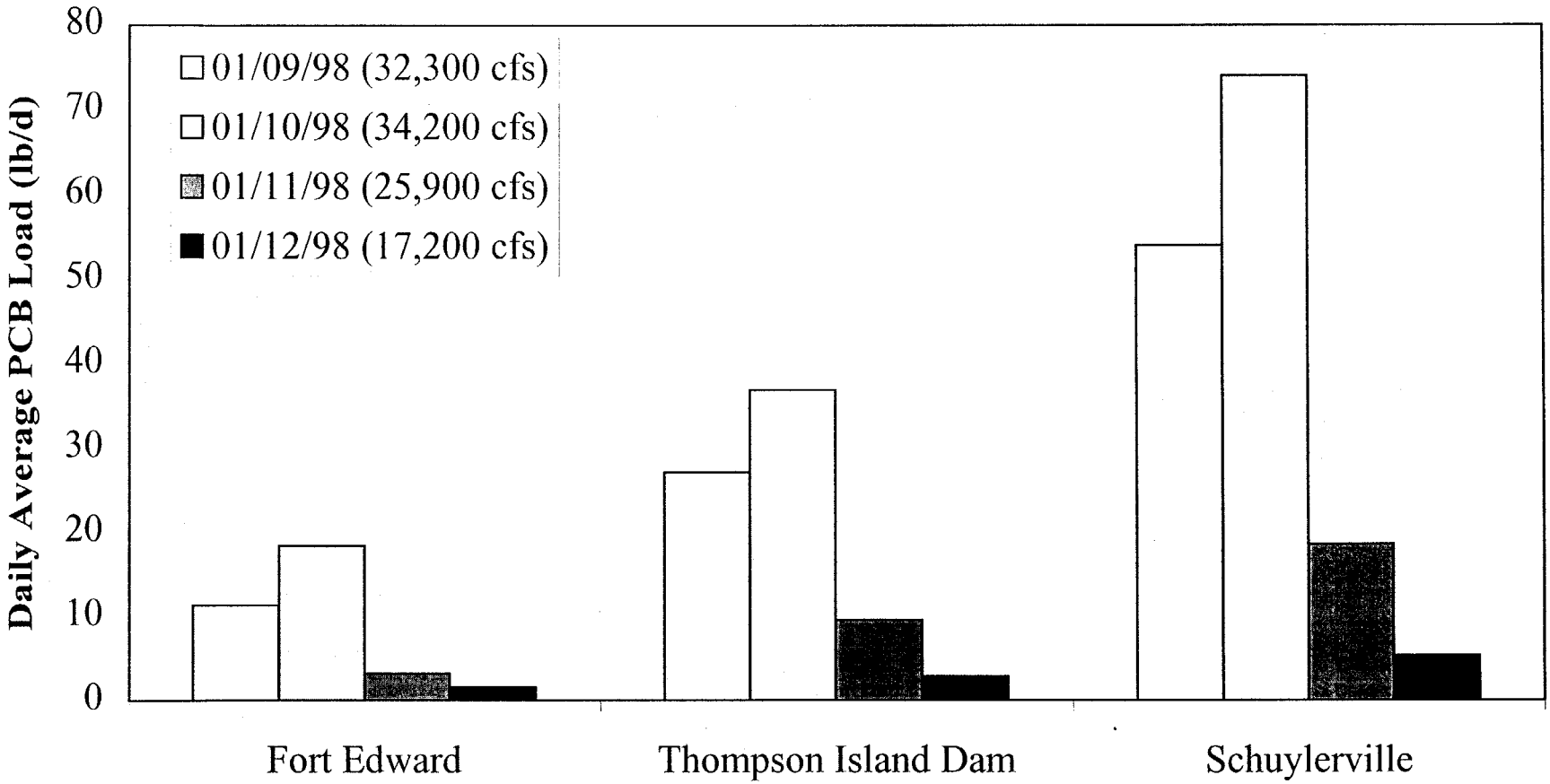


316317

Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-23. Temporal profile of 1996-98 routine monitoring PCB data collected at Fort Edward and Thompson Island Dam.

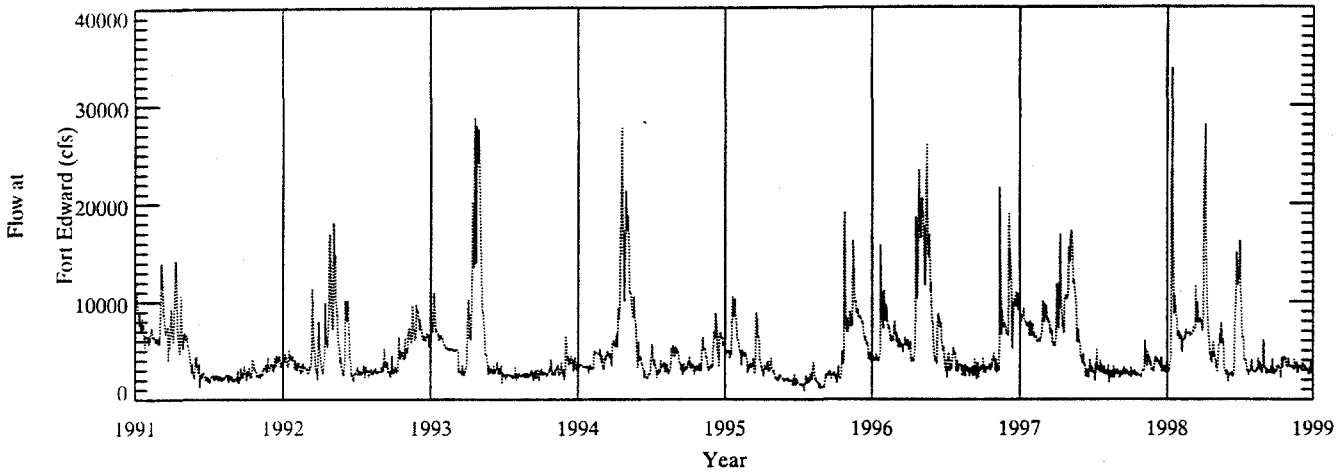
Notes: Non-detects plotted as open symbols at MDL. Triangles represent the average of samples collected from HRM 194.2E and HRM 194.2W. January high flow monitoring data not shown.

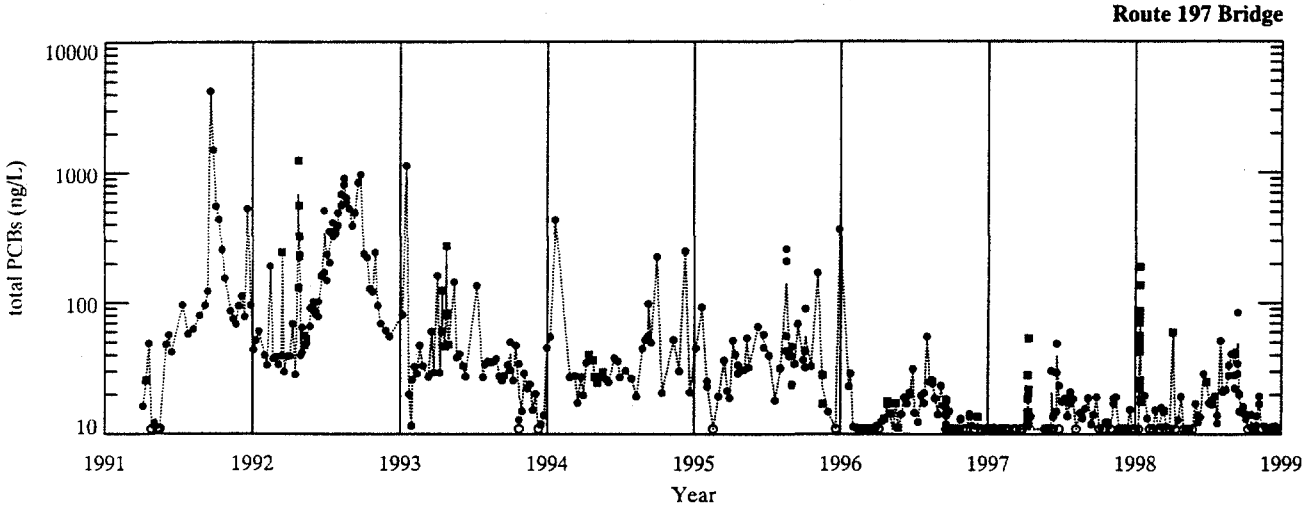


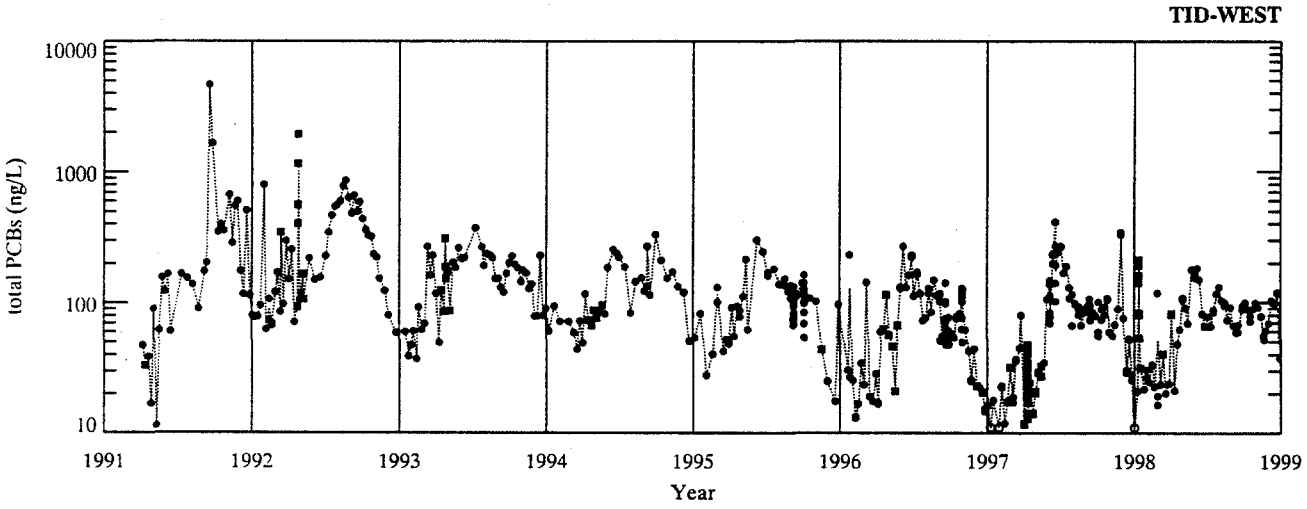
Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-24. Temporal chart of daily average PCB loadings during January 1998 high flow sampling.

Notes: Flows in ( ) represent daily average flow at Fort Edward; Calculated loads were based on prorated flows at TID (1.043) and Schuylerville (1.167) to account for the influence of tributaries; Calculated daily averages were based on time-averaging of instantaneous loading estimates throughout each day of sampling. TID loads are from TID-WEST, and are subject to uncertainties associated with the sampling bias (QEA, 1998).



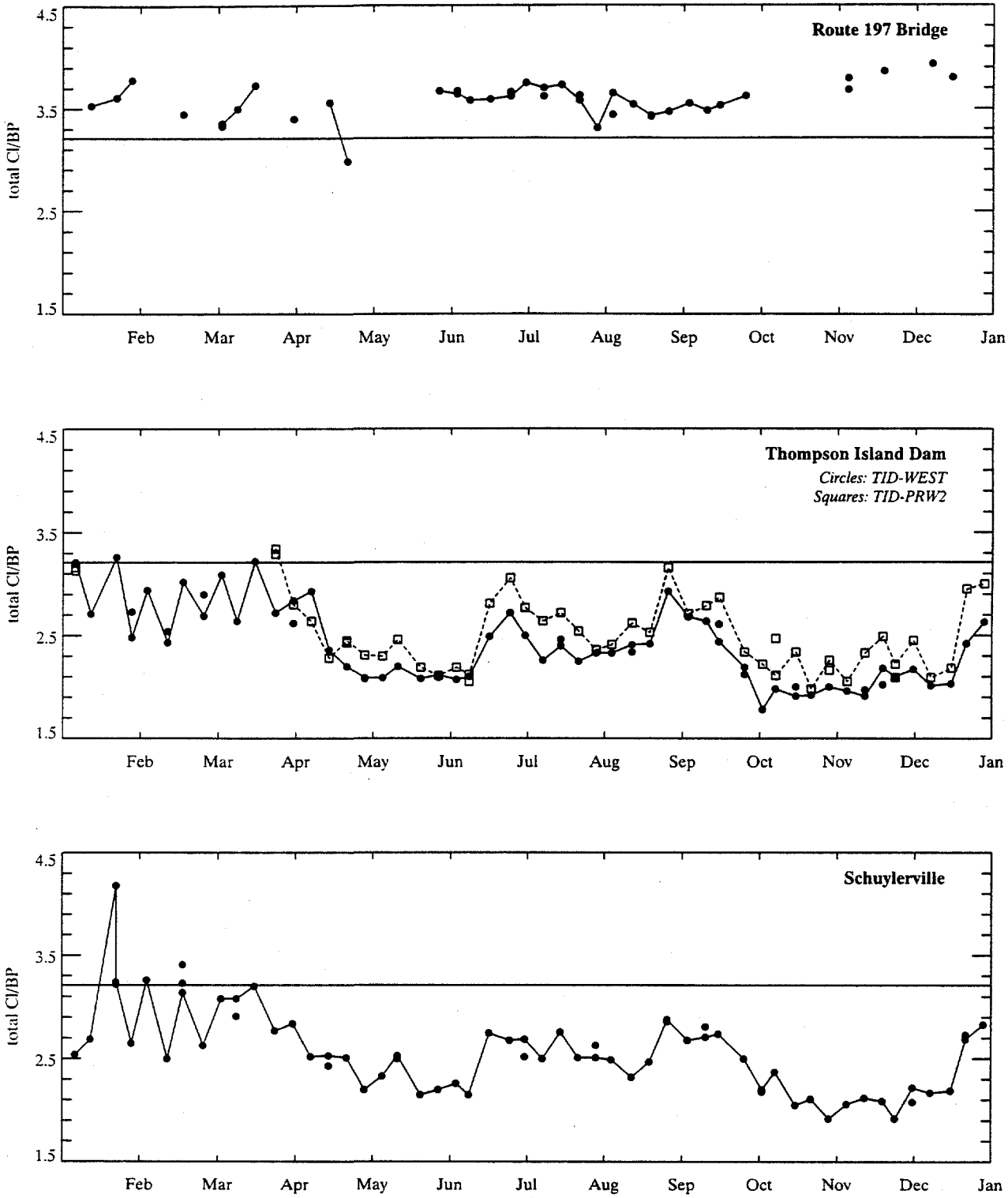




Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-25. Temporal profiles of total PCBs at Fort Edward and Thompson Island Dam since 1991.

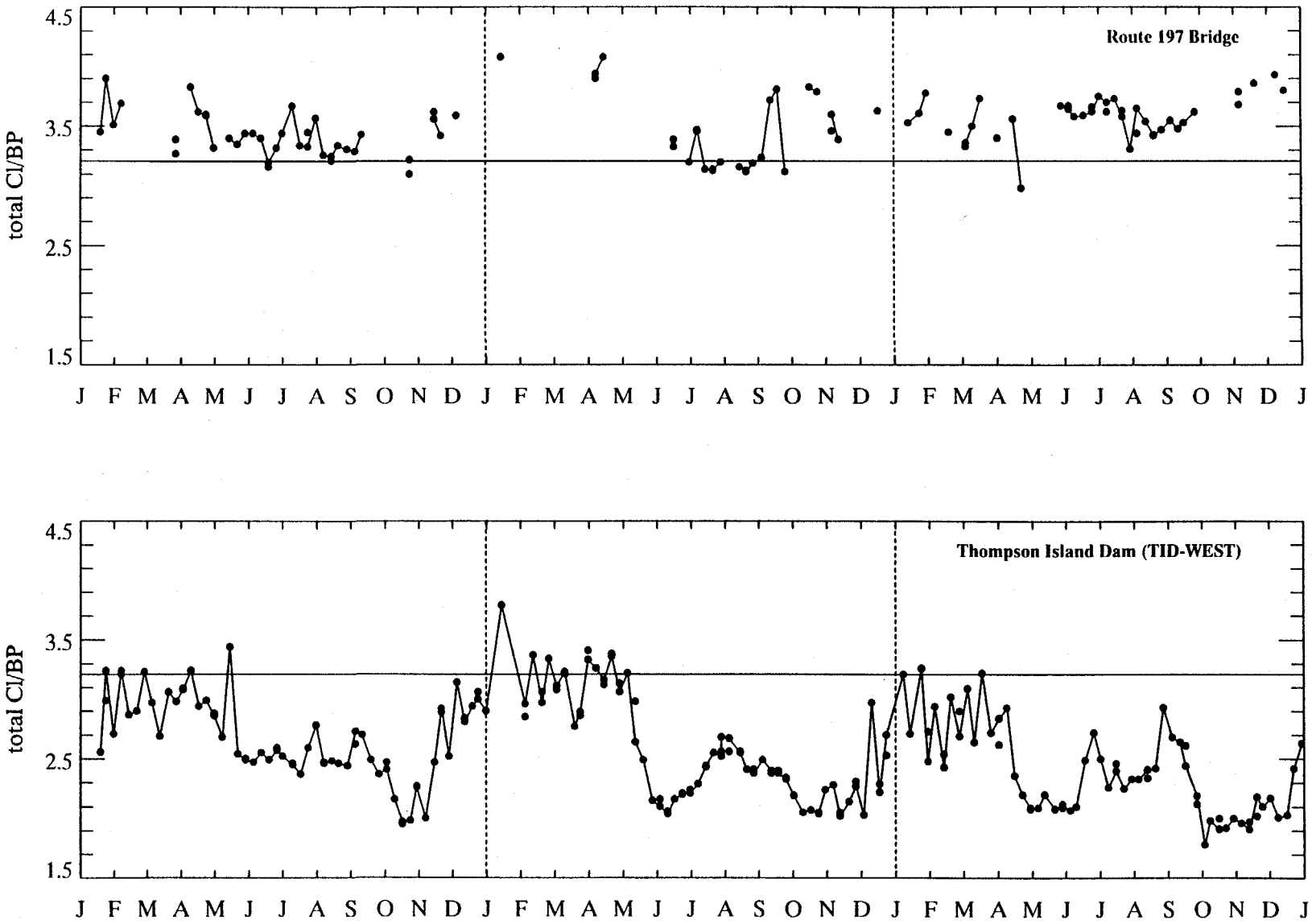
Notes: Line connecting data points is daily average. MDL of 11 ng/L used for non-detect PCBs (open circles). Squares are high flow data (>10000 cfs). Shaded regions are mean (horizontal line) +/- 2SEM for weekly averages within a year.



Hudson River Monitoring Program - 1998 Annual Summary Report

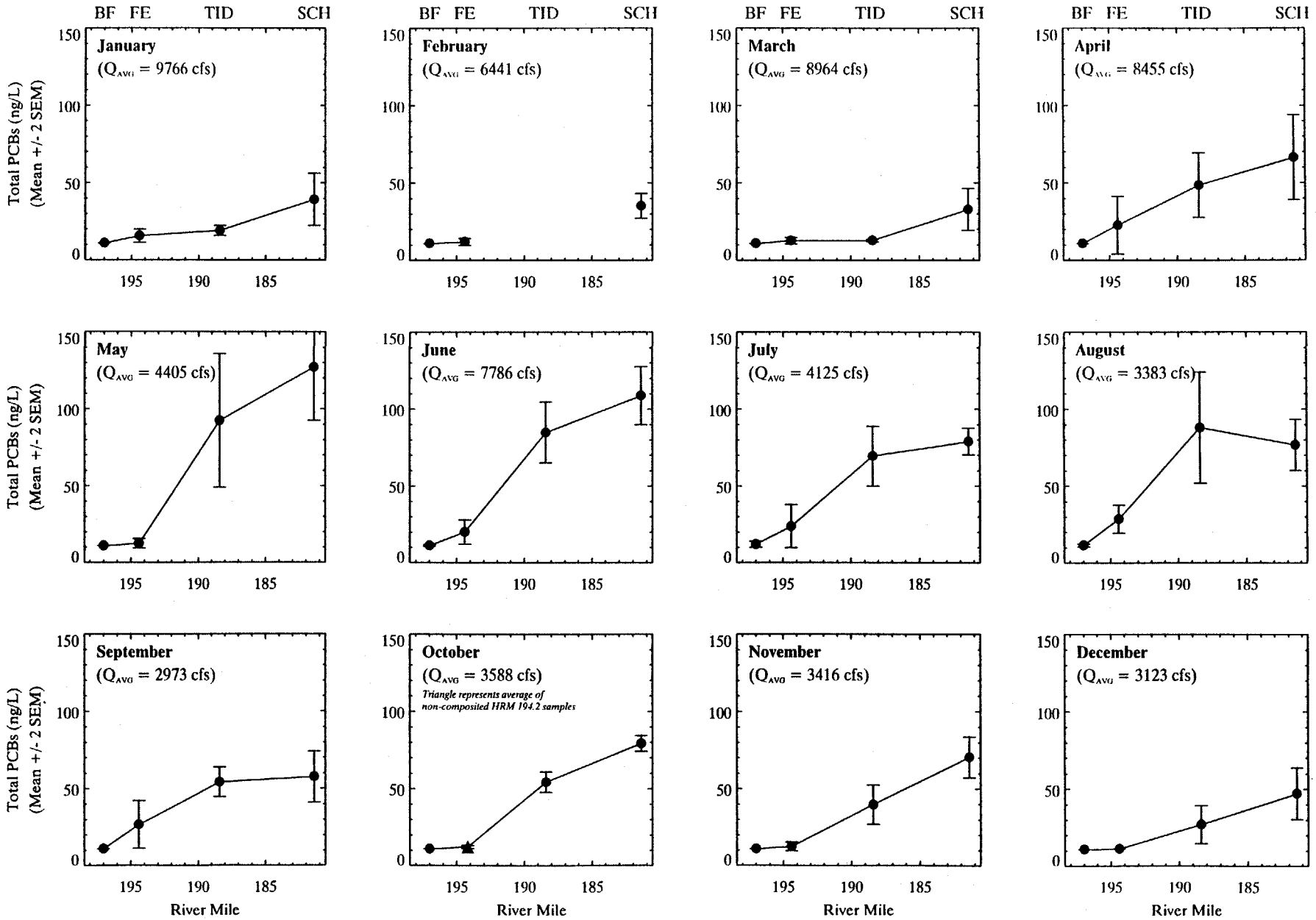
Figure 3-26. Temporal profiles of total chlorines per biphenyl for 1998 routine monitoring data.

Note: Days with missing data at Fort Edward represent samples with PCB below MDL. January high flow monitoring data not shown. Horizontal lines represent Aroclor 1242.



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-27. Temporal profiles of total chlorines per biphenyl for 1996-98 routine monitoring data collected at Fort Edward and Thompson Island Dam.
Notes: Chlorines per biphenyl not plotted for samples with PCBs less than MDL. January high flow monitoring data not shown. Horizontal line represents Aroclor 1242.

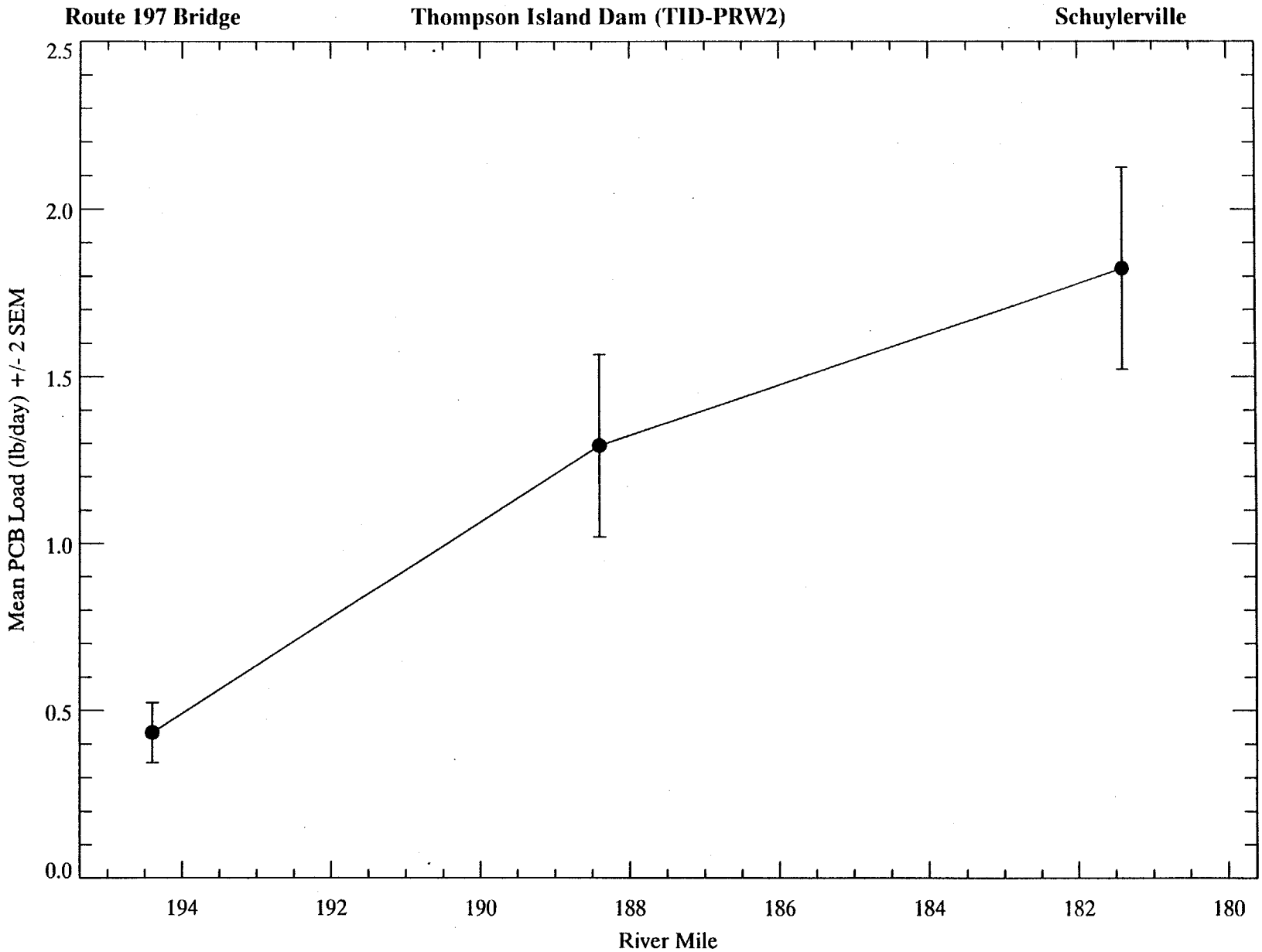


316322

Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-28. Spatial profiles of monthly average PCB concentrations for 1998 data collected during routine monitoring.

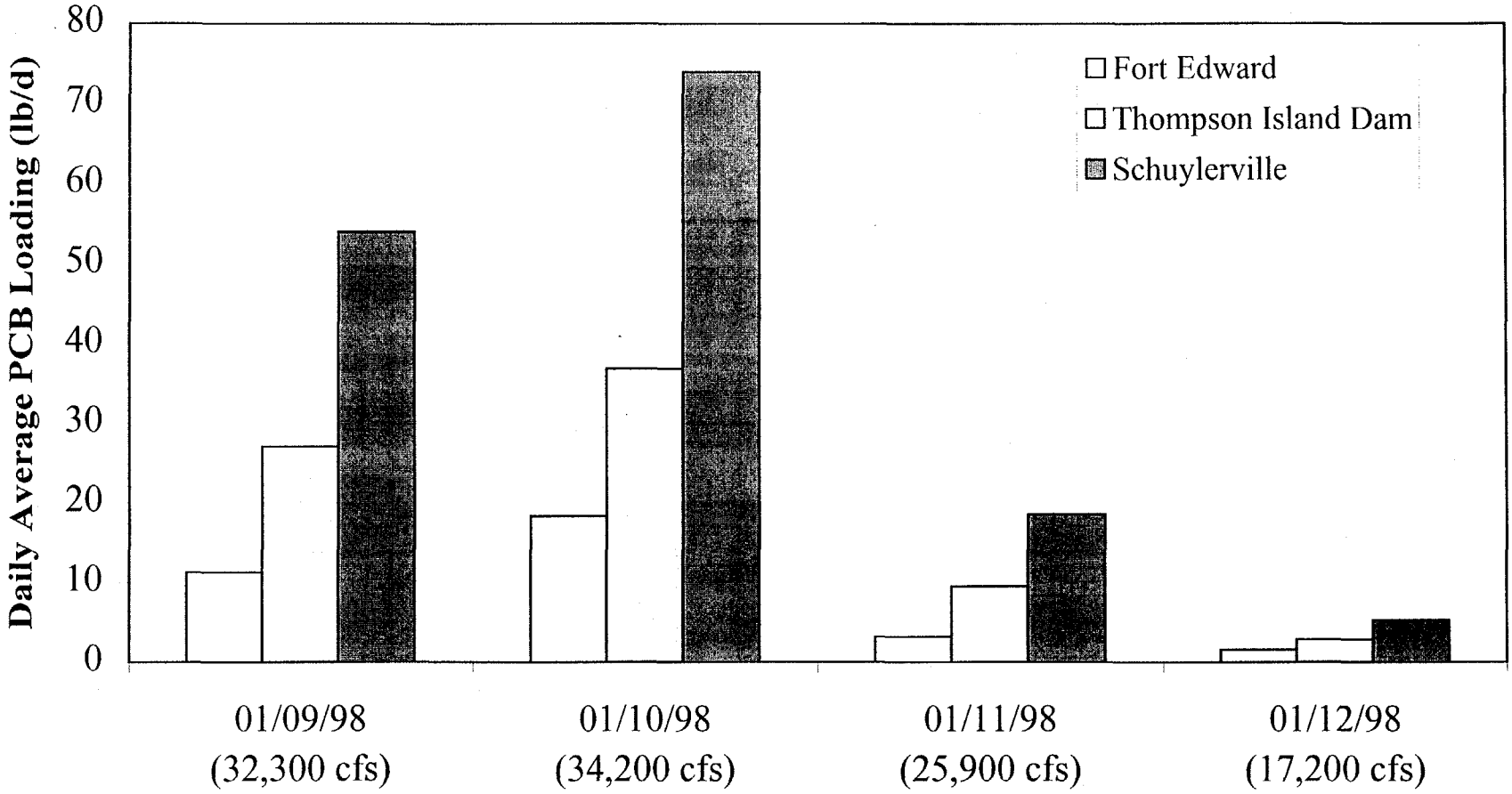
Notes: MDL of 11 ng/L for non-detects. TID data plotted are from TID-PRW2. January high flow data not included. Q_{avg} represents monthly average flow at Fort Edward.



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-29. Spatial profile of average PCB loading from Fort Edward to Schuylerville for 1998 low flow data (<10,000 cfs) collected during routine monitoring.

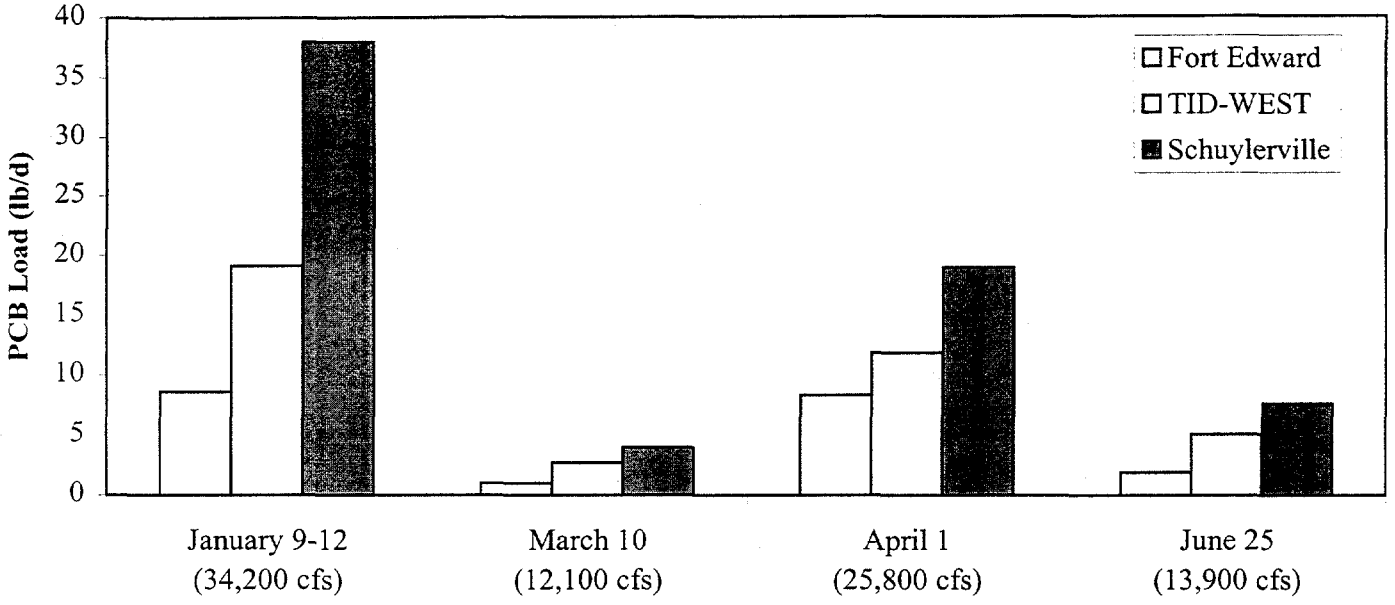
Notes: Flow at TID and Schuylerville prorated for loading calculations. January high flow monitoring data not included.

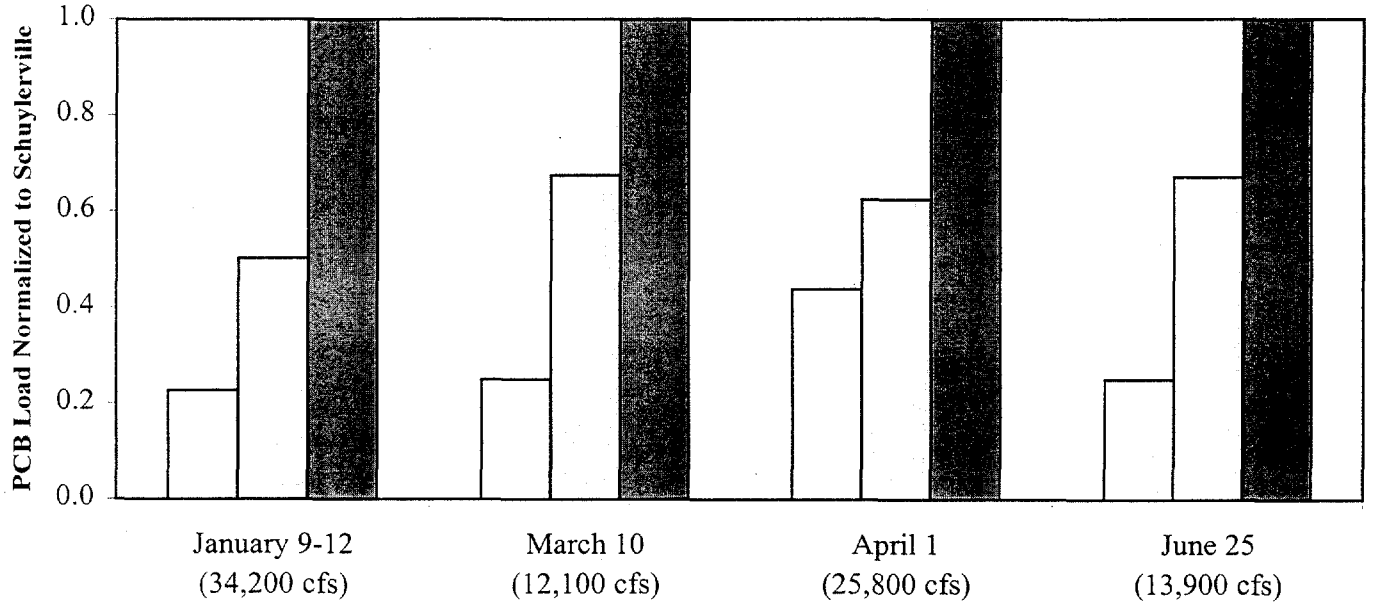


Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-30. Spatial chart of daily average PCB loadings during January 1998 high flow sampling.

Notes: Flows in ( ) represent daily average flow at Fort Edward; Calculated loads were based on prorated flows at TID (1.043) and Schuylerville (1.167) to account for the influence of tributaries; Calculated daily averages were based on time-averaging of instantaneous loading estimates throughout each day of sampling. TID loads are from TID-WEST, and are subject to uncertainties associated with the sampling bias (QEA, 1998).



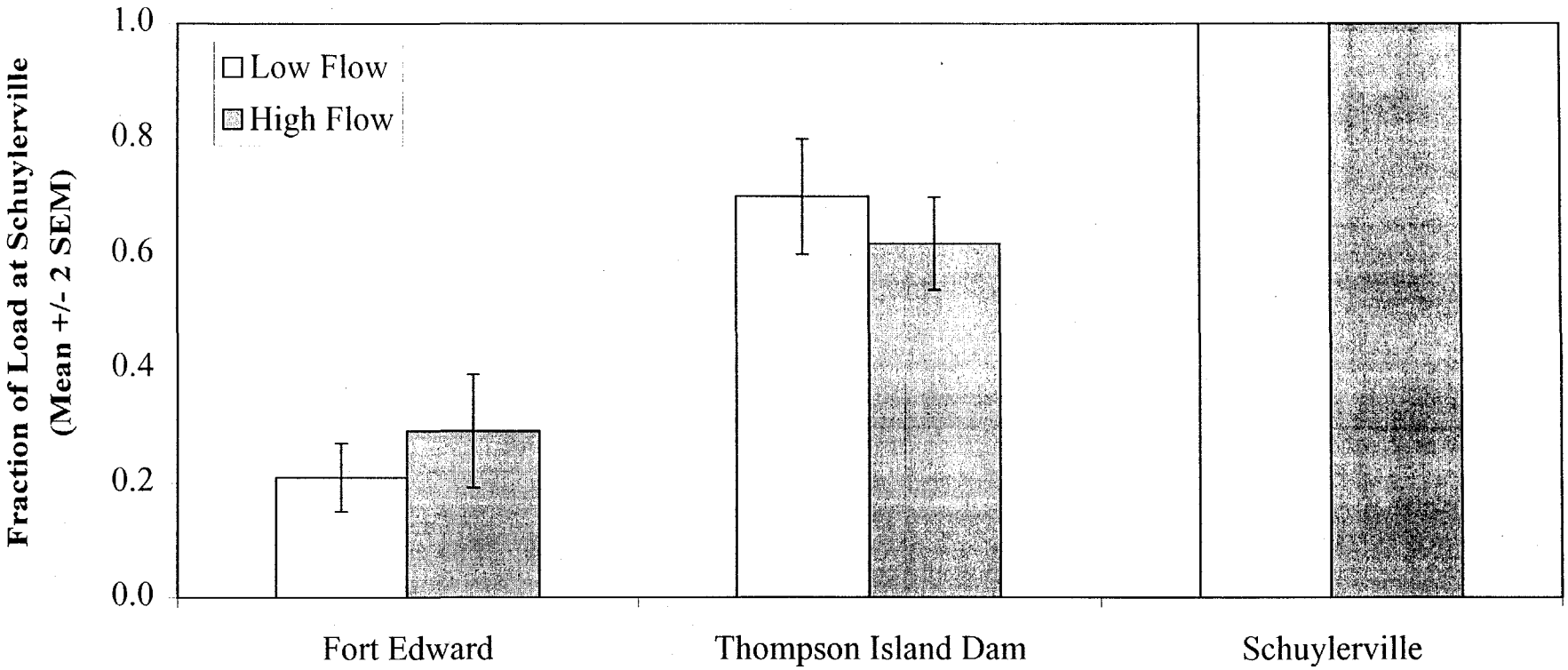


Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-31. Spatial chart of daily average PCB loadings during 1998 high flow (> 10,000 cfs) events.

Notes: Flows in ( ) represent daily average flow at Fort Edward on the day of sampling; Calculated loads were based on prorated flows at TID (1.043) and Schuylerville (1.167) to account for the influence of tributaries; TID loads are from TID-WEST, and are subject to uncertainties associated with the sampling bias (QEA,1998).

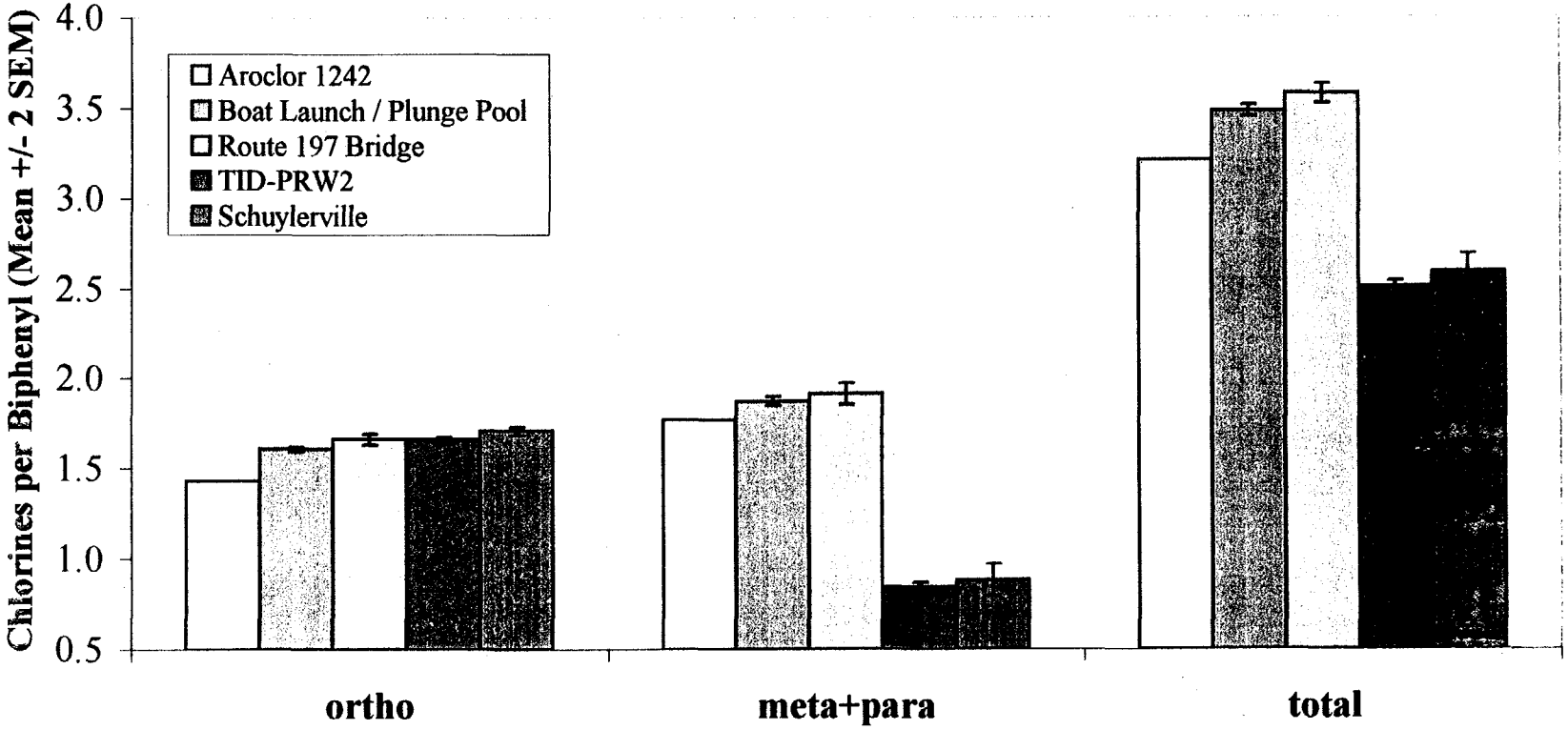
ktr - fig3-24-30-31-32_hqload.xls - spatial - all events
2/10/00 - 3:09 PM



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-32. Comparison of low flow and high flow spatial patterns in PCB loading (normalized to Schuylerville) for 1998 data.

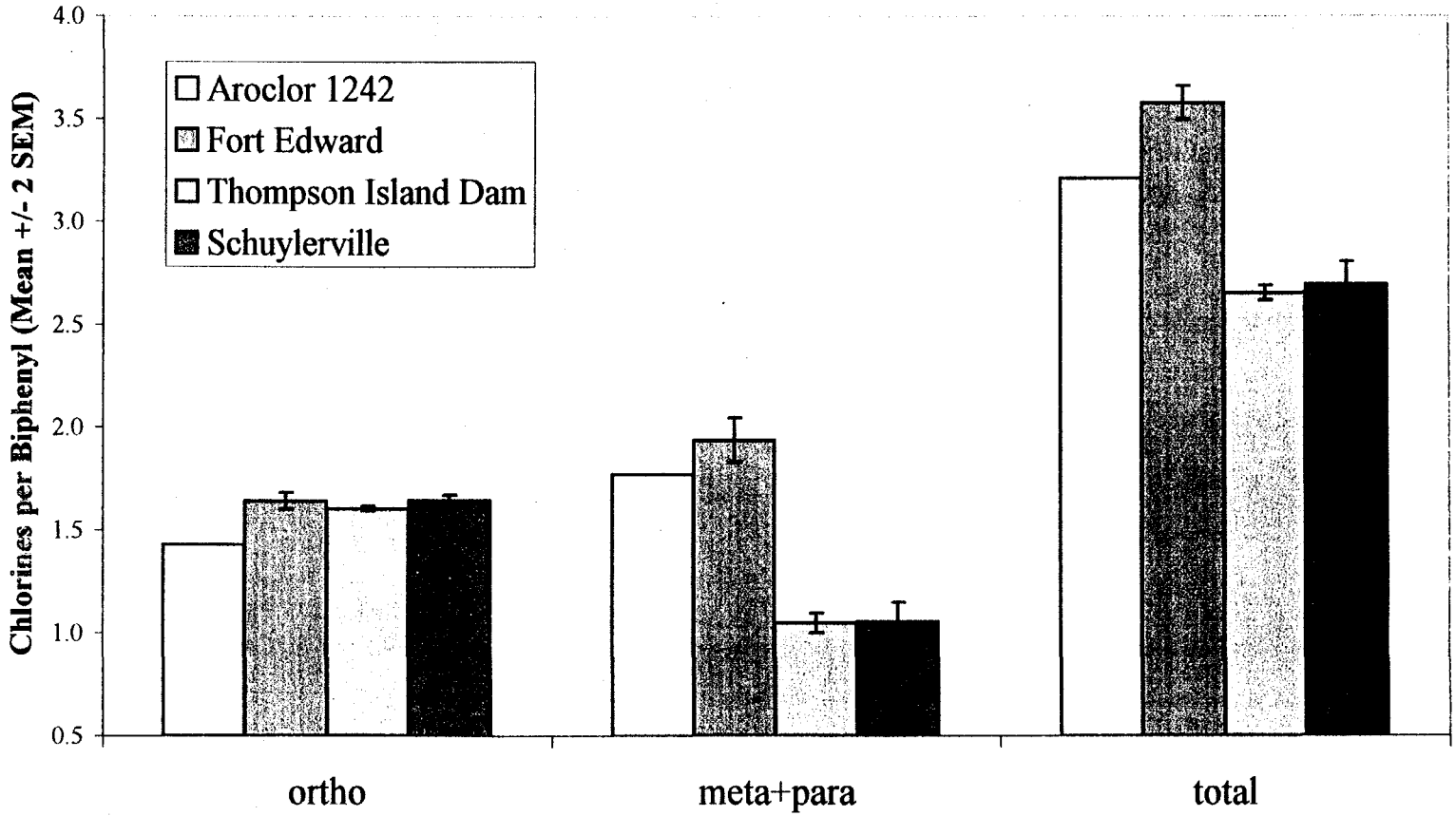
Notes: Low flow/high flow break point = 10,000 cfs; Normalized loadings based on paired estimates of daily average loading; TID data are from TID-WEST for high flow and TID-PRW2 for low flow. TID-WEST loads are subject to uncertainties associated with the sampling bias (QEA, 1998).



Hudson River Monitoring Program - 1998 Annual Report

Figure 3-33. Spatial comparison between average ortho, meta+para, and total chlorines per biphenyl for 1998 data.

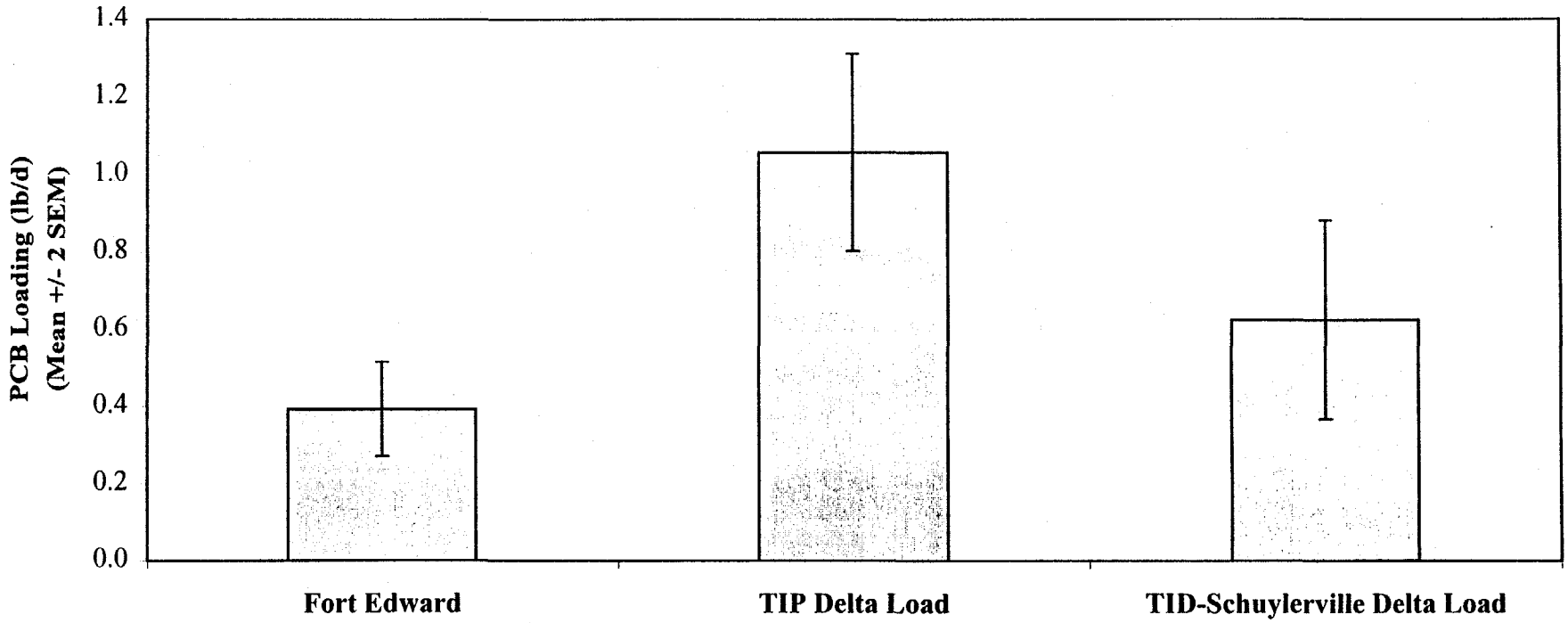
Note: Non-detect samples omitted from averages; Aroclor 1242 composition based on Frame et al., 1996; Data from January high flow sampling not included.



Hudson River Monitoring Program - 1998 Annual Report

Figure 3-34. Spatial comparison between average ortho, meta+para, and total chlorines per biphenyl for January 1998 high flow sampling data.

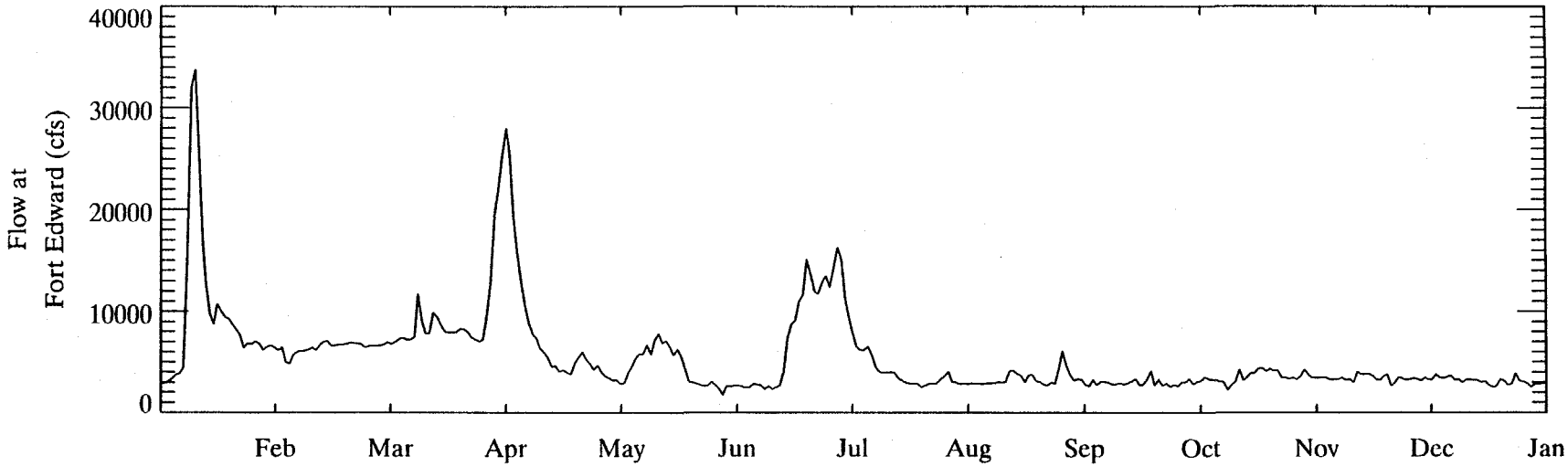
Note: Aroclor 1242 composition based on Frame et al., 1996

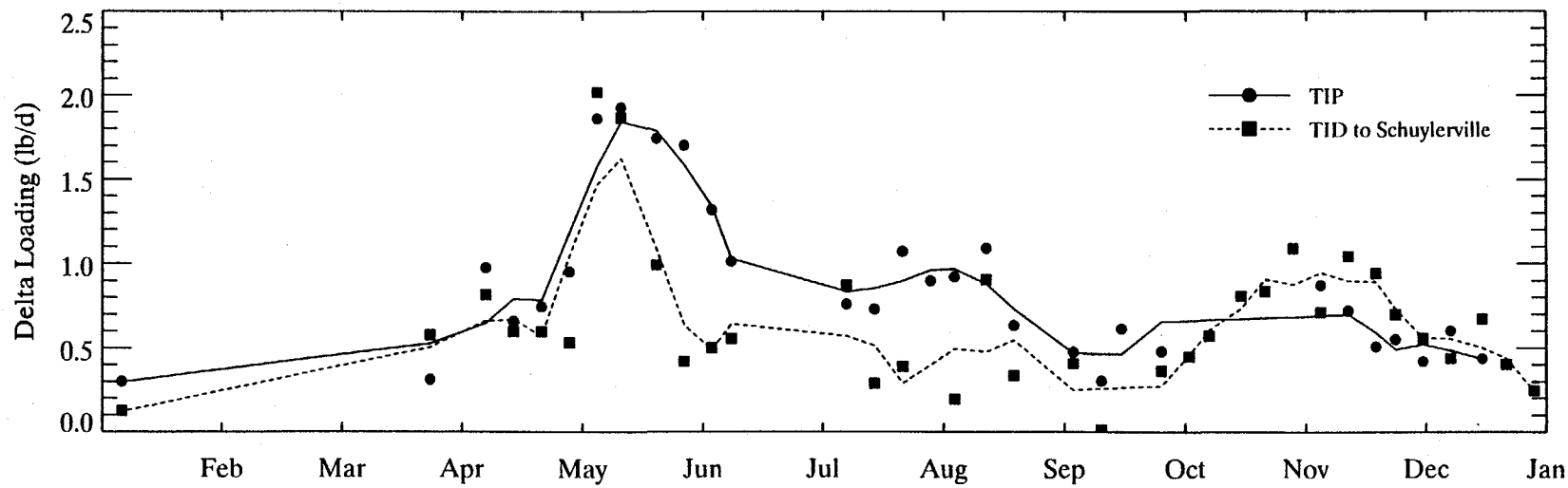


Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-35. Evaluation of low flow (< 10,000 cfs) PCB loading sources within the monitored region of the upper Hudson River using 1998 routine monitoring data.

Notes: Delta loadings calculated using unbiased TID-PRW2 monitoring station.

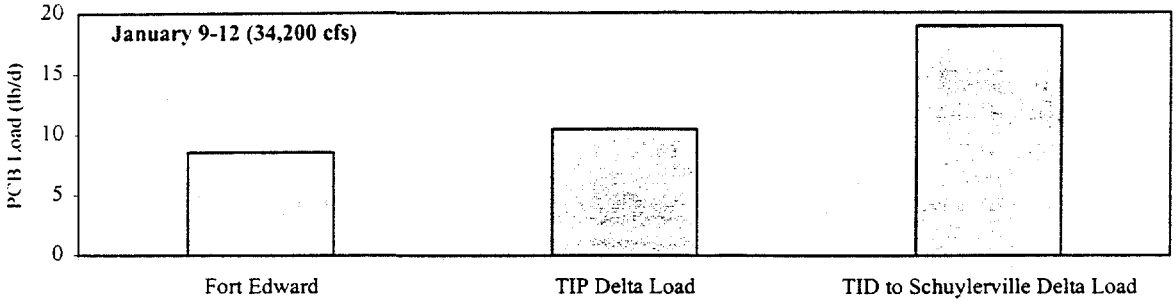


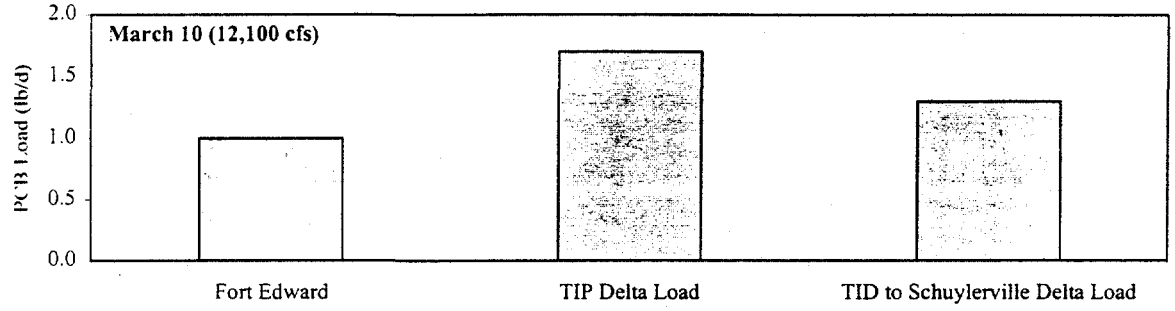


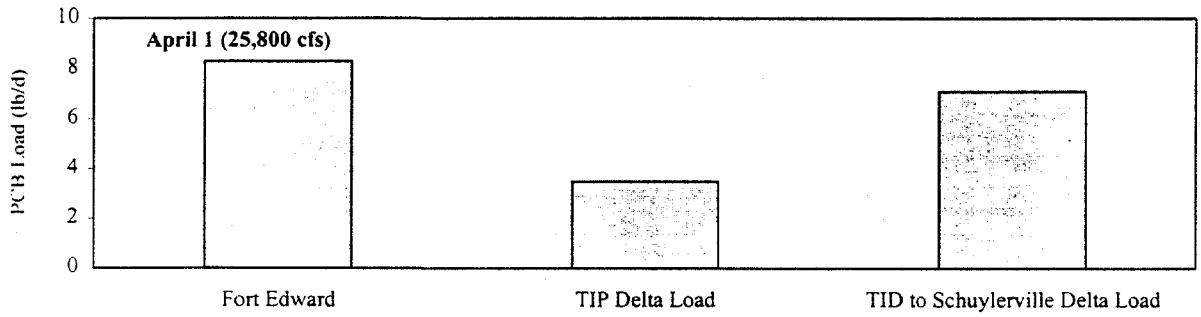
Hudson River Monitoring Program - 1998 Annual Summary Report

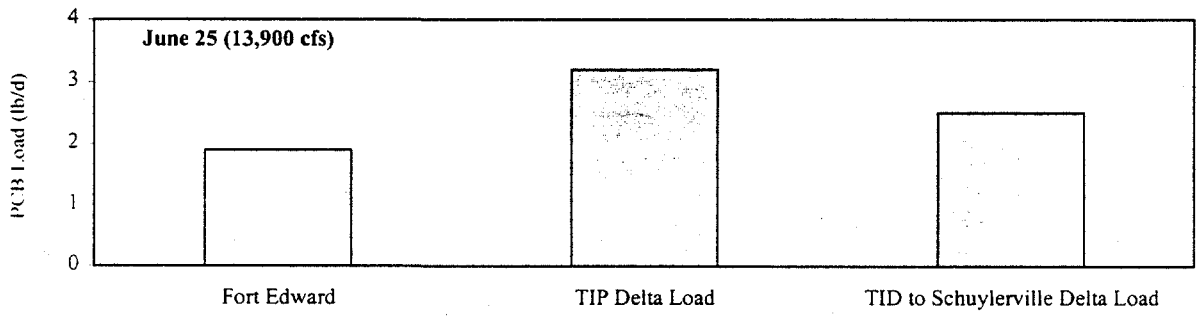
Figure 3-36. Temporal profile of 1998 computed low flow PCB delta loadings within Thompson Island Pool and from TID to Schuylerville.

Notes: Data used at Thompson Island Dam are from TID-PRW2. Plotted lines are 3-point moving average of delta loadings.
Two outliers (>3 and <0) ommitted for delta load averaging.





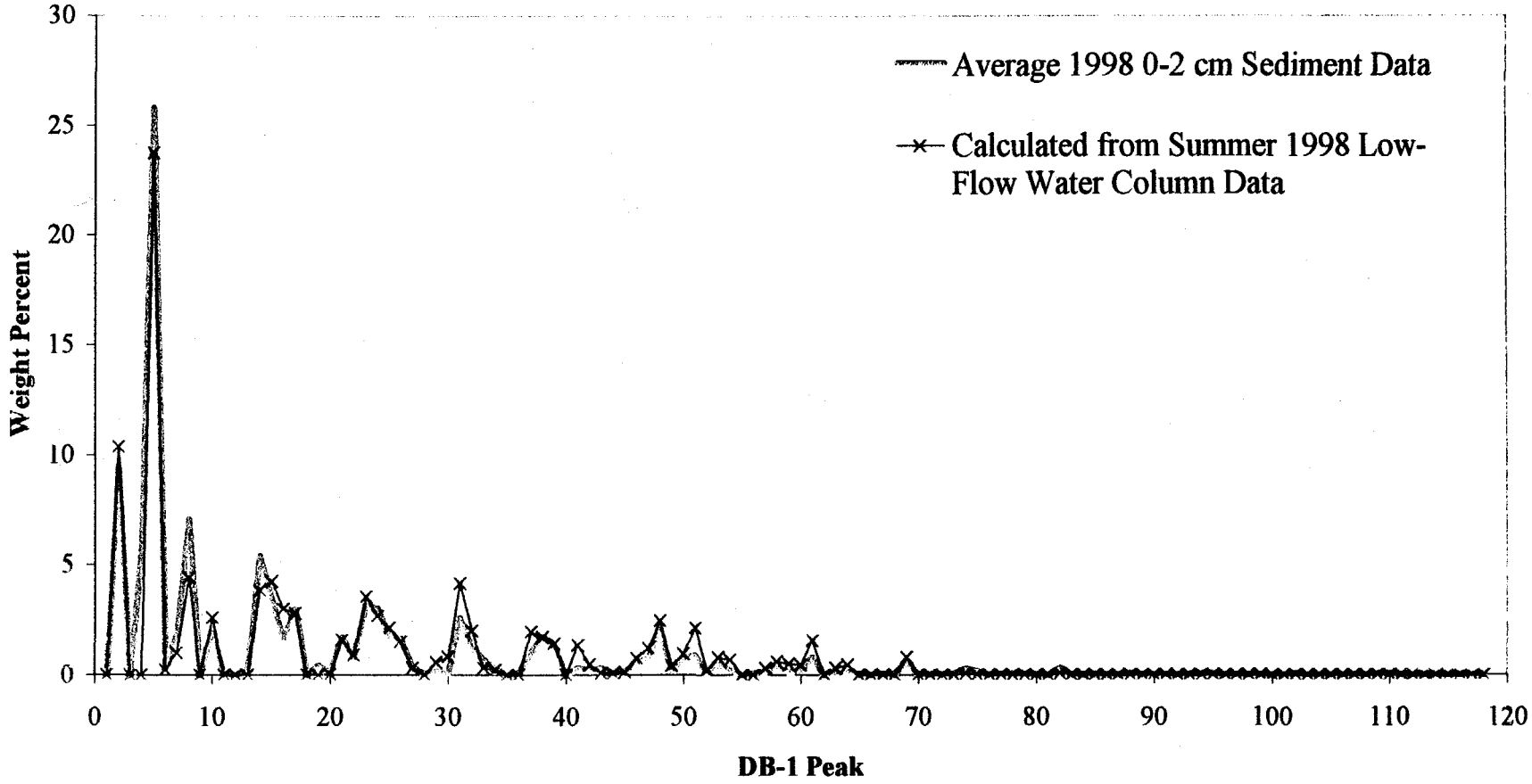




Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-37. Evaluation of high flow PCB loading sources within the monitored region of the upper Hudson River for 1998 sampling data at flows > 10,000 cfs.

Notes: Delta loadings calculated using biased TID-WEST monitoring station. TID-WEST data are subject to uncertainties associated with sampling bias (QEA, 1998).



Hudson River Monitoring Program - 1998 Annual Summary Report

Figure 3-38. Comparison of the average 1998 0-2 cm TIP sediment PCB DB-1 peak distribution with that calculated from summer 1998 low-flow water column data based upon pore water transport and equilibrium partitioning.

Note: Recent laboratory analysis determined that a non-PCB eluting at the DB-1 Peak 4 retention time is present in the 1998 surface sediment PCB data.

mjw - fig3-38-39_wcsedcomp.xls - low flow - cong
2/11/00 - 2:39 PM

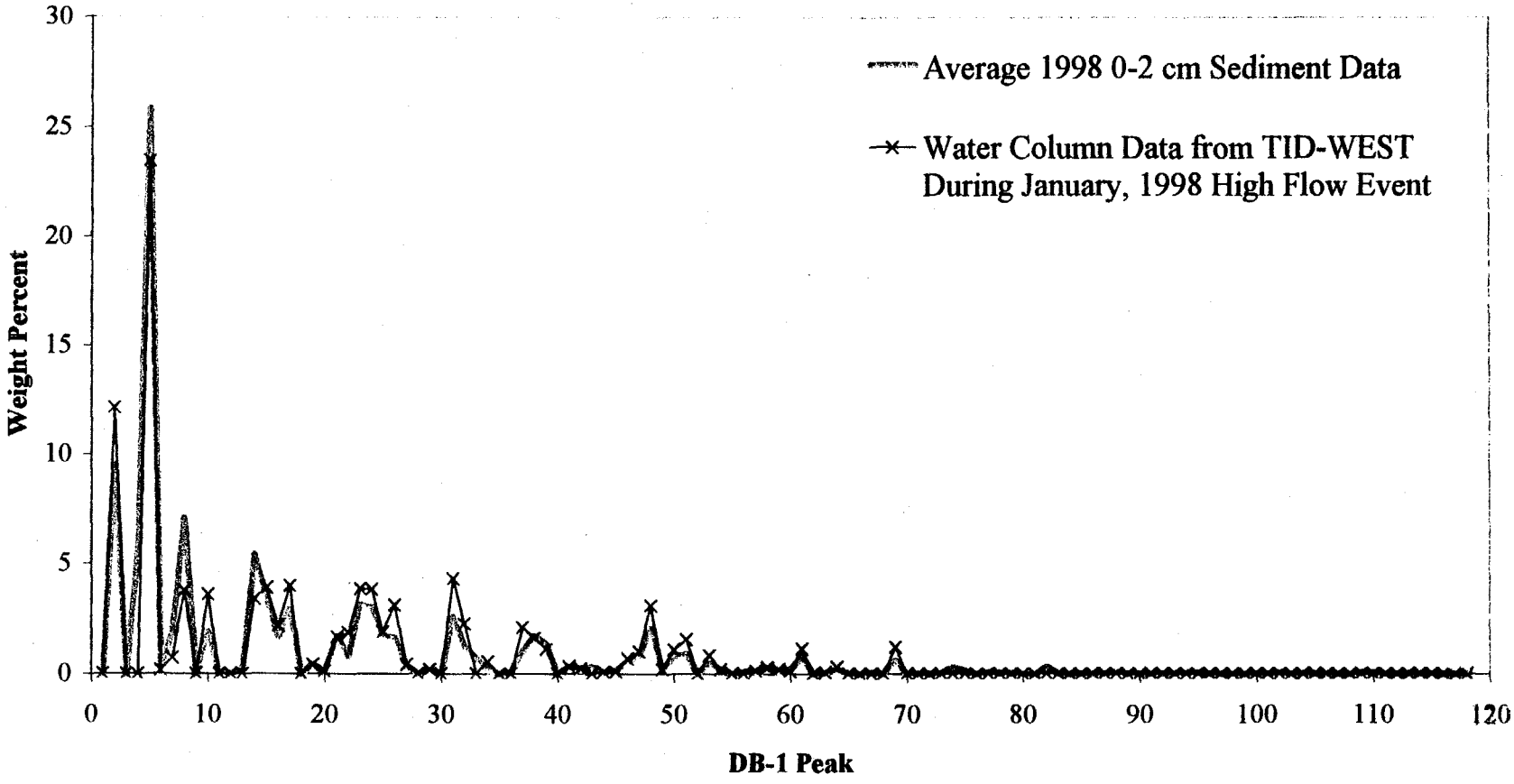


Figure 3-39. Comparison of the average 1998 0-2 cm TIP sediment PCB DB-1 peak distribution with that measured at TID-WEST during the January 1998 High Flow Sampling.

Note: Recent laboratory analysis determined that a non-PCB eluting at the DB-1 Peak 4 retention time is present in the 1998 surface sediment PCB data.

APPENDIX A

FIELD LOGS

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR January 6, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0900	Type: Composite Kemmerer: 95	2°C	0-7'	MS	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1000	Type: Composite Kemmerer: 96A	2°C	0-6'E 0-5'W	-	✓	
HRM 188.5 (Thompson Island Dam)	1130	Type: Grab	2°C	Surface	~~DUP~~ MSD	✓	Total depth at N. face of dam ~ 3.5'
Equipment blank: HRM 1885	1005	Type: Grab Kemmerer: —					
TID-PRW2	1155	Type: Composite Kemmerer: 96B	2°C	0-8'	DUP	✓	Total depth ~ 10.4'
SCH	1245	Type: Composite Kemmerer: 96B	2°C	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0927						Level: 21.33 ~ 3,300 cfs
Additional Notes:							

Weather Data
Description: foggy w/ mist
Temperature: 39°F @ 0926
Wind: Calm
Precipitation: Mist

Sampled by: W. Ayling

316335

GENERAL ELECTRIC COMPANY
1998 WATER COLUMN MONITORING STUDY
(Project 612.245)

WEEKLY PERIOMP Sampling

HIGH FLOW MONITORING STUDY - EVENT 1
~~**SAMPLING STATION: HRM 194.2E (east channel)**~~

Sampling Round	Date	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0-9	1/12/98	1055	Type: Composite Kemmerer: 95	0°C	0-7'	MS	✓	Water flowing over falls
HRM 194.2-9		1200	Type: Composite Kemmerer: 96A	0°C	0-6'	DUP	✓	24.31
HRM 188.5W-9		1220	Type: Composite Kemmerer: —	↓	SURFACE	~~DUP~~ LAB	✓	
~~HRM~~ SCH-9		1240	Type: Composite Kemmerer: 96B	↓	0-12'	—	✓	
HRM 188.5W-EBBL		0930	Type: Composite Kemmerer: —	—	—	—		
			Type: Composite Kemmerer:					
			Type: Composite Kemmerer:					

Additional Notes:

Weather Data
Description: SUNNY
Temperature: 28°F @ 1130
Wind: CALM
Precipitation: NONE

Sampled by: William Hyland

316336

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR January 22, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0940	Type: Composite Kemmerer: 95	0°C	0-7'	MS	✓	Bakers Falls: Water flowing over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1005E 1025W	Type: Composite Kemmerer: 96	0°C	0-7'E 0-6'W	-		
HRM 188.5 (Thompson Island Dam)	1100	Type: Grab	0°C	SURFACE	~~DUP~~		
Equipment blank: HRM 194.2	0810	Type: Grab Kemmerer: 96					
TID-PRW2	NC	Type: Composite Kemmerer: 96	~~0°C~~	—	-		
SCH	1230	Type: Composite Kemmerer: 96	0°C	0-12	DUP		
Ft. Edward Staff Gage (518) 747-9900							Level: 22.76 - 8600

Additional Notes: NC = Not Collected, high flow, icy Access, extreme cold

Weather Data
Description: Sunny & Cold
Temperature: 20°F 16°F @ 0953
Wind: N
Precipitation: None

Sampled by: W Ayling

316337

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR January 29, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0950	Type: Composite Kemmerer: 95	0°C	0-7'	—	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1010E 1025W	Type: Composite Kemmerer: 96A	0°C	0-6.5E 0-6W	MS	✓	
HRM 188.5 (Thompson Island Dam)	1140	Type: Grab	↓	Surf.	DUP		
Equipment blank: ~~HRM~~ SCH	0615	Type: Grab Kemmerer: 98					New Kemmerer 2X wash/decon before blank
TID-PRW2	—	Type: Composite Kemmerer: 96B	↓	—	—		NO SAMPLE COLLECTED ~~T. Forsell~~
SCH	1202	Type: Composite Kemmerer: 98	↓	0-12'	—		
Ft. Edward Staff Gage (518) 747-9900	0957						Level: 22.60 ~ 7,900
Additional Notes:							

Sampled by: W Ayling / Tom Forsell

Weather Data
Description: Overcast
Temperature: 20- 30's F
Wind: Calm then breezy
Precipitation: NONE

316338

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR February 5, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0955	Type: Composite Kemmerer: 95	2°C	0-7'	MS	✓	Bakers Falls: no flow over falls 2/5/96 COC was mislabeled as HRM 194.2-MS lab corrected based on bottle label-WAM & Field Log
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1020 1035	Type: Composite Kemmerer: 96A	↓	0-6E 0-6'W	DUP	✓	
HRM 188.5 (Thompson Island Dam)	1120 1035 WM	Type: Grab	↓	Surface	—	✓	
Equipment blank: HRM 194.2	0630	Type: Grab Kemmerer: 96A					
TID-PRW2	—	Type: Composite Kemmerer: —	—	—	—	—	Not Sampled
SCH	1140	Type: Composite Kemmerer: 98	2°C		—	✓	
Ft. Edward Staff Gage (518) 747-9900	1010						Level: 22.10 ~ 5900 cfs
Additional Notes:							

Weather Data
Description: Mostly Cloudy
Temperature: 38°F @ 10AM
Wind: Calm
Precipitation: None

Sampled by: W Ayling

316339

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

Feb 11, 98 WAM

FIELD LOG FOR FEBRUARY 11, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1235	Type: Composite Kemmerer: 95	0°C	0-7'	MS	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1800E 1310W	Type: Composite Kemmerer: 96A	↓	0-6.5'E 0-6W	—	✓	
HRM 188.5 (Thompson Island Dam)	1335	Type: Grab	↓		DUP		
Equipment blank: HRM 188.5	1320	Type: Grab Kemmerer: —					
TID-PRW2	—	Type: Composite Kemmerer: —	—	—	—	—	No Sample Collected
SCH	1400	Type: Composite Kemmerer: 96	↓				
Ft. Edward Staff Gage (518) 747-9900	1753						Level: 22.28 ~6600 cfs
Additional Notes:							

Weather Data
Description: Sun & high Clouds / Hazy
Temperature: 40s HLF@ 1245
Wind: CALM
Precipitation: NONE

Sampled by: W Aylward

316340

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR February 17, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	10:50	Type: Composite Kemmerer: 95	0°C	0-7'	—	✓	Bakers Falls: trickle over east-center portion of the falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	11:15E 11:35W	Type: Composite Kemmerer: 96A	↓	0-7'E 0-6'W	MS	✓	
HRM 188.5 (Thompson Island Dam)	1150	Type: Grab	↓	SURFACE	—	✓	
Equipment blank: ~~HRM~~ SCH-EQBL	1030	Type: Grab Kemmerer: 98					
TID-PRW2	—	Type: Composite Kemmerer: —	—	—	—	—	NO SAMPLE COLLECTED
SCH	1215	Type: Composite Kemmerer: 98	↓	0-12'	DUP		
Ft. Edward Staff Gage (518) 747-9900	11:02						Level: 22.38 ~7000 cfs
Additional Notes:							

Weather Data
Description: OVERCAST
Temperature: 30SE - 40°F @ 11:01
Wind: CALM → light breeze, occassionally (~)
Precipitation: NONE

Sampled by: William Ayling

316341

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR February 25, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1200	Type: Composite Kemmerer: 95	0°	0-7	—	✓	Bakers Falls: Water flowing over last portion near center.
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1235E 1250W	Type: Composite Kemmerer: 96A	↓	0-7E 0-6W	MS	✓	
HRM 188.5 (Thompson Island Dam)	1305	Type: Grab	↓	Surface	DUP	✓	
Equipment blank: HRM -194.2	830	Type: Grab Kemmerer: 96A					
TID-PRW2	—	Type: Composite Kemmerer: —	—	—	—	—	No Sample Collected
SCH	1333	Type: Composite Kemmerer: 98	↓	0-12	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1225						Level: 22.38 7000
Additional Notes:							

Weather Data
Description: SNOWING/WET
Temperature: 30SF
Wind: CALM
Precipitation: SNOW

Sampled by: [signature]

316342

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR March 4, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1040	Type: Composite Kemmerer: 95	1°C	0-7	MS	✓	Bakers Falls: Water flowing over center portion of falls ✓
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1110E 1140W	Type: Composite Kemmerer: 96A/95	↓	0-7E 0-6W	Dup	✓	96A Teflon seal failed, completed sampling w/ 95 Kemmerer.
HRM 188.5 (Thompson Island Dam)	1200	Type: Grab	↓	Surface	—		
Equipment blank: HRM 188.5	0730	Type: Grab Kemmerer: —					Used DI water provided By NEA to evaluate recall low surrogate recovery in E&BL
TID-PRW2	—	Type: Composite Kemmerer: —	—	—	—	—	No Sample Collected
SCH	1235	Type: Composite Kemmerer:	↓	0-12	—		
Ft. Edward Staff Gage (518) 747-9900	11:00 ~~22.43~~ 7.00						Level: 22.43 - 7.00
Additional Notes:							

Weather Data
Description: Overcast / hazy sun occasionally
Temperature: ~~low 30's F~~ 42 F @ 1100
Wind: light
Precipitation: occasional sprinkle

Sampled by: W. Ayling

316343

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR MARCH 10, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1045	Type: Composite Kemmerer: 95	0.5°C	0-7'	—	✓	Bakers Falls: water flowing over falls including hug dam pool.
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1110E 1135W	Type: Composite Kemmerer: 96A	↓	0-7'	MS		USGS Sampled at west channel before my arrival.
HRM 188.5 (Thompson Island Dam)	1150	Type: Grab	↓	Surface	—		4.5' at N face of dam 23.84 at Ft Ed = 13,900 cfs
Equipment blank: HRM 194.2 - EQBL	0715	Type: Grab Kemmerer: 96A					LAB DI WATER (NEA)
TID-PRW2	—	Type: Composite Kemmerer: —	—	—	—	—	No SAMPLE COLLECTED
SCH	1215	Type: Composite Kemmerer: 98	↓	0-12'	DUP		
Ft. Edward Staff Gage (518) 747-9900	1100						Level: 23.75 = 13,400
Additional Notes:							

Weather Data
Description: Overcast & partial sun
Temperature: 30sF
Wind: W
Precipitation: NONE

Sampled by: W. Ayling

316344

GENERAL ELECTRIC COMPANY
1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225)

FIELD LOG FOR MARCH 17, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1000	Type: Composite Kemmerer: 95	0°C	0-7'	MS	✓	Bakers Falls: water flowing over center to east portions
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1035E 1045W	Type: Composite Kemmerer: 96A	↓	0-7'E 0-6'W	DUP	✓	
HRM 188.5 (Thompson Island Dam)	1105	Type: Grab	↓	SURFACE	—	✓	
Equipment blank: ~~HRM~~ WM SCH-EDBC	1055	Type: Grab Kemmerer: 98					
TID-PRW2	—	Type: Composite Kemmerer: —	—	—	—	—	NO SAMPLE COLLECTED
SCH	1130	Type: Composite Kemmerer: 98	↓	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1020						Level: 22.69 ~ 8300 cfs
Additional Notes:							

Weather Data
Description: SUNNY
Temperature: 35°F @ 1015
Wind: CALM
Precipitation: NONE

Sampled by: W Ayling

316345

GENERAL ELECTRIC COMPANY
1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225)

FIELD LOG FOR March 25, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0950	Type: Composite Kemmerer: 95	0°C	0-7'	MS	✓	Bakers Falls: flow over center to east portions of dam
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1020E 1030W	Type: Composite Kemmerer: 96A	↓	0-7'E 0-6'W	—	✓	
HRM 188.5 (Thompson Island Dam)	1115	Type: Grab	↓	Surface	—	✓	4' deep @ north face
Equipment blank: ~~HRM~~ TID-PRW2-EQBK	1045	Type: Grab Kemmerer: 96B					
TID-PRW2	1155	Type: Composite Kemmerer: 96B	↓	0-9'	DUP	✓	
SCH	1240	Type: Composite Kemmerer: 98	↓	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1228						Level: 29.50 7,500
Additional Notes:							

Weather Data
Description: SUNNY
Temperature: 40SF
Wind: CALM
Precipitation: NONE

Sampled by: WRyding

GENERAL ELECTRIC COMPANY
1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225)

FIELD LOG FOR APRIL 1, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1035	Type: Composite Kemmerer: 95	~~6~~ 4°C	0-6*	—		Bakers Falls: High flow water flowing over falls. Iron curtain not attached at South end
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1100E 1115W	Type: Composite Kemmerer: 96A	4°C	0-9E* 0-9W*	MS		- USGS finished sampling at E channel ~5 minutes before sampling; Sampled Simultaneously at West Channel
HRM 188.5 (Thompson Island Dam)	1145	Type: Grab	↓	Surface	DUP		~5-6' @ N face of dam
Equipment blank: HRM 194.2	0947	Type: Grab Kemmerer: 96A					
TID-PRW2	1200	Type: Composite Kemmerer: 96B	↓	0-6'*	—		
SCH	1230	Type: Composite Kemmerer: 98	↓	0-12'*	—		
Ft. Edward Staff Gage (518) 747-9900	1054						Level: 26.41 26,200

Additional Notes: *high flow limits depth that Kemmerer will submerge

Weather Data
Description: OVERCAST
Temperature: 50s F
Wind: CALM
Precipitation: NONE

Sampled by: W Ayling

3163346

GENERAL ELECTRIC COMPANY
1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225)

FIELD LOG FOR April 8, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0940	Type: Composite Kemmerer: 95	4°C	0-7'	MS	✓	Bakers Falls: water flowing over dam
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1005E 1020W	Type: Composite Kemmerer: 96A	↓	0-7'E 0-6.5'W	DUP	✓	
HRM 188.5 (Thompson Island Dam)	1125	Type: Grab	↓	Surface	—	✓	
Equipment blank: HRM 188.5	1180	Type: Grab Kemmerer: —					
TID-PRW2	1145	Type: Composite Kemmerer: 96B	↓	0-9'	—	✓	
SCH	1215	Type: Composite Kemmerer: 98	↓	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0955						Level: 22.96 ~9500
Additional Notes:							

Weather Data
Description: Sunny
Temperature: 51°F @ 0950
Wind: Calm
Precipitation: None

Sampled by: W Ayling

316347

GENERAL ELECTRIC COMPANY
1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225)

FIELD LOG FOR April 15, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1010	Type: Composite Kemmerer: 95	↑	0-7	—	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1030E 1045W	Type: Composite Kemmerer: 96A	↑	0-6E 0-5W	MS	✓	
HRM 188.5 (Thompson Island Dam)	1125	Type: Grab	↑	Surface	—	✓	3.1' @ N face
Equipment blank: HRM 194.2	0700	Type: Grab Kemmerer: 96A					
TID-PRW2	1140	Type: Composite Kemmerer: 96B	9°C	0-8	—	✓	JF 9.7' total
SCH	1300	Type: Composite Kemmerer: 98	↓		DUP		
Ft. Edward Staff Gage (518) 747-9900	1050						Level: 21.56 ~ 4000 cfs
Additional Notes:							

Weather Data
Description: Sun & haze
Temperature: ~65°F
Wind: Calm
Precipitation: None

Sampled by: W Ayling / CT Forsell

316348

GENERAL ELECTRIC COMPANY
1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225)

FIELD LOG FOR April 22, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0955	Type: Composite Kemmerer: 95	8°C	0-7'	MS	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1045E 1045W	Type: Composite Kemmerer: 96B	9°C	0-6.5E 0-6W	—	✓	
HRM 188.5 (Thompson Island Dam)	1105	Type: Grab	↓	Surface	—	✓	
Equipment blank: HRM 194.2	0700	Type: Grab Kemmerer: 96B					Bottle was labeled TID-PRW2-EQBL Forgot to change it. Notified lab by fax on return to office.
TID-PRW2	1150	Type: Composite Kemmerer: 98	↓	0-10'	DUP	✓	
SCH	1510	Type: Composite Kemmerer: 96A	↓	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1020						Level: 22.18 - 6.00 = 5.5
Additional Notes:							

Weather Data
Description: SUNNY
Temperature: 60-70 F
Wind: light - occasional
Precipitation: NONE

Sampled by: W Ayling

316349

GENERAL ELECTRIC COMPANY
1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225)

FIELD LOG FOR April 29, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1005	Type: Composite Kemmerer: 9B	9°C	0-7'	—	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1030E 1040W	Type: Composite Kemmerer: 96A	9°C	0-6'E 0-5'W	MS	✓	
HRM 188.5 (Thompson Island Dam)	1130	Type: Grab	↓	Surface	DUP	✓	Total @ N face = 3.1
Equipment blank: HRM 194.2	1305	Type: Grab Kemmerer: 96A					
TID-PRW2	1150	Type: Composite Kemmerer: 96B	↓	0-8'	—	✓	Total = 11' GL
SCH	1325	Type: Composite Kemmerer: 98	↓	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1035						Level: 21.42 ~3600 cfs
Additional Notes:							

Weather Data
Description: Sunny
Temperature: 65-70F
Wind: light
Precipitation: None

Sampled by: William Anderson
Steven Lamberton

316350

October 22, 1997
(:61220225/4/fldlog2)

GENERAL ELECTRIC COMPANY
1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225)

FIELD LOG FOR May 6, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1005	Type: Composite Kemmerer: 95	12°C	0-7	MS	✓	Bakers Falls: trickle over center 5'
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1030 1045	Type: Composite Kemmerer: 96A	↓	6-6E 0-5.5W	~~BDup~~ DX WAM	✓	
HRM 188.5 (Thompson Island Dam)	1115	Type: Grab	↓	Surface	—	✓	3.6 @ N face
Equipment blank: ~~HRM~~ WAM SCH-2084	1145	Type: Grab Kemmerer: 98					
TID-PRW2 WAM	1145 1150	Type: Composite Kemmerer: 96B	↓	0-9'	—	✓	Total ~ 12'
SCH	1245	Type: Composite Kemmerer: 98	↓	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1035						Level: 22.05 ~ 5700 cfs

Additional Notes: Tributary solids loading visible from Snook Kill & Moses Kill

Weather Data
Description: Overcast
Temperature: 60s F
Wind: Calm
Precipitation: Light sprinkling beginning at ~1140

Sampled by: W Ayling

316351

October 22, 1997
(:61220225/4/fldlog2)

1998
1997 GENERAL ELECTRIC COMPANY
POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM
(Project 612.225) 344

FIELD LOG FOR May 12, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0700	Type: Composite Kemmerer: 95	10°C	0-7'	—	✓	Bakers Falls: no flow over falls flashboards middle to east portion of dam
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0740	Type: Composite Kemmerer: 96A	↓	0-7'E 0-6'W	MS	✓	
HRM 188.5 (Thompson Island Dam)	0847	Type: Grab	↓	Surface	—	✓	4'@ N face
Equipment blank: HRM 194.2	0645	Type: Grab Kemmerer: 96A					
TID-PRW2	0905	Type: Composite Kemmerer: 96B	↓	0-9'	—	✓	
SCH	1020	Type: Composite Kemmerer: 98	↓	0-12'	DUP		
Ft. Edward Staff Gage (518) 747-9900	0720						Level: 2.72 → 8400 cfs
Additional Notes: Rained on Monday							

Weather Data
Description: Overcast
Temperature: 50s
Wind: light West/North
Precipitation:

Sampled by: W Ayling

316352

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR May 21, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0750	Type: Composite Kemmerer: 95	14°C	0-6'	MS	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1340E / 1355W	Type: Composite Kemmerer: 96A	↓	0-6'E 0-5'W	DUP	✓	
HRM 188.5 (Thompson Island Dam)	1515	Type: Grab	↓	Surface	—	✓	
Equipment blank: ~~HRMxxx~~ TIDPRW2-EB01	0610	Type: Grab Kemmerer: 96B					
TID-PRW2	1530	Type: Composite Kemmerer: 96B	↓	0-8'	—	✓	
SCH	1745	Type: Composite Kemmerer: 98	↓	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1331						Level: 21.43 ↔ 3600cfs

Additional Notes: Calibrate Thermometer w/ Dam
TEMP: 086 29°C
Dam 33°C

Weather Data
Description: Sunny
Temperature: 70s F
Wind: S
Precipitation: None

Sampled by: W. Ayling
Rusty Woods - Boat Driver

316353

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR May 28, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0610	Type: Composite Kemmerer: 95	15°C	0-6'	—	✓	Bakers Falls: no flow over falls, portions of face wet. Small oil type sheens observed across river intermittently up to hand size dia.
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0640E 0655W	Type: Composite Kemmerer: 96A	↓	0-5.5'E 0-4.5'W	MS	✓	
HRM 188.5 (Thompson Island Dam)	0755 ~~0855~~	Type: Grab	↓	SURFACE	DUP	✓	
Equipment blank: ~~HRM 194.2~~ SCH-EQB	0540	Type: Grab Kemmerer: 98					
TID-PRW2	0908	Type: Composite Kemmerer: 96B	↓	0-7'	—	✓	JF
SCH		Type: Composite Kemmerer: 98	↓	0-11'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0636						Level: 20.96 ~ 2300 cfs

Additional Notes: 1030 - less sheens observed at HRM 197.0, Rt 27 bridge. 300' to east shore at north side of bridge. Assisted with Bakers Falls sampling after personnel completed sheens observed at boat launch location.

Weather Data
Description: Sunny
Temperature: ~~70s-80s~~
Wind: Calm
Precipitation: none

Sampled by: M Ayling / Tonet Forsell

316354

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR June 4, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1100	Type: Composite Kemmerer: 95	↑	0-6	MS		Bakers Falls: occasional trickle over small sections of falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1145E	Type: Composite Kemmerer: 96A		0-5.5'E 0-4.5'W	DUP		
HRM 188.5 (Thompson Island Dam)	1215	Type: ~~Grab~~ Composite		Surface	—		3.0 Total @ N face
Equipment blank: HRM 188.5 - 20BL	0745	Type: Grab Kemmerer: NA					
TID-PRW2	1235	Type: Composite Kemmerer: 96B	↑	0-9'	—		11.3 Total JE
SCH 1305	~~1210~~ 1300	Type: Composite Kemmerer: 98	14°C		—		
Ft. Edward Staff Gage (518) 747-9900	1200						Level: 21.54 3900
Additional Notes:							

Weather Data
Description: Sunny then overcast
Temperature: 60s
Wind: NW
Precipitation: NONE

Sampled by: W Myslog / J. Forsell

316355

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR June 9, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1110	Type: Composite Kemmerer: 96A	14°C	0-6	—	✓	Bakers Falls: no flow over falls ~~sprinkling~~ lunn
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1125 1:55E	Type: Composite Kemmerer: 96A	↓	0-5.5E 0-4.5W	MS		1116 45565 Sampled at west channel Algae in Archive Sample
HRM 188.5 (Thompson Island Dam)	1335	Type: Grab	↓	Surface	—	✓	
Equipment blank: HRM 197.0	0740	Type: Grab Kemmerer: 96A					
TID-PRW2	1355	Type: Composite Kemmerer: 96B	↓	0-8.5'	DUP	✓	10.8 total depth RMN
SCH	1550	Type: Composite Kemmerer: 98	↓	0-12	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1127						Level: 20.87 ~2100 cfs
Additional Notes:							

Weather Data
Description: Sunny
Temperature: 70sF
Wind: light S.
Precipitation: None

Sampled by: W Ayling / R. Maineiro

316356

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR June 17, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0615	Type: Composite Kemmerer: 96A	15°C	0-6'	—		Bakers Falls: Water flowing through sections of flash boards River appears muddy Sprinkles
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0655E 0710W	Type: Composite Kemmerer: 96A	↓	0-7.5' 0-6.5W	MS		Rain Stopped
HRM 188.5 (Thompson Island Dam)	0755	Type: Grab	15°C	Surface	DUP		tiny plant material (Tropa) two leaves ~3.0' total
Equipment blank: HRM 194.2	0640	Type: Grab Kemmerer: 96A					Decon'd in field @ stewarts
TID-PRW2	0820	Type: Composite Kemmerer: 96B	15°C	0-10'	—		JF
SCH	0900	Type: Composite Kemmerer: 98	↓	0-11'	—		
Ft. Edward Staff Gage (518) 747-9900	0630						Level: 22.89 9,200 cfs

Additional Notes:
- Rained overnight - T-storm
- Equipment Prep/Decon By Kat & Cll in 5yr. pilot Room,
- Sediment plumes visible from Snook Kill & Moses Kill
- Photos at Hrm 188.5 & TIDPRW2, plume visible along shore

Weather Data
Description: Rain then overcast
Temperature: 60s
Wind: Calm
Precipitation: Rain

Sampled by: W Ayling / J. Forsell

316357

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR June 25, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1605	Type: Composite Kemmerer: 96A	20°C	0-7'	MS	✓	Bakers Falls: Water flowing over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1650E 1706W	Type: Composite Kemmerer: 96A	20°C	0-8'E 0-7'W	DUP	✓	
HRM 188.5 (Thompson Island Dam)	1020	Type: Grab	↓	SURF.	—	✓	
Equipment blank: ~~HRM~~ TWA TID-PRW2-SOG	1740	Type: Grab Kemmerer:					
TID-PRW2	1650	Type: Composite Kemmerer: 96B	↓	0-10'	—	✓	Depth sampled approx. - high velocity
SCH	1930	Type: Composite Kemmerer: 98	↓	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1635						Level: 23.91 ~14,200
Additional Notes:							

Weather Data
Description: Sunny - humid
Temperature: 80sF
Wind: light
Precipitation: None

Sampled by: LN Apling, R Nemeier

316358

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR July 1, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0545	Type: Composite Kemmerer: 96A	17C	0-7'	—	✓	Bakers Falls: Water flowing over falls through portion of flashboard area
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0620 0635	Type: Composite Kemmerer: 96A	16°C	0-6'W 0-7'E	MS	✓	0635
HRM 188.5 (Thompson Island Dam)	0745	Type: Grab	2	Surface	—	✓	4.8ft @ N face
Equipment blank: ~~HRM~~ Gunn SCH-2062	0520	Type: Grab Kemmerer: 98					
TID-PRW2	0806	Type: Composite Kemmerer: 96B	2	0-9'	—	✓	JF
SCH	0935	Type: Composite Kemmerer: 98	18°C	0-12'	DUP	✓	
Ft. Edward Staff Gage (518) 747-9900	0625						Level: 22.99 ~ 9,700 cfs
Additional Notes:							

Sampled by: W Ayling / J. Forsell

Weather Data
Description: SUNNY
Temperature: 70SF
Wind: FAIR W
Precipitation: NONE

316359

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR July 8, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1065	Type: Composite Kemmerer: 98B	17°C	0-6'	MS	✓	Bakers Falls: water flowing over falls through flash board areas
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1155	Type: Composite Kemmerer: 96A	16°C	E 0-6' W 0-5.5'	DUP	✓	RAining During East sample
HRM 188.5 (Thompson Island Dam)	1305	Type: Grab	18°C	surface	-	✓	3.1 @ North face
Equipment blank: HRM ← 194.2	0806	Type: Grab Kemmerer: 96A					
TID-PRW2	1320	Type: Composite Kemmerer: 96B	17°C	0-9'	-	✓	11' total depth WAA
SCH	1405	Type: Composite Kemmerer: 98A	17°C	0-12'	-		
Ft. Edward Staff Gage (518) 747-9900	1051						Level: 21.97' ≈5400 cfs
Additional Notes: New Kemmerer used at HRM 197.0							

Sampled by: Robert Nemeyer / Bill Ayling

Weather Data
Description: overcast
Temperature: 70's
Wind: light
Precipitation: 1065 - none rain @ 1130 Rain @ 1320
Rain @ 1405

316360

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR July 15, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0540 0605 WAM	Type: Composite Kemmerer: 98B	19°C	0-6'	—	✓	Bakers Falls: no flow over falls, free weir
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0555 0615	Type: Composite Kemmerer: 96A	19°C	0-6'E 0-5'W	MS	✓	
HRM 188.5 (Thompson Island Dam)	0730	Type: Grab	19°C	Surface	DUP	✓	
Equipment blank: HRM 197.0-EQBK	0505	Type: Grab Kemmerer: 98B					
TID-PRW2	0745	Type: Composite Kemmerer: 96B	20°C	0-8'	—	✓	
SCH	0815	Type: Composite Kemmerer: 98A	20°C	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0600						Level: 21.39 ~3500 cfs
Additional Notes: Suds observed in river @ HRM 197.0 & HRM 194.2							

Weather Data
Description: SUN & HAZE
Temperature: 80s F
Wind: Light S
Precipitation: NONE

Sampled by: [signature]

316361

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR July 22, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0535	Type: Composite Kemmerer: 98B	21°C	0-6'	MS	✓	Bakers Falls: no flow over falls, face wet, light rain
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0600W 0620	Type: Composite Kemmerer: 96A	21°C	0-5'W 0-6'E	DUP	✓	light rain
HRM 188.5 (Thompson Island Dam)	0755	Type: Grab	↓	surface	—		
Equipment blank: TIDPRW2-EQBL	0455	Type: Grab Kemmerer: 96B					
TID-PRW2	0810	Type: Composite Kemmerer: 96B	↓	0-9'	—		
SCH	1150	Type: Composite Kemmerer: 98A			—		
Ft. Edward Staff Gage (518) 747-9900	0600 1045						Level: no flow obtained - busy signal 21.02 ~ 2400 cfs
Additional Notes: Thermometer readings confirmed with calibrated laboratory thermometer at NEA							

Weather Data
Description: light rain then clearing
Temperature: 70s - 80s
Wind: Calm then lights
Precipitation: early am

Sampled by: W. Appleby

316362

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR July 29, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0935	Type: Composite Kemmerer: 98B	20°C	0-6'	—	✓	Bakers Falls: no water over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1045 EC / 1105 WC	Type: Composite Kemmerer: 96A	20°C	0-5.5' EC / 0-4.5' WC	MS	✓	
HRM 188.5 (Thompson Island Dam)	1148	Type: Grab	—	surface ~~0~~ RMN	—	✓	
Equipment blank: HRM 194.2 - EQBL	1030	Type: Grab Kemmerer: 96A					
TID-PRW2	1200	Type: Composite Kemmerer: 96B	20°C	0-8'	—	✓	WAA
SCH	1518	Type: Composite Kemmerer: 98A	22°C	0-11'	DUP	✓	
Ft. Edward Staff Gage (518) 747-9900	1016						Level: 2074 cfs WEST = 4.5' EAST = 5.5'

Additional Notes: Equipment cleaned by CLL in OBG lab (pilot room) prior to sampling

Weather Data
Description: Cloudy, Lt Rain @ 920
Temperature: High 70's
Wind: South
Precipitation: Light

Cloudy, no rain @ 1045 @ 1105

Partly Sunny, no rain @ 1148, 1200

Sampled by: WAA, RMN

316363

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR AUG. 4, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0700	Type: Composite Kemmerer: 9BB	19°C	0-6'	MS	✓	Bakers Falls: no flow over falls Kemmerer top cables come apart.
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0745	Type: Composite Kemmerer: 96A	18°C	0-5.5'E 0-5'W	DUP	✓	algae observed in sample, 2 small bits
HRM 188.5 (Thompson Island Dam)	0855	Type: Grab	↓	SURFACE	—	✓	2.8ft @ N face
Equipment blank:	0825	Type: Grab Kemmerer: 98A					
TID-PRW2	0905	Type: Composite Kemmerer: 96B	↓	0-8'	—	✓	10.8ft Total depth JF
SCH	1005	Type: Composite Kemmerer: 98A	20C	0-11'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0715						Level: 21.05 ~2500CFS
Additional Notes:							

Weather Data
Description: Overcast
Temperature: 70s @ 0645, 80s later
Wind: Calm
Precipitation: none

Sampled by: W. Ayling / T. Forsell

316364

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR Aug. 12, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0550	Type: Composite Kemmerer: 98B	19°C	0-6' Total depth ~ 8.5'	—	✓	Bakers Falls: no flow over falls Repaired cables on Kemmerer finished again
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0620W 0640E	Type: Composite Kemmerer: 96A	18°C	0-5'W 0-6'E	MS	✓	
HRM 188.5 (Thompson Island Dam)	0750	Type: Grab	19°C	Surface	DUP	✓	3.3' @ N face
Equipment blank: Hrm. 197.0-40E	0535	Type: Grab Kemmerer: 98B					Sample collected at staging area
TID-PRW2	0810	Type: Composite Kemmerer: 96B	19°C	0-9'	—	✓	Total depth ~ 12' buoy placed
SCH	0830	Type: Composite Kemmerer: 98A		0-15'	—	✓	16.5 ft total
Ft. Edward Staff Gage (518) 747-9900	0600						Level: 21.76 4700 cfs
Additional Notes:							

Weather Data
Description: Overcast
Temperature: 60°F
Wind: Calm
Precipitation: occassional Sprinkle

Sampled by: W Ayling

316365

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR Aug 19, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0730	Type: Composite Kemmerer: 98B	18C	0-5'	MS	✓	Bakers Falls: no flow over falls Total depth ~ 8.5'
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0815	Type: Composite Kemmerer: 96A	16°C	0-5.5'E 0-4.5W	DUP	✓	Suds on surface
HRM 188.5 (Thompson Island Dam)	0940	Type: Grab	—	Surface	—	✓	
Equipment blank: HRM 188.5	0905	Type: Grab Kemmerer: —					
TID-PRW2	0955	Type: Composite Kemmerer: 96B	16°C	0-7'	—	✓	0-14'
SCH	1015	Type: Composite Kemmerer: 98A	17°C	1-11'	—	✓	Total depth ~ 16ft
Ft. Edward Staff Gage (518) 747-9900	0715 0755						Level: 20.89 ~ 2100 cfs 20.98 ~ 2300 cfs
Additional Notes:							

Weather Data
Description: Sunny
Temperature: 60s F - 70s F
Wind: Calm
Precipitation: None

Sampled by: N Ayling / R Morse

316366

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR September 3, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0910	Type: Composite Kemmerer: 98B	15.5/20	0-6'	1115	✓	Bakers Falls: no flow over falls foggy
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1030E 1100W	Type: Composite Kemmerer: 96A	16/20	0-6'E 0-5'W	DUP	✓	
HRM 188.5 (Thompson Island Dam)	1205	Type: Grab	18.5/23	Surface	—	✓	3.1' @ N face of dam
Equipment blank: HRM 194.2-E&W	0956	Type: Grab Kemmerer: 96A					
TID-PRW2	1225	Type: Composite Kemmerer: 96B	18.5/23	0-9'	—	✓	11.9' total depth
SCH	1725	Type: Composite Kemmerer: 98A	18/22	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0845 1010 1045						Level: 21.33 ≈ 3300 4000 21.56 ≈ 3000 21.21 ≈ 3000

Additional Notes: Temperatures A/B A = actual reading B = Adjusted temperature based on calibration w/ lab thermometer 9/1/98 chart.

HRM 194.2E collected @ 1411
HRM 194.2-W collected @ 1420

Weather Data
Description: foggy then sunny w/ clouds
Temperature: 60s-70s
Wind: Calm - light S breeze
Precipitation: None

Sampled by: WAF / RMM

316367

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR September 10, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1145	Type: Composite Kemmerer: 98B	15C/20	0-6'	MS	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1220E 1245W	Type: Composite Kemmerer: 96A	16C/20 16W/20	0-6'E 0-5W	—	✓	
HRM 188.5 (Thompson Island Dam)	1440	Type: Grab	16/20	SURFACE ~~DUP~~ WATER		✓	
Equipment blank: HRM 188.5-EQBK	1115	Type: Grab Kemmerer: —					
TID-PRW2	1455	Type: Composite Kemmerer: 96B	16/20	0-9'	~~DUP~~ WATER	✓	
SCH	1325	Type: Composite Kemmerer: 98A	16/20	0-12'	DUP	✓	
Ft. Edward Staff Gage (518) 747-9900	1129 1210 1440						Level: 20.97 ~ 2300 cfs 21.32 ~ 3300 cfs 24.50 ~ 5800 cfs
Additional Notes: TEMP ACTUAL/ADJUSTED							

Weather Data
Description: SUNNY
Temperature: ~~70s~~
Wind: Breezy NW
Precipitation: NONE

Sampled by: C. Ayling

316368

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR September 15 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	10:00	Type: Composite Kemmerer: 95	21°C	0'-7'	—	✓	Bakers Falls: Total Water Depth 9.2' Intermitent Water flow over the dam.
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	10:55E 11:25W	Type: Composite Kemmerer: 98B	E 21°C W ~~25~~°C Ck. 21°C	0'-6'E 0'-5.5'W	MS	✓ ✓	
HRM 188.5 (Thompson Island Dam)	12:25	Type: Grab	21°C	Surface	DUP	✓	
Equipment blank: ~~HRM~~ WM TID-PRW2-EQB	0610	Type: Grab Kemmerer: 96B					
TID-PRW2	12:40	Type: Composite Kemmerer: 96B	21°C	0'-9'	—	✓	
SCH	13:25	Type: Composite Kemmerer: 98A	21°C	0'-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	10:11 10:39						Level: 21.34' ~ 3320 cfs 21.75' ~ 4600 cfs
Additional Notes:							

Weather Data
Description: OVERCAST
Temperature: 70's
Wind: light breeze
Precipitation: —

Sampled by: WAyling / L. Leuzzi

316369

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR September 25 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0910	Type: Composite Kemmerer: 98B	17°C	0-6'	MS	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1055E 1115W	Type: Composite Kemmerer: 96A	17°C	0-6E 0-45W	—	✓	
HRM 188.5 (Thompson Island Dam)	1320	Type: Grab	18°C	Surface	DUP	✓	Depth @ face 2.7 ft
Equipment blank: HRM - 194.2 - EQBL	0850	Type: Grab Kemmerer: 96A					
TID-PRW2	1345	Type: Composite Kemmerer: 96B	18°C	0-8'	—	✓	Total water depth = 10 ft
SCH	1435	Type: Composite Kemmerer: 98A	18°C	0-10'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0644 1100						Level: 20.96 ~2300 20.89 ~2100
Additional Notes: New Certified calibrated thermometer used beginning 9/ 198							

Weather Data
Description: Sun & Clouds, Calm
Temperature:
Wind: Calm
Precipitation: None

Sampled by: W. Ayling

316370

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR October 2, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1225	Type: Composite Kemmerer: 96A	16°C	0-6'	MS	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1320E / 1340W	Type: Composite Kemmerer: 96A	17E / 17W	0-5.5' / 0-4.5'	—	✓	Kemmerer deployed between HRM 197.0 & HRM 194.2 E
HRM 188.5 (Thompson Island Dam)	1410	Type: Grab	16°C	Surface	—	✓	
Equipment blank: HRM 197.0 - EQBL	1210	Type: Grab Kemmerer: 96A					
TID-PRW2	1425	Type: Composite Kemmerer: 96B	17°C	0-9'	~~DUP~~ WATT	✓	
SCH	1530	Type: Composite Kemmerer: 98A	15°C	0-12'	DUP	✓	
Ft. Edward Staff Gage (518) 747-9900	1205 / 1330						Level: 21.33 3300 cfs / 21.58 4100 cfs
Additional Notes:							

Weather Data
Description: Overcast Breezy
Temperature: 60s
Wind: NW
Precipitation: None

Sampled by: W. Ryling

316371

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR OCTOBER 7, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0700	Type: Composite Kemmerer: 96A	12°C	0-5'	MS	✓	Bakers Falls: no flow over falls Suds observed on water surface
HRM 194.2 (Rt. 197 Bridges Comp. - E East and Main Channel) W	0735 0750	Type: Composite Kemmerer: 96B	12°C	0-~~5~~5'E 0-4.5W	—	✓	Working continues on Lyeth basin
HRM 188.5 (Thompson Island Dam)	0900	Type: Grab	—	Surface	—	✓	Suds observed on water surface
Equipment blank: HRM 194.2E - EQBL	0725	Type: Grab Kemmerer: 96A					Depth @ N face ~3.50'
TID-PRW2	0940	Type: Composite Kemmerer: 96C	12°C	0-9	DUP	✓	
SCH	1005	Type: Composite Kemmerer: 96A	12°C	0-12	—	✓	Total water depth ~11ft
Ft. Edward Staff Gage (518) 747-9900	0620 0800						Level: 21.00 ~2400 cfs 20.96 ~2300 cfs
Additional Notes:							

Weather Data
Description: OVERCAST
Temperature: 38°F @ 0715
Wind: CALM
Precipitation: NONE

Sampled by: W. Byberg

316372

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR October 15, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0930	Type: Composite Kemmerer: 98B	14°C	0-6	—	✓	Bakers Falls: no flow over falls, face river. Total depth ~9 ft
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1005E 1040W	Type: Composite Kemmerer: 96A	14°C	0-6E 0-55W	MS @ 194.2W	✓	
HRM 188.5 (Thompson Island Dam)	1145	Type: Grab	14°C	Surf.	Dup	✓	3.3@N face
Equipment blank: Hrm 197.0 - EQBL	0615	Type: Grab Kemmerer: 98B					
TID-PRW2	1210	Type: Composite Kemmerer: 96B	14°C	0-9'	—	✓	
SCH	1320	Type: Composite Kemmerer: 98A	14°C	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0943 1000						Level: 21.81 ~4800 cfs 21.77 ~4700
Additional Notes:							

Weather Data
Description: Mostly Cloudy
Temperature: 53F @ 1000
Wind: Calm
Precipitation: None

Sampled by: W. Ayling

316373

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR OCTOBER 21, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1255	Type: Composite Kemmerer: 98B	12°C	0-6	MS	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel) E N	1410 1430	Type: Composite Kemmerer: 96A-E 98B-W	12°C	0-6E 0-5W	— DUPW		
HRM 188.5 (Thompson Island Dam)	1510	Type: Grab	12°C	SURFACE	—		3.3@ N face
Equipment blank: Hrm 194.2-26BL	0850	Type: Grab Kemmerer: 96A					
TID-PRW2	1545	Type: Composite Kemmerer: 96B	11°C	0-9'	—		Tow >11 ft
SCH	1650	Type: Composite Kemmerer: 96A	13°C	0-12'			
Ft. Edward Staff Gage (518) 747-9900	1400						Level: 21.46 - 3700 cfs
Additional Notes:							

Weather Data
Description: Sun & Clouds
Temperature: 50s
Wind: light
Precipitation: none

Sampled by: W. Ayling / T. Festa / F. Mondello

316374

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR 8/26/98 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0625	Type: Composite Kemmerer: 98B	17°C	0-7'	–	✓	Bakers Falls: water flowing over last portion of falls & through sections of flush boards along west side
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	0650E 0705W	Type: Composite Kemmerer: 96A	17°C	0-6.5'E 0-6'W	MS	✓	
HRM 188.5 (Thompson Island Dam)	0830	Type: Grab	18°C	SURFACE	–	✓	
Equipment blank: TID PRW2 SCH = 98BL	0545	Type: Grab Kemmerer: 98A					
TID-PRW2	0845	Type: Composite Kemmerer: 96B	18°C	0-9'	–	✓	
SCH	1005	Type: Composite Kemmerer: 98A	20°C	0-12'	DUP	✓	
Ft. Edward Staff Gage (518) 747-9900	0608 0640						Level: 22.19 ~6300 cfs 22.19
Additional Notes:							

Weather Data
Description: Sun & clouds
Temperature: 60sF
Wind: calm
Precipitation: none

Sampled by: R. Ayling

316375

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR October 28, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0900	Type: Composite Kemmerer: 96B	11°C	0-7'	—	✓	Bakers Falls: no flow over falls. Total water depth ~9ft @ West
HRM 194.2 (Rt. 197 Bridges Comp. - E East and Main Channel) W	0935 1010	Type: Composite Kemmerer: 96A	11°C	0-6.5E 0-6 W	MSE -	✓	USGS sampled east/channels immed. after GE sample collected.
HRM 188.5 (Thompson Island Dam)	1125	Type: Grab	16°C	Surface	—		
Equipment blank: HRM 197.0	0600	Type: Grab Kemmerer: 96B					
TID-PRW2	1155	Type: Composite Kemmerer: 96B	11°C	0-9	DUP		TF
SCH	1300	Type: Composite Kemmerer: 96A	12°C	0-12	—		
Ft. Edward Staff Gage (518) 747-9900	0930						Level: 22.15 ~6100cfs
Additional Notes:							

Weather Data
Description: Mostly Clouds
Temperature: 50s-60sF
Wind: NW 16-45, gusty at times (HRM 194.2W)
Precipitation: None

Sampled by: W. Ayling / Tom Feston

316376

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR NOVEMBER 4, 1998 **(Sampling Date)**

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0940	Type: Composite Kemmerer: 98B	9°C	0-7	MS		Bakers Falls: no flow over dam 8.8' Tail no flashboards on dam
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1055	Type: Composite Kemmerer: 96A	9°C	0-5.5 E 0-4.5 W	DUP		
HRM 188.5 (Thompson Island Dam)	1140	Type: Grab	—	Surface	—		
Equipment blank: Hpm 194.2 - 2BL	0925	Type: Grab Kemmerer: 98A					
TID-PRW2	1155	Type: Composite Kemmerer: 96B	9°C	0-9	—		11.7 total TF
SCH	1305	Type: Composite Kemmerer: 98A	8°C	0-12	—		
Ft. Edward Staff Gage (518) 747-9900	1028						Level: ~4.09 ~2600 cfs
Additional Notes:							

Sampled by: W. Ayling / T. Feerst

Weather Data
Description: OVERCAST
Temperature:
Wind: CALM
Precipitation: NONE

316377

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR NOVEMBER 11, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0900	Type: Composite Kemmerer: 98B	9°C	0-7	—		Bakers Falls: no flow over falls 8.5 ft deep
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel) C 0955 W 0955	0955	Type: Composite Kemmerer: 96a	9°C	0-5'E 0-5'W	MS	✓	
HRM 188.5 (Thompson Island Dam)	1140	Type: Grab	9°C	SURFACE	DUP	✓	
Equipment blank: HRM 197.0-SGBL	0605	Type: Grab Kemmerer: 98B					
TID-PRW2	1150	Type: Composite Kemmerer: 96B	9°C	0-9'	—	✓	
SCH	1305	Type: Composite Kemmerer: 98A	9°C	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0942						Level: 21.60 ft 4100 cfs
Additional Notes:							

Weather Data
Description: Sun & Clouds
Temperature: 40°F warming to 60s (low)
Wind: light
Precipitation: None

Sampled by: W. Ayling

316378

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR Nov. 18, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0910	Type: Composite Kemmerer: 96B	7°C	0-7'	MS	✓	Bakers Falls: no flow over dam
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel) E / W	0940 / 0955	Type: Composite Kemmerer: 96A	7°C	0-6E / 0-5W	—	✓	Photo #22
HRM 188.5 (Thompson Island Dam)	1055	Type: Grab	5°C	Surface	DUP	✓	
Equipment blank: HRM 194.2-20BL	0610	Type: Grab Kemmerer: 96A					
TID-PRW2	1115	Type: Composite Kemmerer: 96B	6°C	0-9'	—	✓	
SCH	1230	Type: Composite Kemmerer: 98A	7°C	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	0928						Level: 21.55 in 4/0000
Additional Notes:							

Weather Data
Description: Overcast then clearing by 0945
Temperature: 36°F @ 0930
Wind: CALM
Precipitation: NONE

Sampled by: W. Ayling / K. Bruton

316379

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR November 23, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0955	Type: Composite Kemmerer: 98B	7°C	0-6'	—	✓	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1045	Type: Composite Kemmerer: 96A	7°C	0-6E 0-5W	MS	✓	
HRM 188.5 (Thompson Island Dam)	1136	Type: Grab	5°C	Surface	—	✓	
Equipment blank: HRM 197.0 EQBL	0945	Type: Grab Kemmerer: 98B					
TID-PRW2	1200	Type: Composite Kemmerer: 96B	7°C	0-9'	DUP	✓	TF
SCH	1320	Type: Composite Kemmerer: 98A	7°C	0-12'	—	✓	
Ft. Edward Staff Gage (518) 747-9900	1024						Level: 21.32 ~ 3300 cfs
Additional Notes:							

Weather Data
Description: Mostly Overcast
Temperature: 40s F
Wind: Calm
Precipitation: None

Sampled by: Wayne / Tom Festa

316380

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR NOVEMBER 30, 1998 **(Sampling Date)**

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	10:00	Type: Composite Kemmerer: 98B	7°C	0-7'	—	✓	Bakers Falls: no flow over dam
HRM 194.2 (Rt. 197 Bridges Comp. - W East and Main Channel)	1045	Type: Composite Kemmerer: 96A	7°C	0-6E 0-5W	MS	✓	
HRM 188.5 (Thompson Island Dam)	1140	Type: Grab	7°C	Surface	—	✓	
Equipment blank: HRM 194.2 - EQBL	0640	Type: Grab Kemmerer: 96A					
TID-PRW2	1150	Type: Composite Kemmerer: 96B	7°C	0-9'	—	✓	10.5 total depth
SCH	1330	Type: Composite Kemmerer: 98A	7°C	0-12'	DUP	✓	
Ft. Edward Staff Gage (518) 747-9900	1020						Level: 21.53 ~3,300 CFS
Additional Notes:							

Sampled by: W. Ayling / T. Festa

Weather Data
Description: OVERCAST
Temperature: 30SF
Wind: S BREEZE
Precipitation: NONE

316381

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR DECEMBER 7, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1005	Type: Composite Kemmerer: 98B	11°C TF	0-7'	MS	✓	Bakers Falls: no flow over falls TF
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1130	Type: Composite Kemmerer: 96B	11°C TF	0-6'E 0-5'W	DUP	✓	Strong gusts of wind during sampling of West CHANNEL (N) Strand of algae in HRM 194.2 sample WA-E TF-W
HRM 188.5 (Thompson Island Dam)	1200	Type: Grab	8°C WA	SURFACE	—	✓	TF
Equipment blank: HRM 197.0-208L	0630	Type: Grab Kemmerer: 98B					rinsed Kemmerer twice before sample collected (standard procedure) WA
TID-PRW2	1215	Type: Composite Kemmerer: 96B	8°C WA	0-9'	—	✓	TF
SCH	1415	Type: Composite Kemmerer: 98A	8°C WA	0-12'	—	✓	TF
Ft. Edward Staff Gage (518) 747-9900	1050						Level: 21.30 ~3200cfs
Additional Notes:							

Weather Data
Description: SUNNY CLOUDS
Temperature: 40's F
Wind: BREEZY & SHIFTING TO N @ ~1115
Precipitation: NONE

Sampled by: W. Ayling / T. Festa

316382

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR December 15, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0940	Type: Composite Kemmerer: 98B	2°C	0-7'	MS	✓	Bakers Falls: no flow over falls WA
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel) E W	1025 1045	Type: Composite Kemmerer: 96A	4°C	0-6' E 0-5' W	DUP	✓	TF/WA
HRM 188.5 (Thompson Island Dam)	1120	Type: Grab	3°C	Surface	–	✓	2.7 total depth TF
Equipment blank: HRM 188.5 - SEQBL	1106	Type: Grab Kemmerer: –					WA
TID-PRW2	1140	Type: Composite Kemmerer: 96B	4°C	0-9'	–	✓	10.7 total depth WA
SCH	1320	Type: Composite Kemmerer: 98A	3°C	0-12'	–	✓	WA
Ft. Edward Staff Gage (518) 747-9900	1000						Level: 21.27 ~ 3100 cfs
Additional Notes:							

Weather Data
Description: Sunny
Temperature: 35°F @ 1000 / 46°F @ 1300
Wind: N light
Precipitation: None

Sampled by: W Ayling / T. Festa

316383

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR December 21, 1998 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0930	Type: Composite Kemmerer: 98B	2°C	0-6	—	✓	Bakers Falls: No flow over falls Kemmerer cable broke, used Kem 96A for surface aliquots WAA
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1040	Type: Composite Kemmerer: 96A	2°C	0-5.5' 0-4.5'	MS	✓	TPF
HRM 188.5 (Thompson Island Dam)	1110	Type: Grab	2°C	Surface	—	✓	2.7' total water depth TPF
Equipment blank: TID-PRW2-EQBL	0620	Type: Grab Kemmerer: 98A					WAA
TID-PRW2	1130	Type: Composite Kemmerer: 96A	2°C	0-9'	—	✓	11.6' ft total water depth TPF
SCH	~~1340~~	Type: Composite Kemmerer: 98B	2°C	0-12'	DUP	✓	light S occassionally TPF
Ft. Edward Staff Gage (518) 747-9900	1010						Level: ~~90.59~~ WAA 90.93 ~ 22000 cfs

Additional Notes: No solvents to clean Kemmerer 96A between HRM 197.0 & HRM 194.2
Rinsed w/ River water before sampling at HRM 194.2

Weather Data
Description: Overcast snow on ground
Temperature: 32°F @ 1000
Wind: Calm & light S
Precipitation: None

Sampled by: W. Ayling / T. Festa

316384

GENERAL ELECTRIC COMPANY
1998 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM

FIELD LOG FOR 12.28.98 **(Sampling Date)**

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	955	**Type: Composite** **Kemmerer:** 96 A	1°C	0-7	MS	✓	**Bakers Falls:** No flow over Dam. Oil boom observed in front of hydrofacility intake. TFF
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	1035 E 1050 W	**Type: Composite** **Kemmerer:** 96 A	1°C	0-5.5E 0-4.5W	Dup	✓	Photo # 17 INPUT
HRM 188.5 (Thompson Island Dam)	1115	**Type: Grab**	1°C	Surface	—	✓	TD @ N face of Dam = 2.5' TFF
Equipment blank: SCH-2695	0605	**Type: Grab** **Kemmerer:** 98 A					INPUT
TID-PRW2	1130	**Type: Composite** **Kemmerer:** 96 B	1°C	0-8	—	✓	TD = 10.6' WAM
SCH	1315	**Type: Composite** **Kemmerer:** 98 A	1°C	0-12	—	✓	TFF
Ft. Edward Staff Gage (518) 747-9900	1024						**Level:** 21.01 ~2400 cfs
Additional Notes:							

Weather Data
Description: Overcast sky
Temperature: 36 to 40°
Wind: Calm
Precipitation: None

Sampled by: T Festa W Ayling

316385

QEA, LLC

305 West Grand Avenue
Montvale, NJ 07645
201.930.9890
fax 201.930.9805

290 Elwood Davis Road
Liverpool, NY 13088
315.453.9600
fax 315.453.9010