

GE Corporate Environmental Programs

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November 24, 1998

Mr. Douglas J. Tomchuk US Environmental Protection Agency Emergency & Remedial Response Div. 290 Broadway - 20th floor New York, NY 10007-1866

Re: 1997 ANNUAL HUDSON RIVER MONITORING REPORT

Dear Mr. Tomchuk:

Find enclosed 3 copies of the report entitled: <u>1997 Post-Construction Remnant</u> <u>Deposit Monitoring Program</u> (O'Brien & Gere Eng. October 1998). This report documents the results from the 1997 Hudson River monitoring program conducted pursuant to the agreement between the General Electric Company (GE) and the United States government. The primary objective of this monitoring program is to determine if the remnant deposit remedy is functioning as intended. As in previous years, the monitoring demonstrates the remnant deposit remedy is functioning as designed and PCB contributions, if any, are not detectable.

In addition to the remnant deposit monitoring program, GE also collected water samples for PCB analysis from other portions of the river for various reasons. This report also documents the results of the following data collection efforts:

- PCB concentration at the base of Bakers Falls.
- PCB concentrations at the western Thompson Island Dam abutment and the western channel downstream of Thompson Island Dam.
- PCB concentrations at the Route 29 bridge in Schuylerville.
- Monitoring of the impact of the operation and maintenance of the Bakers Falls hydroelectric facility.
- PCB levels during the 1997 spring high flow events at Rogers Island and Thompson Island Dam.
- PCB concentration in the vicinity of the pumphouse Interim Remedial Measure (IRM).

Mr. Douglas J. Tomchuk November 24, 1998 Page 2

If you have any questions, let me know. Please place a copy of this report in the Hudson River PCB Reassessment administrative record.

Yours truly,

John Haggard / JKF

John G. Haggard

Enclosures

cc: Walter Demick, NYDEC (Report - 2 copies, plus appendices - 1 copy) Anders Carlson, NYDOH (Report - 2 copies) Jay Field, NOAA (Report - 2 copies) Lisa DiPinto, NOAA (Report - 1 copy) Vic Bierman, LimnoTech (Report - 1 copy) Al D'Bernardo, TAMS (Report - 1 copy) Douglas Fischer, U.S. EPA (Letter only) Anton Geidt, NOAA (Letter only) SUMMARY REPORT

Fort Edward Dam PCB Remnant Containment

1997 Post-Construction Remnant Deposit Monitoring Program



General Electric Company Corporate Environmental Programs Albany, New York

November 1998



Summary Report

Fort Edward Dam PCB Remnant Containment

1997 Post-Construction Remnant Deposit Monitoring Program

General Electric Company Corporate Environmental Programs Albany, New York

> J. Kevin Farmer, P.E. Vice President

November 1998



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1. Introduction

This report presents the water column monitoring results for the 1997 Post-Construction Remnant Deposit Monitoring Program (PCRDMP) conducted in the upper Hudson River in New York State (Figure 1-1). River monitoring for the PCRDMP is performed pursuant to a consent decree (Consent Decree 1990; 90-CV-575) between the United States and General Electric Company (General Electric) associated with the containment of the Fort Edward Dam remnant deposits. This introduction presents the objectives of the PCRDMP along with a background summary and overview of the 1997 program. The organization of this section is outlined below.

- Objectives
- Site background
- Summary of remnant deposit monitoring activities
- Additional water column data collected in 1997
- Project Overview

This report is structured to highlight the results of the 1997 PCRDMP. Appendix A includes a synopsis of results of the 1992 through 1997 PCRDMP. Readers unfamiliar with this monitoring program may find it helpful to read Appendix A before proceeding further.

1.1. Objectives

The primary objective of the ongoing PCRDMP is to evaluate what, if any, impact the remnant deposits have on PCB concentrations in the Hudson River. The PCRDMP focuses on the evaluation of water mediated transport of PCBs from the remediated remnant deposits. Monitoring has included sampling and analysis of water samples collected from the Hudson River at locations upstream and downstream of the remnant deposits. Monitoring of PCB levels in river water under the PCRDMP has been conducted since 1991.

The evaluation of 1997 data trends includes an assessment of data quality and the limits of sampling and analytical methods (Table 1-1).

1.2. Site background

1.2.1. Origin of the remnant deposits

Over a 30-year period ending in 1977, two General Electric capacitor manufacturing plants near Fort Edward and Hudson Falls, New York discharged wastewaters containing PCBs to the Hudson River (NUS 1984). Much of the PCBs were contained in sediment¹ deposited in the pool behind the Fort Edward Dam located at HRM194.9² (Figure 1-1). Removal of the 100-year-old dam by Niagara Mohawk Power Corporation in 1973 dropped water levels in the dam p.xol. As a result, an estimated 1.5 million cubic yards of sediment deposits were left along the banks of the river in a 1.5-mile stretch upstream of Fort Edward (NUS 1984). Between July 1973 and April 1976, approximately 1.0 million cubic yards of this material washed downstream by high flows (NUS 1984). After removal of the dam and the floods that followed, five discrete remnant deposits were identified upstream of Fort Edward (NUS 1984; Figure 1-1).

1.2.2. Remedial activities at the remnant deposits

Several limited remedial activities were performed on the remnant deposits by New York State between 1974 and 1978 (O'Brien & Gere 1995a; 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 a remedial alternative that meets 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 Hudson River sediment, the ROD selected no-action. For the remnant deposits, 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 with the federal government specified the

¹ Sediment refers to matter deposited by water that settles to the bottom or banks of the river. In comparison, soil is upland surface material.

² The north-south orientation of the river provides a convenient location reference. Hudson River mile (HRM) 0.0 is located at the Battery in New York City and river mile increases traveling north up the river.

remediation work to be done and that post-construction monitoring be performed (Consent Decree 1990; 90-CV-575). In-place containment of the remnant deposits was completed by General Electric during the fall of 1990 (O'Brien & Gere 1995a; JL Engineering 1992). Post-construction monitoring has been conducted since 1991.

1.2.3. Remedial activities at the Bakers Falls source(s)

As a result of monitoring conducted in 1991 and 1992, a source(s) of PCB upstream of the remnant deposits was identified and isolated (Appendix A). This source(s) enters the river in the vicinity of Bakers Falls adjacent to the General Electric Hudson Falls facility and is referred to in this report as the Bakers Falls source(s). The Bakers Falls source(s) is the subject of a remedial investigation/feasibility study which is being conducted by General Electric with oversight by the New York State Department of Environmental Conservation (NYSDEC) to comply with a consent order (Index #A5-0928-93-03) with the state of New York (Dames & Moore 1996, O'Brien & Gere 1996a, 1994a). Ongoing interim remedial measures (IRMs) have been performed since 1993 under the consent order to control PCB loading to the river from this source(s) (O'Brien & Gere 1996a). In October 1997, sediment and debris removal in the vicinity of the pumphouse adjacent to the General Electric Hudson Falls facility was initiated. This removal has been completed.

1.3. Summary of remnant deposit monitoring activities

The PCRDMP has been performed by O'Brien & Gere since March 1992 to comply with monitoring requirements of the consent decree. This monitoring program consists of water column sampling and analysis for PCBs at locations upstream and downstream of the remnant deposits (Figures 1-1, 1-2 and 1-3; Table 1-2). The samples collected for the PCRDMP are analyzed for PCB congeners using the capillary column methodology with a method detection limit of 11 ng/l (Appendix A) and total suspended solids (TSS). Sampling and analysis was performed according to plans submitted to USEPA in June 1992 (O'Brien & Gere 1992a, 1992b, 1992c) and revisions to the field sampling plan (O'Brien & Gere 1996b). Results of the PCRDMP have been summarized in annual reports submitted to USEPA (O'Brien & Gere 1993d, 1994b, 1995a, 1996b, 1998b).

Before the PCRDMP, Harza Engineering Company (Harza) conducted an environmental monitoring program from 1989 to 1991 before, during, and after the completion of the remedial construction activities for the remnant deposits (Harza 1989a, 1989b, 1990, 1992a, 1992b). Additional water column investigations have been conducted to further evaluate water column PCBs (Figure 1-4).

1.3.1. Summary of 1997 PCRDMP findings

Conclusions of the 1997 PCRDMP were consistent with previous monitoring:

- PCB concentrations in the remnant deposit region of the river have declined since the remediation of Allen Mill in 1993. Water column PCB concentrations were frequently below the analytical method detection limit. The maximum concentration detected at the Fort Edward sampling station (HRM 194.2) was 54 ng/l. The maximum concentration occurred in the east channel at Roger's Island during high flow sampling. No periods of elevated PCB loading occurred between Bakers Falls and Rogers Island. Decreases in water column PCB loading over the past four years have coincided with remediation of the Bakers Falls source(s) that began in 1993 (O'Brien & Gere 1996b; General Electric 1997).
- Water column PCB composition observed in the remnant deposit region of the river is consistent with the composition of PCBs observed at the Bakers Falls source(s). In 1997, the PCB composition of intermittent detections of water column PCBs downstream of the remnant deposits continued to resemble an unaltered Aroclor 1242. Although PCB composition data for the remnant deposits is limited (Appendix A), the PCB composition of the water column does not match that of the remnant deposits. The existing information and knowledge of alteration behavior of PCBs that have been in the environment for extended periods suggest that if the remnant deposits were responsible for the PCB loading³, a noticeable shift in PCB composition would occur as the river passed by the remnant deposits. This shift was not observed (O'Brien & Gere 1995a, 1996b, Appendix A).
- Mass loading observed in the remnant deposit region of the river is attributed to source(s) upstream of the remnant deposits. PCB concentrations continued to be detected in the water column upstream of

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³ PCB loading as mass transport for a given station (mass/unit time) is calculated as the product of flow and PCB concentration at that station.

the remnant deposits in 1997 (Section 1.4). Therefore, as in 1994 through 1996, water column transport of PCB observed in the remnant deposit region during 1997 was attributed to loading from source(s) upstream of the remnant deposits (O'Brien & Gere 1995a, 1996b, 1998b).

Water column PCB concentrations in the upper Hudson River continued to decrease in 1996 through 1997 (Figures 1-3 and 1-4). Based on the results of the PCRDMP from 1992 through 1997, it appears that the contribution of the remnant deposits to PCB levels in the river, if any, were not measurable. Decreases in water column PCB concentration through the remnant deposit region over the 6-year monitoring period have coincided with the implementation of the Bakers Falls source(s) control measures.

1.4. Additional water column data collected in 1997

Although not required by the PCRDMP program, additional water column data were collected during 1997. A description of the purpose of each sampling event, methods employed, analytical results and a discussion of the data are presented in Appendix B. A brief summary of the data is provided below.

1.4.1. PCB concentrations at the base of Bakers Falls

Water samples for PCB analysis were collected at the base of Bakers Falls during 1997, except during the winter period from January 13 through March 19, 1997 due to inaccessibility of the sampling locations. PCB concentrations of the Bakers Falls samples ranged from less than 11 to 422 ng/l (Appendix B; General Electric 1997). The PCB composition of the Bakers Falls samples resembled unaltered Aroclor 1242 (Appendix B). TSS concentrations ranged from less than 1.0 to 23 milligrams per liter (mg/l), and plunge pool samples averaged 2.9 mg/l (Appendix B; General Electric 1997). The Bakers Falls samples are qualitative indicators of source activity. Intermittent flows over the falls and incomplete mixing of PCBs from the source(s) are interferences that limit the data for quantitative uses such as developing PCB mass loading estimates to the river from this area.

1.4.2. PCB concentrations in Thompson Island Pool

Samples were collected in Thompson Island Pool to evaluate the water column concentrations of PCBs in this first pooled area downstream of the remnant deposits. Consistent with previous monitoring, samples were collected at the west dam abutment of the west channel at Thompson Island Dam (HRM 188.5) along with each round of PCRDMP sampling (Appendix B; General Electric 1997). PCB concentrations at Thompson Island Dam averaged 65 ng/l and ranged from <11 to 413 ng/l, with highest concentrations generally occurring during the period from May to October (Appendix B). The PCB composition generally resembled altered Aroclor 1242 (Appendix B). TSS concentrations averaged 3.1 mg/l and ranged from less than 1.0 to 21 mg/l (Appendix B; General Electric 1997).

Water samples were also collected in the vicinity of the Thompson Island Dam to evaluate the representativeness of water column PCB concentrations obtained at the dam (O'Brien & Gere 1998a). The data collected in the vicinity of the dam were used to evaluate the anomalous loading previously identified in Thompson Island Pool (HydroQual 1995). Based on results of these studies, a sampling station at the center of the west channel approximately 200 feet downstream of the dam was added to the weekly sampling program in October 1997. Samples collected at this station are depth-integrated composites that appear to better represent water column PCB concentrations discharging from the pool. For the time period October through December 1997, PCB concentrations at the TID-PRW2 sampling station averaged approximately 50% less than samples collected from the dam abutment.

Additional sampling conducted in Thompson Island Pool during 1997 consisted of transect sampling and time of travel surveys. Results of these studies are presented in The Thompson Island Pool Studies Data Summary Report (O'Brien & Gere 1998a). Time of travel surveys through Thompson Island Pool were conducted to evaluate loading that occurs between HRM 194.2 and HRM 188.5 approximately 6 miles downstream. The time of travel sampling was conducted on June 4 and 17, 1997. Water column samples were collected at 20 transects located in the pool. Results of both rounds of Thompson Island Pool time of travel sampling were similar. Water column concentrations ranged from <11 ng/l to 267 ng/l (O'Brien & Gere 1998a).

1.4.3. PCB concentrations downstream of Thompson Island Pool Samples were collected weekly at Schuvlerville from the Route 29 bridge beginning October 1, 1997. Total PCB concentrations at this station ranged from 20 ng/l to 108 ng/l, and TSS concentrations ranged from less than 1 mg/l

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to 6.6 mg/l (Appendix B). Sampling for the Thompson Island Pool Studies had also included Fort Miller and Schuylerville (O'Brien & Gere 1998a).

1.4.4. Hydroelectric facility maintenance operations impact The potential impact of the Fort Edward hydroelectric facility maintenance operations on water column PCB transport in the vicinity of the falls was evaluated.

Hydroelectric facility operations divert flow around Bakers Falls, discharging water along the west shore of the river below the falls (Appendix B; General Electric 1996, 1997). As a consequence of hydroelectric facility water use, Bakers Falls is typically dry during low flow periods. Routine maintenance of facility debris collection screens, however, interrupts hydroelectric facility operations and causes water to flow over the falls for approximately 20 minutes at 3- to 4-day intervals during low flow periods. Additional maintenance is required during spring high flow and the fall (AHDC 1996).

On June 9, June 23, and July 21, 1997, parcels of water flowing from Bakers Falls through the remnant deposits region of the river to HRM 194.2 at Fort Edward were sampled before and during/after temporary inundation of the falls. Concentrations at HRM 194.2 increased following initiation of hydroelectric facility maintenance operations and inundation of Bakers Falls on two of the three sampling events. Increases in PCB concentrations in the plunge pool at Bakers Falls occurred for each of the three events. (Appendix B).

1.4.5. 1997 High flow monitoring

High flow monitoring was conducted to evaluate the potential for pulsed loadings of PCBs that may pass Rogers Island undetected by the weekly sampling program. Ten rounds of samples were collected during a 1997 spring high flow event that occurred between April 6 and 9, 1997. Flows increased from 8,600 cfs on the April 6 to 19,300 cfs on the April 8, before subsiding. Water column PCB concentrations up to 54 ng/l were detected passing Rogers Island. At Thompson Island Dam, PCB concentrations up to 44 ng/l were detected.

1.4.6. Pumphouse IRM water sampling

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From October to December 1997, sediment and debris were removed from an area adjacent to the General Electric Hudson Falls plant site downstream of a former pumphouse. To monitor the effectiveness of silt control measures

during removal operations, surface water grab samples were collected weekly on the same day that PCRDMP samples were collected from the river. Surface water PCB concentrations outside the silt control curtain ranged from <11 ng/l to 48 μ g/l (Appendix B). wind

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1.5. Project overview

The primary objective of the 1997 PCRDMP was to continue to evaluate the potential impact of the remnant deposits on PCB loading in the Hudson River. The 1997 PCRDMP consisted of routine weekly water column monitoring which was performed to monitor overall spatial and temporal trends of PCBs in the river.

The remainder of this report is organized as follows:

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Section	Title	
2	Methods and Materials	
3	Results	
4	Discussion	
5	Summary/Conclusions	

2. Methods and materials

The 1997 PCRDMP was performed according to a field sampling plan (FSP) and FSP addendum, and quality assurance project plan (QAPP) prepared by O'Brien & Gere Engineers, Inc. (O'Brien & Gere 1992a and 1996b, and 1992b, respectively). The content of the QAPP was modeled after previous work by Harza (1989b). General Electric submitted the FSP and the QAPP to the USEPA in June 1992, and the FSP addendum was submitted as an appendix to the 1995 PCRDMP annual report in July 1996. Comments were provided by USEPA on the QAPP in a letter to General Electric dated March 10, 1993. A response to these comments was submitted on May 27, 1993. Comments on the FSP addendum have not been provided by USEPA.

2.1. Sampling locations and collection procedures

The 1997 PCRDMP was conducted to identify potential PCB contributions from the capped remnant deposits by monitoring water borne PCB concentrations both upstream and downstream of the remnant deposits. Water column samples were obtained weekly from the same river locations previously sampled for the PCRDMP upstream (background) and downstream of the remnant deposits (Table 1-2 and Figure 1-1). Samples were collected following procedures and specifications defined in the FSP and FSP addendum, and QAPP (Table 1-2; O'Brien & Gere 1992a,b; 1996b).

2.2. River flow monitoring

River flow data were obtained to assist in developing mass transport and loading estimates, and for developing time of travel estimates through the study area (Appendix C). Flows were measured by the USGS at the Fort Edward gaging station located at HRM 194.7 approximately 1,500 ft upstream of the HRM 194.2 sampling station (Figure 1-1). For each sampling date, instantaneous unit values and mean daily flows are presented from provisional data of USGS that are subject to revision (Table 2-1, Appendix C). River flows in this region of the river are controlled by

meteorologic conditions within the watershed and hydrologic controls at upstream reservoirs such as the Great Sacandaga Lake.

Flow data are an important component of temporal water column PCB pattern interpretation, as flow variabilities are observed on daily, monthly, seasonal, and annual basis. Overall, river flows during 1997 were average compared to the past 6-years (Appendix C). During the winter months the river flows were higher than average (Appendix C). Spring runoffs up to approximately 19,300 cfs occurred briefly during April. Flows during the summer of 1997 were similar to other recent summers (Appendix C). During the fall months, flows were lower compared to the previous three years (Appendix C). Flows did not exceed flood stages in 1997 (Appendix C).

2.3. Sample handling and equipment cleaning procedures

Samples were handled according to procedures presented in the QAPP (O'Brien & Gere 1992b). Upon collection, samples were placed in appropriate containers, chilled to approximately 4°C, and transported to the analytical laboratory for analysis. Sample bottles were labeled with designations identifying sample location, date, project, and sampler. Standard chain of custody procedures were followed, as detailed in the QAPP (O'Brien & Gere 1992b).

Field equipment was cleaned between sampling rounds at the O'Brien & Gere office in Syracuse, New York. Dedicated Kemmerer bottle samplers were used at the two bridge sampling stations. Therefore, routine field cleaning of equipment was not required. Equipment cleaning was performed according to procedures specified in the FSP addendum (O'Brien & Gere 1996b). Field logs maintained by sampling personnel, documenting field activities, are presented in Appendix D.

2.4. Laboratory analytical methods

Laboratory testing of water column samples was performed by Northeast Analytical, Inc. (NEA) and consisted of analyses for PCBs by capillary column methodology and for total suspended solids (TSS). Analyses were performed

on whole water (unfiltered) samples. Details of analytical methodologies are provided in the PCRDMP QAPP (O'Brien & Gere 1992b).

2.4.1. Capillary column analysis of PCBs

Whole water capillary column PCB analyses were performed by NEA using Method NEA-608 CAP, Rev. 3.0 (NEA 1990). The method detection limit (MDL) and practical quantitation limit (PQL) for the method are 11 ng/L and 44 ng/L, respectively. In samples collected for the PCRDMP, concentrations of PCBs which are between the MDL and PQL (from 11 to 44 ng/l) are considered estimates and results are reported with a "P" qualifier (Table 2-1). The homolog and congener distributions may be less reliable at these low levels due to decreased sensitivity of the method for lower chlorinated congeners close to the method detection limit, as discussed in Appendix A.

Recent research identified analytical biases in the quantification of PCB congener data generated by Method NEA608CAP (HydroQual 1997). These analytical biases resulted from error in the original calibration of the PCB standard used in the NEA608CAP (calibration error), and from coeluting mixed peak deconvolution assumptions used for Hudson River samples (coelution error). Calibration error and coelution error correction factors were developed to adjust the PCB data for the analytical biases inherent in Method NEA608CAP (HydroQual 1997). These correction factors have been applied to PCB analytical data collected from the Hudson River (O'Brien & Gere 1997a).

2.4.2. Total suspended solids analysis

Analyses for TSS were performed according to USEPA Method 160.2 (USEPA 1983).

2.5. Quality assurance/quality control

The data quality objectives for the PCRDMP include the generation of data of sufficient quality to support both qualitative and quantitative determination regarding PCB flux from the Fort Edward Dam remnant deposit sites to Hudson River water (O'Brien & Gere 1992a, b). Following completion of the 1997 PCRDMP, data validation (described in Sections 2.6 and 3.2) was performed on PCB data to facilitate evaluation of data quality from results of QA/QC sample analyses. A summary of the data validation results is provided

in the data validation technical memorandum, presented as Appendix E (bound separately).

Quality assurance/quality control samples were collected on a routine basis during the PCRDMP in accordance with the QAPP (O'Brien & Gere 1992b). These samples consisted of a matrix spike, duplicate, and equipment blank sample included with each round of sampling. Matrix spike and duplicate results were within expected criteria, indicating acceptable analytical accuracy and data precision (Table 2-2). PCBs were detected in 11% of the blank samples associated with PCRDMP samples collected in 1997 (Section 3.2).

2.6. Data reporting and validation

2.6.1. PCB data

A specific NYSDEC - Analytical Services Protocol (ASP; NYSDEC 1991) reporting requirement does not exist for analysis of PCB congeners by capillary column. Therefore, a reporting package and quality control program was developed which adheres to the guidelines set forth in the NYSDEC ASP Superfund PCB/pesticide requirements. The contents of the data reporting package developed for capillary column PCB analyses, including quality control data, have been summarized previously (O'Brien & Gere 1995b). Data summary reports for PCB analyses are included in Appendix F of this report (bound separately).

Data validation of PCB data conducted for this investigation involved a systematic evaluation of analytical data quality by comparing the data generation process (sample collection through sample analysis) to quality control criteria established prior to the initiation of the field investigation (O'Brien & Gere 1992b). As a result of the validation process, sample data were considered usable as presented, approximated, or unusable for intended uses (Appendix E, bound separately). Data validation results are briefly discussed in Section 3.2 of this report.

2.6.2. Total suspended solids data

Water column samples were analyzed for TSS (USEPA method 160.2; USEPA 1983) by NEA. Upon completion of the analyses the laboratories generated a series of data reports consistent with NYSDEC ASP Category B

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2. Methods and materials

reporting requirements. Additional data recorded by the laboratory during TSS analyses and maintained by NEA are available, should more detailed review be required at a later date. Data reports for TSS analyses are presented in Appendix G of this report.

2.7. Health and safety

Field activities were conducted according to the health and safety procedures presented in the project specific health and safety plan (O'Brien & Gere 1992c).

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3. Results

This section presents the results of PCRDMP water column monitoring of PCBs and TSS conducted in 1997. PCB data obtained from Method NEA608CAP that are presented in this section have been corrected for analytical bias (Section 2.4). A comparison of laboratory-reported PCB results and PCB results corrected for analytical and coelution biases is presented in Appendix H.

The river data were evaluated at two levels of detail consisting of a discussion of total PCB and TSS concentration analytical results, and an evaluation of PCB composition using PCB homolog and congener distribution data. This approach is consistent with previous reports (O'Brien & Gere 1998b, Appendix A):

Total PCB and TSS concentrations were used to evaluate temporal and spatial concentration patterns in the river upstream and downstream of the remnant deposits (Section 3.1.1). PCB concentrations at each location were also used to estimate mass flux of PCBs. River flow at each sampling location was similar, since additional flow from tributaries in this region of the river is insignificant. Therefore, mass flux estimates for both sampling stations were developed using USGS daily average flow data recorded at the Fort Edward gaging station.

Total suspended solids were analyzed to evaluate potential PCB association with solids in the water column. The hydrophobic characteristics of PCBs favor such interaction. Therefore, correlation of TSS with flow and/or PCB concentration would suggest PCB transport by mechanisms such as bed scouring.

PCB composition evaluation of 1997 water column data was limited because mean water column PCB concentrations at HRM 194.2 were approximately 13 ng/l (Section 3.1.2). For reliable evaluation of PCB composition data, concentrations above the practical quantitation limit are preferred. At PCB concentrations near the method detection limit, such as those that occurred in the water column in 1997, evaluation of PCB composition is subject to analytical limitations (Appendix A). Although distortion of PCB composition occurs at total PCB concentrations less than the practical quantitation limit, the stability of the composition over time is useful for evaluation of potential source(s).

A detailed discussion of PCB source identification using capillary column analytical data is provided in Appendix A. This results section also provides a summary of QA/QC data (Section 3.2). The QA/QC summary focuses on an assessment of accuracy (Table 1-1) based on field duplicate results and matrix spike recoveries.

3.1. Water column monitoring

The 1997 routine water column monitoring program consisted of collection of water column samples from sampling stations located at approximate HRM 197.0 and HRM 194.2 (Table 1-2). These two sampling stations represent upstream (background) and downstream of the remnant deposits, respectively (Figure 1-1). Fifty-one rounds of PCRDMP samples were collected weekly from January 6 to December 29, 1997. Samples were analyzed for PCBs and TSS (Section 2.4).

3.1.1. Total PCB and TSS concentrations

PCB analytical results from the upstream and downstream sampling stations are summarized using the geometric mean and other statistical parameters (Table 2-1). Results from each station are presented separately below.

- Background station (HRM 197.0). At the background sampling station (HRM 197.0), water column PCB concentrations were below the method detection limit in 96% of the samples collected at this station in 1997 (Table 3-1). PCBs greater than the method detection limit were measured in two samples collected at this station for the 1997 PCRDMP, at levels of 11 ng/l and 12 ng/l. Total suspended solids concentrations ranged from less than 1.0 to 4.1 mg/l (Table 2-1).
- Downstream of the remnant deposits region of the river. At the sampling station downstream of the remnant deposits (HRM 194.2), water column PCB concentrations ranged from less than 11 ng/l to 23 ng/l during routine monitoring with a geometric mean, median, and standard deviation of 13, <11, and 3 ng/l, respectively (Table 2-1). However, additional sampling during high flow monitoring detected total PCB concentrations up to 54 ng/l (Section 1.4). Total suspended solids concentrations during routine monitoring ranged from less than 1.0 to 4.7 mg/l.

3.1.2. PCB composition

Total PCB concentration of samples collected for the 1997 PCRDMP were less than the practical quantitation limit (44 ng/l) resulting in analytically distorted PCB composition signatures that reduces the reliability of the data for composition evaluations (Appendix A). Consequently, evaluation of 1997 data for homolog pattern recognition were generally limited to a comparison of 1996 and 1997 data for stability of PCB composition over time (Figure 3-1; Section 4.7).

PCB homolog distributions for 1997 sampling results with total PCB concentrations greater than the method detection limit are presented in Table 3-2. The majority of the PCBs detected in the water column samples were triand tetra-chlorobiphenyls. The maximum detected total PCB concentration at HRM 194.2 during 1997 was 23 ng/l. Therefore, to compare the homolog distributions for 1996 and 1997 HRM 194.2 sampling results, samples with total PCB concentrations between the method detection limit and 25 ng/l are presented in Figure 3-1. For comparison purposes, the homolog distribution for Aroclor 1242 analyzed by NEA methodology is also presented (Figure 3-1). Homolog composition of samples collected downstream of the remnant deposit region of the river (HRM 194.2) closely resembled Aroclor 1242. However, the samples were slightly more chlorinated than a commercial Aroclor 1242 mixture, consistent with previous monitoring results (O'Brien & Gere 1998b).

During the spring of 1998, unusually elevated concentrations of DB-1 capillary column PCB Peak 5 were detected in water column samples collected at HRM 197.0, HRM 194.2, and in the vicinity of Bakers Falls. Evaluation of 1997 data for HRM 197.0 and HRM 194.2 revealed that Peak 5 concentrations were elevated during the low flow summer period. Additional evaluation of this occurrence is planned.

3.2. Quality assurance/quality control

The data summary tables (Tables 2-1, 3-2; Appendix B), include PCB data qualifiers identified during the data validation process (Appendix E). Data validation included routine PCRDMP sampling stations (Tables 2-1 and 3-2), and data from the Thompson Island Dam - HRM 188.5 and TID-PRW2 - and Schuylerville sampling stations (Appendix B). For PCB concentrations reported below the method detection limit (11 ng/l), "<11" is reported in the summary tables. PCB concentrations between 11 ng/l and 44 ng/l represent

concentrations above the method detection limit, but below the practical quantitation limit. PCB results in this range were noted with a "P" to identify the results as estimated concentrations. Preliminary field data previously provided to USEPA and NYSDEC in weekly and monthly progress reports did not include results of data validation review (General Electric 1997).

A total of 176 water samples were validated and the results of this evaluation indicate that 99% of the data are usable for quantitative purposes. Validation identified 31 sample results which required qualification as estimates (J) due to minor quality control issues. Estimated results included results which were outside of holding times, performance criteria concerns (retention time window and internal standard area). During 1997, equipment and method blank concentrations were less than 11 ng/l (Table 2-2), except for six blanks associated with samples collected on dates below:

Equipment and method blank detections

Date Sampled	Blank type	PCB Detected (ng/l)	PCB composition	Evaluation
3/19/97	Equipment	45	Aroclor 1260; Archive sample result <11 ng/l	laboratory contamination
4/14/97	Equipment	14	non-PCB peaks; Archive sample result <11 ng/l	source uncertain
8/14/97	Method	14	Aroclors 1254/1260	laboratory contamination
10/10/97	Equipment	15	Aroclor 1254	laboratory contamination
12/09/97	Equipment	15	Aroclor 1242	source uncertain; lab or field contamination
12/29/97	Equipment	13	Arocior 1242	source uncertain; lab or field contamination

Source: O'Brien & Gere Engineers, Inc.

The detection of PCBs in several blanks was attributed to handling problems in the laboratory as evidenced by the presence of Aroclor 1254 and 1260 not associated with samples collected from the Hudson River. The detection of Aroclor 1242 may also likely be attributable to similar laboratory handling problems. However, samples with elevated levels of PCBs were collected at

the pumphouse IRM site during the 12/9 and 12/29 sampling rounds, and field cross contamination may have occurred. Corrective action resolved the problem.

Surrogate recoveries tended to be below the lower bound of the criteria (70% to 130%) in equipment blanks more often than in other samples. Thirty-eight percent of the equipment blanks analyzed had surrogate recoveries less than 70%. Three-quarters of the 20 samples with surrogate recoveries less than 70% were equipment blanks.

Field sampling and laboratory analytical accuracy was assessed by evaluation of precision and potential bias (Table 2-2 and Appendix E). For this purpose, duplicate and matrix spike samples were analyzed along with each of the fiftyone rounds of PCRDMP samples. The statistical analysis of duplicate results did not include 14 samples which were non-detect. Precision, as measured by results of 39 duplicate analyses with concentrations above the method detection limit, was good with an average RPD of 4%. Comparison of original and duplicate homologs indicated overall precision is well within the expected RPD range of 35% or less (Appendix E).

Matrix spike sample results were examined to assess potential analytical bias in the PCB data. The average matrix spike recovery was 99% for the 51 matrix spike samples analyzed,. The data did not exhibit analytical bias as indicated by matrix spike recoveries within the expected range of 70 to 130%.

Laboratory reports containing PCB data along with supporting documentation are provided in Appendix F (bound separately). The level of completeness in this data set conforms to the level of completeness specified in the QAPP (O'Brien & Gere 1992b).

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4. Discussion

The potential impact of the remnant deposits or other possible PCB sources on water column PCB concentrations in the Hudson River was evaluated through qualitative and semi-quantitative evaluation of spatial and temporal data⁴. The 1997 PCRDMP data were evaluated from several perspectives:

- Data quality was evaluated to assess how sampling, analytical, and hydrologic data limitations affect interpretation of PCRDMP data (Section 4.1).
- Spatial data from upstream of the remnant deposits (plunge pool, boat launch, 20 from east, and 50 from east) were compared and contrasted with data from downstream of the remnant deposits (HRM 194.2; Sections 4.2 and 4.3). Short term spatial patterns were also evaluated using time of travel data from hydroelectric facility maintenance operations sampling (Section 1.4).
- *Temporal data* were compared and contrasted with seasonal patterns observed during previous years. Overall trends in water column concentrations at the Fort Edward sampling station at Rogers Island downstream of the remnant deposits were evaluated for the period 1991 to 1997 (Section 4.4).
- Statistical evaluations of water column data were used to further evaluate overall trends (Section 4.5).
- Potential associations of PCB concentrations with TSS and flow were evaluated for evidence of river bed scouring (Section 4.6).
- Composition of PCBs was evaluated using PCB homolog distributions from which the source(s) of PCBs was inferred (Section 4.7).

The data were examined to identify general types of environmental observations: *Trends* indicate long-term change in concentrations. *Random* fluctuations occur when random, unassignable variations occur along a time sequence. *Cycles* are periodic changes in concentration which may be caused by a number of variations including seasonal climate, flow, and biological activity. Such cycles are not trends because they do not represent long-term change. *Pulsed* loadings are short-term increases in chemical concentrations. *Step changes* may occur when sharp, long-term, changes take place (Gilbert 1987).

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Potential PCB sources in the remnant deposit region of the river were evaluated (Section 4.8).

Discussion of the PCB data from these perspectives utilize total PCB concentrations, PCB mass transport estimates, and PCB fingerprint analyses.

4.1. Data quality

Annual median water column PCB concentrations have decreased from approximately 33 ng/l for the period from 1993 to 1995, to near the method detection limit of 11 ng/l in 1996 and 1997 (Table 3-1). Decreases in water column PCBs to near the method detection limit over the past several years increase the importance of understanding sampling and analytical limitations when evaluating the PCRDMP water column data quality. The following interpretive limitations are noteworthy.

Depth-integrated sampling methods are employed at the HRM 197.0 and HRM 194.2 sampling stations to provide data of acceptable quality for estimating water column PCB mass transport. Extensive water column studies conducted from 1995 to 1997 have indicated the PCB data collected from HRM 194.2 is considered representative of loading from the Bakers Falls source(s) (O'Brien & Gere 1996c, 1998a). Potential bias due to PCB DNAPL migration below the sampling devices has not been quantified (O'Brien & Gere 1996c).

The PCB analytical method has sensitivity limitations that affect quantitation and composition evaluation at total PCB concentrations between the method detection limit (11 ng/l) and the practical quantitation limit (44 ng/l; Appendix A). PCB concentrations in this range are considered estimates (Appendices A and E), therefore uncertainty increases for evaluation of spatial and temporal trend at these low concentrations. In 1997, total PCB concentrations observed were typically below the practical quantitation limit. The reliability of PCB composition evaluation is also affected by analytical method detection limits at PCB concentrations below the practical quantitation limit. Although the PCB composition becomes distorted at concentrations below the PQL, the data have had some use for PCB composition evaluations (Appendix A).

Mass transport values (Section 4.3) incorporate the sampling and analytical errors, as well as errors associated with river flow estimates (Section 2.2).

River flow is approximately equivalent at the PCRDMP sampling stations, allowing direct comparison of mass transport and concentration data. Mass transport for a given station (mass/unit time) is calculated as the product of flow and PCB concentration at that station. Changes in PCB loading between two locations (mass/unit time) is calculated as the difference of the products of flow and PCB concentration from upstream to downstream. Temporal loading or mass transport changes may occur as changes in PCB concentration or flow.

Estimates of mass transport may be generated using either mean daily or instantaneous flow data (Aprendix C). Flow variabilities can be substantial over a 24-hour period; therefore, actual mass loadings associated with the water column data for a particular sampling date may be more closely approximated using instantaneous flow estimates (O'Brien & Gere 1998b). Instantaneous flow estimates, however, have not been reviewed by the USGS, and the values may contain significant unidentified errors.

To optimize the representativeness of the data, estimates of PCB mass loadings are obtained over extended time periods utilizing multiple PCB data points and mean daily flows. The mean daily flows, because they are subject to review and detailed verification by USGS, provide more reliable hydrologic data for mass transport calculations (Appendix C). Multiple data points improve the reliability of PCB mass transport estimates over those utilizing a single data point.

Interpretation of annual PCB mass transport data is complicated by daily and seasonal variabilities in river hydrology. Comparisons of mass transport on an annual basis focus on the summer low flow period because data for this season is most comparable from year to year. Other seasons experience greater flow variabilities that complicate interpretation of data. Even so, annual mean flows during summer months may vary by over 50% (Figure C-4).

Uncertainty in the accuracy of mass transport estimates increases when water column concentrations at Fort Edward are less than the method detection limit. For PCB concentrations below the method detection limit (11 ng/l) at HRM 194.2, the baseline mass transport value was calculated using 10.9 ng/l for total PCB. This imposes a baseline mass transport value that is interpreted as an upper bound for PCB transport where PCBs were not detected. While estimates using this approach may over-estimate actual PCB loading, other approaches increase the uncertainty as to the meaning of the baseline value. For occurrences where total PCB at HRM 194.2 is less than the method detection limit, it is assumed that detected PCB concentrations upstream of

the remnant deposits (*e.g.*, plunge pool area samples) represent a total PCB loading value less than the baseline mass transport calculated for HRM 194.2.

4.2. Background data

Water column PCBs were detected at the background station in two of 51 samples collected for the 1997 PCRDMP, and in one round of high flow sampling in April 1997. The levels of PCB detected in the two samples above the MDL were 11 ng/l and 12 ng/l. The origin of these detections is uncertain. Estimated mass transport of PCBs at the background station during 1997 was less than the median baseline estimate of approximately 0.1 kg/day (Table 4-1). Water column PCBs were detected in less than 5% of samples collected at this station in 1996 and 1997 (Table 3-1).

4.3. Spatial observations

Spatial data are presented below for data collected upstream of the remnant deposits (Section 4.3.1), and data collected downstream of the remnant deposits (Section 4.3.2). Time of travel sampling conducted for the hydroelectric facility operations monitoring provides additional insights into spatial relationships between the sampling stations (Section 4.3.3).

4.3.1. Spatial observations of samples collected in vicinity of Bakers Falls Concentrations of PCBs in the vicinity of the Bakers Falls source(s) in 1997 (*e.g.*, plunge pool area) indicate that this source, although reduced, continues to be the primary source of PCBs detected in the remnant deposit region of the river. In 1997, PCB concentrations detected in water samples at the base of Bakers Falls (plunge pool, boat launch, HR20 East and HR50 East) ranged from <11 to 422 ng/l. The median concentration in the plunge pool was 20 ng/l (Appendix B).

PCB concentrations of samples collected at the base of the falls have been highly variable over time (Appendix B). This is likely due to the proximity of the sampling stations to the source(s) area, which limits the mixing of PCBs with the water column. Events in the vicinity of Bakers Falls which may have influence on PCB concentrations and transport in the plunge pool area include

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river bed DNAPL seeps and intermittent inundation of the falls (O'Brien & Gere 1998b).

Incomplete mixing of PCBs with the water column in the vicinity of the falls, along with intermittent river flow over the falls complicates interpretation of spatial trends and does not allow direct estimates of PCB mass loadings from the Bakers Falls source area.

4.3.2. Spatial observations downstream of the remnant deposits

Previous monitoring linked water column PCB concentrations observed at the Fort Edward sampling station (HRM 194.2), located downstream of the remnant deposits, with PCBs originating from the Bakers Falls source(s) (Appendix A; O'Brien & Gere 1993b, 1996b, 1995a, 1994b). Results of extensive sampling conducted in 1955 to isolate potential sources of PCBs demonstrated that water column PCB mass transport was equivalent upstream and downstream of the remnant deposits during the low flow conditions sampled (O'Brien & Gere 1996c). Therefore, PCBs potentially originating from the remnant deposits were at or below the sensitivity of the measurement program (O'Brien & Gere 1996b, 1996c). Additional water column sampling conducted as the Fort Edward transect study in 1996 (O'Brien & Gere 1998b) indicated that PCB mass transport estimates using data collected at HRM 194.2 were representative of river water column PCB concentrations during the low flow conditions sampled. Therefore, the Fort Edward data provide the most reliable data to estimate overall water column PCB mass transport from Bakers Falls source(s).

In 1996 and 1997, water column PCB concentrations and mass transport downstream of remnant deposits continued to decline. The 1996 and 1997 PCB concentrations were statistically lower and less variable than previous years monitored by the PCRDMP (Tables 3-1 and 4-1). Water column PCB concentrations in the remnant deposit region of the river have declined since Bakers Falls source(s) control measures were initiated in 1993 (O'Brien & Gere 1995a, 1996b, 1998b). The PCB mass loading from the Bakers Falls source(s), as measured at HRM 194.2, decreased from approximately 1.2 kg/day in 1992 to approximately 0.4 kg/day from 1993 through 1996 (Table 4-1). In 1997, the mass loading had decreased to less than approximately 0.2 kg/day, which was slightly greater than baseline (Table 4-1). The 95% confidence level indicates that the annual differences in mass loading were not statistically significant from 1993 through 1996 (Figure 4-1), and mass loading for 1997 was statistically lower than previous years.
High flow monitoring was conducted in April 1997. Total PCB concentrations in the west channel of HRM 194.2 in Fort Edward ranged from <11 ng/l to 15 ng/l, and in the east channel ranged from <11 ng/l to 54 ng/l. In general, PCB concentrations in the east channel were higher than PCB concentrations in the west channel for the seven rounds of sampling in which both channels were sampled. Routine weekly sampling that composited depth-integrated aliquots from both channels equally would provide an overestimate of the contributions from the east channel (Table 1-2). Generally, this bias appears to be small.

4.3.3. Time of travel spatial relationships

Time of travel sampling results are useful for interpretation of spatial relationships between sampling stations by monitoring a single parcel of water as it travels downstream. Sampling was performed to evaluate the potential effect of occasional temporary inundation of Bakers Falls during low flow as a result of hydroelectric facility maintenance operations (Appendix B). Water column PCB concentrations increased during the brief inundation of the falls (Appendix B). The potential impact of the temporary inundation of the falls on water column PCB concentrations was evident from samples collected during this monitoring, although the spatial relationships are not fully understood (Appendix B).

4.4. Temporal observations in remnant deposit region of river

Water column concentrations of PCBs in the remnant deposits region of the river declined sharply and became less variable in 1996 and 1997 (Figure 1-3). Previous decreases in water column PCB mass transport observed in the remnant deposits region of the river between 1993 and 1995 coincided with the implementation of remedial activities at the Bakers Falls source(s) (Figure 4-1). Dewatering of the falls along with river bed seep collection of PCB DNAPL likely contributed to the decreases observed in 1996 and 1997 (Section 4.3; O'Brien & Gere 1998b).

Median water column PCB concentrations at HRM 194.2 during 1997 were <11 ng/l compared to median concentrations of 33 ng/l from 1993 through 1995 and 12 ng/l in 1996 (Table 3-1). In 1997, water column PCB concentrations at HRM 194.2 were less than the method detection limit for approximately 57% of the 51 rounds of sampling conducted during the year (Table 3-1). In 1996, 39% of 51 samples had PCB concentrations below the

4. Discussion

method detection limit, and prior to 1996, less than 10% of water column samples collected had PCB concentrations less than the method detection limit (Table 3-1).

The maximum water column PCB concentration observed at HRM 194.2 in 1997 occurred during high flow, when concentrations up to 54 ng/l were detected. Otherwise, the maximum PCB concentration detected during the weekly PCRDMP sampling was 23 ng/l. For comparison, maximum concentrations at HRM 194.2 during 1996, 1995 and 1994 were 56, 367 and 267 ng/l, respectively (Table 3-1). When elevated PCB concentrations in 1997 were detected, they were individual sampling occurrences, consistent with data from recent years. There has not been a period of sustained elevated PCB concentrations since the summer and fall of 1991 and 1992, before source control measures were implemented at the Bakers Falls source(s) (O'Brien & Gere 1993d; 1994b; 1995a; 1996b; 1998b).

Temporal trends of PCB concentration and mass transport in 1997 are not directly comparable to trends in 1996 due to flow differences (Appendix C; Figure 4-1). PCB concentrations between 1996 and 1997 were similar, and since mean flow at Fort Edward was approximately 1,600 cfs less in 1997 than in 1996, mean mass transport for 1997 is less than mass transport in 1996 (Table 4-1; Figure 4-1). Also, in 1997, seasonal differences in water column PCB concentrations downstream of the remnant deposits were small (Figure 4-2). Slight increases in variability occurred during the second half of the year, although geometric mean concentrations were not statistically different.

With total PCB concentrations downstream of the remnants less than 25 ng/l during 1997, PCB mass transport was close to the baseline mass estimate (*i.e.*, based on PCB detection limits) throughout most of the year (Figure 4-3). The baseline represents a conservative estimate of mass transport (Section 4.1). PCB mass transport increased during periods of elevated river flow during the spring, summer and autumn of 1997 (Figure 4-3).

4.5. Statistical evaluation of overall spatial and temporal trends in remnant deposit region of river

A statistical evaluation of overall trends was performed by reviewing general statistics and using box plot analyses.

General statistics 1991 through 1997. In 1997, water column PCB concentrations at the Fort Edward sampling station downstream of the remnant deposits did not show statistically significant seasonal concentration differences throughout the year (Figure 4-2). Compared to annual mean data from 1996, annual mean PCB concentrations at HRM 194.2 for 1997 were statistically similar, with less variability as indicated by the 95% confidence interval around the mean (Figure 4-2).

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Box plot analyses. The annual median PCB concentration for sampling station HRM 194.2 was compared for the years 1993 through 1997 (Figure 4-4). Water column concentrations were statistically lower in 1996 and 1997 than in previous years, and variability decreased, as well. The box plot analyses highlight the median concentration as the most statistically robust representation of water column concentrations. Statistical robustness is the ability of a statistical procedure to yield correct conclusions even when applied to data that are not normally distributed (Berthouex and Brown 1994).

In both 1996 and 1997, the water column PCB concentrations approached the method detection limit, variability was low and the arithmetic mean approximated the median. In previous years, the data were more lognormally distributed and the median water column concentrations were more closely approximated by the geometric mean. PCB concentrations below the method detection limit in 1996 and 1997 contribute to the observed statistical shift.

In previous PCRDMP reports, data were also reviewed to identify statistical outliers using the Q-test (O'Brien & Gere 1994b, 1995a, 1996b, 1998b). Since PCB data collected at HRM 197.0 and HRM 194.2 during 1997 were estimated values that did not exceed the practical quantitation limit, and short-term variabilities in PCB concentration were minimal, analysis of the data using the Q-test was not performed on the 1997 PCRDMP data.

4.6. Comparison of PCB concentrations, TSS, and flow

The potential association of PCBs with TSS and flow was evaluated to examine the potential for riverbed scouring in the remnant deposits region of the river. Under circumstances of river bed scour, it is anticipated that elevated PCB concentrations would be correlated with elevated TSS and/or flow. Correlations of these parameters are not evident from the results of the 1997 PCRDMP.

Specifically, using a linear regression model to evaluate possible relationships, elevated PCB concentrations were not correlated with flow at HRM 194.2 ($r^2 = 0.11$; Figure 4-5a). Also, concentrations of water column PCBs and TSS were not correlated ($r^2=0.06$; Figure 4-5b). Nor were TSS concentrations and flow correlated ($r^2=0.00$; Figure 4-5c). Data collected during high flow did not exhibit significant increases in PCB or TSS concentration with increased flow (Figure 4-5).

Where concentration does not increase with increased flow, loading increases occur as a function of river flow. The divergence of water column PCB concentrations with TSS and flow under the flow regimes of 1993 through 1997 suggests that mechanisms other than scouring of PCB-contaminated sediments are primarily responsible for transport of PCBs in the river for the monitoring period, as indicated above. Water column TSS concentrations at the Fort Edward monitoring station ranged from <1 to 4.7 mg/l and had a median concentration of 2.1 mg/l, indicating that sediment available for scouring in this region of the river is limited (Table 2-1).

Concentrations of TSS at the Fort Edward monitoring station were comparable to TSS concentrations at the background station (Figure 4-6). The correlation of TSS concentrations at both locations during elevated TSS loading suggests that TSS loading observed at the Fort Edward monitoring station originated upstream of the remnant deposits. River bed survey information associated with the 1995 River Monitoring Test (O'Brien & Gere 1996c) and 1996 sampling at the Fort Edward transect (O'Brien & Gere 1998b) confirmed the lack of large amounts of sediment in the river bed in this reach of the river.

4.7. PCB composition

Evaluation of PCB composition is limited for the 1997 PCRDMP due to the amount of data suitable for detailed interpretation, since total PCB concentrations during 1997 were below the practical quantitation limit (44 ng/l). Reliable evaluation of PCB composition at concentrations below the practical quantitation limit is limited due to analytical limitations that increase uncertainties in pattern recognition at lower concentrations (Section 4.1, Appendix A). Since the data from 1997 are consistently below the practical

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quantitation limit, the homolog and congener patterns are distorted (Section 3.1, Appendix A).

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To evaluate the 1997 low-level PCB (*i.e.*, between 11 ng/l and 25 ng/l) homolog distribution patterns relative to historical distribution trends, the 1997 data were compared with distributions from low-level PCB samples collected during 1996 (Section 3.1). The discussion below evaluates the comparison of 1996 and 1997 low-level PCB homolog distributions (Section 4.7.1) and evaluates the results of this comparison relative to the historical distribution trends and source evaluation (Section 4.7.2).

4.7.1. PCB composition below the practical quantitation limit

Evaluation of PCB composition below the practical quantitation limit is difficult due to analytical limitations (Appendix A). Although the compositional patterns below the practical quantitation limit are systematically distorted, comparison of the 1997 data and the 1996 data patterns below the practical quantitation limit should indicate qualitatively whether gross compositional changes have occurred.

For both 1996 and 1997, PCB homolog distribution data below the PQL were dominated by tri- and tetra-chlorinated biphenyls, similar to Aroclor 1242 (Figure 3-1). Small differences between the 1996 and 1997 homolog distributions are within ranges expected due to analytical limitations (Appendix A; Figure 3-1).

4.7.2. PCB composition of potential sources, commercial Aroclor mixtures, and composition of PCBs in remnant deposit region of river

Characteristic homolog and congener distributions have been identified for commercial Aroclor mixtures of PCBs and potential sources of PCBs in the remnant deposits region of the river (Appendix A; O'Brien & Gere 1998b). Compositions of these potential PCB sources were compared with PCRDMP water column data and evaluated for evidence of changes in composition due to exposure of PCBs to the environment. Changes in PCB composition resulting from environmental exposure may be caused by site-specific physical and chemical processes (weathering), and biological processes (aerobic biodegradation and anaerobic dechlorination).

Analytical results from sampling conducted in the spring of 1998 identified an anomaly in PCRDMP samples collected at HRM 197.0 and HRM 194.2. This anomaly was expressed as unusually elevated concentrations of DB-1 capillary

column Peak 5 relative to expected weight percent levels. Generally, detectable PCB congener distributions at these sampling stations resemble an Aroclor 1242/1254 mixture comprising DB-1 Peak 5 as approximately 2% of the total PCB concentration (Appendix A). Elevated DB-1 Peak 5 concentrations in 1998 at HRM 194.2 exceeded 20% of the total PCB concentrations. These occurrences may be associated with an unknown analyte. Similar occurrences may have been unnoticed in 1997; further evaluation of 1997 data is planned.

Since total PCB concentrations at HRM 194.2 during 1997 did not exceed the PQL (44 ng/l), the 1997 total PCB concentrations and Peak 5 values are considered estimates. Estimated weight percents of DB-1 Peak 5 during 1997 at HRM 194.2 ranged from 3% to 40% of the total PCB concentration. Additional investigation of the DB-1 Peak 5 occurrences is planned.

The composition of water column PCBs in the remnant deposit region of the river during 1997 was similar to previous monitoring, although the pattern appears to be distorted due to analytical limitations below the practical quantitation limit. However, the similarity of the composition patterns indicates a single type of PCBs is primarily responsible for the observed PCB composition in this region of the river. As in 1996, water column PCB homolog and congener distributions in the vicinity of the remnant deposits generally corresponded with unaltered Aroclor 1242 patterns found in samples from the Bakers Falls source(s) (Appendix A).

4.8. Evaluation of potential PCB sources in the remnant deposit region of the river

Characterization of the contributions from potential sources in this region of the river is problematic for several reasons:

• River PCB concentrations are near or at the method detection limit, increasing uncertainty due to limitations of both sampling and analytical methods (Section 4.1, Table 1-2). Mass transport, calculated as the product of flow, water column PCB concentrations and a unit correction factor, tends to result in disproportionately large mass differences from small concentration differences, particularly at high flow. Mass transport estimates calculated using a concentration of 10.9 ng/l for concentrations less than the method detection limit and 1992 through 1997 flow data results in an annual geometric mean mass transport of 0.12 kg/day with a

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standard deviation of 0.11 kg/day. On an annual basis, the daily baseline ranges from approximately 0.03 to 0.74 kg/day.

- The mean daily PCB mass transport estimate at the background station was equivalent to the baseline of approximately 0.12 kg/day during 1997 using the baseline PCB concentration of 10.9 ng/l (Table 4-1).
- The best estimate of overall mass loading from the Bakers Falls source(s) using PCRDMP data is represented by mass loading at HRM 194.2 downstream of the remnant deposits (O'Brien & Gere 1998b; Figure 4-3).

In summary, the Bakers Falls source(s), although reduced, continue(s) to be the predominant PCB source in the remnant deposit region of the river and mass loading from the remnant deposits have not been identified from results of PCRDMP sampling. Overall mass transport from the Bakers Falls source(s) is represented by mass transport observed at sampling station HRM 194.2 downstream of the remnant deposits.

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5. Summary/Conclusions

The major findings of the 1997 PCRDMP are consistent with conclusions of previous monitoring:

- Water column PCB concentrations in the remnant deposits region of the river have decreased significantly since 1991 in response to remedial activities performed at the source(s) in the vicinity of Bakers Falls.
- PCB levels in the section of the river between Bakers Falls and Rogers Island in 1996-1997 decreased from levels observed in 1994 and 1995, and no sustained periods of elevated PCB loading occurred in 1997. During 1997, the median PCB concentration at HRM 194.2 was less than the method detection limit (<11 ng/l).
- Detailed evaluation of water column PCB composition was not performed as concentrations were below levels reliably evaluated by the analytical method (Appendix A). Nevertheless, a comparison of mean lowconcentration homolog distributions from 1996 and 1997 indicates that differences between the two years are minor. Therefore, it can be inferred from this comparison that, as in 1996, the water column PCB composition in 1997 resembled Aroclor 1242, which is consistent with PCBs originating from the Bakers Falls source area.
- The continued detection of PCBs in the vicinity of the Bakers Falls source(s) suggests that the PCB mass transport observed at HRM 194.2 in 1997 was attributable to the Bakers Falls source(s).

In addition, the 1997 findings include:

- Water column PCBs were not detected at the background sampling station in 1997 except for two PCRDMP sampling rounds and one sample collected during April 1997 high flow event (O'Brien & Gere 1998).
- Elevated DB-1 Peak 5 concentrations were occasionally detected in samples with total PCB concentrations near the detection limit in the spring of 1998. Preliminary evaluation indicates that an unknown analyte may elute at the DB-1 Peak 5 position typically associated with dichlorobiphenyls. This phenomenon may have occurred, unnoticed, during 1997. Uncertainty in the identity of this unknown analyte is being investigated further in 1998.

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Based on the summary above, it would appear that the contribution of the remnant deposits to PCB levels in the river, if any, are small. PCBs originating from the Bakers Falls source(s) have been reduced, but not eliminated.

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O'Brien & Gere Engineers, Inc.

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TABLES

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Parameter	Description
Accuracy	The ability to obtain precisely non-biased (true) value data.
Bias	The difference between an observed value and the "true" value (or known concentration) of the parameter being measured.
Precision	The level of agreement among multiple measurements of the same characteristic.
Representativeness	The degree to which the data collected accurately represents the population of interest.
Comparability	The similarity of data from different sources included within individual or multiple data sets
Completeness	The quantity of data that is successfully collected with respect to the amount intended in the experimental design.
Sensitivity	Sensitivity is defined by the method detection limit (MDL) and practical quantitation limit (PQL). The MDL is the lowest concentration of an analyte that a specified analytical procedure can reliably detect. The PQL is the estimated value that can be reliably quantified by a particular method.

Table 1-1. Data Quality Parameters.

Sources: USEPA 1994, USEPA 1986.

Final: November 20, 1998 i:51/0612244/5_/97/tbl_fig/t1_dqp.wpd

O'Brien & Gere Engineers, Inc.

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Table 1-2. Comparison of Sample Locations and Data Interpretation Notes

Sampling Location	Sampling Status	HRM*	Significance of location	River bed geometry	Sample type	Potential limitations of data
County Route 27 Bridge, Hudson Falls	Active PCRDMP	197.0	Background location, upstream of GE Hudson Falls facility and Bakers Falls.	Water depth typically 4 to 6 feet.	Depth integrated composite sample collected with Kemmerer sampler from center of bridge.	Sampling at this location is not intended to fully characterize potential sources upstream. PCB concentrations at this background station are typically less than the detection limit. PCBs have been detected from undefined source(s).
Route 197 Bridges, Fort Edward	Active PCRDMP	194.2	Downstream of remnant deposits.	Water depth typically 6 to 12 feet deep. Water flow in east and west channels approximately 35% and 65% of total flow ¹ .	Depth integrated composite sample collected with Kemmerer sampler. Aliquots collected from east and west bridges are composited.	This sampling station better represents the PCB loading of the Bakers Falls source(s) than the former sampling station at HRM 196.8 or samples collected at the base of Bakers Falls (plunge pool and boat launch). Located approximately 2.5 miles downstream of the Bakers Falls source(s), more water column mixing of PCBs originating from this source(s) occurs between the source(s) and sampling station. However, sampling limitations at this location may occur due to potential PCB DNAPL migration below sampling devices ² .
				-		PCBs in river banks near the former Fort Edward facility outfall 004 are another potential source located between this sampling station and the Bakers Falls source(s) ^{3, 4} . Evaluation of this area is continuing.

Notes: * Approximate Hudson River mile; HRM 0.0 is located at the Battery in New York City. Table lists sampling stations from upstream to downstream.

Source: O'Brien & Gere Engineers, Inc.

GE - Hudson River - 1997 PCRDMP

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GE - Hudson River - 1997 PCRDMP

	LISGS F	low (3)	Temp @		M 197 0(2)	3 4110 3		M 104 2/2)	
Data	Daily	low (5)		Total PCBe	TSS	Com	Total PCBe	TEE	Com
Collected	(cfe)	(cfe)	(Calcius)	(ng/i) (A)	(mg/l)	(5)	(ng/i) (4)	(mg/l)	(5)
06- Jap-97	8 480	8 200	2	<11	1 1		<11	1.6	
13-lan-97	7.570	7 500	0	11	13	P	11 (<11)	18/18)	P(-)
27 Jan 97	6,8000	6,800	0	~11	13		<11	2.0 (1.0)	· · (-)
21-Jan-91	. 0,000e	0,000	Ū		1.5	-		. 2.2	-
03-Eeb-97	6 170	7.400	. 1	<11	<1 1	_	<11	12	_
10-Feb-97	5,560	5 400	1	<11	<1.1	_	<11 (<11)	<11(14)	_
18-Feb-97	5 800	5 700	3	<11	<1.0	_	<11	<11	111
24-Feb-97	9 790	10,200	2	<11	<11	_	<11 (<11)	<10(14)	-
2-1-1 00-07	0,700	10,200	£					-1.0 (1.4)	_
03-Mar-97	9.020	10.000	1	<11	<1.1	-	<11	<1.1	-
10-Mar-97	7.510	7,900	2	<11	1.6	-	<11	1.6	-
19-Mar-97	6,490	6,600	3	<11	<1.0	-	<11 (<11)	1.2 (<1.0)	-
24-Mar-97	5,240	4,900	4	<11	<1.0	-	<11	1.2	-
31-Mar-97	11,500	10,700	3	<11	2.3	-	<11	2.2	-
		,	_						
07-Apr-97	13,800	14,400	11	<11	3.5	-	13 (13)	4.1 (3.5)	Р
14-Apr-97	7,340	7,300	6	<11	1.4	-	14	<1.0	U, P
21-Apr-97	10,300	10,600	7	<11	1.4	-	<11	4.1	-
28-Apr-97	11,200	10,700	9	<11	4.0	-	<11	3.4	-
		·							
05-May-97	16,200	15,800	10	<11	2.8	-	<11 (<11)	2.8 (2.9)	-
12-May-97	11,700	11,700	12	<11	<1.1	- 1	<11	1.2	_ ·
19-May-97	7,960	8,600	11	<11(<11)	<1.1 (<1.1)	-	<11	<1.1	-
27-May-97	5,120	5,000	15	<11	2.3	-	<11 (<11)	4.1 (2.9)	-
-		,							
03-Jun-97	3,960	4,000	17	<11	1.5	-	<11	2.1	UJ
09-Jun-97	2,910	2,900	20	<11	<1.2	-	<11	<1.1	-
09-Jun-97	-	3,000	-	[<11]	<1.2	HFO	14	<1.0	HFO, P
16-Jun-97	2,090	2,900	24	<11	2.1	-	15 (15)	2.8 (2.7)	Р
23-Jun-97	3,280	3,500	23	<11	2.0	-	<11	2.4	-
23-Jun-97	-	2,000	-	[<11]	2.0	HFO	23	3.0	HFO, P
30-Jun-97	2,560	2,800	25	<11	2.0	-	18	1.8	P
07-Jul-97	4,860	6,000	22	<11	4.1	-	18 (19)	4.1 (4.7)	P
14-Jul-97	3,080	2,000	25	<11	<1.0	UJ	14	<2.4	P, J
21-Jul-97	3,070	2,900	22	<11	2.1	-	20 (21)	2.7 (2.5)	P
21-Jul-97	-	3,300	-	[<11]	3.6	HFO	17	3.0	HFO, P
28-Jul-97	2,630	1,500	25	<11	1.2	-	19	2.4	Ρ
					· .	-			
04-Aug-97	3,460	5,000	22	12	2.5	Р	<11	3.2	-
14-Aug-97	2,170	1,500	23	<11	1.9	-	15	2.2	P, U
20-Aug-97	2,060	2,300	23	<11	2.0	-	13 (14)	3.1 (3.1)	P
26-Aug-97	2,600	2,700	21	<11	3.1	-	16	3.0	P
02.047.07	0.400	0.400			• •		40 (40)		-
03-Sep-9/	2,460	3,100	21	<11	2.9		19 (19)	3.0 (3.0)	9
11-Sep-9/	2,550	2,000	20	<11	1.4	-	12	1.9	P
1/-Sep-9/	2,900	3,700	20	<11	1.5	-	14	3.1	P
24-5ep-97	2,390	3,100	18	<11	1,1		19	1.9	· P
01-00+97	2 640	3 100	14	~11	1 5	111	-11 /-11	04/00	111
10-00+07	2,040	3,100	20	~11	1.0	UJ	<pre>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>></pre>	2.1 (2.0)	03
16-001-97	2,300 2,200	2 700	20 15	~11	4. I 3 5	-	12(-14)	2.2(2.1)	
10-000-07	2,020	<u> </u>					L	3.3 (3.3)	

Table 2-1, Hudson River Water Column PCBs, 1997 Monitoring Results and Statistics (1)

Final: 20-Nov-98 i:/52/0612244/5_/97RPT/tbl_fig/TXPCBTSS.WB2

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O'Brien & Gere Engineers, Inc.

•	USGS FI	ow (3)	Temp. @	HRM	1 197.0(2)	•	HF	RM 194.2(2)	
Date	Daily	Unit	HRM 194.2	Total PCBs	TSS	Com.	Total PCBs	TSS	Com.
Collected	(cfs)	(cfs)	(Celsius)	(ng/l) (4)	(mg/l)	(5)	(ng/l) (4)	(mg/l)	(5)
23-Oct-97	2,630	3,300	12	<11	1.3	UJ	12	1.3	P, J
29-Oct-97	3,290	3,300	10	<11	3.0	UJ	<11	3.3	UJ
05-Nov-97	5,240	5,200	10	<11	1.9	-	19 (17)	1.9 (1.9)	Ρ
11-Nov-97	.5,150	5,500	7	<11 ·	1.5	-	19	2.1	Ρ
19-Nov-97	3,360	3,800	3	<11	1.3	-	<11	1.6	-
25-Nov-97	3,160	3,000	2	<11	<1.1	-	<11	<1.1	-
02-Dec-97	4,390	4,200	2	<11	2.7	-	<11 (<11)	2.5 (2.7)	· -
09-Dec-97	3,880	4,100	1	<11	1.1	-	<11	1.4	-
16-Dec-97	3,060	3,000	0	<11	2.1	-	15	3.0	Р
22-Dec-97	3,250	4,400	0	<11	2.0	-	<11	2.1	-
29-Dec-97	3,480	4,000	1	. <11	<1.0		<11 (<11)	1.2 (<1.0)	-

		C SPA STSTICTICE (7)
	. 1337 88070007007070788500	5 8110 5180506-517

Statistical Sun	nmary (6)									
No. Samples	51	51	51	51	51	-	51	51	-	
Arith. Mean	5,300	5,500	11	<11	1.8	-	13	2.2	-	
Geom. Mean	-	-	-	<11	1.6	-	13	2.0	-	
Median	3,900	4,300	10	<11	1.5	-	<11	2.1	-	
Minimum	2,100	1,500	0	<11	<1.0	-	<11	<1.0	-	
Maximum	16,200	15,800	25	12	4.1	-	23	4.7	-	
Std. Dev.	3,400	3,300	9	0.2	0.9	-	3.0	0.9	-	

Notes:

(1) Samples analyzed for PCB by capillary column using Method NEA608CAP except as noted. Samples analyzed by USEPA Method 8081 are indicated by brackets []. PCB data obtained by Method NEA608CAP have been corrected for analytical bias.

(2) HRM = Approximate Hudson River mile; HRM 0.0 is located at the Battery in New York City. Samples from location HRM 194.2 were composites of west and east channels.

(3) River flows are presented as mean daily discharge and instantaneous unit discharge for each round of sampling. Daily mean and instantaneous unit flow data from the USGS Fort Edward gaging station are preliminary. Daily means have been updated by USGS as of 05/98. "e" indicates estimated daily average value. Instantaneous unit flows correspond to flows recorded by the USGS during sampling at HRM 194.2.

(4) Parentheses () indicate results of duplicate analysis, and gualifiers associated solely with the duplicate sample. Braces () indicate results of Method 8081 analysis.

(5) "Com." = Comments include clarifications of sampling and analytical methods, and PCB Method NEA608CAP qualifiers:

P = Practical quantitation limit (PQL) note for PCB values between <11 and 44 ng/l.

J = PCB sample results approximate due to minor excursions from data validation criteria.

UJ = PCB detection limit approximate due to detection of PCBs in equipment or laboratory blank samples.

R = PCB data qualified due to excursion from data validation criteria.

HFO = indicates samples collected for hydroelectric facility operations monitoring. During routine hydroelectric facility maintenance operations, river flow is diverted from the hydroelectric facility and spills over the dam.

(6) Statistical calculations do not include duplicate data, except for calculation of the maximum value. PCB statistics do not include results of Method 8081 analyses. Data qualified with "R" collected at HRM 194.2 on October 16 (12 ng/l) were not included in PCB statistics; instead, the duplicate PCB result (<11 ng/l) was used. Means of total PCB concentrations were calculated using a value of 10.9 ng/l for results less than the detection limit (11 ng/l). Mean TSS concentrations were calculated using a value of one-tenth less than the reported detection limit. Statistics for flow and temperature were calculated from data collected on routine PCRDMP sampling dates.

Source: O'Brien & Gere Engineers, Inc.

O'Brien & Gere Engineers, Inc.

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QA/QC Sample Type	Purpose	Evaluation Procedure	Criteria	<u>1997 PCRDMP R</u> No. of samples	<u>Results ⁽¹⁾</u> mean
Matrix spike	Evaluate accuracy of PCB quantification in the field media.	Duplicate samples are spiked with a known quantity of analyte by the laboratory. The percent recovery is calculated.	Spike recoveries are expected to be in the 70 to 130 recovery range.	51	99%
Duplicate	Evaluate the precision of analyses.	A relative percent difference (RPD) is calculated as:	The RPD is expected to be less than 35%. Data reported	39	3.5%
		RPD = (C1 - C2) / ([C1+C2]) / 2)	below the detection limit (11 ng/l) were not included.		
		where C1 is the original sample and C2 is the duplicate sample.	·····		
Equipment blank	Evaluate the effectiveness of equipment cleaning procedures.	PCBs should be below the detection limit (11 ng/l). Detection of PCBs in the equipment blank requires evaluation of	Detection of PCBs in the equipment blank results in gualification of the associated	47 (r	<11 ng/i non-detect)
·		source and correction of contamination problem.	field samples. Field sample concentrations <5 times the concentration of the equipment blank are qualified with a "U." Field sample concentrations >5 times the detection limit are qualified with a "J."	6	19 ng/i

Table 2-2. Field Sampling PCB Quality Assurance/Quality Control

⁽¹⁾Data validation results. Source: O'Brien & Gere Engineers, Inc.

		Total PCB Conce	Total PCB Concentration (ng/l)			
<u>Sampling period</u> 1997 1996 1995	Location:	HRM 197.0	HRM 194.2			
1997	Minimum	<11	<11			
	Maximum	12 (25)	21 (23)			
	Geometric mean	<11	13			
	Arithmetic mean	<11	13			
	Median	<11	<11			
	Standard deviation	0	3			
	Total number of samples	51	51			
	Percent of samples <11 ng/l	96%	57%			
1996	Minimum .	<11	<11			
	Maximum	<11 {12}	56 (80)			
	Geometric mean	<11	14			
	Arithmetic mean	<11	15			
	Median	<11	12			
	Standard deviation	0				
	Total number of samples	51	51			
	Percent of samples <11 ng/l	100%	39%			
1995	Minimum	<11	<11			
	Maximum	387*	367*			
	Geometric mean	18*	37*			
	Arithmetic mean	34*	51*			
	Median	12*	37*			
	Standard deviation	71*	64*			
	Total number of samples	32	33			
	Percent of samples <11 ng/l	47%*	6%*			
1994	Minimum	<11	17			
	Maximum	139	251 (267)			
	Geometric mean	13	36			
	Arithmetic mean	17	47			
	Median	<11	30			
•	Standard deviation	23	52			
	Total number of samples	35	32			
	Percent of samples <11 ng/l	66%	0%			
1993	Minimum	<11	<11			
	Maximum	27	1134			
	Geometric mean	12	39			
	Arithmetic mean	12	70			
	Median	<11	33			
	Standard deviation	3	160			
	Total number of samples	51	50			
-	Percent of samples <11 ng/l	65%	2%			
1992	Minimum	<11	28			
-,	Maximum	150	969			
	Geometric mean	12	119			
	Arithmetic mean	15	212			
	Median	<11	95			
	Standard deviation	21	245			
	Total number of samples	48	47			
	Percent of samples <11 ng/l	83%	0%			

Table 3-1. Statistical summary of water column total PCB data 1992 through 1997.

O'Brien & Gere Engineers, Inc.

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	· · · · · · · · · · · · · · · · · · ·	Total PCB Conc	entration (ng/l)
Sampling period	Location:	<pre></pre>	HRM 194.2
Summary 1992 throu	gh 1997		
	Minimum	<11	<11
	Maximum	387	1134
	Geometric mean	13	43
	Arithmetic mean	17	68
	Median	11	36
	Standard deviation	20	89
	Total number of samples	. 268	265
	Percent of samples <11 ng/l	79%	20%

Table 3-1.	Statistical summar	v of water column total PCB data 1992 through 1997.	
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Notes:

Statistical Calculations

- Statistics were calculated using total PCB results from Method NEA608CAP analysis. Data have been adjusted for analytical bias.
- Statistics do not include duplicate sample results, except as noted below under Data Clarifications.
- Statistics were calculated using a value of 10.9 ng/l for concentrations less than the method detection limit.
- Samples qualified with "R" using data validation criteria were not included in statistics.

- Statistics consist of data from weekly sampling between January and December of each year.

Data Clarifications

- 1997 At HRM 197.0, maximum total PCB concentration (reported above in braces {}) was detected in a sample collected during the April high flow monitoring (25 ng/l). The maximum for weekly Post-Construction Remnant Deposit Monitoring was 12 ng/l. April high flow data are otherwise not included in statistical calculations for 1997.
 - At HRM 194.2, total PCB concentration (reported above in braces {}) was detected in a sample collected during hydrofacility monitoring (23 ng/l). The maximum for weekly Post-Construction Remnant Deposit Monitoring was 21 ng/l. Hydroelectric facility monitoring data are otherwise not included in statistical calculations for 1997.
 - At HRM 194.2, a sample (12 ng/l) was qualified "R" due to an excursion from data validation criteria. The blind duplicate for this sample (<11 ng/l) was used to calculate the 1997 statistics.
- 1996 At HRM 197.0, maximum total PCB concentration was detected in a sample collected during the September 17 transect sampling event (12 ng/l), reported above in braces. The maximum for weekly Post-Construction Remnant Deposit Monitoring was <11 ng/l. September 17 transect data are otherwise not included in statistical calculations for 1996.
 - At HRM 194.2, maximum total PCB concentration (reported above in braces {}) was detected in a sample collected on August 9 and analyzed PCBs by Method 8081 (80 ng/l). The maximum for weekly Post-Construction Remnant Deposit Monitoring by Method NEA608CAP was 56 ng/l. Analytical data by Method 8081 are otherwise not include in statistical calculations for 1996.
- 1995 Statistical data (*) are less reliable due to frequent equipment contamination problems which occurred during the year. The maximum concentrations detected may be associated with equipment contamination.
- 1994 At HRM 194.2, sampling included two rounds of grab sampling from the east shore because ice cover on the river prevented routine sampling from the Route 197 bridges. Statistics exclude samples collected from shore at this location due to concerns that concentrations may not be directly comparable with results of depth integrated composites usually collected during sampling at these bridges.
 - At HRM 194.2, maximum total PCB concentration detected was a blind duplicate (267 ng/l), reported above in braces. The concentration of the parent sample was 251 ng/l. This blind duplicate data is not included in the remaining 1994 statistics.
- **1992** At HRM 194.2, sampling included separate sampling of east and west channels for several rounds. The statistics include only the results of west channel sampling for these rounds.
 - Statistics include samples collected for the Temporal Water Column Monitoring Program (January March) and the Post-Construction Remnant Deposit Monitoring Program (March December)

Source: O'Brien & Gere Engineers, Inc.

	Upstream of Remnant Deposits - HRM 197.0 (2)								
Date	Total PCB	Comments		Homolo	og Distrib	oution (w	eight per	rcent)	
Collected	(ng/l)	(3)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
06-Jan-97	<11	-	· -	-	-	-	-	÷	-
13-Jan-97	11	P	0.0	2.8	12.8	. 24.1	44.9	15.5	0.0
27-Jan-97	<11	-	-	-	· -	-	-	-	-
03-Feb-97	<11	-	-		-		-		-
10-Feb-97	<11	-	-	-	• •	-	-	-	-
18-Feb-97	<11	-	-	-	-	-	-	-	-
24-Feb-97	<11	-	-	-	-	-	-	-	-
03-Mar-97	<11	-	-	-	-	-	-	-	-
10-Mar-97	<11	-	-	-	-	-	-	-	-
19-Mar-97	<11	-	-		-	-	-	-	-
24-Mar-97	<11	-	-	-	-	-	· -	-	-
31-Mar-97	<11	-		-	-	-	-	-	-
07-Apr-97	<11	-	-	-	-	-	-		-
14-Apr-97	<11	-	-	-	-	-	-	-	-
21-Apr-97	<11		-	-	-	-	-	-	-
28-Apr-97	<11	-	-	-	-	-	-	· -	-
05-May-97	<11	-	-	-	-	-	-	-	-
12-May-97	<11	-	-	-	-	-	-	-	-
19-May-97	<11	-	-	-	· _		-	-	-
19-May-97	<11	BD	-	-	-	-	-	-	-
27-May-97	<11	-	-	-	-	-	-	-	-
03-Jun-97	<11	-	-	-	-	-	-	-	•
09-Jun-97	<11	•	-	-	-		-	-	-
16-Jun-97	<11	-	-	-	-	-	-	-	-
23-Jun-97	<11	-	-	-	-	-	-	-	
30-Jun-97	<11	-	-	-	-	-	-	-	-
07-Jul-97	<11	-	-	-	-	-	- .	-	-
14-Jul-97	<11	UJ	-	_	-	-	-	-	-
21-Jul-97	<11	-	-	-	-	-	-	-	
28-Jul-97	<11	-	-	-	-	-	-	-	-
04-Aug-97	12	Р	0.0	41.8	9.4	14.0	24.9	9.9	0.0
14-Aug-97	<11	-	-	-	-	-	-	•	-
20-Aug-97	<11	-	-	-	-	-	-	-	-
26-Aug-97	<11	-		-	-	-	-		-
03-Sep-97	<11	-	· -	-	-	-		.	-
11-Sep-97	<11	-	-	-	-	-	- .	-	-
17-Sep-97	<11	-	-		-	-	-	·	-
24-Sep-97	- <11	-	•	-	-	-	-	-	-
01-Oct-97	<11	. UJ	-		**	*	-	-	-
10-Oct-97	<11	-	-	-	-	-	-	-	-
16-Oct-97	<11	-	-	-	-	-	-	-	-
23-Oct-97	<11	UJ	-	-	-	-	-	-	-
29-Oct-97	<11	IJ	-	-	-	-	-	-	-

Table 3-2. Hudson River Water Column PCB Homolog Distributions (1).

Final:20-Nov-98 i:52/0612244/5_/97RPT/tbl_fig/TXHOM2.WB2 O'Brien & Gere Engineers, Inc.

Date	Total PCB	Comments		Homolo	g Distrib	ution (w	eight per	cent)	
Collected	(ng/l)	(3)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
05-Nov-97	<11	-	-	•	-	-	-	+	-
11-Nov-97	<11	-	-	-	-	-	-	- '	-
19-Nov-97	<11	-	-	• -	-	-	- '	-	-
25-Nov-97	<11	-		-	-	-	-	-	• •
02-Dec-97	<11	-	-		_	-		-	-
09-Dec-97	<11	-	-	- '	-	-	-	-	-
16-Dec-97	<11	-	-	-	-	-	-	-	-
22-Dec-97	<11	-	-	-	-	-	-	-	-
29-Dec-97	<11	-	-	-	-	-	-	-	-

Upstream of Remnant Deposits - HRM 197.0 (2) continued

Table 3-2. Hudson River Water Column PCB Homolog Distributio	ns (1).
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Notes:

(1) Samples analyzed by capillary column using Method NEA608CAP. PCB data have been corrected for analytical bias.

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

(3) Comments include clarifications of sampling and analytical methods and PCB data qualifiers:

P = Practical quantitation limit (PQL) note for PCB values between <11 and 44 ng/l

UJ = PCB detection limit approximate due to detection of PCBs in equpiment or laboratory blank samples, according to data validation criteria

BD = Blind Duplicate - a field PCB duplicate sample submitted to the laboratory without identification of field location

Homolog groups octa-, nona- and deca-chlorinated biphenyls were not detected.

Source: O'Brien & Gere Engineers, Inc.

Final:20-Nov-98 i:52/0612244/5_/97RPT/tbl_fig/TXHOM2.WB2

Downstream of Remnant Deposits - HRM 194.2 (2)									
Date	Total PCB	Comments		Homolo	og Distrit	oution (w	eight pei	rcent)	
Collected	(ng/l)	(3)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
06-Jan-97	<11	-		-	-	-	-	-	-
13-Jan-97	11	P	0.0	3.9	29.5	19.6	35.1	12.0	0.0
13-Jan-97	<11	BD	-	·	-	-	-	· _	-
27-Jan-97	<11	-	· _	-	-	-	-	-	-
03-Feb-97	<11	-	-	· · · ·	•	-		-	-
10-Feb-97	<11	-	-	-	-	-	-	-	-
10-Feb-97	<11	BD	-	-	-	-	-	-	-
18-Feb-97	<11	IJ	-	-	-	-	-	-	-
24-Feb-97	<11	_	-	-	-	•	-	-	_
24-Feb-97	<11	BD	-	-	-	-	-	-	-
03-Mar-97	<11	-	-	-	- -				
10-Mar-97	<11	-	-	-	-	-	-	-	-
19-Mar-97	<11	-	-	-			-	-	-
19-Mar-97	<11	BD		-	-	_	-	د س	-
24-Mar-97	<11		-	-	-	-	-	-	-
31-Mar-97	<11	-	-	-	-	-	-		-
07-Apr-97	13	Р	0.0	1 1	29.0	41.4	24.4	42	0.0
07-Apr-97	13	P BD	0.0	11	30.9	41.3	22.3	4.2	0.0
14-Apr-97	14	.,00 II P	0.0	4.8	24.7	28.5	28.2	13.8	0.0
21-Apr-97	<11	0,1	0.0			20.0		10.0	0.0
28-Apr-97	<11	_	-	_	_	_	-	_	-
05-May-97	<11	-							
05-May-97	<11	BD			_	-	-	-	
12-May-97	~11	00				-	-	_	_
12-Way-97	<11	-	-	-	-	-	-	-	-
27 May 97	<11	-	_	_			-	-	-
27 May 07	<11		-	-	-	-	-	-	-
02 Jun 07									-
00-Jun-97	<11	05	-	-	-	-	-	-	-
09-Jun-97	11			-	-	-	45.0	-	-
09-Jun-97	14	Р,ПГО	0.0	34.7	23.4	22.1	15.9	4.0	0.0
16-Jun-97	15		0.0	28.0	18.4	28.0	10.7	8.2	0.0
16-Jun-97	15	Р,ВО	0.0	20.2	21.2	28.1	15.3	1.2	0.0
23-Jun-97	<11	-	-	-	-	-	-		-
23-Jun-97	. 23	P,HFO	0.0	23.7	32.1	29.0	11./	3.5	0.0
<u>30-Jun-97</u>	18	P	0.0	32.0	23.4	25.3	13.6	5.7	0.0
07-Jul-97	18	P	0.0	20.1	26.2	29.6	18.7	5.4	0.0
07-Jul-97	19	P,BD	0.0	20.9	25.0	30.6	18.5	5.0	0.0
14-Jul-97	14	P,J	0.0	40.6	12.8	25.1	14.5	7.1	0.0
21-Jul-97	20	P	0.0	25.0	38.5	24.6	8.8	3.2	0.0
21-Jul-97	21	P,BD	0.0	25.9	38.5	23.5	8.2	3.9	0.0
21-Jul-97	17	P, HFO	0.0	18.5	35.9	29.5	11.4	4.8	0.0
28-Jul-97	19	P	0.0	31.3	23.2	25.8	16.0	3.7	0.0
04-Aug-97	<11	-	•	-	-	-	-	-	-
14-Aug-97	15	P,U	0.0	30.2	28.7	23.6	13.4	4.1	0.0
20-Aug-97	13	P	0.0	35.4	23.8	21.4	14.3	5.1	0.0
20-Aug-97	14	P,BD	0.0	34.1	25.1	22.0	14.4	4.5	0.0
26-Aug-97	16	P	0.0	33.5	20.0	27.3	15.0	4.2	0.0

Table 3-2. Hudson River Water Column PCB Homolog Distributions (1).

Final:20-Nov-98 i:52/0612244/5_/97RPT/tbl_fig/TXHOM2.WB2 O'Brien & Gere Engineers, Inc.

Downstream of Remnant Deposits - HRM 194.2 (2) continued									
Date	Total PCB	Comments		Homolo	og Distrib	oution (w	eight pei	cent)	
Collected	(ng/l)	(3)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
03-Sep-97	19	Р	0.0	31.3	23.3	22.2	19.0	4.2	0.0
03-Sep-97	19	P,BD	0.0	32.4	20.8	23.7	19.1	-3.9	0.0
11-Sep-97	12	P	0.0	11.0	31.6	24.8	24.2	8.4	0.0
17-Sep-97	14	Р	0.0	7.0	30.3	33.1	22.0	7.6	0.0
24-Sep-97	19	Р	0.0	30.1	33.1	20.4	12.1	4.3	0.0
01-Oct-97	<11	UJ	-	-	-	-	-	-	-
01-Oct-97	<11	BD,UJ	-	-	. -	-	-	-	-
10-Oct-97	<11	-	-	-	-		-	•	-
10-Oct-97	<11	BD,UJ	-	• •	-	-	-	-	-
16-Oct-97	12	P,R	0.0	10.3	27.5	25.0	27.7	9.5	0.0
16-Oct-97	. <11	BD	-	-	-	-	-	-	-
23-Oct-97	12	P,J	0.0	6.8	35.4	25.1	24.1	8.6	0.0
29-Oct-97	<11	UJ	-	-	-	-	-	-	-
05-Nov-97	19	Р	0.0	16.7	28.7	24.2	20.7	9.6	0.0
05-Nov-97	17	P,BD	0.0	20.0	31.2	22.8	18.4	7.6	0.0
11-Nov-97	19	Р	0.0	15.8	40.0	25.6	13.8	4.8	0.0
19-Nov-97	<11	· _	-	-	-	-	-	-	-
25-Nov-97	<11	-	-	-	-	-	•	-	-
02-Dec-97	<11	-	-	-	-	-	-	-	-
02-Dec-97	<11	BD	-	-	-	-	-	-	-
09-Dec-97	<11	- 1	-	-	-	-	-	-	-
16-Dec-97	15	P	0.0	9.1	39.7	24.9	18.7	7.6	0.0
22-Dec-97	<11	-	-	-	-	-	-	-	-
29-Dec-97	<11	-	-	-	-	-	-	-	-
29-Dec-97	<11	BD		-	-	-	-	•	-

 Table 3-2. Hudson River Water Column PCB Homolog Distributions (1).

Notes:

(1) Samples analyzed by capillary column using Method NEA608CAP. PCB data have been corrected for analytical bias.

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

(3) Comments include clarifications of sampling and analytical methods and PCB qualifiers:

P = Practical quantitation limit (PQL) note for PCB values between <11 and 44 ng/l

J = PCB sample results approximate due to minor excursion from data validation criteria

U = PCB sample results qualified "non-detect" due to minor excursion from data validation criteria

UJ = PCB detection limit approximate due to excursions from data validation critieria

R = PCB data qualified due to excursion from data validation criteria

BD = Blind Duplicate - a field PCB duplicate sample submitted to the laboratory without identification of field location

HFO = indicates samples collected for hydroelectric facility operations monitoring

Homolog groups octa-, nona- and deca-chlorinated biphenyls were not detected.

Source: O'Brien & Gere Engineers, Inc.

		Daily Avg. Flow PCB Mass Transport (kg/day) (5)						g/day) (5)		
Sampling Period	Statistics (2)	(cfs) (3) (4)			Baseline (6)		HRM 197.0	HRM 194.2		
1997	Minimum	2,100		<	0.1	<	0.1	0.1		
	Maximum	16,200	{18,900}	<	0.4 {0.5}	<	0.4 {1.0}	0.4 {0.7}		
	Geometric mean		[]	<	0.1	<	0.1	0.1		
	Arithmetic mean	5,200		<	0.1	<	0.1	0.2		
	Median	3 500		<	0.1	<	0.1	0.1		
	Standard deviation	3,300			0.1		0.1	0.1		
	Number of samples	54			54		51	51		
1996	Minimum	2,800		<	0.1	<	0.1	0.1		
	Maximum	23,400		<	0.6	<	0.6	1.0		
	Geometric mean	· -		<	0.2	<	0.2	0.2		
	Arithmetic mean	6,800		<	0.2	<	0.2	0.3		
	Median	5,800		<	0.2	<	0.2	0.2		
	Standard deviation	4,800			0.1		0.1	0.2		
	Number of samples	52			52		51	51		
1995	Minimum	1 300		<	0.0	<	0.0	0.1		
	Maximum	12 600		<	0.3	<	45	43		
	Geometric mean			<	0.1	<	0.1	0.3		
	Arithmetic mean	3,900		<	0.1	<	0.4	0.5		
	Median	3,200		<	0.1	<	0.1	0.2		
	Standard deviation	2,600			0.1		0.9	0.9		
	Number of samples	33			33		32	33		
		0.000								
1994	Minimum	2,600		<	0.1	<	0.1	0.2		
	Maximum	21,400		<	0.6	<	1.8	5.2		
	Geometric mean	-		<	0.1	<	0.2	0.5		
	Arithmetic mean	5,900		<	0.2	<	0.3	0.5		
	Median	4,100		<	0.1	<	0.1	0.3		
	Standard deviation Number of samples	4,300			0.1 35		0.3 35	33		
1993	Minimum	2,200		<	0.1	<	0.1	0.1		
	Maximum	27,900		<	0.7	<	1.4	19.5		
	Geometric mean	-		<	0.1 ·	<	0.1	0.5		
	Arithmetic mean	6,600		<	0.2	<	0.2	1.6		
	Median	3,700		<	0.1	<	0.1	0.3		
	Standard deviation	7,000			0.2		0.3	3.9		
	Number of samples	52			52		51	50		
1992	Minimum	2,260		<	0.1	<	0.1	0.3		
-	Maximum	12,700	{18,500}	<	0.3 {0.5}	<	1.2 {1.3}	8.7 {25}		
•	Geometric mean	-		<	0.1	<	0.1	1.2		
	Arithmetic mean	4,600		<	0.1	<	0.1	1.8		
	Median	3,600		<	0.1	<	0.1	1.3		
	Standard deviation	2,300			0.1		0.2	1.8		
	Number of samples	50			50		48	47		

 Table 4-1.
 Statistical Summary of water column PCB mass transport PCB data 1992 through 1997 (1).

O'Brien & Gere Engineers, Inc

· · · · · · · · · · · · · · · · · · ·		Daily Avg. Flow (cfs) (3) (4)		PCB Mass Transport (kg/day) (5)			
Sampling Period	Statistics (2)			Baseline (6)		HRM 197.0	HRM 194.2
Summary 1992 thr	ough 1997						
	Minimum	1,300	<	0.0	<	0.0	0.1
	Maximum	27,900	<	0.7	<	4.5	19.5
•	Geometric mean	-	<	0.1	<	0.1	0.5
	Arithmetic mean	5,500	<	0.1	<.	0.2	0.8
	Median	4,000	<	0.1	<	0.1	0.4
	Standard deviation	4,100		0.1		0.3	1.3
•	Number of samples	276	•	276		268	265

Table 4-1.	Statistical Summar	of water column	PCB mass transpo	rt PCB data	1992 through	1997 (1
1 a DIE 4-1.	Statistical Summar	V VI Waler CUIUIIII	r vo mass hanspu		issz unougn	1331

Notes:

(1) Samples were collected between January 1 and December 31 for each year.

(2) Statistics were generated for each sampling date and do not include weighting to adjust for differences in sampling

- frequency or time intervals between sampling dates. Statistical results are based on the following assumptions:
- Samples qualified with "R" using data validation criteria are not included in the statistics.
- Statistics exclude two rounds of grab samples from the easi shore at HRM 194.2 collected in 1994. Ice cover on the river prevented routine sampling from the Route 197 bridges. Results of shoreline grab samples may not be directly comparable with results of depth-integrated composite samples usually collected during sampling at these bridges.
- Sampling at HRM 194.2 in 1992 included separate sampling of west and east channels for several rounds. The statistics include only the results of west channel sampling for these rounds.
- Results of sample verification study conducted at HRM 196.8 in 1992 are included as a single average value for the dates sampled.
- Results of 1992 and 1997 high flow monitoring are not included in these statistics.
- (3) Daily average flow data were obtained for the Fort Edward gaging station from the USGS. Flows through September 1996 are final published values. Flows from October 1996 through December 1997 are preliminary and subject to revision.
- (4) Braces { } indicate instantaneous river flow and PCB mass transport data for high flow sampling events.
- (5) Mass transport was calculated as the product of PCB concentration (ng/l), daily average flow (cfs), and a unit conversion factor. PCB results were obtained by analytical method NEA608CAP, corrected for analytical bias. For PCB concentrations less than the method detection limit of 11 ng/l, a value of 10.9 ng/l was used to calculate mass transport.
- (6) Baseline represents the mass transport statistics for the given year calculated by substituting a value less than the detection limit (10.9 ng/l) for all the sample dates in a given year.

Source: O'Brien & Gere Engineers, Inc.

FIGURES

1.1

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Figure 1-2. Total PCB water column monitoring results in remnant deposits region of the Hudson River, 1991 - 1997.

Note: "X" indicates sample collected from the eastern shoreline of HRM 194.2 due to ice cover on the river. The origin of elevated PCB concentrations detected in the November 2 and December 27, 1995 is uncertain. Data are insufficient to evaluate the potential source; however, these detections coincided with the resolution of equipment blank contamination problems that were recurrent in 1995. Data represents results of Method NEA608CAP analysis. MDL = 11 ng/l, PQL = 44 ng/l, Q = yearly quarter. PCB data has been adjusted for analytical biases.



Figure 1-3. Total PCB water column monitoring results in remnant deposits region of the Hudson River, 1995 - 1997.

Note: Data represents results of Method NEA608CAP analysis, except where circles indicate results from Method 8081 analyses. Mass transport was calculated as the product of total PCB concentration, USGS mean daily river flow recorded at the Fort Edward gaging station, and a units conversion factor. The origin of elevated PCB concentrations detected in the November 2 and December 27, 1995 is uncertain. Data are insufficient to evaluate the potential source; however, these detections coincided with the resolution of equipment blank contamination problems that were recurrent in 1995. The equipment blank contamination problem was resolved in 1996 and 1997. Method detection limit (MDL) = 11 ng/l, Practical quantitation limit (PQL) = 44 ng/l. For data reported less than the MDL, a value of 10.9 ng/l was used to calculate baseline mass transport. PCB data have been adjusted for analytical biases.

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Figure 1-4 General Electric Company 1997 Post-Construction Remnant Deposit Monitoring Program

HUDSON RIVER EVENTS TIMELINE 1994 1995 1996 1997 J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D 1990 - 1993 Water Monitoring Programs (Sept 90 - Dec 91) Harza investigations (Apr 91 - May 92) Temporal water column monitoring program, (Mar 92 - Dec 93) Post-construction remant deposit monitoring program. (1991 - 1993) Float surveys (May - October)* Hydrofacility monitoring. Transect studies. TIP time of travel studies. PCB DNAPL study High flow event TID monitoring . (24,400) **Hydrological Events** (19,400) (19,200) (27,700) (18,800) Spring high flow. (19,200) Oct & Dec 1990, Jan 1991 Rainstorm event Ice-cover on river at HRM 194.2 Mo Bakers Falls Source(s) PCB Loading Events (Sept 91) Failure of gate structure (estimated)_ (Jul 92 - Sept 92) Late summer 1992 loading.

Note:

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High flow events with mean daily flows greater than 12,000 cfs are indicated by **A**. For events with flows greater than 18,000 cfs, approximate peak mean daily flows are provided in parentheses (). Final USGS flow data are presented through September 1996, from October 1996 through December 1997 final USGS data have not been published and provisional data are presented. * Float surveys were conducted for both the temporal water column and post-construction remnant deposit monitoring programs.

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Figure 3-1. Statistical comparison (mean +/- 95% confidence interval) of 1996 and 1997 PCB homolog weight percent data collected at HRM 194.2, for total PCB concentrations between 11 ng/l and 25 ng/l.

Note: Homolog distributions obtained by PCB analytical method NEA608CAP. Data have been adjusted for analytical biases. Data sets for 1996 and 1997 represent data collected for the PCRDMP with total PCBs between 11 ng/l and 25 ng/l, since maximum total PCBs detected at HRM 194.2 for the 1997 PCRDMP did not exceed 25 ng/l. Blind duplicate data are not included.



Figure 4-1. PCB mass transport at HRM 194.2 during summer low flow period (June to September).

Note: Mass transport is calculated as the product of PCB concentration (ng/l), USGS daily average flow (cfs), and a conversion factor. Mass transport is presented as the average for the summer low flow sampling period for each year. USGS flow data was measured at the Fort Edward gaging station. USGS published flow values were averaged for the summer low flow sampling period for each year. Data qualified with "R" by data validation criteria are not included in statistics. PCB concentrations were obtained from Method NEA608CAP analyses corrected for analytical bias. Baseline values were calculated using total PCB concentration of 10.9 ng/l. Baseline PCB mass transport is indicated by the unshaded portion of each bar. [1] indicates inferred collapse of the Allen Mill gate (9/91). [2] indicates implementation of source control measures (winter 1992-1993). [3] indicates initiation of hydroelectric facility operations at Bakers Falls which have changed the hydrology of the river in the vicinity of Bakers Falls (12/95).

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Figure 4-2. Total PCB geometric mean (+/- 95% confidence interval) in remnant deposits region of the river for selected time periods in 1997, and comparison of annual summary data for 1997 and 1996.



Notes: Statistics were calculated using PCB analytical results from Method NEA608CAP. Data have been corrected for analytical bias. Method Detection Limit (MDL) = 11 ng/l. Practical Quantitation Limit = 44 ng/l. For data reported below the MDL, a value of 10.9 ng/l was used to calculate statistics.

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Figure 4-3. Estimated PCB daily mass transport in remnant deposits region during 1997.

Note: PCB data obtained from Method NEA608CAP. Data have been corrected for analytical bias. USGS flow data are preliminary (05/98) and represent daily average flow for the dates sampled, except where instantaneous flows are shown for the 1997 high flow sampling event. Estimated daily mass transport based on weekly PCRDMP PCB data and USGS flow at the Fort Edward gaging station for the date sampled. For samples collected at the same station within the same week, mass transport data were averaged together for one weekly value, except for high flow data (April 6-9) shown by symbols. For PCB values less than the Method Detection Limit (11 ng/l), a value of 10.9 ng/l was used to calculate mass transport. HRM 197.0 was less than the detection limit throughout 1997, except as noted by symbols. The mass transport baseline represents the lowest mass calculated using a value of 10.9 ng/l to represent the analytical method detection limit.

Figure 4-4. Box plot statistical analysis of total PCB concentrations at HRM 194.2, January through December for the years 1993 through 1997.



Note: Statistics were calculated using analytical bias corrected PCB results from Method NEA608CAP. Method detection limit = 11 ng/l. Practical Quantitation limit = 44 ng/l. For values reported below the method detection limit, a value of 10.9 ng/l was used to calculate the statistics. Box plots provide a summary of seven statistical components (see legend). When the notches of any two boxes overlap vertically, the medians are not statistically different at the 95% confidence level (Reckhow and Chapra 1983).

Figure 4-5. Linear regression analysis of USGS river flow, total PCB data, and TSS data at HRM 194.2 during 1997.



a. Flow vs PCB Concentration

Note: Provisional flow data provided by USGS (5/98). PCBs analyzed by method NEA608CAP. Data have been corrected for analytical bias. For analytical data less than the method detection limits, a value one-tenth less than the detection limits (10.9 ng/l for PCBs and 0.9 mg/l for TSS) is presented. High flow data are not included in the regression analysis.

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Figure 4-6. 1997 water column TSS concentrations in the remnant deposits region of the Hudson River.

Notes: TSS analyzed by USEPA Method 160.2. Sample and duplicate results are averaged together. TSS concentrations reported below the detection limit (1.0 ng/l) are presented as one-tenth less than the detection limit (0.9 mg/l). For high flow samples, data from samples collected and analyzed separately from the west and east channels of HRM 194.2 are averaged together.





Appendix A. Evaluation of PCB data using capillary column congener analyses

Analysis of PCBs using a capillary column analytical method provides detailed PCB composition information. However, water column data collected for the PCRDMP has been below or near the analytical detection limit of 11 ng/l for the past few years. At such levels, the PCB composition signatures become systematically distorted limiting interpretive information. This appendix provides the background of PCB evaluations using capillary column data, recognizing the limitations of data near the detection limit. An outline of the information presented in this appendix is provided below.

- PCB chemistry (Section A.1)
- PCB capillary column analytical method NEA608CAP (Section A.2)
 - gas chromatography
 - identification of PCB congeners
 - analytical bias correction
- Method detection limit studies Method NEA608CAP (Section A.3)
 Total PCB method detection limit study
 - Total FCD method detection mint study
 - Congener-specific PCB method detection limit study
- Evaluation of PCB composition in Hudson River water samples (Section A.4)
 - Evaluation of homolog and congener distributions, and limitations at PCB concentrations near the analytical detection limit.
 - Hudson River PCB compositions and potential sources
 - DB-1 capillary column Peak 5 anomaly
- PCB dynamics in the remnant deposit region of the upper Hudson River (Section A.5).

A.1. PCB chemistry

PCBs are a class of chlorinated, aromatic hydrocarbons consisting of two bonded six-carbon benzene rings (biphenyl molecule) to which one or more chlorines are bonded at ten available sites. PCBs with the same number of chlorines on a biphenyl molecule are referred to as *homologs*. Members of the same homolog group are *isomers*. For example, 2-chlorobiphenyl and 6-chlorobiphenyl are monochlorobiphenyl isomers. That is, both molecules contain one chlorine atom, bonded to different positions on the biphenyl molecule. The isomers in all of the homologs are generically referred to as *congeners*. There are a total of 209 possible PCB congeners.

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PCBs are also identified by the position of the chlorine atoms relative to the carbon-carbon bond. *Ortho* substituted PCBs are those having one or more chlorine atoms attached to the available sites closest to the carbon-carbon bond. *Meta* substitution refers to chlorine occupation of the second available sites from the carbon-carbon bond in both the clockwise and counter clockwise direction. A *para* substituted PCB contains a chlorine atom at the site opposite the carbon-carbon bond on either of the six carbon rings.

PCBs were sold in the United States as commercial mixtures under the trade name *Aroclors*. Specific Aroclor mixtures contain characteristic PCB homolog and congener distributions (Table A-1). These characteristic distributions are useful in contaminant source identification by providing a "fingerprint", or signature, of PCBs originating from potential sources.

PCBs exposed in the environment can be altered, changing the signature of the original mixture. Environmental alteration of PCBs may occur due to several environmental processes:

- Weathering occurs as volatilization, solubilization, or photolysis. Volatilization and solubilization result in preferential losses of lightly chlorinated PCBs (mono- and dichlorobiphenyls). These losses are recognized by elevated weight percent composition of higher chlorinated PCBs compared to commercial mixtures. In contrast, photolysis results in dechlorination of more highly chlorinated PCBs (Brown *et al.* 1987a,b).
- Reductive dechlorination results in loss of heavily chlorinated *meta* and *para* substituted PCBs (Abramowicz 1990; Brown *et al.* 1987a,b).
- Biodegradation results in loss of lightly chlorinated PCBs which is recognized by specific peak losses which can be attributed to known processes. Losses can occur at a greater extent than would be expected due to volatilization and solubilization or photolysis (Abramowicz 1990; Brown *et al.* 1987a,b).

The cumulative effects of these processes result in distinct PCB signatures, which differ from the original commercial Aroclor mixtures.

A.2. PCB capillary column analytical method NEA608CAP

Analysis of PCBs by capillary column method provides advanced quantification of PCBs in environmental matrices (Figure A-1). The level of congener resolution provides sufficient information to characterize the signature of PCBs and facilitate source identification. For the PCRDMP, this analysis is performed by Northeast Analytical, Inc. (NEA) using Method NEA608CAP.

A.2.1. Gas chromatography

The gas chromatography instrumentation used to analyze samples for PCBs consists of a Varian Model 3400 Gas Chromatograph (GC) equipped with a DB-1 capillary column, capillary on-column injection, temperature programmable oven, Model 8000 automatic sampler, and fast time constant electron capture detector (ECD). A data system (Dynamic Solutions, Maxima Work station) for chromatographic operations and integration of detector signal is interfaced to the GC. Output from the GC system is processed into a real time chromatogram and a sample specific report that includes peak identification, retention time, peak name, integrated peak area, amount of solution, homolog concentrations, and sample amount. The data packages include PCB chromatograms and congener reports for each sample (Appendix F). Each package includes a separate quality assurance/quality control (QA/QC) data summary report, detailing QA/QC data for spikes, USEPA check samples, duplicates, and method blanks.

A.2.2. Identification of PCB congeners

Extensive research has been performed to identify the PCB congeners that correspond to each of the 118 peaks eluted on the DB-1 capillary column utilized in this method (Figure A-2). Several peaks contain two or three congeners that coelute as a single peak. In standard PCB mixtures (*e.g.* Aroclors), the amount of each congener in coeluting peaks has been analyzed (NEA 1990). In environmentally altered PCBs, the relative proportions of congeners in a given peak may be different from the standards. However, this information is sufficient to allow reliable calculation of total PCB concentrations and PCB homolog distributions. In addition, key congeners (or congener groups) can be tracked, allowing evaluation of PCB sources in the river which are characterized using the same technique. Further details on the analytical method are provided in the QAPP (O'Brien & Gere 1992).

A.2.3. Analytical bias correction

Recent research identified analytical biases in the quantification of PCB congener data generated by Method NEA608CAP (HydroQual 1997). These analytical biases resulted from two errors:

- error in the original United States Environmental Protection Agency (USEPA) calibration of the PCB standard used in the NEA608CAP (calibration error; NEA 1990), and
- error from coeluting mixed peak deconvolution assumptions used for Hudson River environmental samples (coelution error).

Calibration error and coelution error correction factors were developed to adjust the PCB data for the analytical biases identified in Method NEA608CAP (HydroQual 1997). These correction factors have been applied to PCB analytical data collected from the Hudson River (O'Brien & Gere 1997).

A.3. Method detection limit studies - Method NEA608CAP

Method detection limit studies describe the limitations of the analytical method in evaluating PCB quantification and composition. Both total PCB and congener PCB method detection limit studies for the method NEA608CAP have been performed using organic-free laboratory reagent water. The method detection limit studies were performed before analytical biases (HydroQual 1997) were corrected.

A.3.1. Total PCB method detection limit study.

A method detection limit study was conducted by NEA to evaluate the lowest detectable total PCBs concentration that could be reliably achieved in one-liter water samples collected from the Hudson River (O'Brien & Gere 1993b). The method detection limit study was performed using organic-free water samples spiked with PCBs in according to procedure presented in the Federal Register (40 CFR Part 136). The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. The MDL is estimated from analysis of a sample in a given matrix containing the analyte. A practical quantitation limit (PQL) was derived from the method

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Final: November 20, 1998 (i:52\0612244\5_\97rpt\append\apa_hud.wpd) detection limit. The PQL is defined as the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operations.

The results of the method detection limit study indicated an average method detection limit value of 7.7 ng/l. The laboratory elevated the method detection limit for reporting purposes to 11 ng/l to account for potential matrix interferences within Hudson River water. The PQL, based on this method detection limit, was set at 44 ng/l. In samples collected for the PCRDMP, concentrations of PCBs which are between the method detection limit and PQL (from 11 to 44 ng/l) are considered estimates and results are reported with a "P" qualifier. The homolog and congener distributions may be less accurate at these low levels due to decreased sensitivity of lower chlorinated congeners close to the detection limit, as discussed below.

A.3.2. Congener-specific PCB method detection limit study.

A separate method detection limit study was conducted to evaluate the detection limits of 115 individual and coeluting congeners detected by the DB-1 capillary column (O'Brien & Gere 1995, Figure A-3). A comparison of the mean method detection limits for the homologs indicates that the method detection limit for monochlorobiphenyl is approximately five times higher than the mean method detection limits for the other homologs (Figure A-4). The lowest homolog method detection limits were observed for pentaand hexachlorobiphenyls. These differences are due to the sensitivity of the ECD which responds to the presence of chlorine. As a result, higher chlorinated congeners are detected at lower concentrations than lower chlorinated congeners. At concentrations above the PQL these sensitivity differences are negligible.

The results of the congener-specific PCB method detection limit study have important consequences for the detection of signature patterns of PCBs at low concentrations. As the concentration of samples approach the method detection limits of individual congeners it is anticipated that the signature would become distorted. For example, an Aroclor 1242 signature would appear to contain higher weight percents of penta- and hexachlorobiphenyls due to the inability to detect the lower chlorinated congeners. Likewise, low concentrations of environmentally altered samples containing elevated weight percents of monochlorobiphenyl would not be detected thereby misrepresenting the actual signature of the PCBs present.

Results of the congener-specific PCB method detection limit study indicate that the utility of capillary column analysis is not realized at PCB

concentrations near the method detection limit. Therefore, interpretation of capillary column data should include recognition of these limitations and interpretations should be restricted to concentrations where signature recognition is possible. The PQL of 44 ng/l established for total PCB quantitation appears technically justifiable as a limit for signature recognition, as well.

A.4. Evaluation of PCB composition in Hudson River water samples

The PCB composition of Hudson River water samples has been evaluated previously using a three-step approach (O'Brien & Gere 1998):

- To evaluate the original composition of water column PCBs, the composition of PCBs in water column upstream and downstream of the remnant deposits were compared to those of commercial Aroclor mixtures (Figures A-5 and A-6).
- The composition of PCBs of potential source materials in the remnant deposit region of the river were identified and compared with commercial Aroclors.
- Water column PCB composition was compared to potential PCB source materials.

Evaluation of PCB homolog and congener data is restricted to samples with concentrations greater than the PQL (44 ng/l) due to uncertainties in pattern recognition at lower concentrations. The results of low concentration PCRDMP water column data collected from 1992 through 1997 are consistent with the results of the congener-specific PCB method detection limit study, discussed above. The congener distributions of low concentration water column samples, below the PQL of 44 ng/l, become distorted and appear to contain higher weight percent composition of higher chlorinated congeners than samples with higher total PCB concentrations (O'Brien & Gere 1993a, 1994, 1995, 1996a, 1998). Monochloro-biphenyls were not detected in total PCB concentrations near the PQL (Figure A-4). Thus, increases in weight percent composition of tri- and tetrachlorobiphenyls at concentrations below the PQL in Hudson River water samples are believed to be an artifact of analytical sensitivity differences.

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A.4.1. PCB composition of Hudson River water compared to commercial Aroclor mixtures and potential sources in the river

The composition of PCBs in the Hudson River was previously evaluated by comparing homolog and congener distributions of water column samples with those of potential source materials (O'Brien & Gere 1998).

When total PCB concentrations in water column samples exceed the PQL, homolog and congener PCB distributions may be more confidently evaluated, and potential sources "fingerprinted". PCB compositions from potential sources may be *unaltered* (*e.g.* similar to a commercial Aroclor mixture), or *altered* by environmental weathering and/or bioalteration (Tables A-2 and A-3).

In summary, previous investigations have concluded that the PCB composition of water column samples collected at Fort Edward (HRM 194.2) generally resembled an unaltered Aroclor 1242. Aroclor 1242 is distinguished by the presence of primarily tri- and tetra-chlorobiphenyls (Figures A-5 and A-6). The composition of PCBs has been consistent both upstream and downstream of the remnant deposits (O'Brien & Gere 1995, 1996a,b). Investigations of the Bakers Falls source(s) identified the PCB composition of source materials as predominantly unaltered Aroclor 1242 (O'Brien & Gere 1994; General Electric 1997). The similarity of PCBs in samples collected near Bakers Falls to that of unaltered Aroclor 1242 was significant because it allowed the "fingerprinting" of the PCBs in the river originating from this source (O'Brien & Gere 1994, General Electric 1997).

In contrast, other potential sources upstream of Fort Edward have been previously discounted as relatively significant contributors of PCBs to the water column in this reach of the river, based on the different PCB distribution patterns identified for these other potential sources (O'Brien & Gere 1998).

Analytical limitations affect interpretation of the significance of other PCB sources upstream of HRM 194.2 for two reasons. First, as total water column PCB concentrations approach the detection limit, PCBs originating from other potential sources – which may occur at some quantity below detection – become a greater percent of the detectable PCBs downstream. Since data below the detection limit cannot be reliably quantified, the ability to evaluate PCB contributions to the water column from other potential sources is limited. Second, as total water column PCB concentrations approach the detection limit, homolog and congener distributions become less reliable. PCB source 'fingerprinting'' at these low concentrations is uncertain.

A.4.2. DB-1 capillary column Peak 5

Early in 1998 unusually high concentrations of DB-1 Peak 5 were observed in water column samples collected between HRM 197.0 and HRM 194.2. Data for these water samples are typically near the detection limit, resulting in distortion of the PCB composition "fingerprint". This distortion is generally consistent and stable (Figure A-7). However, samples collected early in 1998 deviated from the typical PCB composition fingerprint with elevated concentrations of DB-1 Peak 5 (Figure A-7). An unknown analyte, rather than an alteration in the PCB composition, was the suspected source of this occurrence.

If altered PCB composition was responsible for the increase in DB-1 Peak 5, alteration in other congeners would be expected. The increase in Peak 5 concentrations was not accompanied by changes in other congeners. Additional evaluation of DB-1 Peak 5 concentrations was performed by analyzing the HRM 197.0 sample collected on June 17, 1998. For this evaluation, an alternative capillary column (CP-SIL5-C18) was used that separated the analytes coeluting together on the DB-1 capillary column as Peak 5. Results of the evaluation confirmed that the HRM 197.0 sample contained an unknown analyte that elutes with Peak 5 congeners on the DB-1 capillary column (NEA 1998).

Retrospective evaluation of 1997 data from these sampling stations identified similar instances of elevated PB-1 Peak 5 concentrations that may have occurred during 1997. The origin of the occurrence is unknown. The presence of this unknown analyte in 1998 background samples suggests that the unknown analyte originates in that region of the river or further upstream. Additional evaluation is planned in 1998.

A.5. PCB dynamics in the remnant deposits region of the upper Hudson River

An intensive water sampling program conducted in September and October 1995 during low flow periods demonstrated that source(s) upstream of the remnant deposits were responsible for water column PCB concentrations observed downstream of the remnant deposits at the Fort Edward sampling station (HRM 194.2; O'Brien & Gere 1996b). Limited access in the remnant deposit region of the river has precluded collection of representative water column samples for estimating PCB mass loading from sources upstream of the remnant deposits on routine basis:

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- Water sampling from the shore upstream of the remnant deposits (HRM 196.8) was shown to be unreliable for this purpose (O'Brien & Gere 1996, 1998).
- Samples collected in the vicinity of the Bakers Falls source(s) (plunge pool, boat launch, and 20 and 50 from east samples) provide a qualitative indicator of source activity (General Electric 1997). However, these samples are unreliable for estimating source loading due to the proximity to, and the nature of, the source(s) in the vicinity of Bakers Falls, and river flows that are typically intermittent at the falls because of hydroelectric facility operation.

The Bakers Falls source(s) continues to be the source(s) evident at the Fort Edward sampling station downstream of the remnant deposits region of the river. Data collected from the Fort Edward sampling station provides the best available estimate on PCB loading to the Hudson River from the Baker's Falls source(s).

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Table A-3.	Bioalteration indicator rat	ios

DB-1 Peak Ratio	Peak congener(s)	Description
46/33	46:244'5-CB 22'356'-CB 33:22'44'-CB	Ratio decreases during dechlorination; peak 33 analytically sensitive.
46/32	46:244'5-CB 22'-356'-CB 32:22'45'-CB	Ratio decreases during dechlorination; peak 32 analytically sensitive
33/32	33:22'44'-CB 32:22'45'-CB	Ratio increases during dechlorination; however, reference peaks 33 and 32 are subject to analytical difficulties.
50/39	50:233'4'-CB 2344'-CB 39:234'6-CB]23'4'6-CB	Ratio decreases during dechlorination; both peaks subject to aerobic degradation.
58/61	58:22'345'-CB 233'55'-CB 2344'6-CB 61:33'44'-CB 233'4'6-CB	Ratio decreases during dechlorination.
16/17	16:236-CB 23'6-CB 17:22'3-CB 24'6-CB	Ratio increases during dechlorination; peak 17 also subject to aerobic degradation. Should aerobic degradation occur, declines in peaks 14 and 15 would also accompany this change.
Notes: CB =	chlorobiphenyl	

Sources: Brown et al. 1987b, Abramowicz et al. 1992, Williams 1994, and Brown 1994.

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Table A-2.	Reference	PCB	congener	peaks
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DB-1 Peak	Congener(s)	Description
2	2-CB	A monochlorobiphenyl, quantities are insignificant in commercial mixtures of Aroclors 1242 or 1248; present in small quantities in Aroclor 1016. Also, may appear at elevated concentrations due to dechlorination of higher chlorinated congeners.
5	22'-CB 26-CB	A dichlorobiphenyl that increases due to solubility, similar to peak 8, and also dechlorination. Increases in peak 5 that are not accompanied by increases in peak 8 are indicative of dechlorination.
7	23'-CB	Increases due to dechlorination of higher congeners.
8	23-CB 24'-CB	A dichlorobiphenyl that increases due to solubility.
14	44'_CB 22'5-CB	Decreases due to aerobic degradation.
15	22'4-CB	Decreases due to aerobic degradation.
17	22'3-CB 24'6-CB	Decreases due to aerobic degradation.
21	23'5-CB	Increases due to dechlorination of higher congeners.
22	23'4-CB	Increases due to dechlorination of higher congeners.
25	234-CB 2'34-CB 22'56'-CB	Decreases rapidly due to aerobic degradation.
33	22'44'-CB	Concentration doubles during early stages of dechlorination and drops in later stages of this process.
46	244'5-CB 22-356'-CB	
47	2345-CB	
	23'4'5-CB 2'345-CB	Decreases in these mono-ortho tetrachlorinated biphenyls (peaks 46, 47 and 48) correspond to increases in peaks 7, 21 and 22. Peak 46 is also sensitive to photolysis.
48	23'44'-CB 22'356-CB 22'35'6-CB	
Notes:		

CB = chlorobiphenyl

Sources: Brown et al. 1987b, Abramowicz et al. 1992, Williams 1994, and Brown 1994.

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		Mono-CB	Di-CB	Tri-CB	Tetra-CB	Penta-CB	Hexa-CB	Hepta-CB	Octa-CB	Nona-CB
Aroclor	#CI	1	2	3	4	5	6	7	8	9
1016		0.6	22.3	54.5	22.3	0.3				
1221		51.4	39.8	6.5	1.8	0.3	0.1	0.05	. 🛶	
1232	2	27.2	30.6	24.2	14.2	3.1	0.6	0.1	0.02	
1242			17.7	48	28.1	5.2	0.95	0.02		
1248			1.3	23.6	54.4	15.9	3.9	0.9	0.1	
1254			0.4	1.8	19.2	50.4	24.4	3.6	0.2	0.01
1260	}		·	0.04	2.3	12.1	36.7	39	9.5	0.4
Notes:	CB =	- Chlorobipher	ıyl							

 Table A-1.
 Homolog composition of commercial PCB Aroclors

es:

CI = Chlorine molecules

Homolog distributions obtained by Method NEA608CAP analysis (March 1993). Data have been corrected for calibration bias.

Source: Northeast Analytical, Inc.



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Figure A-2. PCB analysis scheme: modification of U.S. EPA Green Bay Mass Balance methodology.



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Figure A-3. Individual congener detection limits, established by the Congener Method Detection Limit Study conducted by Northeast Analytical, Inc. in September, 1993.

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3.5 3.0 Detection Limit (ng/l) 10 0.5 0.0 di hepta tri tetra penta hexa octa deca mono nona Homolog groups

Figure A-4. Mean homolog concentration detection limits obtained from Northeast Analytical, Inc.

Method: NEA608CAP Compound: PCB Congeners Matrix: Water Extraction: Separatory Funnel Spike Conc: 156.7 to 6268 ng/l (Total PCB)

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Analysis: Green Bay Analysis Internal standard calibration Instrument: GC-1 (Varian Model 3400) Column: J&W Scientific; DB-1, 30 meter length, 0.25 micron phase, 0.25 mm I.D. Detector: Electron Capture

Source: Northeast Analytical, Inc 9/93

Figure A-5. Aroclor standard congener distributions obtained using a DB-1 capillary column and analytical method NEA608CAP.



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Figure A-6. Aroclor standard homolog distributions obtained by analytical method NEA608CAP.

Notes: Data have been adjusted for analytical bias. Homolog group deca chlorinated biphenyls were not detected.

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Appendix A

Appendix A

Figure A-7. Homolog distributions at the Fort Edward sampling station (HRM 194.2) during 1996, 1997, and spring 1998.



Note: PCB data analyzed by Method NEA608CAP and adjusted for analytical bias. Light bars in the 199 8 data set indicate total PCB including anomalous DB-1 Peak 5 data; dark bars indicate data with anomalous Peak 5 data removed . Total PCBs are below the PQL (44 ng/l).

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Appendix B

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Appendix B. Additional Hudson River water column data collected in 1997

Additional water column data were collected throughout 1997 to support Post-Construction Remnant Deposit Monitoring Program (PCRDMP) objectives (Section 1.1). The organization of this appendix is outlined below.

- Pumphouse sediment and debris interim remedial measure (IRM) PCB data (Section B.1)
- PCB data collected at the base of Bakers Falls (Section B.2)
- Hydroelectric facility maintenance operations (Section B.3)
- PCB data at Thompson Island Dam and Schuylerville (Section B.4)

This appendix provides a synopsis of the purpose, methods, and results/ discussion of these additional investigations. Two additional monitoring programs conducted in 1997 are presented separately:

- High Flow and Suspended Solids Monitoring Program data summary report (O'Brien & Gere, *in progress*)
- Thompson Island Pool Studies data summary report (O'Brien & Gere 1998a).

B.1. Pumphouse sediment and debris IRM and river PCB data

Sediment and debris were removed from the vicinity of the pumphouse adjacent to the former General Electric Hudson Falls plant site from October to December 1997 as a part of an IRM for the site (Figure B-1). The IRM work area was isolated from the river by double silt control curtains to prevent mobilization of PCBs to the Hudson River during removal activities. During low flow periods, the river adjacent to the IRM work area is pooled and river current is low. Water column sampling was conducted to monitor the effectiveness of the IRM sediment controls. Samples were collected weekly from October 10 through December 29, 1997 during pumphouse sediment IRM activities, on the same day that water column sampling was conducted for the PCRDMP.

B.1.1. Methods and materials

Grab samples were collected from two locations to evaluate PCBs, total suspended solids (TSS), and turbidity. One sampling station was located inside the silt control curtain (IRM-IN) and the other was outside the curtain (IRM-OUT). Samples were collected by O'Brien & Gere personnel by submerging a stainless steel bucket then decanting the water into the sample bottles. Samples were analyzed by Northeast Analytical Laboratories (NEA) for total PCBs by Methods NEA608CAP (NEA 1990), 8081 (USEPA 1986), and 8082 (USEPA 1996; Table B-1). Total suspended solids (TSS) were analyzed by USEPA Method 160.2 (USEPA 1983).

B.1.2. Results and discussion

PCB concentrations outside the double silt control curtains ranged from <0.011 micrograms per liter ($\mu g/l$) to 48 $\mu g/l$, and TSS concentrations ranged from <1.0 milligrams per liter (mg/l) to 3.7 mg/l (Table B-1). In general, TSS concentrations outside the silt control curtains were comparable to TSS concentrations measured at HRM 197.0, upstream of the IRM work area (Tables B-1 and 2-1). Turbidity concentrations outside the silt control curtains ranged from 1.1 nephelometric units (NTU) to 2.5 NTU (Table B-1).

PCB concentrations inside the silt control curtains ranged from 13 μ g/l to 2,607 μ g/l, while TSS concentrations inside the curtain ranged from 2.1 mg/l to 16 mg/l (Table B-1). Turbidity inside the silt control curtains ranged from 1.5 NTU to 3.4 NTU (Table B-1).

The composition of IRM samples collected inside and outside of the silt control curtains resembled a slightly altered Aroclor 1242 with a trace of Aroclor 1254 (Table B-2, Figures B-2 and B-3). Mono-chlorinated congeners, indicative of environmentally altered Aroclor 1242 (Appendix A), ranged from 0% to 9% by weight. Additional alterations were evident which are indicative of biodegradation (Appendix A). Hepta- and octa-chlorinated congeners were also present in the IRM samples, at levels up to 0.5% and 0.1% by weight, respectively. The weight percent levels of the hepta- and octa- homolog groups in the IRM samples are more characteristic of the distribution in a commercial Aroclor 1254, as these homolog groups are not typically present in a commercial Aroclor 1242 mixture (Figure B-3, Appendix A).
B.2. PCB concentrations at the base of Bakers Falls

Samples were collected by Dames & Moore, Inc. (Dames & Moore) at the base of Bakers Falls to evaluate potential source(s) of water column PCBs in the vicinity of the falls (Figure B-4).

B.2.1. Methods and materials

Locations were sampled at the base of Bakers Falls on the same day that routine PCRDMP water column sampling was conducted. When access to the river was judged safe, three locations were sampled (Table B-3, Figure B-4):

- plunge pool
- 20 feet from east shore (HR20 East)
- 50 feet from east shore (HR50 East)

When access to the river was judged unsafe, the river was sampled from shore at the south end of the boat launch area located at the tailrace tunnel of the Allen mill (Table B-3, Figure B-4).

Samples were collected as grab samples approximately two to three feet from the river bed, using a disposable pump and PVC tubing to discharge river water to the sample bottles. This sampling approach was employed to obtain data that would provide a qualitative indicator of changes in loading to these areas. Additional sampling performed during 1998 will be used to evaluate the representativeness of these samples for characterizing water column PCB concentrations at the base of the falls. Sampling was performed according to site specific health & safety and work plans (Dames & Moore 1996a, 1996b). Samples were analyzed for total PCBs by Method NEA608CAP (NEA 1990), and TSS by USEPA Method 160.2 (USEPA 1983).

B.2.2. Results and discussion

PCB concentrations at the plunge pool ranged from <11 to 422 ng/l, and at the boat launch PCB concentrations ranged from <11 to 52 ng/l (Tables B-4 and B-5, Figure B-5; General Electric 1997). Data were not collected from the plunge pool and boat launch on the same dates during 1997. Therefore, results from these two sampling stations during 1997 are not directly comparable. PCB concentrations at the base of Bakers Falls were statistically higher than water column PCB concentrations detected at approximate Hudson River mile (HRM) 194.2 (Figure B-6).

TSS concentrations at the plunge pool ranged from less than 1.0 to 14 mg/l, and at the boat launch TSS concentrations ranged from less than 1.0 to 1.8 mg/l (Table B-4; General Electric 1997).

Data collected at the plunge pool and boat launch are useful for characterizing the composition of PCB source(s) in this region of the river. The PCB composition of samples collected at the base of Bakers Falls resembled an unaltered Aroclor 1242 with some minor variation in congener composition (Table B-5, Figure B-7). The similarity of PCB composition in samples collected near Bakers Falls to unaltered Aroclor 1242 allows the "fingerprinting" of PCBs in the river originating from this source (Appendix A). These data are consistent with previous data collected in the vicinity of the Bakers Falls source(s) (O'Brien & Gere 1996, 1998b), indicating that the Bakers Falls source(s) continue to contribute PCBs to the water column.

Data collected at the plunge pool and boat launch are not sufficient to estimate PCB mass loading from the Bakers Falls source(s) directly. The data is an inaccurate representation of PCB mass loading from the source area due to sampling limitations. Specifically, the intermittent flows over the falls during low flow due to hydroelectric facility maintenance operations (Section B.3) complicate interpretation of PCB loading. Also, the proximity of the sampling location to the source(s) area limits the potential for complete mixing of PCBs migrating from the source(s) in this region of the river. These interferences reduce the accuracy of the data representing loading from the source area. Similar limitations were observed with samples collected at HRM 196.8 in previous years (Appendix A; O'Brien & Gere 1996, 1998b). As such, the data collected at the plunge pool and boat launch are not considered representative of overall water column PCB concentrations in the river and not useful for estimating PCB loading from the source(s) accurately.

B.3. Hydroelectric facility maintenance operations

Samples were collected to evaluate the potential impact of hydroelectric facility maintenance operations on water column PCB transport in the vicinity of Bakers Falls. These sampling activities were conducted on June 9-10, June 23, and July 21, 1997 (O'Brien & Gere 1997). Additional hydroelectric facility monitoring was conducted during 1996 (O'Brien & Gere 1998b).

Hydroelectric facility operations divert flow around Bakers Falls, discharging water along the west shore of the river below the falls (Figure B-4). As a consequence of hydroelectric facility water use, Bakers Falls is typically

O'Brien & Gere Engineers, Inc.

dewatered during low flow periods. However, routine maintenance of the facility's debris collection screens interrupts hydroelectric facility operations and causes water to flow over the falls for approximately ½ hour at 3 to 4 day intervals during low flow periods. Additional maintenance is required during spring high flow periods and in the fall (AHDC 1996).

B.3.1. Methods and materials

Samples were collected on June 9-10, June 23, and July 21, 1997, from three sampling stations (HRM 197.0, HRM 194.2, and HRM 188.5) to represent water parcels flowing down the river before and during/after completion of maintenance operations. In addition, for each round of sampling, Dames & Moore personnel collected samples from the base of Bakers Falls.

Timing of sample collection was based on time of travel calculations using real-time river stage discharge readings obtained from the USGS Fort Edward gaging station. Due to variability in instantaneous flow data obtained from the gaging station, samples collected at HRM 188.5 did not match the intended parcels of water (Section B.3.2; Appendix C).

Samples were analyzed for PCBs by Method NEA608CAP (NEA 1990), and analyzed for TSS by USEPA Method 160.2 (USEPA 1983).

B.3.2. Results and discussion

PCBs were not detected at the background station (HRM 197.0) upstream of Bakers Falls (Table B-6) during these monitoring events. Concentrations in the plunge pool increased following initiation of hydroelectric facility operations and inundation of Bakers Falls (Table B-6). In the remnant deposit region of the river (HRM 194.2), PCB concentrations increased for two of the three sampling events. For the third event, PCB concentrations remained approximately the same (Table B-6).

At Thompson Island Dam (HRM 188.5), concentrations decreased slightly or remained the same (Table B-6) for the three events. Based on time of travel evaluations, the parcels of water sampled at HRM 188.5 passed the falls either before or after the inundation of the falls (Appendix C), therefore the target parcel was not sampled at HRM 188.5.

The analytical results for 1997 are consistent with results of 1996 hydroelectric facility monitoring (Table B-6; O'Brien & Gere 1998b). Highly variable flows during hydroelectric facility operation monitoring complicate further interpretation of data (Appendix C).

For samples collected at Plunge Pool and HRM 194.2, the PCB composition generally resembled Aroclor 1242 (Table B-5; Appendix A). Altered Aroclor 1242 PCB composition was identified in samples collected at HRM 188.5 (Table B-5).

B.4. PCB concentrations at Thompson Island Dam and Schuylerville

Samples were collected weekly at Thompson Island Dam (HRM 188.5) to evaluate the water column concentrations of PCBs in Thompson Island Pool, the first pooled area downstream of the remnant deposits. Starting with the October 1, 1997 sampling round the Thompson Island Dam profile station in the west channel at Thompson Island Dam (TID-PRW2) and the Schuylerville sampling station (Rt. 29 Bridge) were added to the weekly sampling (Figure B-8). Additional studies conducted in 1996-1997 investigated the representativeness of data collected at the Thompson Island Dam sampling station and spatial patterns of PCB loading in Thompson Island Pool (HydroQual 1995; O'Brien & Gere 1998a). High flow sampling was conducted in 1997 and 1998 to evaluate tributary TSS loading inputs to the pool (O'Brien & Gere and HydroQual 1997).

B.4.1. Methods and materials

Samples collected at the HRM 188.5 sampling station were surface grab samples, and those collected at stations TID-PRW2 and Schuylerville were depth-integrated composite samples (Table B-3). Sample collection at the HRM 188.5 sampling station was conducted according to the methods described in the PCRDMP field sampling plan and addendum, QAPP, and health and safety plan (O'Brien & Gere 1992a, 1992b, 1992c; 1996). Sampling at the TID-PRW2 sampling station and Schuylerville was conducted according to the sampling plan for the Thompson Island Pool Studies (O'Brien & Gere and HydroQual 1997). Samples were analyzed for total PCBs by Method NEA608CAP (NEA 1990) and for TSS by USEPA Method 160.2 (USEPA 1983).

B.4.2. Results and discussion - Thompson Island Dam

PCB concentrations

PCB concentrations in surface water grab samples collected at Thompson Island Dam during 1997 ranged from <11 to 413 ng/l (Table B-7, Figures B-9 and B-10). Seasonal trends in PCB concentrations were observed in Thompson Island Pool water column samples. In 1997, PCB concentrations during winter/spring decreased to near the detection limit with occasional increases during spring high flow period (Figures B-11 and B-12). PCB concentrations increased during the summer low flow period (June through September), followed by decreased, but highly variable concentrations, in the late fall (November through December; Figures B-11 and B-12). On an annual basis, total PCB concentrations during 1997 were statistically comparable to data collected in 1996 (Figures B-11 and B-12)

Results of 1997 surface water sampling in Thompson Island Pool are consistent with previous monitoring that identified loading of PCBs to this region of the river (O'Brien & Gere 1996, 1998b; HydroQual 1995). Similar patterns have been observed between 1993 and 1995 (Figures B-9 and B-10). Results of transect sampling in 1996 exposed uncertainties in the accuracy of data collected at Thompson Island Dam for representing overall water column PCB concentration discharge from the pool (O'Brien & Gere 1998a, 1998b). Sampling conducted in 1997 at the profile transect station confirmed that PCB concentrations downstream of the dam were approximately 50% lower than concentrations measured at the HRM 188.5 sampling station (Figures B-13 and B-14; O'Brien & Gere 1998a). These additional data confirm that the HRM 188.5 sampling station may over-estimate overall water column PCB concentration discharge from the pool (Figure B-12c).

Overall, decreases in surface water concentrations at HRM 188.5 have occurred since the 1991 loading event attributed to the Bakers Falls source(s) and subsequent remediation of the source(s) in 1993 (Figure B-12; Appendix A, HydroQual 1995). Remediation of the Bakers Falls source(s) is ongoing (General Electric 1997).

PCB mass transport

Qualitative evaluation of PCB mass transport at HRM 188.5 during the summer low flow period shows a decrease in water column PCBs since 1992 (Figure B-15). The increase in summer low flow mass transport of PCBs in 1996 from 1995 is attributed to the higher average flow in 1996, since PCB concentrations in 1996 had actually decreased from the PCB concentrations observed in 1995 (Figures B-12 and B-15; O'Brien & Gere 1998b). The subsequent reduction in summer low flow mass transport in 1997 from 1996 can also be attributed to change in average flow for the season, since PCB concentrations in 1997 were comparable to concentrations monitored in 1996 (Figures B-12 and B-15).

Mass transport estimates comparing data collected at the routine monitoring station with data collected at the TIP transect in 1996 indicated that data collected at the routine monitoring station at the dam were approximately 75% higher (O'Brien & Gere 1998a). This anomaly at the routine dam monitoring

station is supported by results collected in 1997 from mid-channel downstream of the dam at profile station TID-PRW2 (Figure B-16), which shows concentrations at the dam approximately 50% higher than at the profile station. Results of the transect sampling events in 1996 and the downstream profile station sampling in 1997 suggest that mean PCB concentrations and mass transport estimates may be biased high at the routine monitoring station compared to overall mass loading from Thompson Island Pool. Ç"

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PCB composition

PCB composition observed in 1997 generally resembled altered Aroclor 1242 (Table B-5, Figure B-20). The typical altered Aroclor 1242 pattern observed in Thompson Island Pool in 1997 consisted of elevated mono- and di-chlorobiphenyls ranging from 20% to 70% of the total PCB by weight. A decrease in higher-chlorinated congeners accompanies these changes in comparison to a commercial Aroclor 1242 mixture (Appendix A). Detailed evaluation of PCB composition during the 1997 high flow event is provided elsewhere (QEA 1998).

Comparison of PCB composition at the routine monitoring station (HRM 188.5) and the downstream profile station (TID-PRW2) indicated that the distribution at the routine station was slightly more dechlorinated than that at TID-PRW2, with generally greater than 10% by weight of mono-chlorinated biphenyls (Figures B-21 through B-23). During October and November, the weight percent of mono-chlorinated biphenyls increased at both sampling stations to between 20 and 30% by weight (Figures B-21 through B-23).

B.4.3. Results and Discussion - Schuylerville

Samples were collected at the Schuylerville sampling station between August 14, 1997 and December 29, 1997. PCB concentrations ranged from 20 ng/l to 108 ng/l (Figure B-13, Table B-7) and TSS concentrations ranged from less than 1.0 mg/l to 6.6 mg/l (Table B-7).

The average PCB homolog distribution at Schuylerville was dominated by diand tri-chlorinated biphenyls during the 1997 sampling period (Figure B-24). This distribution is similar to the distribution observed at station TID-PRW2 (Figures B-21 through B-24).

Appendix B

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APPENDIX B

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Tables

	Campio		11 - A - A				
	Sample		Iotai	PCBs	155	Turbidity	
Date	location	Time	(ug/l)	Method	(mg/l)	(NTU)	Comments
10/10/97	IRM-OUT	09:06	-	8081		1.1	First day of sediment removal: pumping began at
	IRM- IN (G)	09:30		8081		1.5	approximately noon.
10/10/97	IRM-OUT	13:45	48	8081	20	16	
10.10.01	IRM- IN (G)	14.00	216	8081	24	1.8	
	nui- in (O)	14.00	210	0001	4 01-T	1.0	
10/16/97	IRMOUT	12.10	15	608	29	20	
10/10/31	IDM. IN (G)	12.10	12.8	608	2.J 6.A	2.0	
		(2.25	12.0	000	0.4	0.4	
10/23/07	IPMOUT	11.30	0 03	608	4 1	15	Sediment removal activities suspended to remove
10/23/97		40:00	0.93	608	1.1	1.5	debrie
	IRIVI- IN (G)	12.00	90	000	4.0		debhs.
10/00/07		44.25	-0.011	000		10	
10/29/97	IRM-OUT	11.35	×0.011	000	2.3	1.9	
	IRM- IN (G)	11:45	48	608	3.1		
44105107		44.00	0.00	000		0.5	· · · · · · · · · · · · · · · · · · ·
11/05/97	IRM-OUT	11:30	0.89	608	3.7	2.5	
	IRM- IN (G)	11:35	2607	608	5.4		
44144107		40.45	0.04	000	4.0	4 5	
11/11/97	IRM-OUT	10:45	0.01	000	1.0	1.5	
	IRM-IN (P)	10:55	128	608	16		
11/10/07		10.45	0.02	608	-10	1 4	
11/19/97		10:45	0.03	000	<1.U	1.4	
	IRIVI-IN (P)	10:55	000	000	0.0		
11/25/07		10.45	0.10	608	-11	1 4	
11/20/97		10:45	42.6	000	> 1.1	1.4	
	IRM-IN (G)	11:05	43.0	600	3.0		
12/02/07		11.45	0.05	8081	27	1 7	
12102131		12:00	240	9091	6.8		Gate house, area ided over
	11/10/-11/4 (F)	12.00	270	0001	0.0		Gale nouse area loed over.
12/09/97	IRM-OUT	11.45	0.08	8081	28	19	
12/00/07		12:05	155	8081	8.0		· · · · · · · · · · · · · · · · · · ·
	11 (11)	12.00	100	0001	0.0		
12/16/97	IRM-OUT	11:35	0.20	8082	24	17	
12,10,01	IRM-IN (P)	11.50	182	8082	40		
		11,00	102	0001	7.0		
12/22/97	IRM-OUT	10.35	0.21	8082	23	16	
	IRM-IN (P)	10.45	168	8082	Q 1		
		10.45	100	0002	3.1		
12/20/07	IRM_OUT	10.45	0 13	8082	<1.0		
1220101	IRM_IN (P)	10.45	280	8082	21		
	11 MAILIN (17.)	10.00	203	0002	ا . ٢		

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Notes:

IRM-OUT = grab sample collected outside silt curtain

IRM-IN = grab sample collected inside silt curtain. Samples collected on 10/10, 10/16, 10/23, and 11/05 were collected from gate structure (G) at the downstream boundary of the IRM work area. Samples collected on 11/11, 11/19, 12/2 and thereafter were collected from pump house (P) at the upstream boundary of the IRM work area.

- = data not collected

PCBs were analyzed for total concentrations by USEPA Methods 8081 and 8082, and for PCB congener concentrations by Method NEA608CAP (608). Results for congener analyses corrected for analytical biases. No corrections applied to data analyzed by USEPA methods 8081 and 8082.

Source: O'Brien & Gere Engineers, Inc.

Appendix B

	Sample	3 - /// 6/ 3	Total BCBa	nomorog	, and the	Hom		ight por	cont		
_ .	Sample		TOTALECES			nom	olog we	agin per			
Date	location	Time	(ug/l)	mono	di	tri	tetra	penta	hexa	hepta	octa
10/16/97	IRM-OUT	12:10	1.5	7.2	26.0	41.2	19.5	5.1	1.0	0.0	0.0
	IRM- IN (G)	12:25	12.8	9.0	28.0	41.8	16.0	3.9	1.0	0.2	0.0
10/23/97	IRM-OUT	11:30	0.93	9.3	30.3	39.1	14.6	4.6	1.7	0.3	0.0
	IRM- IN (G)	12:00	90	5.2	18.5	42.1	25.6	6.5	. 1.7	0.3	0.1
10/29/97	IRM-OUT	11:35	<0.011	-	-	-		-	-	. -	-
	IRM- IN (G)	11:45	48	1.8	9.9	34.0	39.2	11.5	3.0	0.6	0.1
11/05/97	IRM-OUT	1:30	0.89	1.7	24.8	47.2	20.5	4.3	0.9	0.5	0.0
	IRM- IN (G)	11:35	2607	0.5	14.4	49.2	26.5	7.2	1.9	0.3	0.1
11/11/97	IRM-OUT	10:45	0.61	4.9	27.4	44.8	18.5	3.8	0.8	0.0	0.0
	IRM-IN (P)	10:55	128	4.9	21.6	46.2	21.1	.4.7	1.2	0.3	0.1
11/19/97	IRM-OUT	10:45	0.03	0.0	10.8	68.5	13.2	5.2	2.4	0.0	0.0
	IRM-IN (P)	10:55	860	1.5	15.6	45.4	28.4	7.5	1.6	0.1	0.0
11/25/97	IRM-OUT	10:45	0.10	7.7	23.5	44.5	20.6	3.6	0.0	0.0	0.0
	IRM- IN (G)	11:05	44	8.3	21.7	41.0	21.7	5.8	1.3	0.2	0.0

Table B- 2 . IRM Activities - river sampling PCB homolog distributions.

Notes:

IRM-OUT = grab sample collected outside silt curtain

IRM-IN = grab sample collected inside silt curtain. Samples collected on 10/10, 10/16, 10/23, and 11/05 were collected from gate structure (G) at the downstream boundary of the IRM work area. Samples collected on 11/11, 11/19, 12/2 and thereafter were collected from pump house (P) at the upstream boundary of the IRM work area.

PCBs were analyzed for congener concentrations by Method NEA608CAP and corrected for analytical biases. Homolog weight percents were zero for nona- and deca- homolog groups.

Source: O'Brien & Gere Engineers, Inc.

GE - Hudson River Project - 1997 PCRDMP

		Stations at base of	of Bakers Falls ⁽¹⁾		Stations at	Thompson Island Dam	
Parameters	Plunge Pool March - Dec.	Boat Launch Jan May, Dec.	HR20 East March - Dec.	HR50 East March - Dec.	HRM 188.5 Jan Dec.	TID-PRW Aug Dec.	Schuylerville Aug Dec.
Location Description	Center of pool, below Bakers Falls	East shore adjacent to plunge pool, approx. 10 ft west of gaging point 4A	20 ft from east shore downstream of plunge pool	50 ft from east shore downstream of plunge pool	West channel from west dam abut- ment, approx. 5 ft upstream of TID; routine sampling station with PCRDMP	West channel water column profile station, approx. 200 ft downstream of TID; routine sampling station as of 10/97	Middle section of river navigation channel at upstream side of Rt. 29 bridge, Schuylerville
Approximate River Mile	196.9	196.9	196.9	196.9	HRM 188.5	HRM 188.49	HRM 181.4
River Bed Geometry					Shallow water depth, 3-4 ft deep, at this near-shore sampling station	Typical total water depth 11-12 ft deep at center of river; west channel represents approx. 40% of total flow from the pool.	Typical total water depth approx. 15-16 ft
Sample Collection		Approx. 4-5 ft below river surface, less than 1 ft above bottom			Surface grab sample collected from the dam abutment with a stainless steel bucket	Depth-integrated composite sample collected with a Kemmerer sampler in west channel from a boat. Sampling generally consists of a single sample collected from the center of the river; however, 2 additional samples were collected approx. equidistant to the east and west shores during Sept. 1997 sampling events	Depth-integrated composite sample collected from the Rt. 29 bridge using a Kemmerer sampler

Table B-3. Additional sampling stations: location descriptions, sample collection procedures, overall statistics, and data interpretation notes.

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¹ Samples collected by Dames & Moore. During 1997, the Boat Launch location was sampled when river conditions did not permit sampling of the plunge pool. The two locations downstream - HR20 East and HR50 East - were sampled when plunge pool was sampled.

GE - Hudson River Project - 1997 PCRDMP

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. ·			Static	ons at base	of Bakers	s Falls ⁽¹⁾				Stations a	t Thompson	Island Dam		
Parameters	Plunge March	- Dec .	Boat Jan	L aunch May, Dec.	HR20 E March -	ast Dec.	HR50 Ea March - (ast Dec.	HRM 18 Jan D	8 8.5)ec.	TID-PRW Aug Dec		Schuyler Aug De	ville c.
Statistics	РСВ	TSS	РСВ	TSS	РСВ	TSS	РСВ	TSS	РСВ	TSS	PCB	TSS	РСВ	TSS
Average	26	2.8	26	1.7	19	-	14	-	86	3.2	47	2.4	64	2.7
Minimum	<11	<1.0	<11	<1.0	<11	-	<11		<11	<1.0	115	1.2	20	<1.0
Maximum	422	23	52	6.2	68	-	25		413	21	88	5.3	108	6.6
Median	18	2.1	27	1.3	15	-	12	-	68	2.4	54	2.2	66	2.3
Standard dev.	20	3.9	12	1.1	12	-	4		85	3.2	22	1.0	27	1.6
Count	30	30	12	12	30		30	-	51	51	16	16	15	15
Data Interpretation Notes	30 30 Data useful for qua source(s) in vicinity data inaccurate for		qualitative ch inity of falls. Ir for estimatin	aracterizatior ntermittent flo g PCB loadir	n of PCB p wws and p ng in this p	presence a roximity to portion of a	and compo source(s) river.	sition of	Evaluati surface sample estimati transpo Thomps Pool is of the 1 Thomps Pool St (O'Brier 1998)	ion c7 grab data for ing PCB rt from son Island an objectiv 996-1997 son Island udies n & Gere	Sampling a generally c representa column PC Data from at three sta west and e the river in column PC were simila both chann PRW2 loc center of th to the wee program in (O'Brien &	at this location is considered tive of water CB concentrations. transect sampling ations across the east channels of dicated that water CB concentrations ar across the river in nels. Station TID- ated at the approx. he river was added kly sampling October 1997 Gere 1998).	The repre of depth-in samples of station ha tested. H same sam have been stations, a tested and reliable.	sentativeness ntegrated collected at this s not been owever, the uple methods n used at other and have been d shown to be

Table B-3. Additional sampling stations: location descriptions, sample collection procedures, overall statistics, and data interpretation notes.

Source: O'Brien & Gere Engineers, Inc.

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References: 1. O'Brien & Gere Engineers, Inc. 1998. 1996-1997 Thompson Island Pool Studies, Data Summary Report. February 1998.

Appendix B

Table B-4.	<u>Hudson</u>	River Wate	er Column F	PCBs, 1997 I	Ionitorin	g Results :	and Statistic	s Plunge	e Pool are	a downstrea	m of Baker	rs Fa <u>lls (1).</u>	
	USGS FI	ow (4)		Boa	<u>t Launch</u>	(2)	Plun	ge Pool	(2)	HR 20 from	East (2,3)	HR 50 from E	ast (2, 3)
Date	Daily	Unit	Temp. (5)	Total PCB	TSS	Com.	Total PCB	TSS	Com.	Total PCB	Com.	Total PCB	Com.
Collected	(cfs)	(cfs)	(Celsius)	(ng/l) (6)	(mg/l)	(7)	(ng/l)	(mg/l)	(7)	(ng/l)	(7)	(ng/l)	(7)
01/06/97	8,480	8,200	2	12	1.0	Р	-			-	-	-	-
03/24/97	5,240	4,900	3	-	· _	-	38	<1.0	P	30	Р	12	Р
03/31/97	11,500	10,700	4	42	2.5	Р	-	-	-	-	-	-	-
04/07/97	13,800	14,200	9*	42 {52}	3.2 {-}	P, J	-	-	-		•	-	
04/14/97	7,340	7,300	6*	-	- 1	-	61	<1.0	-	23	P, J	12	P
04/21/97	10,300	10,600	6	12	1.3	Р		-	-	· _	<u> </u>	-	-
04/28/97	11,200	10,700	- 9*	17	1.8	Р		-	-	-	-	-	-
	- -												
05/05/97	16,200	15,800	10*	<11	<1.0		-	-	-	-	-	-	-
05/12/97	11,700	11,700	12*	13	1.3	Р	-	-		-	-	-	-
05/19/97	7,960	8,600	11*	26	<1.0	Р	-	-	-	-	-	-	-
05/27/97	5,120	5,000	15*	-	-	-	14	23.0	Р	<11	-	<11	
												ł	
06/03/97	3,960	4,000	17*	-	-	-	<11	1.4	-	<11	-	<11	-
06/09/97	2,910	2,900	20*	-	-	-	16	1.3	Р	12	Р	<11	-
06/09/97	-	3,000	20*	-	-	-	422	5.6	HFO	18	HFO, P	18	HFO, P
06/16/97	2,090	2,900	23*	-	-	-	15	3.3	Р	<11	-	<11	-
06/23/97	3,280	3,500	23*	-	-	-	19	2.0	Р	26	Р	22	Р
06/23/97		2,000	-	-	-	-	147	4.9	HFO	12	HFO, P	20	hfo, p, j
06/30/97	2,560	2,800	25*	-	-	-	76	2.9		30	P	21	- P, J
07/07/97	4,860	6,000	22*	-	-	-	39	3.4	Р	20	Р	19	Р
07/14/97	3,080	2,000	25*	-	-	-	17	<1.0	P,J	22	P,J	<11	J
07/21/97	3,070	2,900	23*	-	-	-	<11	1.8	-	<11	-	<11	-
07/21/97	-	3,300	-	-	-	-	60	3.6	HFO	48	HFO	25	HFO, P
07/28/97	2,630	1,500	25*	1 -	-	-	15	<1.1	Р	36	Р	<11	-
08/04/97	3,460	5,000	22*	-	-	-	17	2.3	Р	14	Р	16	Р
08/14/97	2,170	1,500	24*		-	-	15	1.8	P, U	<11	-	12	P, U
08/20/97	2,060	2,300	23*	-	-	-	11	4.5	Р	12	P, J	<11	-
08/26/97	2,600	2,700	22*		-	-	16	2.1	Р	<11	-	<11	-

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Final: 20-Nov-98 i:52/0612244/5_/97RPT/append/PCBTSS3.WB2

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Table B-4. Boat Launch (2) Plunge Pool (2) HR 20 from East (2,3) HR 50 from East (2, 3) **USGS Flow (4)** Date Daily Temp. (5) **Total PCB** TSS **Total PCB** TSS otal PCB Com. **Total PCB** Unit Com. Com Com. (mg/l). Collected (cfs) (Celsius) (na/l) (6) (ma/l)(7) (7) (7) (cfs) $(n\alpha/l)$ (ng/l)(7) (ng/l)09/03/97 2.460 3,100 21* 31 2.4 Р Ρ <11 17 _ 09/11/97 2.550 2.000 20* 21 2.6 Р 13 р Р 14 Ρ 09/17/97 2.900 3,700 20* 22 2.0 14 P 15 P _ _ 09/24/97 2,390 17* 22 1.0 P 19 Р P 3,100 14 10/01/97 2.640 3.100 14* 11 1.3 р 16 р <11 10/10/97 2.980 3.200 19* 71 2.5 32 Р <11 -_ 10/16/97 2.820 2,700 16 19 3.2 р 19 P 17 Ρ Ρ Ρ 10/23/97 2.630 3,300 13 30 1.1 14 P 12 _ -10 32 р 10/29/97 3.290 3.300 2.9 25 P <11 _ 10* 22 Ρ 11/05/97 5,240 5.200 16 ns -_ _ 7* Ρ 11/11/97 5.150 5.500 83 1.8 68 25 ----3* 12 Ρ 11/19/97 3,800 <1.0 11 Ρ 19 P. R 3.360 _ _ Ρ 11/25/97 3,160 3.000 2* 20 <1.0 19 Ρ <11 R _ -2.4 Ρ P 12/02/97 4,390 4,200 12 4 14 <11 -_ -5 12/09/97 3.880 4,100 35 <1.0 Р -----12/16/97 3,060 3,000 4 39 2.0 Ρ _ _ _ --..... 12/22/97 4,400 4 28 2.1 Ρ 3,250 -_ ---_ 2 12/29/97 3.480 4,000 31 <1.0 P -_ _ ----Statistical Summary (8) 42 45 43 12 12 32 32 33 31 No. Samples -_ --Arith. Mean 4,933 4,904 14 26 1.57 44 2.89 20 15 ---26 2.09 Geom. Mean 4,115 4,104 11 23 1.42 18 14 -_ -2.05 14 27 1.30 20 16 Median 3,285 3,500 12 ---2 Minimum 2,060 1,500 11 0.90 11 0.90 _ 11 11 --Maximum 16.200 15,800 25 52 3.20 422 23.00 68 25 -----8 75 3.87 12 Std. Dev. 3.516 3.382 14 0.76 4 ----

Hudson River Water Column PCBs, 1997 Monitoring Results and Statistics Plunge Pool area downstream of Bakers Falls (1).

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Table B-4. Hu	udson River Water Co	lumn PCBs, 1997 Mon	toring Results and Statistic	s Plunge Pool area downst	ream of Bakers Falls (1).
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	USGS F	low (4)		Boat	Launch	(2)	Plun	ge Pool	(2)	HR 20 from	East (2,3)	HR 50 from Ea	st (2, 3)
Date	Daily	Unit	Temp. (5)	Total PCB	TSS	Com.	Total PCB	TSS	Com.	Total PCB	Com.	Total PCB	Com.
Collected	(cfs)	(cfs)	(Celsius)	(ng/l) (6)	(mg/l)	(7)	(ng/l)	(mg/l)	(7)	(ng/l)	(7)	(ng/l)	(7)

Notes:

(1) Samples collected by Dames & Moore, and analyzed for PCB by capillary column using Method NEA608CAP. PCB data obtained by Method NEA608CAP have been corrected for analytical bias.

(2) Boat Launch samples were collected off of the northwest corner of the old Niagara Mohawk building (HRM 196.9); Faunge Pool samples were collected from the Plunge Pool at Bakers Falls (HRM 196.9); HR20 from East and HR50 from East samples were collected downstream of the plunge pool. East and HR 50 from East samples were collected downstream of the plunge pool.

(3) TSS data were not collected for this station.

(4) River flows are presented as mean daily discharge and instantaneous unit discharge for each round of sampling. Daily mean and instantaneous unit flow data from the USGS Fort Edward gaging station are preliminary. Daily means have been updated by USGS as of 05/98. Instantaneous unit flows correspond to flows recorded by the USGS during PCRDMP sampling at HRM 194.2.

(5) Asterisk * indicates temperature reading from PCRDMP sampling since temperatures are not measured on these dates by Dames & Moore.

(6) Braces { } indicate results of archive sample analysis. Archive sample collected on 04/07/97 was extracted outside of holding time and analyzed to verify results of original analysis. Original sample result was judged unreliable due to laboratory processing error.

- (7) "Com." = Comments include clarifications of sampling and analytical methods, and PCB Method NEA608CAP qualifiers:
 - P = Practical quantitation limit (PQL) note for PCB values between <11 and 44 ng/l.
 - U = PCB sample results qualifited "Not Detected" due to minor excursion from data validation criteria.
 - J = PCB sample results approximate due to excursions from data validation criteria.
 - R = PCB data qualified due to excursion from data validation criteria.

HFO = indicates samples collected for hydroelectric facility operations monitoring. During routine hydroelectric facility maintenance operations, river flow is diverted from the facility and spills over the dam.

ns = not sampled; location inaccessible due to water turbulence.

(8) Data qualified with "R" are not included in statistics. Means of total PCB concentrations were calculated using a value of 10.9 ng/l for results less than the detection limit (11 ng/l). Archive PCB data for 04/07/97 were used to generate statisitics, rather than the original PCB data which were judged unreliable. Means of TSS concentrations were calculated using a value of one-tenth less than the reported detection limit. Statistics for flow and temperature were calculated from the data presented.

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			Instant.	Daily	Water		Total							
Date	Location	Comments	Flow (3)	Flow (4)	Temp.	TSS	PCB	H	omolo	og Disti	ribution (veight pe	rcent) (5))
Collected	(2)		(cfs)	(cfs)	(C)	(n;g/l)	(ng/l)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
06-Jan-97	HRM 197.0	-	8,200	8,500	2	1.1	<11	-	-	-	-	-	· -	-
	Boat Launch	DM,P				1.0	12	0.0	9.7	46.1	22.0	18.0	4.3	0.0
	HRM 194.2	-				1.6	<11	-	-	-	-	-	-	-
	HRM 188.5	-				5.9	<11	-	•	-	-	-	-	-
	HRM 188.5	BD				6.4	<11	-	-		-	-	-	-
13-Jan-97	HRM 197.0	P	7,500	7,600	0	1.3	11	0.0	2.8	12.8	24.1	44.9	15.5	0.0
	HRM 194.2	-				1.8	11	0.0	3.9	29.5	19.6	35.1	12.0	0.0
	HRM 188.5	P				1.7	18	0.0	6.6	33.4	28.0	27.0	5.1	0.0
	HRM 194.2	BD				1.8	<11	•	-	-	-	•	_	·
27-Jan-97	HRM 197.0	-	6,800	6,800e	0	1.3	<11	-	-	· -	-	•	-	-
	HRM 194.2	-				2.2	<11	-	-		-	•	-	
	HRM 188.5	-				2	<11	· -	· -	-	-	-	-	-
	HRM 188.5	BD				1.3	<11	-	-		-	-	-	-
03-Feb-97	HRM 197.0	· -	7,400	6,200	1	<1.1	<11	-	-	-	-	-	-	-
	HRM 194.2	-				1.2	<11	-	•	-	-	-	-	-
	HRM 188.5	Р				1.6	23	0.0	37.7	31.6	14.6	14.1	2.1	0.0
	HRM 188.5	BD,P				1.2	22	0.0	41.2	32.9	14.8	8.4	2.7	0.0
10-Feb-97	HRM 197.0	-	5,400	5,600	1	<1.0	<11	-	-	-	-	-	•	-
	HRM 194.2	-				<1.1	<11	. · · ·	-	-	-	-	-	-
	HRM 188.5	-				1.6	12	0.0	20.1	35.8	21.1	18.2	4.8	0.0
	HRM 194.2	BD				1.4	<11	+		-		•	-	-
18-Feb-97	HRM 197.0	-	5,700	5,800	2	<1.1	<11	-	-	-	-	•	-	-
	HRM 194.2	UJ				<1.1	<11	-	-	-	-	-	· .	-
	HRM 188.5	Р				<1.1	18	0.0	42.6	22.5	16.3	14.8	3.8	0.0
	HRM 188.5	BD,P				<1.1	17	0.0	38.9	22.5	17.4	17.8	3.4	0.0
24-Feb-97	HRM 197.0	-	10,200	9,800	2	<1.1	<11	-	-	-	-	-	-	-
	HRM 194.2	-				<1.0	<11	-		-	•	-	-	-
	HRM 188.5	Р				2.5	32	0.0	24.5	30.2	22.1	16.4	6.8	0.0
	HRM 194.2	BD				1.4	<11	-	-	-	-	-	-	•
03-Mar-97	HRM 197.0	-	10,000	9,000	1	<1.1	<11	-	•	-	-	-	-	-
	HRM 194.2	-				<1.1	<11	-	-	-	-	-	-	-
	HRM 188.5	Р				15	19	0.0	33.1	27.9	21.9	12.8	4.4	0.0
	HRM 188.5	BD,P				14	17	0.0	35.4	26.1	21.4	13.3	3.9	0.0

Table B-5. 1997 PCRDMP data including data from the Plunge Pool area and Thompson Island dam (1).

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Appendix B

			Instant.	Daily	Water		Total	<u></u>						R <u>8444484444444444444444444444444</u> 44
Date	Location	Comments	Flow (3)	Flow (4)	Temp.	TSS	PCB	Н	omolo	og Distr	ibution (v	veight pe	rcent) (5)	
Collected	(2)		(cfs)	(cfs)	(Ċ)	(mg/l)	(ng/l)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
10-Mar-97	HRM 197.0	-	7,900	7,500	2	1.6	<11	-	-	-	*	-	-	-
	HRM 194,2	-				1.6	<11	-	-	-	-	-	-	
	HRM 188.5	Р				2.7	37	0.0	26.5	29.8	25.9	14.6	3.2	0.0
	HRM 188.5	BD,P				2.4	36	0.0	27.0	29.8	25. 9	14.5	2.8	0.0
19-Mar-97	HRM 197.0	÷ '	6,600	6,500	3	<1.0	<11	-	-	-	-	-	-	-
	HRM 194.2	-				1.2	<11	-	-	-	-	-	-	-
	HRM 188.5	P				2.0	45	0.0	46.9	28.3	14.5	8.9	1.5	0.0
	HRM 194.2	BD				<1.0	<11	-	-	•	-	-	*	-
24-Mar-97	HRM 197.0	-	4,900	5,200	3	<1.0	<11	-	-	-	• '	-	-	-
	Plunge Pool	DM,P				<1.0	38	0.0	12.9	44.0	30.8	10.1	2.2	0.0
	HR 20 from East	DM,P				na	30	0.0	14.5	40.2	31.8	11.0	2.6	0.0
	HR 50 from East	DM,P				na	12	0.0	9 .6	30.1	28.1	25.7	6.4	0.0
	HRM 194.2	-				1.2	11	0.0	33.4	25.9	21.6	13.0	6.3	0.0
	HRM 188.5	-				3.7	80	0.0	37.4	34.2	19.3	7.6	1.5	0.0
	HRM 188.5	BD				3.6	80	<u>U.O</u>	40.0	32.3	18.7	7.4	1.5	0.0
31-Mar-97	HRM 197.0	-	10,700	11,500	3	2.3	<11	-	-	-	-	-	-	-
	Boat Launch	DM,P				2.5	42	0.0	9.C	44.4	35.5	9.1	2.1	0.0
	HRM 194.2	-				2.2	<11	-	-	-	. •	-	-	· -
	HRM 188.5	-				21	12	0.0	20.8	33.7	28.7	12.7	4.3	0.0
	HRM 188.5	BD				17	12	0.0	18.0	33.2	30.3	14.0	4.7	0.0
07-Apr-97	HRM 197.0	-	14,200	13,800	. 9	3.5	<11	-	-	-	-	•	-	-
	Boat Launch	DM, P, J				3.2	42	0.0	4.8	37.6	47.8	9.9	0.0	0.0
	Boat Launch	DM Archive				-	52	0.0	9.1	34.6	43.0	11.8	1.4	0.0
	HRM 194.2	P				4.1	13	0.0	1.1	29.0	41.4	24.4	4.2	0.0
	HRM 188.5	Р				6.7	25	0.0	22.5	33.8	28.6	12.6	2.5	0.0
	HRM 194.2	BD, P				3.5	13	0.0	<u>1.1</u>	30.9	41.3	22.3	4.5	0.0
14-Apr-97	HRM 197.0	-	7,300	7,300	6	1.4	<11	-	-	-	-	-	-	-
	Plunge Pool	DM				<1.0	61	0.0	10.1	55.9	25.7	6.4	1.9	0.0
	HR 20 from East	DM, P, J				na	23	0.0	4.5	35.7	35.3	18.0	6.5	0.0
	HR 50 from East	DM, P				na	12	0.0	5.3	25.0	33.9	27.2	8.5	0.0
	HRM 194.2	P, U				<1.0	14	0.0	4.8	24.7	28.5	28.2	13.8	0.0
	HRM 188.5	P, U				3.2	25	0.0	26.5	35.3	23.1	12.1	3.0	0.0
	HRM 188.5	BD, P, U				3.2	24	0.0	29.2	34.8	19.9	12.4	3.7	0.0
	HRM194.2 EQBL	EQBL				-	14	0.0	0.0	12.4	20.8	42.5	24.3	0.0
	HRM194.2 EQBL	Archive				-	<11	-	-	-	-	-		-

Table 8-5. 1997 PCRDMP data including data from the Plunge Pool area and Thompson Island dam (1).

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Appendix B

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			instant.	Daily	Water		Total							
Date	Location	Comments	Flow (3)	Flow (4)	Temp.	TSS	PCB	Н	omolo	og Distr	ibution (v	veight pe	rcent) (5)	
Collected	(2)		(cfs)	(cfs)	(Ċ)	(mg/l)	(ng/l)	Mono	DI	Tri	Tetra	Penta	Неха	Hepta
21-Apr-97	HRM 197.0	-	10,600	10,300	7	1.4	<11	-	-	-	-	-	-	
	Boat Launch	DM, P				1.3	12	0.0	7.6	32.7	35.8	19.9	4.0	0.0
	HRM 194.2	-				4.1	<11	-	•	-	•	-	-	· -
	HRM 188.5	Р	,			2.6	14	0.0	20.0	35.0	24.6	15.6	4.9	0.0
	HRM 188.5	BD, P				2.1	14	0.0	20.7	30.1	28.8	15.6	4.8	0.0
28-Apr-97	HRM 197.0	-	10,700	11,200	9	4.0	<11	-	-	-	-	-	-	-
	Boat Launch	DM, P				1.8	17	0.0	8.4	49.5	27.3	10.9	3.8	0.0
	HRM 194.2	-				3.4	<11	-	-	-		-	-	-
	HRM 188.5	Р				3.4	21	0.0	34.3	30.3	18.9	13.0	3.5	0.0
	HRM 188.5	BD, P				3.9	20	0.0	30.2	31.3	21.5	14.1	2.9	0.0
05-May-97	HRM 197.0	-	15,800	16,200	10	2.8	<11		-	-	-	•	-	-
	Boat Launch	DM				<1.0	<11	-	-	-	-	•	-	-
	HRM 194.2	-				2.8	<11	-	-	-	-	-	-	-
	HRM 188.5	P				5.1	29	0.0	23.2	37.8	23.7	10.9	4.4	0.0
	HRM 194.2	BD				2.9	<11	-	-	-	-	-	-	-
12-May-97	HRM 197.0	•	11,700	11,700	12	<1.1	<11	-	-	-		-	-	
	Boat Launch	DM, P				1.3	13	0.0	10.7	46.3	26.3	12.2	4.5	0.0
	HRM 194.2	-				1.2	<11		-	-	-	-	-	-
	HRM 188.5	P				<1.1	27	10.6	35.7	27.3	15.2	9.1	2.1	0.0
	HRM 188.5	BD, P				2.0	32	10.0	26.2	23.1	17.5	17.3	5.9	0.0
19-May-97	HRM 197.0	-	8,600	8,000	11	<1.1	<11	-	· •	-	-	-	-	-
	Boat Launch	DM, P				<1.0	26	0.0	8.1	44.3	32.2	12.7	2.8	0.0
	HRM 194.2	-				<1.1	<11		-	-	-	-	-	-
	HRM 188.5	Р				1.3	35	10.3	43.0	27.2	13.0	5.0	1.7	0.0
	HRM 197.0	BD				<1.1	<11	-	•	-	-	-	-	-
27-May-97	HRM 197.0	-	5,000	5,100	15	2.3	<11	•	-	-	-	-	-	-
-	Plunge Pool	DM, P				23	14	0.0	16.8	31.3	25.7	21.9	4.3	0.0
	HR 20 from East	DM				na	<11	-	-	-	-	-	-	-
	HR 50 from East	DM				na	<11	-	-	•	-	-	-	-
	HRM 194.2	-				4.1	<11	-	-	-	-	-	•	· -
	HRM 188.5					2.7	106	25.6	37.7	20.7	11.2	4.0	0.8	0.0
	HRM 194.2	BD				29	<11	-	-	-	-	•	-	-

Table B-5. 1997 PCRDMP data including data from the Plunge Pool area and Thompson Island dam (1).

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			Instant.	Daily	Water		Total	<u></u>						
Date	Location	Comments	Flow (3)	Flow (4)	Temp.	TSS	PCB	н	omolo	ig Disti	ribution (weight pe	rcent) (5)	1
Collected	(2)		(cfs)	(cfs)	(Č)	(mg/l)	(ng/l)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
03-Jun-97	HRM 197.0	-	4,000	4,000	17	1.5	<11		-	-		-	-	
	Plunge Pool	DM				1.4	<11	-	-	-	-	-	-	-
	HR 50 from East	DM				na	<11	-	-	-	-	-	-	-
	HR 20 from East	DM			•	na	<11	-	-	-	-	-	-	-
	HRM 194.2	IJ				2.1	<11	-	-	-	-	-	• .	-
	HRM 188.5	-				2.5	138	25.6	41.3	20.2	8.9	3.5	0.6	0.0
	HRM 188.5	BD				2.4	148	24.3	41.1	19.2	9.2	4.8	1.5	0.0
09-Jun-97	HRM 197.0	-	2,900	2,900	20	<1.2	<11	-	-	-	-	-	-	-
	Plunge Pool	DM, P				1.3	16	0.0	27.4	31.8	23.1	13.7	4.0	0.0
	HR 20 from East	DM				na	12	0.0	43.2	21.3	14.5	16.2	4.8	0.0
	HR 50 from East	DM				na	<11	-	-		-	-	-	-
	HRM 194.2	-				<1.1	<11	-	-	-	-	-	-	-
10-Jun-97	HRM 188.5	-	2,800	2,200	20	2.9	237	27.4	41.8	18.8	8.8	2.8	0.4	0.0
	HRM 188.5	BD				2.4	231	27.2	40.7	19.6	9.1	3.0	0.5	0.0
09-Jun-97	HRM 197.0	HFO, 8081	3,000	2,900	20	<1.2	<11	-	-	-	-	-	-	•
	Plunge Pool	HFO, DM				5.6	422	0.0	7.2	46.8	36.0	7.8	2.2	0.0
	HR 20 from East	HFO, DM, P				na	18	0.0	24.8	36.4	25.8	10.4	2.7	0.0
	HR 50 from East	HFO, DM, P				na	18	0.0	28.9	31.7	23.6	11.7	4.2	0.0
	HRM 194.2	HFO, P				<1.0	14	0.0	34.7	23.4	22.1	15.9	4.0	0.0
10-Jun-97	HRM 188.5	HFO	3,000	2,200	20	2.4	198	27.2	39.3	19.8	10.0	3.0	0.7	0.0
	HRM 188.5	HFO-A				2.5	200	27.0	42.0	18.2	9.2	3.1	0.4	0.0
16-Jun-97	HRM 197.0		2,900	2,090	23	2.1	<11	•	-	-	-	-	-	
	Plunge Pool	DM, P				3.3	15	0.0	30.2	25.6	23.0	16.7	4.5	0.0
	HR 20 from East	DM				na	<11	-	-	-		-	-	-
	HR 50 from East	DM				na	<11	-	-	-	-	-		-
	HRM 194.2	Р				2.8	15	0.0	28.0	18.4	28.6	16.7	8.2	0.0
	HRM 188.5	-				6.5	413	23.1	40.8	22.4	10.1	2.9	0.6	0.0
	HRM 194.2	BD, P				2.7	15	0.0	28.2	21.2	28.1	15.3	7.2	0.0
23-Jun-97	HRM 197.0	-	3,500	3,300	23	2.0	<11	-	-	-	-	-	-	-
	Plunge Pool	DM, P				2.0	19	0.0	27.8	26.2	22.4	15.8	7.8	0.0
	HR 20 from East	DM, P				na	26	0.0	14.8	6.3	15.8	20.2	30.4	12.5
	HR 50 from East	DM, P				na	22	0.0	24.4	23.5	25.1	20.1	6.9	0.0
	HRM 194.2					2.4	<11	-	-	-	-	· _		-
	HRM 188.5	-				3.7	243	21.5	40.4	23.2	10.6	3.7	0.5	0.0
	HRM 188.5	BD	-			3.7	242	22.1	39.9	22.9	10.6	4.0	0.5	0.0

Table B-5. 1997 PCRDMP data including data from the Plunge Pool area and Thompson Island dam (1).

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Table B-5.	1997 PCRDMP d	lata including da	ta from the F	Plunge Pool a	rea and Tho	mpson Isl	and dam	(1).				·		
<u>, , , , , , , , , , , , , , , , , , , </u>			Instant.	Daily	Water		Total							
Date	Location	Comments	Flow (3)	Flow (4)	Temp.	TSS	PCB	H	omolo	g Distr	ibution (v	veight pe	rcent) (5)	1
Collected	(2)		(cfs)	(cfs)	(C)	(mg/l)	(ng/i)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
23-Jun-97	HRM 197.0	HFO, 8081	2,000	3,300	23	2.0	<11	-	· -	-		-	- .	
	Plunge Pool	HFO, DM				4.9	147	0.0	10.7	48.2	33.6	6.6	0.9	0.0
	HR 20 from East	HFO, DM				na	12	0.0	37.4	7.5	18.0	24.6	12.4	0.0
	HR 50 from East	HFO,DM,P,J				na	20	0.0	11.1	34.4	30.9	16.8	6.8	0.0
	HRM 194.2	HFO, P				3.0	23	0.0	23.7	32.1	29.0	11.7	3.5	0.0
	HRM 188.5	HFO				3.9	252	19.2	35,0	21.7	13.4	6,3	3.5	1.0
30-Jun-97	HRM 197.0	-	2,800	2,600	25	2.0	<11	-	-	+	-	-	-	-
	Plunge Pool	DM				2.9	76	0.0	10.1	28.3	45.5	13.2	2.9	0.0
	HR20 from East	DM, P				na	30	0.0	22.1	25.6	28.8	17.8	5.7	0.0
	HR50 from East	DM, P, J				na	21	0.0	32.2	24.7	25.2	13.8	4.1	0.0
	HRM 194.2	Р				1.8	18	0.0	32.0	23.4	25.3	13.6	5.7	0.0
	TIP-18C	-				2.2	175	20.2	43.2	21.0	10.9	4.1	0.7	0.0
	HRM 188.5	-				2.6	271	20.9	41.6	22.5	10.7	3.4	0.9	0.0
	HRM 188.5	BD				2.8	267	20.0	41.4	23.1	11.2	3.6	0.8	0.0
07-Jul-97	HRM 197.0	· -	6,000	4,900	22	4.1	<11	-	-	-	-	-	-	-
	Plunge Pool	DM, P			· .	3.4	39	0.0	15.2	37.9	32.3	12.4	2.2	0.0
	HR20 from East	DM, P				na	20	0.0	23.8	32.0	23.6	15.4	5.3	0.0
	HR50 from East	DM, P				na	19	0.0	22.2	25.8	22.3	23.3	6.3	0.0
	HRM 194.2	P				4.1	18	0.0	20.1	26.2	29.6	18.7	5.4	0.0
	HRM 188.5	-				4.4	169	18.3	40.5	24.3	12.0	4.3	0.6	0.0
	HRM 194.2	BD, P				4.7	19	0.0	20.9	25.0	30.6	18.5	5.0	0.0
14-Jul-97	HRM 197.0	UJ	2,000	3,100	25	<1.0	<11	-	-	-	-	-	-	-
	Plunge Pool	DM, P, J				<1.0	17	0.0	35.9	28.6	22.1	10.5	3.0	0.0
	HR20 from East	DM, P, J				na	22	0.0	24.5	24.2	34.8	13.9	2.6	0.0
	HR50 from East	DM, J				na	<11	-	-	-	-	-	-	-
	HRM 194.2	P, J				<2.4	14	0.0	40.6	12.8	25.1	14.5	7.1	0.0
	TIP-18C	-				1.3	92	6.6	40.2	29.7	17.1	5.6	0.9	0.0
	HRM 188.5	J				1.1	190	10.4	44.6	27.8	12.5	4.1	0.6	0.0
	HRM 188.5	BD, J				1.3	189	11.1	<u>43.9</u>	27.6	12.9	3.9	0.6	0.0
21-Jul-97	HRM 197.0	-	2,900	3,100	23	2.1	<11	-	-	-	-	-	-	-
	Plunge Pool	DM				1.8	<11	-	-	-	-	-	-	-
	HR20 from East	DM, P				na	<11	-		-	-	-	-	-
	HR50 from East	DM				na	<11	-	-	-	-	-	-	-
	HRM 194.2	Р				2.7	20	0.0	25.0	38.5	24.6	8.8	3.2	0.0
	HRM 188.5	-				2.3	131	8.4	41.7	29.5	14.5	5.2	0.7	0.0
	HRM 194.2	BD				2.5	21	0.0	25.9	38.5	23.5	8.2	3.9	0.0

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Table B-5.	1997 PCRDMP d	lata including da	ta from the F	Plunge Pool a	rea and Tho	mpson Isl	and dam	(1).						
			instant.	Daily	Water		Total							
Date	Location	Comments	Flow (3)	Flow (4)	Temp.	TSS	PCB	<u> </u>	omolo	og Distr	ibution (v	veight pe	rcent) (5)	l
Collected	(2)	·	(cfs)	(cfs)	(C)	(mg/l)	(ng/l)	Mono	Di	<u> </u>	Tetra	Penta	Hexa	Hepta
21-Jul-97	HRM 197.0	HFO, 8081	3,300	3,100	23	3.6	<11	-	-	-	-	-	-	-
	Plunge Pool	HFO, DM				3.6	60	0.0	11.8	45.6	34.4	7.1	1.1	0.0
	HR20 from East	HFO, DM				na	48	0.0	11.4	29.6	46.2	10.7	2.1	0.0
	HR50 from East	HFO, DM, P				na	25	0.0	25.9	31.3	27.2	12.4	3.2	0.0
	HRM 194.2	HFO, P				3.0	17	0.0	18.5	35.9	29.5	11.4	4.8	0.0
22-Jul-97	HRM 188.5	HFO		2,900		2.4	108	14.5	35.6	27.2	15.0	6.2	1.6	0.0
28-Jul-97	HRM 197.0	-	1,500	2,600	25	1.2	<11	-	-	· -	-	-	-	-
	Plunge Pool	DM, P				<1.1	15	0.0	29.3	32.3	22.5	12.8	3.3	0.0
	HR20 from East	DM, P				na	- 36	0,0	11.3	18,5	23.9	17.8	21.0	7.6
	HR50 from East	DM				na	<11	-	• -	-	• •	-	-	•
	HRM 194.2	P				2.4	19	0.0	31.3	23.2	25.8	16.0	3.7	0.0
	TIP-18C	-				1.3	67	4.2	42.9	27.8	18.1	5.7	1.3	0.0
	HRM 188.5	-				1.4	115	8.7	42.3	29.4	13.8	5.0	0.8	0.0
	HRM 188.5	BD				1.3	116	7.4	42.4	30.2	14.7	4.5	0.7	0.0
04-Aug-97	HRM 197.0	-	5,000	3,500	22	2.5	12	0.0	41.8	9.4	14.0	24.9	9.9	0.0
	Plunge Pool	DM, P				2.3	17	0.0	21.5	34.4	29.4	11.7	3.0	0.0
	HR20 from East	DM, P				na	14	0.0	25.9	33.3	20.2	15.9	4.7	0.0
	HR50 from East	DM, P				na	16	0.0	26.5	12.7	21.4	34.0	5.4	0.0
	HRM 194.2	-				3.2	<11	-	-	-	-	-	-	
	HRM 188.5	-				1.8	98	5.6	41.0	29.4	15.5	6.7	1.8	0.0
	HRM 188.5	RD	4 500			1.9	99	8.3	41.3	29.3	14.5	5.7	0.9	0.0
14-Aug-9/	HRM 197.0	-	1,500	2,200	24	1.9	<11	-	-	-	-	-	-	-
	Plunge Pool	DM, P, U				1.8	15	0.0	26.8	31.5	23.0	14.5	4.2	0.0
	HR20 from East					na	<11	-	-	-	-	-	-	-
	HROUTION East					na	12	0.0	41.7	24.0	18.5	11.4	4,4	0.0
	HRM 194.2	P, U				2.2	10	0.0	3U.Z	20.7	23.0	13.4	4.1	0.0
	HKM 100.0	-				1.9	93	0.2	42.1	20.U	14.0	0.4 5.6	0.7	0.0
	Columba villa	ы				1.9	93	9.0	40.0	29.1	14.0	5.0	0.9	.0.0
	Schuylerville					2.1	00	8.0	42.0	27.0	10.3	5.5	0.7	0.0
		Archive					/4	0.0	41.1	32.2	17.9	1.2	1.6	0.0
20-Aug-97	HKM 197.0	-	2,300	2,100	23	2.0	<11	-	-	-	-	-	-	-
	Plunge Pool	· DM, P				4.5	11	0.0	36.0	22.7	20.1	17.2	4.0	0.0
	HK2U from East	DM, P, J				na	12	0.0	30.9	23.5	19.7	15.6	10.3	0.0
	HK5U from East	DW				na	<11	-	-	-	-	-	-	-
	HKM 194.2	Р				3.1	13	0.0	35.4	23.8	21.4	14.3	5.1	0.0
	HRM 188.5	-				1.6	67	14.4	40.6	25.6	13.0	5.4	1.0	0.0
<u>.</u>	HKM 194.2	BD, P				3.1	14	0.0	34.1	25.1	22.0	14.4	4.5	<u> </u>

Final: 20-Nov-98 I:52/0612244/5_/97rpt/append/PCMP97.WB2

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			Instant.	Daily	Water		Total							
Date	Location	Comments	Flow (3)	Flow (4)	Temp.	TSS	PCB	Н	omolo	og Disti	ribution (v	veight pe	rcent) (5)
Collected	(2)		(cfs)	(cfs)	(C)	(mg/l)	(ng/l)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
26-Aug-97	HRM 197.0	-	2,700	2,600	22	3.1	<11		-	· -	•	-	-	-
	Plunge Pool	DM, P				2.1	16	0.0	28.3	23.3	20.5	20.4	7.6	0.0
	HR20 from East	DM				na	<11	-	•	-	-	-	-	-
	HR50 from East	DM				na	<11	-	-	-	-	-	-	-
	HRM 194.2	Р				3.0	16	0.0	33.5	20.0	27.3	15.0	4.2	0.0
	HRM 188.5	-				1.7	85	15.0	42.2	23.7	12.4	5.6	1.2	0.0
	HRM 188.5	BD				1.8	84	14.0	<u>41.8</u>	24.9	12.7	5.4	1.2	0.0
03-Sep-97	HRM 197.0	-	3,100	2,100	21	2.9	<11	-	-	-	-	-	-	-
	Plunge Pool	DM, P				2.4	31	0.0	13.1	17.7	32.2	27.0	10.0	0.0
	HR20 East	DM				na	<11	-		-	•	-	-	-
	HR50 East	DM, P				na	17	0.0	25.4	21.6	25.8	18.4	8.8	0.0
	HRM 194.2	P				3.0	19	0.0	31.3	23.3	22.2	19.0	4.2	0.0
	HRM 188.5	-				1.5	94	9.9	44.7	24.4	14.5	5.4	1.1	0.0
	HRM 194.2	BD, P				3.0	19	0.0	32.4	20.8	23.7	19.1	3.9	0.0
11-Sep-97	HRM 197.0	P	2,000	2,600	20	1.4	<11	-	-	-	-	-	-	-
	Plunge Pool	DM, P				2.6	21	0.0	24.9	20.9	28.0	21.5	4.8	0.0
	HR20 East	DM, P				na	13	0.0	37.1	24.8	19.6	15.0	3.5	0.0
	HR50 East	DM, P				na	14	0.0	37.9	20.5	18.9	17.7	5.0	0.0
	HRM 194.2	P				1.9	12	0.0	11.0	31.6	24.8	24.2	8.4	0.0
	HRM 188.5	-				1.6	73	15.9	40.4	23.3	11.6	7.0	1.7	0.0
	HRM 188.5	BD				1.6	74	16.7	40.2	23.0	11.9	6.7	1.6	0.0
17-Sep-97	' HRM 197.0	-	3,700	2,900	20	1.5	<11	-	-	-	•	-	-	-
	Plunge Pool	DM, P				2.0	22	0.0	15.6	18.9	27.3	32.5	5.7	0.0
	HR20 East	DM, P				na	14	0.0	35,5	20.3	17.8	20.8	5.6	0.0
	HR50 East	DM, P				na	15	0.0	34.3	20.5	21.6	19.1	4.5	0.0
	HRM 194.2	P				3.1	14	0.0	7.0	30.3	33.1	22.0	7.6	0.0
	HRM 188.5	-				1.4	84	15.6	41.7	23.3	12.3	5.7	1.5	0.0
	HRM 188.5	BD				1.4	82	14.6	42.5	23.1	12.6	5.8	1.4	0.0
24-Sep-97	' HRM 197.0	-	3,100	2,400	17	1.1	<11	-	-	•	•	-	-	-
	Plunge Pool	DM, P				1.0	22	0.0	17.2	24.1	26.5	27.2	5.1	0.0
	HR20 East	DM, P				na	19	0.0	19.7	24.6	30.8	19.6	5.3	0.0
	HR50 East	DM, P				na	14	0.0	30.1	21.3	20.7	21.1	6.9	0.0
	HRM 194.2	P				1.9	19	0.0	30.1	33.1	20.4	12.1	4.3	0.0
	HRM 188.5	-				1.0	80	17.0	42.4	22.4	11.6	5.0	1.4	0.0
	HRM 188.5	BD				1.2	79	16.7	42.4	22.4	11.4	5.6	1.5	0.0

Table B-5. 1997 PCRDMP data including data from the Plunge Pool area and Thorpoon Island dam (1).

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Appendix B

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			Instant.	Daily	Water		Total							
Date	Location	Comments	Flow (3)	Flow (4)	Temp.	TSS	PCB	H	omolo	g Disti	ibution (v	veight per	rcent) (5)	1
Collected	(2)		(cfs)	(cfs)	(C)	(mg/l)	(ng/l)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
01-Oct-97	' HRM 197.0	UJ	3,100	2,600	14	1.5	<11	-	-	-	-	-	•	-
	Plunge Pool	DM, P				1.3	11	0.0	20.5	22.2	27.4	23.2	6.7	0.0
	HR20 East	DM, P				na	16	0.0	13.4	18.7	26.6	30.9	10.4	0.0
	HR50 East	DM				na	<11	-	-	, i -	-	··· -	-	-
	HRM 194.2	UJ				2.1	<11	-	-	-	-	-	-	-
	HRM 188.5	L				1.7	101	20.9	44.7	19.5	9.2	4.7	0.9	0.0
	HRM 194.2	BD, UJ				2.0	<11	-	-	•	-	-	-	-
	TID-PRW2	-				1.8	53	15.5	47.8	18.4	10.6	6.2	1.4	0.0
	Schuylerville	-				<1.0	68	10.4	44.4	24.5	13.0	6.4	1.2	0.0
09-Oct-97	' HRM 188.5	-	4,000	3,200	18	1.9	89	26.9	44.3	15.9	7.7	3.8	1.4	0.0
	TID-PRW2	U				2.5	67	23.7	44.3	18.0	8.8	4.0	1.2	0.0
10-Oct-97	' HRM 197.0	-	3,200	3,000	19	2.1	<11	-	-	-	•	-	-	-
	Plunge Pool	DM				2.5	71	0.0	5.6	15.4	21.7	32.3	22.6	2.3
	HR20 East	DM, P				na	32	0.0	2.0	27.3	40.5	26.4	3.7	0.0
	HR50 East	DM				na	<11	-	-	-	-	-	-	-
	HRM 194.2	-				2.2	<11	-	-	-	-	-	-	-
	HRM 194.2	BD, UJ				2.1	<11	-	-		-	-	-	•
	Schuylerville					2.2	86	18.5	42.9	20.6	11.0	5.5	1.6	0.0
16-Oct-97	' HRM 197.0	-	2,700	2,800	15	3.5	<11	-	-	-	-	-	-	•
	Plunge Pool	DM, P				3.2	19	0.0	6.5	28.5	30.1	28.1	6.9	0.0
	HR20 East	DM, P				na	19	0.0	31.1	29.5	20.0	15.0	4.4	0.0
	HR50 East	DM				na	17	0.0	36.3	31.7	16.9	11.0	4.1	0.0
	HRM 194.2	R				3.3	12	0.0	10.3	27.5	25.0	27.7	9.5	0.0
	HRM 188.5	-				2.9	93	23.7	47,3	17.6	7.5	3.0	0.9	0.0
	HRM 194.2	BD				3.3	<11	-	-	-	-	-	-	-
	TID-PRW2	-				2.7	86	22.8	42.9	18.2	9.2	5.5	1.5	0.0
	Schuylerville	-				3.0	108	20.0	46.6	18.7	8.4	4.8	1.4	0.0
23-Oct-97	HRM 197.0	UJ	3,300	2,600	11	1.3	<11	-	-	-	-	-	-	-
	Plunge Pool	DM, P				1.1	30	0.0	26.2	37.3	20.2	12.8	3.6	0.0
	HR20 East	DM, P				na	14	0.0	39.2	27.4	15.6	12.8	5.1	0.0
	HR50 East	DM, P				na	12	0.0	27.6	29.3	19.8	17.1	6.2	0.0
	HRM 194.2	Р, J				1.3	12	0.0	6.8	35.4	25.1	24.1	8.6	0.0
	HRM 188.5	J				<1.1	105	26.7	44.0	17.5	7.3	3.4	1.1	0.0
	HRM 188.5	BD, J				1.3	108	26.2	45.6	16.7	7.1	3.5	1.0	0.0
	TID-PRW2	j				1.6	72	22.9	46.2	17.7	7.8	4.0	1.4	0.0
	Schuylerville	J				<1.0	105	25.9	45.3	17.1	7.4	3.5	0.9	0.0

Table 8-5. 1997 PCRDMP data including data from the Plunge Pool area and Thompson Island dam (1).

Final: 20-Nov-98 1:52/0612244/5_/97rpt/append/PCMP97.WB2

O'Brien & Gere Engineers, Inc

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Instant. Daily Water Total Date Location Flow (3) Flow (4) TSS PCB Homolog Distribution (weight percent) (5) Comments Temp. Collected {2} (cfs) (cfs) (mg/l) (ng/l) Mono Di Tri Tetra (C) Penta Hexa Hepta UJ 29-Oct-97 HRM 197.0 3,300 3,300 10 3.0 <11 ---Plunge Pool DM, P 2.9 32 0.0 12.9 32.9 30.4 19.6 4.2 0.0 HR20 East DM, P 25 0.0 16.2 30.7 29.3 18.6 5.2 0.0 na HR50 East DM <11 na HRM 194.2 UJ 3.3 <11 2.8 HRM 188.5 J 60 19.2 44.6 19.5 10.9 4.5 1.4 0.0 3.2 TID-PRW2 J 55 26.3 40.0 15.2 10.8 6.0 1.7 0.0 3.2 Schuylerville 75 21.2 47.6 16.9 9.1 4.1 1.2 0.0 J Schuylerville BD, J 3.3 61 19.7 44.0 18.3 11.1 5.2 1.6 0.0 10 05-Nov-97 HRM 197.0 5,200 5,200 1.9 <11 ---DM 0.0 20.0 HR20 East na 22 34.1 25.0 15.6 5.4 0.0 DM, P HR50 East 16 0.0 19.5 33.8 20.4 20.4 5.8 0.0 na HRM 194.2 P 1.9 19 0.0 16.7 28.7 0.0 24.2 20.7 9.6 HRM 188.5 4.2 56 20.0 42.4 19.0 10.6 6.0 2.1 0.0 -**TID-PRW2** Ρ 5.3 39 15.8 40.4 20.7 12.3 8.1 2.8 0.0 5.0 60 Schuylerville 13.2 42.7 24.2 12.1 6.2 1.6 0.0 BD, P HRM 194.2 1.9 17 0.0 20.0 22.8 7.6 31.2 18.4 0.0 11-Nov-97 HRM 197.0 5,500 7 1.5 5.200 <11 -. --Plunge Pool DM 1.8 83 0.0 13.9 45.8 28.3 9.0 3.0 0.0 DM HR20 East 68 0.0 11.6 17.9 20.7 19.8 5.5 na 24.5 HR50 East DM, P 25 0.0 32.9 38.6 15.4 9.2 3.9 0.0 na HRM 194.2 Ρ 2.1 19 0.0 15.8 40.0 25.6 13.8 4.8 0.0 HRM 188.5 3.3 68 31.0 38.4 17.8 7.0 4.6 1.3 0.0 -TID-PRW2 3.4 56 35.0 28.0 20.8 8.9 6.1 1.3 0.0 6.6 100 16.2 38.0 Schuylerville 11.8 14.2 10.3 8.3 1.2 HRM 188.5 BD 3.8 28.9 39.4 4.7 1.2 67 19.2 6.7 0.0 19-Nov-97 3 HRM 197.0 3.800 3,400 1.3 <11 -DM, P Plunge Pool <1.0 12 0.0 9.4 30.6 21.9 22.7 15.3 0.0 HR20 East DM, P 11 0.0 23.2 25.1 25.5 18.3 8.0 0.0 na HR50 East DM, P 19 0.0 8.7 15.6 14.1 21.9 25.4 14.4 na HRM 194.2 1.6 <11 --_ HRM 188.5 2.3 89 28.4 33.5 22.6 8.5 5.7 1.2 0.0 **TID-PRW2** Ρ 1.5 40.7 26.3 21 0.0 15.5 13.1 4.5 0.0 Schuylerville 1.6 73 23.9 36.1 20.8 10.5 6.1 2.8 0.0 -TID-PRW2 BD, P 1.5 23 0.0 37.3 22.2 15.1 14.1 11.3 0.0

Table D.C. 10	data including (data from th	o Diungo Dor	slaroa and Th	omneon Island dam (1)

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Instant. Water Daily Total Date Location Comments Flow (3) Flow (4) Temp. TSS PCB Homolog Distribution (weight percent) (5) Collected (2) (cfs) (cfs) (C) (mg/l)(ng/l) Tri Mono Di Tetra Penta Hexa Hepta 25-Nov-97 HRM 197.0 3,000 3,200 2 <1.0 -<11 ----Plunge Pool DM, P <1.0 20 0.0 13.5 38.5 23.2 17.7 7.1 0.0 HR20 East DM, P 19 0.0 11.1 37.4 30.0 17.1 4.3 0.0 na HR50 East DM na <11 ----. HRM 194.2 <1.0 <11 --HRM 188.5 6.7 332 23.7 32.3 25.3 13.4 4.4 0.7 0.0 -TID-PRW2 Ρ 1.6 30 18.6 38.6 18.7 8.5 0.0 11.8 3.8 Schuylerville 2.3 53 17.8 38.3 24.3 13.0 5.1 1.6 0.0 -BD HRM 188.5 6.1 344 23.2 31.8 24.0 14.1 5.5 0.0 1.4 4.200 2 2.7 02-Dec-97 HRM 197.0 -4,400 <11 ----17.2 Plunge Pool DM, P 2.4 14 0.0 16.4 35.3 24.7 6.4 0.0 HR20 East DM. P <11 na -HR50 East DM, P 12 0.0 20.0 31.1 20.2 20.4 8.3 0.0 na 2.5 HRM 194.2 <11 HRM 188.5 3.9 76 33.2 34.5 17.2 8.5 5.2 1.4 0.0 ~ TID-PRW2 3.6 65 5.8 18.2 20.0 7.2 12.3 160 20.6 Schuylerville 5.2 52 8.3 22.7 18.7 14.6 15.3 15.6 4.8 HRM 194.2 BD 2.7 <11 ----09-Dec-97 HRM 197.0 4,100 3,900 2 <11 -1.1 . . ----DM, P <1.0 35 0.0 16.7 46.8 24.6 9.6 2.3 0.0 **Boat Launch** HRM 194.2 1.4 <11 --HRM 188.5 P. U 1.8 29 0.0 36.9 31.0 18.8 10.2 3.2 0.0 TID-PRW2 Ρ **1.5** 16 0.0 26.7 22.1 6.7 25.2 19.4 0.0 P, U 1.4 31 10.3 43.1 22.2 7.9 3.3 0.0 Schuylerville 13.3 HRM 188.5 BD, P, U 1.5 31 0.0 36.5 31.8 18.2 10.4 3.1 0.0 HRM194.2 EQBL EQBL 15 0.0 11.5 26.2 18.7 0.0 43.7 0.0 -16-Dec-97 HRM 197.0 3,000 3,100 0 2.1 <11 ... ----**Boat Launch** DM, P 2.0 39 0.0 18.0 42.3 26.6 10.0 3.1 0.0 HRM 194.2 Ρ 3.0 15 0.0 9.1 39.7 24.9 18.7 7.6 0.0 27 HRM 188.5 53 23.3 38.7 20.1 11.1 5.2 1.6 0.0 . **TID-PRW2** Ρ 2.5 26 38.3 22.3 14.8 9.8 3.5 0.0 11.4 Ρ 2.6 38 19.5 42.3 18.5 11.4 6.5 1.7 0.0 Schuylerville 52 HRM 188.5 BD 2.6 20.7 39.2 21.3 10.7 6.0 2.1 0.0

Table B-5. 1997 PCRDMP data including data from the Plunge Pool area and Thompson Island dam (1).

Location

Boat Launch

HRM 194.2 HRM 188.5 TID-PRW2 Schuylerville HRM 188.5

Boat Launch

HRM 194.2

HRM 188.5

TID-PRW2

Schuylerville

HRM 194.2

SCH EQBL

(2) 22-Dec-97 HRM 197.0

29-Dec-97 HRM 197.0

Date

Collected

Comments	Instant. Flow (3)	Daily Flow (4)	Water Temp.	TSS	Total PCB	н	omolo	og Distr	ibution (v	veight pe	rcent) (5)	
	(cfs)	(cfs)	(C)	(mg/l)	(ng/l)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
- ·	4,400	3,300	0	2.0	<11	-	*	-	-	-	-	-
DM, P				2.1	28	0.0	19.3	36.4	24.8	12.9	6.7	0.0
-				2.1	<11	-	-	•	-	-	-	-
Р				2.2	28	10.1	39.9	20.0	11.8	12.9	5.4	0.0
Р				2.2	20	0.0	25.7	21.4	18.4	23.9	10.6	0.0
Р				2.4	30	14.1	41.2	21.2	11.4	8.7	3.4	0.0
BD, P				2.2	26	11.0	44.4	21.4	10.3	9.9	3.0	0.0
-	4,000	3,500	1	<1.0	<11	•	-		_	-	-	

0.0

0.0

16.4

0.0 28.6

0.0 35.2

0.0

48.7

25.2

33.9

30.3

20.6

21.5

15.6

35.3

11.2

17.2

11.8

27.2

3.2

7.5

3.6

7.3

0.0

0.0

0.0

0.0

Table B-5. 1	1997 PCRDMP	data including	data from the	Plunge Pool area	and Thompson Is	and dam (1).
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Notes:

(1) Samples analyzed by capillary column using NEA Method 608CAP unless otherwise noted. NEA Method 608CAP 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). Samples collected at the base of Bakers Falls were not validated completely, however Tier 1 QC validation was performed. Shading indicates samples for which the weight percent of hepta-chlorinated biphenyls exceeds zero, indicating possible Aroclor 1260 laboratory contamination.

<1.0

<1.0

1.2

1.2

1.4

<1.0

31

<11

<11

15

20

<11

13

- (2) HRM = Approximate Hudson River mile; HRM 0.0 is located at the Battery in New York City. Samples from location HRM 194.2 are a composite of west and east channels; Boat Launch sample is collected off the northwest corner of the old Niagara Mohawk building (HRM 196.9); Plunge Pool samples were collected from the plunge pool at Bakers Falls (HRM 196.9); HR 20 East and HR 50 East were collected downstream of the plunge pool. TIP-18C samples were collected from the center of the river channel approximately 700 feet upstream of Thompson Island dam. TID-PRW2 was collected from the center of the west channel approximately 200 feet downstream of Thompson Island dam. The Schuylerville sample was collected from the Rt. 29 Bridge in Schuylerville.
- (3) Instantaneous flows recorded during sampling for the Fort Edward gaging station are presented.

DM. P

P. U

P.U

BD

EQBL

- (4) Daily flow is presented as mean daily flow for the Fort Edward gaging station from provisional data provided by USGS (5/98). "e" indicates estimated value.
- (5) Homolog groups octa-, nona- and deca-chlorinated biphenyls were not detected greater than 0.02%.

Comments Key:

- BD = Blind Duplicate - a field PCB duplicate sample submitted to the laboratory without identification of sampling location.
- P = Practical quantitation limit (PQL) note that identifies PCB concentrations between <11 and 44 ng/l.
- DM = Samples collected by Dames & Moore personnel.
- not analyzed na =
- Sample analyzed for PCBs by USEPA Method 8081. 8081 =
- HFO = indicates samples collected during/after hydrofacility operations; PCRDMP samples were collected on the same day before hydrofacility operations began; samples collected before and during/after hydrofacility operations were based on estimated time of travel from Bakers Falls.
- Equipment blank, Only equipment blanks with detected PCB concentrations are presented. EQBL =
- Archive = Archived sample. The sample collected on 04/07/97 was extracted outside of holding time and analyzed to verify results of original analysis. Original sample result was judged unreliable due to laboratory processing error. The equipment blank archive collected on 4/14/97 was analyzed to verify results of original analysis.

Source: O'Brien & Gere Engineers, Inc.

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									Samp	e Location	S							
		R	t. 27 Bridge		Ba	akers Falls			Route 197	7 Bridge			Thor	npson Island	d Dam			
		HF	RM 197.0 (2)		PI	unge Pool			HRM 19	4.2 (2)			I	HRM 188.5 (3	3)			
Sample	Sample		PCB (3)	TSS (4)		PCB (3)	TSS (4)		Inst. Q (6)	PCB (3)	TSS (4)		Ave Q	Inst. Q	PCB (4)	TSS (5)		
Date	Round (1)	Time	(ng/l)	(mg/l)	Time	(ng/l)	(mg/l)	Time	(cfs)	(ng/l)	(mg/l)	Time	(cfs)	(cfs)	(ng/l)	(mg/l)		
09/04/96	Before	08:20 AM	{<11 (<11)}	1.3	08:37 AM	{14}	1.6	09:25 AM	5700	{15}	1.5	05:10 PM	5100	4400	51	1.2		
			****					'				08:30 PM	4900	4900	115	3.7		
						****						10:30 PM	4900	4600	118	1.4		
	During	10:20 AM	{<11}	<1.1	10:15 AM	{23}	3.4	11:55 AM	6700	{42 (36)}	2.5							
	After	12:20 PM	<11 {<11}	1.4	11:55 AM	{26}	2.2	01:50 PM	5800	24 {23}	2.2	-	****					
06/09/97	Before	09:20 AM	<11	<1.2	09:26 AM	16	1.3	10:15 AM	2900	<11	<1.1	12:50 PM	2900	3100	237 (231)	2.9 (2.4)		
		09:45 AM	<11	<1.2	11:04 AM	422	5.6	11:46 AM	2700	14	<1.0	02:55 AM	2900	2900	198	2.4		
	During/After			****		****						05:00 AM	2800	2200	200	2.5		
06/23/97	Before	09:05 AM	<11	2.0	08:54 AM	19	2.0	10:25 AM	3100	<11	2.4	08:15 PM	3300	3800	243 (242)	3.7 (3.7)		
												11:35 PM	3400	3100	252	3.9		
	During/After	10:45 AM	{<11}	2.0	11:12 AM	147	4.9	01:10 PM	2200	23	3.0							
07/21/97	Before	08:15 AM	<11	2.1	08:17 AM	11	1.8	08:55 AM	2900	20 (21)	2.7 (2.5)	08:35 PM	3400	3600	131	2.3		
	During/After	09:15 AM	{<11}	3.6	09:15 AM	60	3.6	10:55 AM	1800	17	3.0	06:10 AM	2900	1500	108	2.4		
		1			1							I .						

Table B-6. Hydrofacility monitoring September 1996 and June/July 1997. Instantaneous flow readings and analytical results

Notes:

(1) Sample Rounds "Before", "During" and "After" are defined below:

"Before" - no flow over the Bakers Falls Dam; "During" - inundation of Bakers Falls following initiation of hydrofacility maintenance operations;

"After" - intermittent flow over Bakers Falls Dam following completion of hydrofacility maintenance operations

For sample dates in 1997, only two rounds were collected to represent "Before" and "During/After" conditions. 1996 data are presented previously (O'Brien & Gere 1998b).

(2) HRM = approximate Hudson River mile; HRM 0.0 is located at the Battery in New York City. Samples from HRM 194.2 are

composites of west and east channels.

(3) Total PCBs analyzed by Method NEA608CAP unless enclosed in braces { } which indicates USEPA Method 8081 analyses. Duplicate results are presented in parentheses.

(4) TSS analyzed by Method 160.2.

(5) Unit value flows are preliminary 15-minute interval values at the time of sampling obtained from the USGS gaging station in Fort Edward.

(6) Average Flow presented for Thompson Island Daam represents averages of instantaneous flows recorded at Fort Edward after sampling at Fort Edward. The average flows were used to estimate the time of travel for the subject parcel of water.

Source: O'Brien & Gere Engineers, Inc.

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	USGS	Flow (3)	T	HRM	188.5 (2)	TID	PRW2 (2)		Rt. 29 Brid	ae Schin	lerville (2)
Date	Daily	l low (c)	Temp	Total PCB	TSS	Com	Total PCB	TSS	Com	Total PCB	TSS	Com
Collected	(ofc)	(ofe)	(Colcinc)		(ma/l)	(5)		(ma/l)	(5)	(ng/l)	100 /ma/l\	(6)
		<u>(UIS)</u>	(Ceisius)	(119/1) (4)	<u>ung/ij</u> 5.0	(0)	(ng/i)	lingin	(3)	(ng/i)	tingn	(ə)
01/06/97	0,460	8,200			5.9	-	{ -	-	-	-	-	-
01/13/97	7,570	7,500	0	18	1./	۲	-	-	-	-	-	-
01/27/97	6,800e	6,800	0	<11	2.0	-	-	-	-	-	-	-
							-	-	-	-	-	-
02/03/97	6,170	7,400	1	23	1.6	P	- '	-	-		•	-
02/10/97	5,560	5,400	1	12	1.6	P	-	-	-	-	-	-
02/18/97	5,800	5,700	3	18	<1.0	P	-	-	•	-	-	-
02/24/97	9,790	10,200	2	32	2.5	Р	-	-	-	-	-	•
							-	•	-	-	-	· -
03/03/97	9,020	10,000	1	19	15.0	Р	-	-	-	-	• ·	-
03/10/97	7,510	7,900	2	37	2.7	P	-	-	-	-	-	-
03/19/97	6,490	6,600	3	45	2.0	-	-	-	-	-	-	-
03/24/97	5,240	4,900	4	80	3.7	-	-	-	-	-	· _	-
03/31/97	11 500	10 700	3	12	21.0	P		-	-	-	-	-
00,01,01	11,000	10,700			21.0	•		_	-		_	_
04/07/07	13 800	14 400	41	25	67	p		_	_		-	-
04/01/91	7 3 40	7 200	6	25	2.2	5	-	-	-	_	-	-
04/14/97	7,340	7,300	7	25	3.2	г D	-	-	•	-	•	. –
04/21/97	10,300	10,600		14	2.0	۲ ۲	-	-	-	-	-	-
04/28/97	11,200	10,700	9	21	3.4	۳.	-	. •	•		-	-
						_	-	-	-	-	•	-
05/05/97	16,200	15,800	10	_29	5.1	P	-	-	-	-	-	-
05/12/97	11,700	11,700	12	27	<1.0	Ρ.	-	-	-	-	-	-
05/19/97	7,960	8,600	11	35	1.3	P	-	-	-	-	-	-
05/27/97	5,120	5,000	15	106	2.7	-	-	-	-	-	-	-
h .			-				- *	-	-	· –	•	-
06/03/97	3,960	4,000	17	138	2.5	-	-	-	-	-	-	-
06/04/97	4,490	4,500	-	113	2.0	FS	-	-		-	-	-
06/10/97	2,140	3,118	20	237	2.9	-	-	-	-	-	-	-
06/10/97	_,	2.100	-	198	2.4	HFO	- ·	-	-	-	-	-
06/10/97	_ ·	2 320	-	200	2.5	HFO	-	-	-	_	-	-
06/16/97	2 000	2,020	24	413	65		_	_	-	_	-	-
06/17/07	2,050	3,000	24	272	42	FS					-	_
06/02/07	2,000	3,500	3	243	37		_			_	-	_
00/23/97	3,200	3,500	23	240	3.7	-	-	-	-	-	-	-
00/23/97	-	2,000		252	3.9	nru	-	•	•	-	-	•
06/30/97	2,560	2,800	25	2/1	2.6	-	-	-		-	-	· -
							-					
07/07/97	4,860	6,000	22	169	4.4	-	. -	-	-	-	-	-
07/14/97	3,080	2,000	25	190	1.1	-	-	•	-	-	-	-
07/21/97	3,070	2,900	22	131	2.3	-	-	-	-	-	-	-
07/22/97	2,860	1,200	-	108	2.4	HFO	- '	-	-	-	-	-
07/28/97	2,630	1,500	25	115	1.4	· •	-	-		. -	-	-
						:						
08/04/97	3,460	5,000	22	98	1.8	-	-	-	-	-	-	-
08/13/97	2,320	2,000	24	90	1.9	TID	58	1.6	TID	-	-	- '
08/14/97	2.170	1,500	23	93	1.9	-	-	-	-	66 {74}	2.1	TID, Arch
08/20/97	2.060	2,300	23	67	1.6	-	-	· _	-	-	-	-
08/26/97	2 600	2 700	21	85	17	-		•	-	_		-
00,20,01	1 2,000									-	-	
00/03/07	2 460	3 100	21	01	15	E					•	_
09/03/97	2,400	3,100	21	107	1.0	- TID 1	-	-	-	-	-	
03/03/37	2,000	3,200			1.0		-	-	-	-	-	-
09/09/97		4,000		90	∠.∪			-	-		•	-
09/10/97	2,770	3,100	21	94	1.7	110-3	-		-	-	-	•
09/11/97	2,550	2,000	20	13	1.6	-	-	-	-	-	-	. • .
09/17/97	2,900	3,700	20	84	1.4	-	-	-	-	-	-	-
09/24/97	1 2 390	3 100	I 18	I 80	10	-		-	-	-	- · ·	· -

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Appendix B

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	USGS	Flow (3)		HRM	188.5 (2)		TID-	PRW2 (2)		Rt. 29 Brid	ge Schuyl	erville (2)
Date	Daily	Unit	Temp.	Total PCB	TSS	Com.	Total PCB	TSS	Com.	Total PCB	TSS	Com.
Collected	(cfs)	(cfs)	(Celsius)	(ng/l) (4)	(mg/l)	(5)	(ng/l)	(mg/l)	(5)	(ng/l)	(mg/l)	(5)
10/01/97	2,640	3,100	14	101	1.7	-	53	1.8	-	68	<1.0	TID
10/09/97	3,200	3,800	18	89	1.9	-	67	2.5	-	-	-	-
10/10/97	2,980	3,200	20	-		-	-	-	-	86	2.2	TID
10/16/97	2,820	2,700	15	93	2.9	-	86	2.7	-	108	3.0	TID
10/23/97	2,630	3,300	12	105	<1.0	-	72	1.6	-	105	<1.0	-
10/29/97	3,290	3,300	10	60	2.8	-	55	3.2	•	75	3.2	-
11/05/97	5,240	5,200	10	56	4.2	-	39	5.3	Р	60	5.0	-
11/11/97	5,150	5,500	7	68	3.3	-	56	3.4	-	100	6.6	-
11/19/97	3,360	3,800	3	89	2.3	-	21	1.5	Ρ	73	1.6	-
11/25/97	3,160	3,000	2	332	6.7	-	30	1.6	P	53	2.3	-
12/02/97	4,390	4,200	2	76	3.9	-	65	3.6	-	52	5.2	-
12/09/97	3,880	4,100	1	29	1.8	Р	16	1.5	Ρ	31	1.4	Р
12/16/97	3,060	3,000	0	53	2.7	· -	26	2.5	Ρ	38	2.6	P
12/22/97	3,250	4,400	0	28	2.2	Р	20	2.2	P	30	2.4	Р
12/29/97	3,480	4,000	1	<11	<1.0	-	15	1.2	P	20	1.4	P

Statistical Sur	nmary (6)											
No. Samples	58	62	56	61	61	-	15	15	-	15	15	-
Arith. Mean	5,000	5,000	12	97	3.1	-	45	2.4	-	65	2.7	-
Geom. Mean	-	-	-	65	2.4	-	39	2.2	-	58	2.3	-
Median	3,400	3,900	12	84	2.3	-	53	2.2	-	68	2.3	-
Minimum	2,100	1,200	0	<11	<1.0	-	15	1.2	-	20	<1.0	-
Maximum	16,200	15,800	25	413	21	-	86	5.3	-	108	6.6	-
Std. Dev.	3,200	3,200	9	86	3.1	-	23	1.1	-	28	1.7	

Notes:

(1) Samples analyzed for PCB by capillary column using Method NEA608CAP. PCB data obtained by Method NEA608CAP have been corrected for analytical bias.

(2) HRM = Approximate Hudson River mile; HRM 0.0 is located at the Battery in New York City. Samples from location HRM 188.5 were grab samples collected from the west shore at Thompson Island dam. Samples collected at TID-PRW2 (approximately 200 feet downstream of the dam) and Rt. 29 Bridge in Schuylerville were depth-integrated composites.

(3) River flows are presented as mean daily discharge and instantaneous unit discharge for each round of sampling. Daily mean and instantaneous unit flow data from the USGS Fort Edward gaging station are preliminary. Daily means have been updated by USGS as of 05/98. "e" indicates estimated daily average value. Instantaneous unit flows correspond to flows recorded by the USGS during sampling at HRM 194.2.

(4) Parentheses () indicate results of duplicate analysis, and qualifiers associated solely with the duplicate sample. Braces {} indicate results of archive sample analysis.

(5) "Com." = Comments include clarifications of sampling and analytical methods, and PCB Method NEA608CAP qualifiers:

P = Practical quantitation limit (PQL) note for PCB values between <11 and 44 ng/l.

U = Not detected due to field blank contamination.

R = Unusable due to analysis outside of retention time window

J = PCB sample results approximate due to minor excursions from data validation criteria.

UJ = PCB detection limit approximate due to excursions from data validation criteria.

R = PCB data qualified due to excursion from data validation criteria.

HFO = indicates samples collected for hydrofacility operations monitoring. During routine hydrofacility maintenance operations, river flow is diverted from the hydrofacility and spills over the dam.

FS = indicates samples collected during Thompson Island Pool time of travel studies.

TID = indicates samples collected during Thompson Island Dam monitoring.

(6) Duplicate data were not included in statistical calculations, except for calculation of the maximum value. Data qualified with "R" are not included in statistics. Means of total PCB concentrations were calculated using a value of 10.9 ng/l for results less than the detection limit (11 ng/l). Means of TSS concentrations were calculated using a value of one-tenth less than the reported detection limit. Statistics for flow and temperature were calculated from the data presented.

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APPENDIX B

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Figures





Figure B-2. Homolog distributions from Hudson Falls IRM monitoring activities.



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Figure B-3. Comparison between homolog weight percent distributions during the Hudson Falls IRM monitoring activities October through December of 1997 and the homolog weight percent distributions for PCB standards.



Note: The top of the grey bar indicates the sample mean. The upper and lower limits of the error bar indicate the sample mean +/- the 95% confidence interval.

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Figure B-4



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Figure B-5. Comparison of Plunge Pool Area and HRM 194.2 total PCB concentrations during 1997.



facility monitoring.

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Figure B-6. Box plot statistical analysis of total PCB concentrations in Plunge Pool area and at HRM 194.2 between March 24 and December 2, 1997.

Note: Statistics were calculated using analytical bias corrected PCB results from Method NEA608CAP. Only data collected on the dates which all four locations were sampled are included in the statistics. Method detection limit (MDL) = 11 ng/l. Practical quantitation limit = 44 ng/l. For values reported below the method detection limit, a value of 10.9 ng/l was used to calculate the statistics. Box plots provide a summary of seven statistical components (see legend). When the notches of any two boxes overlap vertically, the medians are not statistically different at the 95% confidence level (Reckhow and Chapra 1983).

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Figure B-7. Comparison between homolog weight percent distributions for the Plunge Pool and Boat Launch sampling locations; and the homolog weight percent distributions for the PCB standard Aroclor 1242.





Note: The top of the grey bar indicates the sample mean. The upper and lower limits of the error bar indicate the sample mean +/- the 95% confidence interval. Only samples above the PQL (44 ng/L Total PCB) were used in these graphs.





Figure B-9. Total PCB water column monitoring results from Thompson Island pool region of the Hudson River, 1991 - 1997.

Note: Data represents results of Method NEA608CAP analysis. "X" indicates sample collected from the eastern shoreline of HRM 194.2 due to ice cover on the river. "+" indicates the result of a sample collected at HRM 188.5 on 01/24/96 for which duplicate and archive results averaged 26 ng/l. Elevated PCB concentrations detected at HRM 194.2 in November and December 1995 could not be directly attributed to an upstream event, contaminated equipment blanks, or other unidentified source. A recurring equipment blank contamination problem in 1995 was resolved in 1996 and 1997. Method detection limit (MDL) = 11 ng/l, practical quantitation limit (PQL) = 44 ng/l. For data reported less than the MDL, a value of 10.9 ng/l is presented. PCB data have been corrected for analytical biases.

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Figure B-10. Total PCB water column monitoring results from Thompson Island pool region of the Hudson River, 1995 - 1997

Note: Data represents results of Method NEA608CAP analysis. "+" indicates the result of a sample collected at HRM 188.5 on 01/24/96 for which duplicate and archive results averaged 26 ng/l. Elevated PCB concentrations detected at HRM 194.2 in November and December 1995 could not be directly attributed to an upstream event, contaminated equipment blanks, or other unidentified source. A recurring equipment blank contamination problem in 1995 was resolved in 1996 and 1997. Method detection limit (MDL) = 11 ng/l, practical quantitation limit (PQL) = 44 ng/l. For data reported less than the MDL, a value of 10.9 ng/l is presented. PCB data have been corrected for analytical biases.

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Figure B-11. Total PCB geometric mean (+/- 95% confidence interval) at HRM 194.2 and HRM 188.5 for selected time periods, and comparison of annual summary data for 1997 and 1996.



Notes: Statistics were calculated using PCB analytical results from Method NEA608CAP. Data have been corrected for analytical bias. Method Detection Limit (MDL) = 11 ng/l. Practical Quantitation Limit = 44 ng/l. For data reported below the MDL, a value of 10.9 ng/l was used to calculate statistics.

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Notes: Statistics were calculated using PCB analytical results from Method NEA608CAP. Data have been corrected for analytical bias. Method Detection Limit (MDL) = 11 ng/l. Practical Quantitation Limit = 44 ng/l. For data reported below the MDL, a value of 10.9 ng/l was used to calculate statistics.



Figure B-13. 1997 total PCB water column monitoring results from Thompson Island dam and downstream.

Note: Thompson Island Dam samples collected from the west dam abutment of the west channel; TID PRW2 samples collected approximately 200 feet downstream of the dam, in the center of the west channel; Schuylerville samples collected from the Route 29 Bridge in Schuylerville. Thompson Island Pool (TIP) Study was conducted in August and September 1997. Weekly sampling was conducted at these locations along with the routine Post-Construction Remnant Deposit Monitoring Program (PCRDMP) sampling events. MDL = 11 ng/l, PQL = 44 ng/l. PCB data has been corrected for analytical biases.

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Appendix B

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Appendix B



Note: Samples were collected between August 13, 1997 and December 29, 1997. The location TID-PRW2 was added to the PCRDMP routine weekly sampling program in October 1997. Blind duplicate results are averaged with sample results. PCBs reported less than the detection limit of 11 ng/l are presented as 10.9 ng/l.

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Figure B-15. PCB mass transport at HRM 188.5 during summer low flow (June to September)

Note: Mass transport is calculated as the product of PCB concentrations (ng/l) USGS daily average flow (cfs) and a conversion factor. Mass transport is presented as the average for the summer low flow sampling period for each year. USGS flow data was measured at the Fort Edward gaging station. USGS published flow values (through 1996) and preliminary flow values (1997) were averaged for the summer low flow sampling period for each year. Data qualified with "R" by data validation criteria are not included in statistics. PCB concentrations were obtained from Method NEA608CAP analyses corrected for analytical bias. Baseline values were calculated using a total PCB concentration of 10.9 ng/l. Baseline PCB mass transport is indicated by the unshaded portion of each bar. [1] indicates collapse of the Allen Mill gate (9/91). [2] indicates implementation of source control measures (winter 1992-1993). [3] indicates initiation of hydroelectric facility operations at Bakers Falls which have changed the hydrology of the river in the vicinity of Bakers Falls (12/95).

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Figure B-16. Comparison of 1997 data collected at sampling stations HRM 188.5 and TID-PRW2.



Note: Samples were collected between August 13, 1997 and December 29, 1997. TID monitoring was conducted prior to October 1, 1997. The location TID-PRW 2 was added to the PCRDMP routine weekly sampling program in October 1997. Blind duplicate results are averaged with sample results. PCB data were obtained by method NEA608CAP. TSS data were analyzed using Method 160.2. USGS daily average flow data are preliminary (5/98) and subject to change. For analytical data reported below the method detection limits, a value one-tenth less than the detection limit (10.9 ng/l for PCB and 0.9 mg/l for TSS) is presented and was used to calculate mass transport.

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Figure B-17. Linear regression analysis of USGS river flow, total PCB data; and TSS data at HRM 188.5 during 1997.



Note: Provisional flow data provided by USGS (5/98). PCBs analyzed by method NEA608CAP. Data have been corrected for analytical bias. For analytical data less than the method detection limits, a value one-tenth less than the detection limit (10.9 ng/l for PCB and 0.9 mg/l for TSS) is presented. High flow data are not included in the regression analysis.

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Figure B-18. Linear regression analysis of USGS river flow, total PCB data, and TSS data at TID PRW2 during 1997.



Note: Provisional flow data provided by USGS (5/98). Samples were collected between August 13 and December 29, 1997. PCBs analyzed by method NEA608CAP. Data have been corrected for analytical bias. For analytical data less than the method detection limits, a value one-tenth less than the detection limit (10.9 ng/l for PCB and 0.9 mg/l for TSS) is presented.

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Figure B-19. Comparison of 1997 total suspended solids data at HRM 188.5 and TID-PRW2.

Note: Samples were collected between August 13, 1997 and December 29, 1997. The location TID-PRW 2 was added to the PCRDMP routine weekly sampling program in October 1997. Blind duplicate results are averaged with sample results. The detection limit = 1.0 mg/l. For data reported below the detection limit, a value of 0.9 mg/l is presented.

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Figure B-20. Homolog distributions at HRM 188.5 (Thompson Island Dam) averaged by time periods.







Notes: PCBs analyzed by Method NEA608CAP. Data have been corrected for analytical bias. PCB homolog distributions are presented as averages of samples with total PCB concentration greater than the practical quantitation limit (44 ng/l) collected during the time periods shown.



Figure B-21. Paired comparison of homolog distributions at HRM 188.5 and TID-PRW2, August 13 thru September 10, 1997.

Notes: PCBs analyzed by Method NEA608CAP. Data have been corrected for analytical bias.

Figure B-22. Paired comparison of homolog distributions at HRM 188.5 and TID-PRW2, October 1 thru October 23, 1997.



Notes: PCBs analyzed by Method NEA608CAP. Data have been adjusted for analytical bias.

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Figure B-23. Paired comparison of homolog distributions at HRM 188.5 and TID-PRW2, October 29 thru December 2, 1997.







Notes: PCBs analyzed by Method NEA608CAP. Data have been adjusted for analytical bias. Data from December 2 were not paired due to laboratory contamination of TID-PW2 sample.

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Appendix C. Hudson River discharge data at Fort Edward

River discharge data presented in this appendix were collected at the United States Geological Survey (USGS) Fort Edward gaging station (Station number 01327750). Fort Edward flow data for the period 1991 through 1997 are presented in Figure C-1. To assist with interpretation of high flow data, estimated flood event reoccurrence periods are presented below:

Reoccurrence Period (years)	1931-1989 Floods Daily Mean Flow (cfs		
5	28,000		
10	32,000		
25	36,900		
50	40,300		
100	43,600		
Source: USEPA 1991	-		

Comparisons of the annual variability of seasonal flows for 1991 through 1997 are also provided (Figures C-2 through C-5).

C.1. Data Collection

The Fort Edward discharge data were obtained from the USGS at two levels of detail consisting of *unit values* collected at 15-minute intervals and *mean daily values* (USGS 1998). Shortly after the unit value data are collected they are available on the Internet and qualified as *provisional*. *Final* mean daily values are published approximately one year after the end of a *water year*, which extends from October through September of the following year. For example, water year 1997 extends from October 1996 through September 1997.

C.1.1. Unit values

The USGS automatic gage at Fort Edward records river stage height at 15minute intervals. O'Brien & Gere retrieved these stage height data routinely from the USGS Internet WEB site, and converted stage height data into unit discharge values using the current USGS rating table (identified by USGS as "Number 7"). In November 1997, the USGS began to include the unit discharge values with the stage height data on the Internet WEB site.

The unit values represent raw, unreviewed data. Until the final mean daily flows are published, USGS reportedly reviews and edits the unit discharge values file to correct for identified inaccuracies. Inaccuracies in the data may be present because of instrument malfunctions or physical changes at the measurement site. Although USGS may update the file, the unit values file does not contain footnotes, deletions or other means of distinguishing valid from spurious data. The most accurate unit values file is available from the USGS after the final mean daily values are published. However, the unit value data is not published as final.

C.1.2. Mean daily values

Final mean daily discharge values through September 1996 have been published by the USGS and are presented in the tables and figures included with this report. According to USGS, the final data are generated through a detailed verification and evaluation of unit values data. These final values are considered the best possible estimates of river flow measured at the gaging station.

For data collected since September 1996, provisional mean daily discharge values are presented in this report. Provisional mean daily values will contain the same inaccuracies as the associated unit values, and are subject to revision until final mean daily values for the 1997-1998 water years are published.

C.2. Data Reduction

Hydrographs of the daily flow at Fort Edward for 1997 Post-Construction Remnant Deposit Monitoring Program (PCRDMP) sampling dates are presented in chronological order in Attachment A of this appendix. The figures include the estimated parcel of water sampled corresponding to sample collection at the HRM 194.2 sampling station. In 1997, samples were typically collected at HRM 188.5 approximately 15-20 minutes after the Fort Edward sample. This approximates the time lag expected for hydrologic changes observed at Fort Edward to be observed at the dam during low flow (HydroQual 1997). Therefore, instantaneous flows during sample collection at both HRM 194.2 and HRM 188.5 are expected to be comparable. This

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hydrologic lag time is different from time of travel, which refers to the time it takes for a parcel of water to travel from Fort Edward to Thompson Island Dam (Table C-1, Section C.3).

C.3. Time of travel estimates

Time of travel estimates allow for monitoring of a single parcel of water as it travels downstream, which facilitates evaluation of changes in the water mass as it passes through different geographic areas (Section 4.3.3). Time of travel estimates used for the PCRDMP (Table C-2) were developed based on field experience obtained during the sampling conducted for the 1996-1997 Thompson Island Pool Studies (O'Brien & Gere 1998; HydroQual and O'Brien & Gere 1996), 1995 River Monitoring Test (O'Brien & Gere 1996), float surveys conducted for the PCRDMP (O'Brien & Gere 1994, 1993), and time of travel studies by others (Tofflemire 1984; USGS 1969).

Several water column investigations performed in 1996 and 1997 relied on time of travel estimates, including hydroelectric facility monitoring presented in this report (Appendix B). Time of travel estimates presented in Table C-1 were developed to represent the flow range of 1,000 cfs to 34,000 cfs. These estimates were in close agreement with previous time of travel estimates used for hydroelectric facility monitoring, transect studies, and time of travel surveys (O'Brien & Gere 1996, 1997, 1998; HydroQual and O'Brien & Gere 1996) which were conducted at flows less than 8000 cfs.

As discussed in Section C.2, samples collected at HRM 188.5 for the PCRDMP were collected within the estimated hydrologic lag time for changes in river flow at the Fort Edward gaging station to reach the Thompson Island Dam. Timing of sample collection at HRM 188.5 for the PCRDMP was not based on time of travel estimates.

To the extent possible, sample collection at HRM 194.2 and the plunge pool/boat launch (Section 1.4) for the PCRDMP were based on time of travel to evaluate a single parcel of water. The timing of sampling was based on instantaneous flow readings obtained from the USGS gaging station at Fort Edward prior to sampling and on the time of travel estimates. It is important to note, however, that time of travel estimates for the plunge pool and boat launch may be unreliable due to the flow characteristics at the base of Bakers Falls. In particular, during low flow water is diverted through the hydroelectric

facility and the flow from the pool/boat launch area is reduced. Under those circumstances a large volume of the water at the base of Bakers Falls is stored and movement of the water mass downstream of the plunge pool/boat launch area is not represented by river flow.

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Tables

Transect	Approx.	Zone	Estimated Time of Travel (hours)						
No.	River Mile		2500 cfs	3000 cfs	3500 cfs	4000 cfs	4500 cfs	5000 cfs	
1	194.60	А	0.00	0.00	0.00	0.00	0.00	0.00	
2	194.46	A	0.18	0.15	0.13	0.11	0.10	0.09	
3	194.20	A	0.51	0.43	0.37	0.32	0.29	0.26	
4	193.96	Α	0.82	0.69	0.59	0.51	0.46	0.41	
5	193.70	Α	1.16	0.96	0.83	0.72	0.64	0.58	
6	193.40	A	1.54	1.29	1.10	0.96	0.86	0.77	
7	193.10	A	1.93	1.61	1.38	1.21	1.07	0.96	
8	192.75	в	3.18	2.65	2.27	1.99	1.77	1.59	
9	192.42	В	4.36	3.63	3.12	2.73	2.42	2.18	
10	192.16	В	5.29	4.41	3.78	3.31	2.94	2.65	
11	191.90	в	6.22	5.18	4.44	3.89	3.46	3.11	
12	191.43	в	7.90	6.58	5.64	4.94	4.39	3.95	
13	191.00	В	9.44	7.87	6.74	5.90	5.24	4.72	
14	190.50	в	11.23	9.36	8.02	7.02	6.24	5.61	
15	189.80	в	13.73	11.44	9.81	8.58	7.63	6.87	
16	189.40	В	15.16	12.63	10.83	9.48	8.42	7.58	
17	189.00	в	16.59	13.83	11.85	10.37	9.22	8.30	
18	188.50	B	18.38	15.32	13.13	11.49	10.21	9.19	

 Table C-1. Time of travel estimates from the USGS Fort Edward gaging station to time of travel study sampling station.

Notes:

Approximate river miles were estimated from a map. Final equations used: Zone A - v = 0.0001390

Zone A - v = 0.000139Q Zone B - v = 0.00005Q

Source: HydroQual, Inc. (J.A.B. 09/20/96).

APPENDIX C

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Figures



Figure C-1. Hudson River average daily flow at the USGS Fort Edward gaging station, 1991 through 1997.

Note: Mean daily discharge calculated by the USGS from adjusted unit values measured at the Fort Edward gaging station. Data are final for the time period 1991 through September 1996, and are preliminary from October 1996 through December 1997. Q indicates yearly quarter.





Note: Data presented are summaries of daily average discharges measured by USGS at the Fort Edward gaging station. Data are final through 1996 and preliminary in 1997. Box plots provide a summary of seven statistical components (see legend). When the notches of any two boxes overlap vertically, the medians are not statistically different at the 95% confidence level (Reckhow and Chapra 1983).

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Figure C-3. Box plot statistical analysis of Hudson River flow data at the Fort Edward gaging station: spring 1991 - 1997.

Note: Data presented are summaries of daily average discharges measured by USGS at the Fort Edward gaging station. Data are final through 1996 and preliminary for 1997. Box plots provide summary of seven statistical components (see legend). When the notches of any two boxes overlap vertically, the medians are not statistically different at the 95% confidence level (Reckhow and Chapra 1983).

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Figure C-4. Box plot statistical analysis of Hudson River flow data at the Fort Edward gaging station: summer 1991 - 1997.

Note: Data presented are summaries of daily average discharges measured by USGS at the Fort Edward gaging station. Data are final through 1996 and preliminary for 1997. Box plots provide a summary of seven statistical components (see legend). When the notches of any two boxes overlap vertically, the medians are not statistically different at the 95% confidence level (Reckhow and Chapra 1983).



Figure C-5. Box plot statistical analysis of Hudson River flow data at the Fort Edward gaging station: fall 1991 - 1997.

Note: Data presented are summaries of daily average discharges measured by USGS at the Fort Edward gaging station. Data are final through 1995 and preliminary for 1996 and 1997. Box plots provide a summary of seven statistical components (see legend). When the notches of any two boxes overlap vertically, the medians are not statistically different at the 95% confidence level (Reckhow and Chapra 1983).

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Attachment A Hudson River Hydrographs

Hydrographs are in chronological order by sample date.

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Hydrograph at the USGS Fort Edward gaging station: January 06, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

Appendix C
11,000 10.000 9.000 Discharge (cfs) 8,000 7,000 6,000 5,000 4.000 3,000 00:00 02:00 04:00 06:00 08:00 10:0012:00 14:00 16:00 18:00 20:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge USGS mean daily flow Average instantaneous flow

Hydrograph at the USGS Fort Edward gaging station: January 13, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

Hydrograph at the USGS Fort Edward gaging station: January 27, 1997. 11,000 10,000 9,000 Discharge (cfs) 8,000 7,000 6,000 5,000 4,000 3.000 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98) and qualified "e" (estimated). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: February 03, 1997. 7 11,000 10,000 9,000 Discharge (cfs) 8,000 7,000 6,000 5,000 4,000 3,000 00:00 08:00 10:00 12:00 14:00 16:00 18:00 02:00 04:00 06:00 20:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

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Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: February 10, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: February 24, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: March 03, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

13,000 12,000 11,000 Discharge (cfs) 000'6 (cfs) 000'8 7,000 6,000 5,000 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

Hydrograph at the USGS Fort Edward gaging station: March 10, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

11.000 10.000 9.000 Discharge (cfs) 8.000 7.000 6.000 5,000 4.000 3,000 02:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 24:00 00:00 04:00 20:00 22:00 Time (international hours) Sampling time at Rt. 197 Bridge Instantaneous flow, 15 min intervals Average instantaneous flow USGS mean daily flow

Hydrograph at the USGS Fort Edward gaging station: March 24, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.





Hydrograph at the USGS Fort Edward gaging station: March 31, 1997.

Note: Instantaneous flow data obtained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



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Hydrograph at the USGS Fort Edward gaging station: April 07, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: April 14, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

16,000 15,000 14,000 Discharge (cfs) 13'000 15'000 11'000 11'000 10,000 9,000 8,000 00:00 20:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

Hydrograph at the USGS Fort Edward gaging station: April 21, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: April 28, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: May 12, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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8.000 7.000 6.000 2,000 1.000 0 00:00 02:00 04:00 06:00 08:00 10.00 12:00 14:00 16:00 18:00 20.00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

Hydrograph at the USGS Fort Edward gaging station: June 03, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: June 16, 1997. 8.000 7.000 6,000 (sj 5,000 Discharge 3'000 2,000 1.000 0 ┸┨╌╂╴┨ 12:00 00:00 08:00 10:00 14:00 16:00 02:00 04:00 06:00 18:00 20:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: June 09-10, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS. Daily averages are based on midnight to midnight time periods. Parcels of water sampled are approximated based on time of travel estimates. The innundation period at Baker's Falls is identified in the figure by the shaded area.

Final: 20-Nov-98 1:52/0612244/5_/97RPT/usgsflow/FTED0697.WB2 O'Brien & Gere Engineers, Inc.



Hydrograph at the USGS Fort Edward gaging station: June 23, 1997

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS. Daily averages are based on midnight to midnight time periods. Parcels of water sampled are approximated based on time of travel estimates. The innundation of Baker's Falls is identified in the figure by the shaded area.

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Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: July 07, 1997.

Note: Instantaneous flow data obtained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS. Daily averages are based on midnight to midnight time periods. Parcels of water sampled are approximated based on time of travel estimates. The innundation period at Baker's Falls is identified in the figure by the shaded area.

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Hydrograph at the USGS Fort Edward gaging station: July 28, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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8,000 7,000 6,000 (sj) 5,000 Discharge 000'* 2,000 1,000 0 ┝╍╂╍╉ 00:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 24:00 02:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge USGS mean daily flow Average instantaneous flow

Hydrograph at the USGS Fort Edward gaging station: August 04, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: August 14, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: August 20, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: August 26, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

Hydrograph at the USGS Fort Edward gaging station: September 03, 1997. 8,000 7,000 6,000 (sj 5,000 Discharge 3'000 2,000 1,000 0 24:00 00:00 10:00 12:00 14:00 16:00 02:00 04:00 06:00 08:00 18:00 20:00 22:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

Hydrograph at the USGS Fort Edward gaging station: September 11, 1997. 8.000 7.000 6,000 (S 5,000 Discharge 3'000 2,000 1,000 0 00:00 02:00 04:00 06:00 08:00 10:00 12.00 14:00 16:00 18:00 20:00 22:00 00:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: September 17, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: September 24, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.


Hydrograph at the USGS Fort Edward gaging station: October 01, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.





Hydrograph at the USGS Fort Edward gaging station: October 16, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily low data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: October 23, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: October 29, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: November 05, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

Appendix C

8,000 7,000 6,000 (s) 5,000 Discharge (000'* 2,000 1,000 0 12:00 00:00 02:00 04:00 06:00 08:00 10:00 14:00 16:00 18:00 20:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge Average instantaneous flow USGS mean daily flow

Hydrograph at the USGS Fort Edward gaging station: November 11, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: November 19, 1997. 8,000 7.000 6,000 Discharge (cfs) 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 000'5' 0'5' 00'5' 2,000 1,000 0 ++ 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge USGS mean daily flow Average instantaneous flow

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: November 25, 1997. 8,000 7,000 6,000 (S) 5,000 Discharge 3'000 2.000 1,000 0 -08:00 00:00 02:00 04:00 06:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 24:00 Time (international hours) Instantaneous flow, 15 min intervals Sampling time at Rt. 197 Bridge USGS mean daily flow Average instantaneous flow

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: December 02, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: December 16, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.



Hydrograph at the USGS Fort Edward gaging station: December 22, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

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Hydrograph at the USGS Fort Edward gaging station: December 29, 1997.

Note: Instantaneous flow data obained from the USGS for the gaging station at Fort Edward are raw, unadjusted values obtained from the USGS WEB site. Average instantaneous flow is based on these raw values. USGS mean daily flow data are preliminary values obtained from the USGS (5/98). Daily averages are based on midnight to midnight time periods.

APPENDIX D

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Field logs

FIELD LOG FOR July 14, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	8:20	Type: Composite Kemmerer: <i>GS</i>	24	0-6	-		Bakers Falls: No flor over falls, dom face clamp.
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	510 4000 425	Type: Composite Kemmerer: 96A	25	0-50E 0-40W	ms		two depth cliquets at best chunch
HRM 188.5 (Thompson Island Dam)	1135	Type: Grab		Swaffred	DUP		
Equipment blank: HRM 여식,고	8:55	Type: Grab Kemmerer: 96	н 1. 1886 ж. 1.				
TIP18C	1040	Kennever 968		0-5			elepth of water variable 4-51 two depth aliquots collected
Ft. Edward Staff Gage (518) 747-9900	90D 970					l	Level: 26.70 ~ 1700 cfs 20.87 - 2100
Additional Notes:	11:15						20.92 - 2200 ats
		•				•	
Weather Data Description: Survey & hot							

O'Brien & Gere Engineers. Inc.

July 2, 1997

Temperature: Wind:

Precipitation:

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None

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FIELD LOG FOR ______ ISY 7 (Sampling Date)

·			·		Hypro	FACILI M	OPENPTIONS (HFO)
Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
IRM 197.0 - HF0 County Rt. 27 Bridge)	09.5	Type: Composite Kemmerer: 95	-	0-2'			Bakers Falls: No fare over falls
IRM 194.2 – HFO Rt. 197 Bridges Comp. – East and Main Channel)	10400 1055E	Type: Composite Kemmerer: 96B		0-5W 0-6E	-		
IRM 188.5-HF0 7 22 97 Thompson Island Dam)	0610	Type: Grab	-	Sinema			
Equipment blank: IRM		Type: Grab Kemmerer: —					
					·		
t. Edward Staff Gage 518) 747-9900				م المراجع المراجع مراجع المراجع ال ال			Level:
Additional Notes:							
Weather Data Description: <u>Overce</u>	<u>ş</u> T	<u> </u>		<u> </u>	•	·····	Sampled by:Ayhag

July 2, 1997

Wind:

Precipitation:

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FIELD LOG FOR July 21 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample		Comments
HRM 197.0 (County Rt. 27 Bridge)	0815	Type: Composite Kemmerer: η _ζ	72.9	0-6	ms	~	Bakers Falls:	no fur over clan
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	084c 0855	Type: Composite Kemmerer: 96A	22.2	0-5 % 0.6'E	DUP			
HRM 188,5 (Thompson Island Dam)	iw35 - 2635	Type: Grab	23.0	Surfra	•	~		
Equipment blank: HRM しまとく	2030 4890	Type: Grab Kemmerer: —						
Ft. Edward Staff Gage (518) 747-9900	0848 1017						Level: 21,19 21.34	2900 3350
Additional Notes:	17103						ñi.44	3600

Weather Data

Description: Temperature: Wind: Precipitation:

Sampled by: K ITYA

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July 2, 1997

O'Brien & Gere Engineers Inc.

Tude 28 197(Jampling Date) FIELD LOG FOR

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	83	Type: Composite Remmerer:	24	•••	-		Bakers Falls: In fre he t
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	09058	Type: Composite Kemmerer: GLA	25	0-6ê 0-4a	ms		lust chunnel sumpled after boat possed
HRM 188.5 (Thompson Island Dam)	1120	Type: Grab		Surface	Dup		Shallow - bucket buts bottom When dragging in
Equipment blank: HRM 194.2	0900	Type: Grab Kemmerer: 96A					
T1P-18C	1020	96B	-	0-6			Tond depth 8-10'
Ft. Edward Staff Gage (518) 747-9900	0915 N -			L		I	Level: 2.0.56 1500
Additional Notes:							
						•	
Weather Data					<u></u>	<u></u>	Sampled by: U. Aling

Weather Data

Description: . Temperature: Win

Wind:	
Precipitation:	

P. 0900

FIELD LOG FOR <u>August 4, 1997</u> (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt . 27 Bridge)	0635	Type: Composite Kemmerer: 9 <i>∫</i>	pre	0-6	-	-	Bakers Falls: no flow oner dang 'Fuck wer
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	0910, 095W	aype: Composite Kemmerer: 964	22°C	0-6.0E 0-55w	mś	~	
HRM 188.5 (Thompson Island Dam)	0950	Type: Grab	23°C	Suntrace	DUP	~	
Equipment blank: HRM [94.2	0900	Туре: Grab Kemmerer: 96А					
							· · · · · · · · · · · · · · · · · · ·
Ft. Edward Staff Gage (518) 747-9900	0830 5900				L	.	Level: 21.74 4600 21.93 5300
Additional Notes:							
						•	
Weather Data						Newsenset 2009	Sampled by: WAying

Weather Data Description: Temperature: Wind: Precipitation:

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317400

Parthy Survey TOSE light Brease Northe

July 2, 1997

FIELD LOG FOR Augur 14 1947 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	10:20	Type: Composite Kemmerer: 966	23	0-6'		5 B.	Bakers Falls: no flow, foce lue r
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	10551	Type: Composite ¡Kemmerer: %A	23	0-4W 0-5'E	nis	~	
HRM 188.5 (Thompson Island Dam)	1230	Type: Grab	24	Surfree	Dur		
Equipment blank: HRM (ジビ.く	135	Type: Grab Kemmerer:		[
Ft. Edward Staff Gage (518) 747-9900							Level: 20.58 = 1507 c Fs
Additional Notes:							
Weather Data Description:							Sampled by:

O'Brien & Gere Engineers, Inc.

July 2, 1997

Wind:

Temperature:

Precipitation:

71.5F

11912

NONE

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FIELD LOG FOR _ Auguss 20, 1997 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: <i>95</i>	23°C	0-6'	M5		Bakers Falls: no flow over falls, dum face her.
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	035E 1015W	Type: Composite Kemmerer: <i>9</i> (A	23°C	0 - 5.5'É 0 - 5.0'W	Dup	/	
HRM 188.5 (Thompson Island Dam)	1/25	Type: Grab	23°C	SURPRE	-		
Equipment blank: HRM 194.2	0945	Type: Grab Kemmerer: <i>96</i> A					
				:			
Ft. Edward Staff Gage (518) 747-9900	1025			l			Level: 20 97 ~ 2300
Additional Notes:							1
Weather Data		,					Sampled by: W. Ay hig

Description: Temperature: Wind: Precipitation:

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317402

Sw & Clouds	
FUSE	
light breeze	
NOTE	

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July 2 1007

FIELD LOG FOR Aug 26, 1997 (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	22	0-6'		~	Bakers Falls: Wer, no flow over dam.
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	030E 045h	Type: Composite Kemmerer: ₉₆₄ -	21	0-6'E 0-5'W	ms	~	
HRM 188.5 (Thompson Island Dam)	ÌH0	Type: Grab	22	Surface	Dur		Reille hend sized orginic muterial (brown) 19 orig: Sample.
Equipment blank: HRM /68.5	1130	Type: Grab NA- Kemmerer: 🛥					
	-			:			
Ft. Edward Staff Gage (518) 747-9900	IUIB				I	I	Level: 21.10 - 2700 CFS
Additional Notes:							
Weather Data		<u>an an a</u>					Sampled by:Ayhap

Description: Temperature: Wind: Precipitation:

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317403

Overcast	
TOSE	
Calm	
ccciquere]	Sprinkly

July 2 1007

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1025	Type: Composite Kemmerer: 95	⁰ اډ	0-6'	ms	V	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	111:00W 1120 E	Type: Composite Kemmerer: ₉₆₄	21%	0-5'ú 0-6'E	Dup	V	
HRM 188.5 (Thompson Island Dam)	120D	Type: Grab	23:0	JURFACE	-	~	2.7' at north corner of chutmant depth
Equipment blank: HRM 99.レ	1042	Type: Grab Kemmerer: 96A				1 1	
Ft. Edward Staff Gage (518) 747-9900	1050						Level: 21.28 - 3100Cfs
Additional Notes:							
Weather Data Description: <u>Sun 21 Fine Wernton</u> , CLoup 3						Sampled by: Al Ayhng	

Description: Temperature: Wind: Precipitation:

NONE

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FIELD LOG FOR ______ September 11, 1997 Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0735	Type: Composite Kemmerer: <i>95</i>	рос	0-6'		~	Bakers Falls: no flow over falls, face her
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	82013 0 806 830 W	Type: Composite Kemmerer: <i>954 968</i>	200	0-715 0-55 0-5W	MS	V	0-5.5E Small Sheens observed 0-5 W In Fluer
HRM 188.5 (Thompson Island Dam)	0900	Type: Grab	JIC		PUP		
Equipment blank: HRM 」を8.く	0525	Type: Grab Kemmerer: —					
	<u> </u>						
Ft. Edward Staff Gage (518) 747-9900	6807		L			1	Level: 20,82 ~ 2000 CFS
Additional Notes:					· .		
Weather Data Description: <u>Overco</u> Temperature: <u>Tost</u> Wind: <u>Cul-</u> Precipitation: Nor	51 		<u></u>				Sampled by: <u>Ayling</u>

.

FIELD LOG FOR SEPTEMBER 17, 1993 (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	208	0-6	ms	~	Bakers Falls: No flow over fully, Face we f 33.1 24.4 3.7 Torm Doorn!
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1020W	Type: Composite Kemmerer: 96 ø	Joc	0-5H 0-6'E	-	~	Shull pièce of Vegetation in PCB Sample- aquatic luees - pencil arages dia.
HRM 188.5 (Thompson Island Dam)	1120	Type: Grab	21'C	SURPACE	DUP	V	
Equipment blank: HRM 여식, 2	1010	Type: Grab Kemmerer: 96x					
				· · · · · · · · · · · · · · · · · · ·			
Ft. Edward Staff Gage (518) 747-9900	1005						Level: 21.45 - 3700 cFs
Additional Notes:							
							1
Weather Data				<u></u>			Sampled by: MAyhing

Description:

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317406

Temperature: Wind: Precipitation:

UNNY & CARM 705 F CALM NONE

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1055	Type: Composite Kemmerer:95	172	0-6	_	~	Bakers Falls: no flow, force dry
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1240n 1250E	Type: Composite Kemmerer: 96A	1 8 °C	0-5W 0-6E	MS	~	
HRM 188.5 (Thompson Island Dam)	1145	Type: Grab	172	Surfra	Dur	-	
Equipment blank: HRM (995)	1130	Type: Grab Kemmerer:		I	1	I	
Ft. Edward Staff Gage (518) 747-9900	1224						Level: 21,26 -3100
Additional Notes:							
Weather Data							Sampled by:
Description: <u>۲۰۸۳۰</u> Temperature: <u>۲۰۱۵</u> Wind: ۱۹۸	B6	······································					

July 2, 1997

Precipitation:

NONE

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FIELD LOG FOR <u>October 1 1997</u> (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: <i>ရ</i> ှ်	14°C	U-6 Tenyelepth	ms	V	Bakers Falls: no flow over fully, claw free het
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1030 W 1050E	Type: Composite Kemmerer: 961×	14°C	0-5W 0-6E	Dul		US65 propined to Sample at east channel ofter us.
HRM 188,5 (Thompson Island Dam)	1530	Type: Grab	15%	Supfree	-		
Equipment blank: HRM १४६ ऽ	06:30	Type: Grab Kemmerer: 🔔					
			· · · · ·	:			
Ft. Edward Staff Gage (518) 747-9900	ju2U						Level: 21.27 ~ 3100
Additional Notes:							
Weather Data Description: <u>کرب ۹</u> Temperature: <u>4</u> ۵5 Wind: Liskt	<u>Lou</u> E West	<u>05</u>			1		Sampled by:

317408

July 2, 1997

Precipitation:

GENERAL ELECTRIC COMPANY 1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM (Project 612.225) CLIOBER 9 -FIELD LOG FOR OCTOBER 10, 1997 Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	<i> </i> 010	Type: Composite Kemmerer: <i>95</i>	18°i	0-6	-		Bakers Falls: No flow over Fulls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	14900 1445	Type: Composite Kemmerer: 964	200	0-6E 0-5 W	ms Dup		
HRM 188.5 16/9/9 (Thompson Island Dam)	7 1447	Type: Grab	10 TICA	Surface		~	Temp Sample arlected @ 1445 00 20/10/47
Equipment blank: HRM /94.2	C C 45	Type: Grab Kemmerer: 96A-					
Ft. Edward Staff Gage (518) 747-9900	(4)11						Level: 21.30 - 3200
Additional Notes:							
Weather Data			<u></u>				Sampled by:Atelap

Wind:

Description:

Temperature:

Precipitation:

SUN & FAR CLOS

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FIELD LOG FOR OCTOBER & 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	<i>1145</i>	Type: Composite Kemmerer: <i>95</i>	He	0-6	MS	1	Bakers Falls: Trickle over falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1350W 1410E	Type: Composite Kemmerer: _{<i>fl.A</i>-}	15%	в-5 <i>W</i> ' 0-6E'	TUP	1	
HRM 188,5 (Thompson Island Dam)	1025	Type: Grab	14°C	Surfree	.	1	2.5' TURI depth at N. foce New bucket
Equipment blank: HRM 194,2	1340 8 555	Type: Grab Kemmerer: <i>967</i>					Decon in field (used in an for TID/TIP)
				:			
Ft. Edward Staff Gage (518) 747-9900	1340						Level: 21.12 - 2700 cfs
Additional Notes:							

ta	Sind Clouds some by	~1130
9 :	<u> </u>	
):	NONE	

Sampled by: _____ Azh_g_____

FIELD LOG FOR ______ () CTOBER 23, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)]0:5D	Type: Composite Kemmerer: <i>95</i>	9	0-6			Bakers Falls: no flow over dan, portions "& foce damp" Yerel dapth= &"
HRM 194.2 (Rt. 197 Bridges Comp V East and Main Channel)	: 1220 J 1,240	Туре: Composite Kemmerer: 969	12	0-6E 0-5W	MS		
HRM 188.5 (Thompson Island Dam)	1330	Type: Grab	11	SUCFICE	Dr	V	
Equipment blank: HRM)86,5	1305	Type: Grab Kemmerer: ——					
TID-PRW2	1411	Type: Composite Kemmerer: 943		0-91			Tond dan 1: ?
SCH	1615	Type: Composite Kemmerer: <i>9</i> 6B	-	0-12'			Tutildepth ~ 14' (d.f. to measure hund)
Ft. Edward Staff Gage (518) 747-9900	1211						Level: 21.33 ~ 3,300
Additional Notes:							
Weather Data							Sampled by: W. Ayline

Description:

Wind:

Temperature:

Precipitation:

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NONE

FIELD LOG FOR ()CTUBER 29, HS +(Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1050	Type: Composite Kemmerer: <i>95</i>	92	0-6	Ms	1	Bakers Falls: Intermittent firm over West portion of falls 9' TOIM Dopite
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1210 1225	Type: Composite Kemmerer: 96A	10° 10°	0-6E 0-5W		~	
HRM 188.5 (Thompson Island Dam)	1255	Type: Grab	10°C	Guptote			
Equipment blank: HRM /94.2-	1070	Type: Grab Kemmerer: <i>९८</i> ,४					
TID-PRW2	1310	Type: Composite Kemmerer: १८८	180	<i>Ü-</i> 9	_		Tonl dept 11.8
SCH	1510	Type: Composite Kemmerer: 96A	ήċ	0-12'	Dup		Tural depth unk."
Ft. Edward Staff Gage (518) 747-9900	1203	Aria di Aria di				• • •	Level: 21.34 ろろいい
Additional Notes:		· · · · · · · · · · · · · · · · · · ·					•
Weather Data						1	Sampled by: Ay Ing

Description: Temperature: Wind: Precipitation:

317412

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FIELD LOG FOR ______ 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments			
HRM 197.0 (County Rt. 27 Bridge)	1030	Туре: Composite Kemmerer: <i>95</i>	9"T	0-7'	тs		Bakers Falls: no flow over fulls, Attoc fice) bounds remares except here firm here area			
HRM 194.2 (Rt, 197 Bridges Comp East and Main Channel)	1155E	Type: Composite Kemmerer: <i>96A</i> √	/0°C	0-6' Eaw	DUP					
HRM 188.5 (Thompson Island Dam)	1245	Type: Grab	10°C	Supped	-		-3.2' @ NWOK face			
Equipment blank: HRM /94.2	0120	Type: Grab Kemmerer: <i>96</i> 4								
TID-PRW2	1300	Type: Composite Kemmerer: 948	/0%	0-9.5'	(Total depth ~ 12.2'			
SCH)435	Type: Composite Kemmerer: 96B	10%	0-12	-		Total dept ~ 17.5'			
Ft. Edward Staff Gage (518) 747-9900	1020 1150						Level: 21.92 - 5200 21.98 - 5200			
Additional Notes: 1999 96A 0715 = hexarie Black of Kemmerer 96A										
Weather Data Description: <u>Swar Apro Claus</u> Temperature: <u>Swar</u> Wind: W										

317412A

Precipitation:

SUSF W NONE

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FIELD LOG FOR November 11, 1997-(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	Рc	0.7'	_		Bakers Falls: WATEL FLOWING OVER DAM Total Water depth 9:5
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1:25 1:40	Type: Composite Kemmerer: 96A	7°C	0-65 6 0-6'W	m5		
HRM 188.5 (Thompson Island Dam)	1215	Type: Grab	7°C	Sunfind	DUP	1	Total elepith Q N aborment 3.6
Equipment blank: HRM /94.2_	0655	Type: Grab Kemmerer: 96A				•	
TID-PRW2	1240	Type: Composite Kemmerer: <i>96B</i>	7°C	0-9	~	~	Total depth 12.1'
SCH	1416	Type: Composite Kemmerer:	8°C	0-12'	-	·	Total depth - 17'
Ft. Edward Staff Gage (518) 747-9900	il12						Level: 24.48 5500
Additional Notes:							•

Weather Data

Description: Temperature: Wind: Precipitation: SUN # Clouds 305 N. light Nowé

An Sampled by:

FIELD LOG FOR <u>November 19, 1997</u> (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments			
HRM 197.0 (County Rt. 27 Bridge)	J950	Type: Composite Kemmerer: <i>95</i>	2°C	0-71	HA-4		Bakers Falls: 10 flow over falls			
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	:25E 1:45W	Type: Composite Kemmerer: <i>96</i> A	3°C	0-6'E 0-5W	HR-3 HR-3-MS					
HRM 188.5 (Thompson Island Dam)	1225	Type: Grab	3°C	Suptra	H2-1		Total depth of North Face 2.9			
Equipment blank: HRM TID-PRN2-E6BC	0645	Type: Grab Kemmerer: <i>968</i>			HR-5-EOL	82				
TID-PRW2	1245	Type: Composite Kemmerer: <i>96B</i>	32	0-9'	Dup, HR-5		Total depth -11'			
SCH	1446	Type: Composite Kemmerer: <i>968</i>	3°C	0-12'	He-2		Total dapth ~ 16'			
Ft. Edward Staff Gage (518) 747-9900	1117						Level: 21.49 - 3800			
Additional Notes: * SAMPLES SUBMITTED TO LABORATORY AS BLIND AUDIT SAMPLES, SAMPLE ID'S INDICATED ON BOTTLES ARE LISTED IN THE "OG & SAMPLE" COLUMN										
Weather Data Description: Sur & Clouds										

Description: Temperature Wind: Precipitation

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Э:	<u> 31°F @ 1115</u>						
	Cam						
n:	NOVE						

October 22, 1997

Nowman 25, 1997(Sampling Date) FIELD LOG FOR

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments	
HRM 197.0 (County Rt. 27 Bridge)	1020	Type: Composite Kemmerer: ₉₅	J.°Ć	0-7'	ms	~	Bakers Falls: no Flowover Fulls	
HRM 194.2 (Rt. 197 Bridges Comp. + East and Main Channel)	1150	Type: Composite Kemmerer: 967	я°С.	0-6'E 0-5'W	_	V Algae In Archer Simple	r	
HRM 188.5 (Thompson Island Dam)	1220	Type: Grab	2°C	SURFRES	DUP	~	2.8'Tonlder H at North frescher	
Equipment blank: HRM /88.5	0710	Type: Grab Kemmerer: ——				•	بتسلير	
TID-PRW2	1295	Type: Composite Kemmerer: <i>74B</i>	A.C	0.9'			11.6 contraction the	
SCH	1325	Type: Composite Kemmerer: 968	2°C	0-12'				
Ft. Edward Staff Gage (518) 747-9900	i128						Level: シリ, 22 3,000	
Additional Notes:								
Weather Data Description: <u>51:00</u> #0	Chines E	then clowely					- Sampled by: <u>N. Ayhag</u>	

317415

October 22, 1997
DECEMBER 2 1997 (Sampling Date) FIELD LOG FOR

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: 45	2°C 24	ù-7'	mş		Bakers Falls: No flow over falls			
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	CYPISE CASUN	Type: Composite Kemmerer: <i>GL</i> A	2°C	0.6'E 0.5'W	τιr	5				
HRM 188.5 (Thompson Island Dam)	ious	Type: Grab	2°C	Suppace		1	- 5' @ N. Free "+ dam			
Equipment blank: HRM- 5CH	1330	Type: Grab Kemmerer: 966								
TID-PRW2	1050	Type: Composite Kemmerer: ୨୦୫	2"	0-9			Juni digit ~ 12.2'			
SCH	1345	Type: Composite Kemmerer: 96.0	2°C	6-12	-					
Ft. Edward Staff Gage (518) 747-9900	0923						Level: 21.6) ~ 4200			
Additional Notes: Nut & Tarp - estimated bised on companyin of freud thermometer dara corrected w, lub thermometer										
•										
Weather Data Sampled by: U.A. hug I Janes For										

Weather Data

Description: Temperature: Wind: Precipitation:

un & Cloud 3USF Cilm NONE

October 22, 1997

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FIELD LOG FOR December 9, 1997 (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: 96	Juc	0-7			Bakers Falls: no flow over fulls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	CANS	Type: Composite Kemmerer: ₉₆₀	12. 2°C	0-6E 0-5'W	MS		some suits in hiter 12565 Sampling @~ 1130.92
HRM 188.5 (Thompson Island Dam)	1045	Type: Grab	7C est	Surfate	DUP	~	3.2' Total unter depticat N face of lin
Equipment blank: HRM 194.2	6925	Type: Grab Kemmerer: 96A					
TID-PRW2	1055	Type: Composite Kemmerer: ရပ္မβ	dees	0.9'		-	10-12' Juni dipth
SCH	1940	Type: Composite Kemmerer: ர்ந்த	je	0-12'	_	~	
Ft. Edward Staff Gage (518) 747-9900	6410						Level: 21.60 ~ 41000.55
Additional Notes:							
Weather Data Description:	1		•				Sampled by: N Ayling / 2. 1/2

Wind:

Temperature:

Precipitation:

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FIELD LOG FOR December 16 M97 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments		
HRM 197.0 (County Rt. 27 Bridge)	6900	Type: Composite Kemmerer: 95	ĊL,	6-7	MG	V	Bakers Falls: day dam		
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	0950	Type: Composite Kemmerer: 96,4 Ki	e je G	0.6E		~			
HRM 188.5 (Thompson Island Dam)	1035	Type: Grab	50		ar	r	2.50' at N face of ilan		
Equipment blank: HRM ' 多多. S	08	Type: Grab Kemmerer: #C ¹ 00					C C C C C C C C C C C C C C C C C C C		
TID-PRW2	1055	Type: Composite Kemmerer: 96B	50	0-8.5'	-	/	10'6" toth/		
SCH	1235	Type: Composite Kemmerer: 94	1C	0-12'					
Ft. Edward Staff Gage (518) 747-9900	¢ 930						Level: 21.21 - 3000 CFS		
Additional Notes: 1600 Kimmerers 960 219603 Clinnid in fredel after Sompting at Horm 194.2									
Weather Data Description: Survey Temperature: 70.FC 430									

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October 22, 1997 (61220225/4/tdiog2)

FIELD LOG FOR DEamBen 22 1417 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0840	Type: Composite Kemmerer: 95	oc	0-7'		1	Bakers Falls: no flow over fully
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	0915E 2930i.	Type: Composite Kemmerer: _{G&A}	50	0-6'E 0-5:5'W	ms	- th	in the flowing on surface jest ch
HRM 188.5 (Thompson Island Dam)	1135	Type: Grab	٥٤	Support	Dur		
Equipment blank: HRM 194.2	CAIC	Type: Grab Kemmerer: 96A					
TID-PRW2	1145	Type: Composite Kemmerer: <i>9さ</i> 月	0°C	0.8%			
SCH	122	Туре: Composite Kemmerer: 96В	68	0-12"	-	~	
Ft. Edward Staff Gage (518) 747-9900	0653						Level: 21.67 ~ 4400
Additional Notes:							
Weather Data							Sampled by: WAyby J.J. For

1

Description:	SUN & Claros										
Temperature:	Lint	IL'FE DOST									
Wind:	CALM										
Precipitation:	NONE										

317419

October 22, 1997

FIELD LOG FOR _ Torusty & M97(Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments			
HRM 197.0 (County Rt. 27 Bridge)	cA1.20	Type: Composite Kemmerer: <i>95</i>	200		_	V	Bakers Falls: Liter flowing over Next 21 fmil portions, east portion iced / flaghbourds			
HRM 194.2 (Rt. 197 Bridges Comp. - East and Main Channel)	10 000 19:20u	Type: Composite Kemmerer: 94	эĊ	6-6' E	ms					
HRM 188.5 (Thompson Island Dam)	j1:10	Type: Grab	16	•	DUP					
Equipment blank: HRM 국내가 영구·C	<u>.</u>	Type: Grab 45 Kemmerer: 444								
Ft. Edward Staff Gage (518) 747-9900	0747						Level: 22.66 Ezoo			
Additional Notes:										
Weather Data Description: <u>Overcüst in Some</u> clauring Occurring Occurring Sur Sampled by: <u>N. Pybug</u>										

Wind: Precipitation:

Cilm NONE.

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FIELD LOG FOR Thrum: 13 199 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	08 30	Туре: Composite Kemmerer: 45	0.Li	0-1'		1	Bakers Falls: Trickle Cour mid Elicest fortions, Intermittent
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	071561 0:930E	Type: Composite Kemmerer: '///۲	0.2°C	0.6'E	Du?	>	
HRM 188.5 (Thompson Island Dam)	10:05	Type: Grab	0,12	merice	MS	1	MARTINE ICE COURLOW Thompson 1. Poel New Simpline buck
Equipment blank: HRM / <i>G</i> Ø 5	0:730	Type: Grab Kemmerer: ——					
Ft. Edward Staff Gage (518) 747-9900	CM74L						Level: 12.49 7500
Additional Notes:							
Weather Data							Sampled by: Witzling

Description: Temperature: Wind: Precipitation:

- 20 F - Culm - DODe

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FIELD LOG FOR TANKARY 20, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments		
HRM 197.0 (County Rt. 27 Bridge)	11:10	Type: Composite Kemmerer: 95	032	0-6	MS		Bakers Falls: no flow over dam putted ice cover upstream of dam		
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)		Type: Composite Kemmerer: <i>96</i> A-			-		ice cover on rever - ho Somple		
HRM 188.5 (Thompson Island Dam)		Type: Grab			Dup				
Equipment blank: HRM 1942	10:45	Type: Grab Kemmerer: <i>96A</i> -							
Ft. Edward Staff Gage (518) 747-9900	11:15						Level: 22.61 = 8,000 cfs		
Additional Notes: NO Samples Submitted for Armysis									
Weather Data Description: Dverce	41 d 4	cold					Sampled by:		

Temperature: Wind: Precipitation:

Overcust	& Cold
~20°F	
halt 5	
NONE	

FIELD LOG FOR JANA 27,1997 (Sampling Date)

Station	Time	Sample Data	Water Temp,	Sample Depths	QA/QC Sample	Inspect Sample	Comments		
HRM 197.0 (County Rt. 27 Bridge)	1,7:40	Type: Composite Kemmerer: 95	0.3E	0-6'	ms		Bakers Falls: No flow over dan		
HRM 194.2 (Rt. 197 Bridges Comp. + East and Main Channel)	13:05E 13:25W	Type: Composite Kemmerer: 968	U,Z*C	0-6E 0.5W	_		ice chunks flowing in 2057 Channel & along belges of hest Channel (= 14 die)		
HRM 188.5 (Thompson Island Dam)	13:50	Type: Grab	0.2°C	Support	JUP		TIP moitly le courre de		
Equipment blank: HRM j. [CAN 1942_	9:15	Type: Grab Kemmerer: 9L&		I		Г	includes 1 mm 168.5		
Ft. Edward Staff Gage (518) 747-9900	13:10						Level: 2.2.32 ~ 6,800 cFs		
Additional Notes:									
Weather Data Description: <u>per hy</u> Temperature: <u>365</u> 5 Wind: <u>Celm</u>	Sur		gennetik <u>d</u> ennet i j				Sampled by: Ayling		

Precipitation:

NUNE

FIELD LOG FOR FEB 3 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1055	Type: Composite Kemmerer: 95	692	0.6	-		Bakers Falls: White flowing over dam - site west & med portions
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1210	Type: Composite Kemmerer: 968	0 9°C	0-5'	ms		
HRM 188.5 (Thompson Island Dam)	12:55	Type: Grab //Law Aura v 95	0.50	Support	Dur		Ice cover an prol
Equipment blank: HRM HRM 197-0	7.10	Type: Grab Kemmerer: 95	-				
Ft. Edward Staff Gage (518) 747-9900	1140						Level: 22.48 7,400 cfs
Additional Notes:							
Weather Data Description:	5000	chudy					Sampled by: <u>UAy Ing</u>

January 3 1007

Precipitation:

C.Im. Snow

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FIELD LOG FOR FEBRARY 10, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	11:00	Type: Composite Kemmerer: <i>95</i>	0.6	0-6'	ms		Bakers Falls: No flow over falls/dom
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	11:50	Type: Composite Kemmerer: <i>96B</i>	1.0	0-62 0-5W	DJ P	~	
HRM 188.5 (Thompson Island Dam)	12:15	Type: Grab	0.5	Sueface		~	n 1000 ft Sheet of ice (thin) uncovering puch sample cullecter often in flow,
Equipment blank: HRM /94-2	7:30	Type: Grab Kemmerer: <i>96B</i>					
Ft. Edward Staff Gage (518) 747-9900	11:13						Level: 21.95 5,400
Additional Notes:				н н. 1			
Weather Data Description: fmny Temperature:	5000	Y					Sampled by: W. Aylung

Precipitation:

Culm none

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

FIELD LOG FOR FEBRUORY 18, 1497 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1125	Type: Composite Kemmerer:	1.6	0.6'		~	Bakers Falls: Andele over falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	12:05	Type: Composite Kemmerer: <i>968</i>	2.5	0.6'E 0.5W	M5	1	
HRM 188.5 (Thompson Island Dam)	1,2;50	Type: Grab	1.5(1.4)	Surme	: DUP	>	
Equipment blank: HRM 197.0	0745	Type: Grab Kemmerer: 95		-			
		<u></u>					
Ft. Edward Staff Gage (518) 747-9900	1144						Level: 22.04 7700
Additional Notes:							
Weather Data Description: <u>hِنْمَ</u> שْ Temperature: <u>44</u>	EPII	45					Sampled by:

South light

Wind:

Precipitation:

FIELD LOG FOR TEBRUARY 24, 149 (Bampling 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: 9:	1.42	0-6'			Bakers Falls: Jowing over dum including lickings around flash poperies
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1200	Type: Composite Kemmerer: <i>968</i>	1.8 1.5	0-6E 0-5W	M3 DLP		2
HRM 188.5 (Thompson Island Dam)	635	Type: Grab	1.6	Surfree			
Equipment blank: HRM /94.2-	745	Type: Grab Kemmerer: <i>96B</i>					
Ft. Edward Staff Gage (518) 747-9900	1202						Level: 23,10 /4200275
Additional Notes:		· · · · · · · · · · · · · · · · · · ·					
Weather Data Description:	<u>sı H</u>	u clearing	<u></u>		<u>, , , , , , , , , , , , , , , , , , , </u>		Sampled by:A

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NGE light 3 NONE

January 3, 1997

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FIELD LOG FOR MARCEIF 3 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	G:20	Type: Composite Kemmerer: 95	6.7	0-6	M5	2	Bakers Falls: Water Flowing over inid & hast portions & leakage through mid portion Blish poord
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	7.00E 9110w	Type: Composite Kemmerer:分にお	0.7	0~CE	1		
HRM 188.5 (Thompson Island Dam)	430	Type: Grab	0.9	Suffack	DUP		
Equipment blank: HRM 197.0	7:45	Type: Grab Kemmerer: 95		1		1	Includes Hom 188.5 bucket
					· ·		Loval: 23 65 -10, CUL
(518) 747-9900	6850						
Additional Notes: 10,25	U	65 observed	5 cm	phag @	Hami	194.2 ((jevel 22,86)
Weather Data Description: <u>h635</u> Temperature: <u>-30</u> Wind: <u>Cri</u>	4 0V1 "F m - 1 NE	igly brzoze N					Sampled by: Whyhng

FIELD LOG FOR MANUA 10, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	10:30	Type: Composite Kemmerer: 95	2	0-6'			Bakers Falls: Water Fimmy over mate hest portions
HRM 194.2 (Rt. 197 Bridges Comp. . East and Main Channel)	11:100 1120E	Type: Composite Kemmerer: 968	2	0-6'W 0-6'E	M5	-	
HRM 188.5 (Thompson Island Dam)	1150	Type: Grab	2	Surfre	Dur	~	
Equipment blank: HRM 194.2	0700	Type: Grab Kemmerer: <i>966</i>					INCLUDES HEMIERS bucket
Ft. Edward Staff Gage (518) 747-9900	10:52		I				Level: 22.60 - 7900 cfs
Additional Notes:	Sneu	s had fallen e	overnig	ght c	1 I foot	Snow	, cover on ground (total f
							1
				<u></u>			Sampled by: WAging
Description: <u>Sim</u>	<u>~</u>						
Wind:	n VF						
Precipitation:							

lanuary 2 4007

FIELD LOG FOR Manch 19, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1310	Type: Composite Kemmerer: 95	2.5	0-6		-	Bakers Falls: No Jlow Over falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1345E 14:10h	Type: Composite Kemmerer: <i>968</i>	7.E. 3.2	0-6' 6 0 6 'W	Dup	~	
HRM 188.5 (Thompson Island Dam)	14:35	Type: Grab	2.3	SURPACE	MS	-	
Equip ment blank: HRM /97.0	600	Type: Grab Kemmerer: 95					
Ft. Edward Staff Gage (518) 747-9900	1330						Level: 22.28 7 66000Fs
Additional Notes:							
Weather Data Description: <u>Srww</u> Temperature: <u>305E</u> Wind: <u>Cmm</u>	4 <u></u>						Sampled by:

lanuary 3 1997

FIELD LOG FOR MANCH 24, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1245	Type: Composite Kemmerer: 95	2.4	0-6'	MS	¢	Bakers Falls: dry, no flow over. flughtourde Jone
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1332€ 1350ú	Type: Composite Kemmerer: <i>9₆8</i>	3.8	0-6 0-5	-	~	
HRM 188.5 (Thompson Island Dam)	1410	Type: Grab	2.9 (2.8)	GURFILE	JUP		
Equipment blank: HRM 194.2	0820	Type: Grab Kemmerer: 96B					INCLUDES April 108.5 Scimpment
Ft. Edward Staff Gage (518) 747-9900	1220 1320		I				Level: 21.82 in 4/900cFs 21.88
Additional Notes:							
					н. 		1
Weather Data Description: <u>Sunny</u> Temperature: <u>Jusic</u> Wind: <u>CALM</u> Precipitation: <u>MUNE</u>	······································						Sampled by: <u>W-Myling</u>

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lanian 3 1007

FIELD LOG FOR Monch 31, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	inspect Sample	Comments
HRM 197.0 (County Rt, 27 Bridge)	10:10	Type: Composite Kemmerer: 95	3	0-7'	M5	/	Bakers Falls: Nutly flowing over dam (no flushowards), through ing clam poplito, mac chredging at
HRM 194.2 (Rt. 197 Bridges Comp. . East and Main Channel)	10:45C 11 006	Type: Composite Kemmerer: 96A-	3	0-61'E 0-5.5W	1		hydro facher istike
HRM 188.5 (Thompson Island Dam)	liso	Type: Grab			Dup	~	Turbed here
Equipment blank: HRM /72m/94.2	1930	Type: Grab Kemmerer: 96.4-					Includes Hum 102.5 broket
Snook Kill	1110	GRAB		1-2'			TSS ANMYSIS
Mozes Kill	12:10	GEAB		1-21			TSS Amonysis
Ft. Edward Staff Gage (518) 747-9900							Level: 33,20 ~ 10,700
Additional Notes: Nomen TURN	TEMP ED Li	5 ON THUR # HUR # HUR OVERCAS	FRI (1 FRI RI	te 400 70's	3/27 \$ 500	# 3/26 3/27 #	3/30
Weather Data Description: <u>Rawy</u> Temperature: <u>-30s</u> Wind: <u>Cause</u> Precipitation: <u>Kau</u>	chmos Snow	ing to snow		<u> </u>			Sampled by:Ayhig

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January 3, 1997 317

FIELD LOG FOR Arizi 7 (947 (Sampling Date)

HIGH Flow montage op Water **QA/QC** Sample Inspect Time Sample Data Sample Station Temp. Depths Sample Comments Bakers Falls: Ligh fren cont. fillig **Type:** Composite HRM 197.0 0-71 (County Rt. 27 Bridge) 0:945 Kemmerer: 95 MS 7 DIHUE Type: Composite 5.7' HRM 194.2 Kemmerer: 96k (Rt. 197 Bridges Comp, -İC 0-651 Dur 11:15 East and Main Channel) HRM 188.5 Type: Grab 11:20 (Thompson Island Dam) Type: Grab **Equipment blank:** de esta d NELUDES YEM BERTE BULKLI 3910 Kemmerer: 95 HRM 197.0 10:408 12m 1942E-3 4565 pupping to Supple 461 Cherriel 11:15 HAM 194.2W-3 Level: 23.91 1420 10:20 Ft. Edward Staff Gage (518) 747-9900 23.90 14200 1300 **Additional Notes:** W Mili Sampled by: _ Weather Data **Description:** 61°1 (Fack Terp 10:15

January 3, 1997 (61220225/4/ldlog2)

Temperature:

Precipitation:

Wind:

FIELD LOG FOR April 14, 1997(Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	10:40	Type: Composite Kemmerer: ८	5	7.0'			Bakers Falls: Internettent inseten over folls - yricale
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1110 C 11:4/26	Type: Composite Kemmerer: れら	6	6.5"E 5.5W	ms	~	
HRM 188.5 (Thompson Island Dam)	12:0	Type: Grab	6	Supirié	DUP	-	
Equipment blank: HRM /94.2	ide	Type: Grab Kemmerer: <i>16B</i>					Includes Hamite & bucker
Ft. Edward Staff Gage (518) 747-9900	1115			<u></u>	I	I	Level: 22.46 7350 ノノ.43
Additional Notes:							
	 -						
Weather Data Description:	л.ч 						Sampled by:

January 3, 1997

Precipitation:

FIELD LOG FOR April 21 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	10:10	Type: Composite Kemmerer: 63	7°C	7'	ΜG	~	Bakers Falls: hater flowing over clan
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	10'33' 1050	Type: Composite Kemmerer: 968	7'e	7'E 6.5'W	-	-	
HRM 188.5 (Thompson Island Dam)	11:1	Type: Grab	Э°с	Juarna	DUP	~	
Equipment blank: HRM .499: T _{LAN} , 97.0	955	Type: Grab 75 Kemmerer: 968					Includes Mm IEE-5 Sampling Dict.
Ft. Edward Staff Gage (518) 747-9900	948 1055		a de la composition de la comp				Level: 23.18 ~ 10,600 cf-5 25.16 10,500
Additional Notes:							
Weather DataDescription: $CV24ee$ Temperature: 30° Wind: $Ce/1m$ Precipitation: $A\sigma >$	5/ 5/ 5/ 5)= + E	<u>narthal</u> 50.~					Sampled by:

January 3, 1997

O'Dring & Care F

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample		Comments	
HRM 197.0 (County Rt. 27 Bridge)	12:10	Type: Composite Kemmerer: $q\zeta$	96	0.7	M4	1	Bakers Falls:	hugh flow over fulls	
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	12:45 12:1531.	Type: Composite Kemmerer: มิเค	9%	0-71	-	1			
HRM 188.5 (Thompson Island Dam)	13:15	Type: Grab	36	Surme	Duf	-			
Equipment blank: HRM լ ԿՎ.Ն	1.11	Type: Grab Kemmerer: ⁽ 16/)					Includys	1/12m 147.0 (Kam, 45) & Hium	127.5 J.n.e.
Ft. Edward Staff Gage (518) 747-9900	19:40		I	I	L	I	Level: 2318 1566 2319	- 10,602 - 10,702	
Additional Notes:	SINCH	Kill plane	UISIFle.				1535 23.23	- jü err	
Weather Data Description: Cvir Li	nt yéur	. hiere, at times				. <u></u>	Sample	d by: Li Ayling	<u></u>
Temperature:H_5 Wind: Precipitation:K1	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		•				н .		

January 3, 1997

FIELD LOG FOR MAY 5 1497 (Sampling Date)

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Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	445	Type: Composite Kemmerer: <i>f5</i>	q°с	0-8'		~	Bakers Falls: Kigh flin over falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	ļc10in 1030k	Type: Composite Kemmerer: ₉₆ A	100	0-7.5W 0-8'E	SUP	1	
HRM 188.5 (Thompson Island Dam)	11:15	Type: Grab	را تر	Support	ms	-	
Equipment blank: HRM 194.L	0620	Type: Grab Kemmerer: <i>90.A</i>					includes Mrm 188.5 bucket
						<u> </u>	
Ft. Edward Staff Gage (518) 747-9900	093: 10.00	an an tha an the state of the s					Level: 24.22 74.29 - 15,800
Additional Notes:		•					
Weather Data						- <u> </u>	Sampled by: Ayling

Description: Temperature: Wind:

Precipitation:

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Palm

January 3, 1997

MAY 12, 1997 (Sampling Date) FIELD LOG FOR __

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	9:35	Type: Composite Kemmerer: ゔゔ	11	0-7'	ms	r	Bakers Falls: Migh fim hete die falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	10.05 1030	Type: Composite Kemmerer: 96B	12	0-7.50 2-74	/	~	
HRM 188.5 (Thompson Island Dam)	11:00	Type: Grab	1:-	Guarma	DUP	~	
Equipment blank: HRM 1942	1.30	Type: Grab Kemmerer: うしろ					Includes HEM SEES ogn.p
Ft. Edward Staff Gage (518) 747-9900	1005						Level: 23.42 11,700
Additional Notes:							///////
Weather Data Description:	iast VI						Sampled by:

January 3, 1997 (61220225/4/lidlog2)

Temperature:

Precipitation:

Wind:

Somkle

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Cicostonie

O'Brian & Gara Engineers to - - - · ~

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	inspect Sample	Comments
HRM 197.0 (County Rt, 27 Bridge)	1500	Type: Composite Kemmerer: 95	11	0-7	DUP		Bakers Falls: With flowing over dum
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1012	Type: Composite Kemmerer: 96A	N	7.0E 6.5W			
HRM 188.5 (Thompson Island Dam)	1100	Type: Grab					
Equipment blank: HRM /97.0	630	Type: Grab Kemmerer: 95					
Ft. Edward Staff Gage (518) 747-9900	10:20						Level: 22.75 8,600
Additional Notes:							

Weather Data

Description: Temperature: Wind: Precipitation:

DUCICAGE	
50 F	
Culm	
	• •

January 3, 1997 (61220225/4/1dlog2)

Sampled by: M (no

FIELD LOG FOR 11m 27 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	945	Type: Composite Kemmerer: <i>१</i> ऽ	14	<i>0-7</i>	Mś		Bakers Falls: No flow over falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1130Ú 1150N	Type: Composite Kemmerer: <i>9LA</i>	js	07E U:65N	Dif	~	
HRM 188.5 (Thompson Island Dam)	1135	Type: Grab	15	Suefrice)	~	
Equipment blank: HRM 174 2	625	Type: Grab Kemmerer: <i>9UP</i>					
Ft. Edward Staff Gage (518) 747-9900	1040		I	1	l	1	Level: 21.26 ~ Sources
Additional Notes:							
							· · · · · · · · · · · · · · · · · · ·
Weather Data Description: <u>Scrw</u> Temperature: <u>ACC</u>	¥	<u></u>					Sampled by: Ang

January 3. 1997

Precipitation:

Wind:

217/10

light bucoe

NONE

FIELD LOG FOR June 3 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	15:10	Type: Composite Kemmerer: 95	n'c	0.7'	_	/	Bakers Falls: no flow over falls flugh bounds have been recostalled
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	16:04 16:20E	Type: Composite Kemmerer: 96A	17'C	0.5W 0-6'E	M5		
HRM 188.5 (Thompson Island Dam)	1640	Type: Grab	17°C	SurFAC	Dup		
Equipment blank: HRM /97 ^{.0}	1500	Type: Grab Kemmerer: <i>9</i> 5					
Ft. Edward Staff Gage (518) 747-9900	1547						Level: 21.57 4000
Additional Notes:							
							-
Weather Data							Sampled by:Ayhng
Description:	A SUL	зе <u> </u>					×\

Precipitation:

January 3, 1997 317441

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 - 470 County Rt. 27 Bridge)	0:945	Type: Composite Kemmerer: 95	-	0-6'	_		Bakers Falls: juster began flowing Over falls @~ 10:40
HRM 194.2 - ILTO Rt. 197 Bridges Comp East and Main Channel)	11;32 11:46	Type: Composite Kemmerer: 96A		0-5 W 0-6'E	-		4565 sampled @ ~ 1115 - 11:30
HRM 188.5 - HFO 6/10 Thompson Island Dam)	2:55	Type: Grab		Superior	-		
Equipment blank: HRM	-	Type: Grab Kemmerer:					
HEM 188.5-A	500	GTP.P.B	-	Jul Inte	-		
Ft. Edward Staff Gage (518) 747-9900	1100				I.		Level: 21.09 2600 21.30 3.200
Additional Notes:	1651	-			·		21.32 3,2172

wea Description: Temperature: Wind:

hreeze Precipitation: NOVE

January 3, 1997

		1997 POST-COM	ge NSTRUC	NERAL EI TION REM (Proj	LECTRIC NANT DE ect 612.2	COMPANY POSIT MO 25)	NITORING PROGRAM
	<u>.</u>	FIELD	LOG FOI	R_Jur	e 9 Tune 10	1997 (s	ampling Date)
Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	9:26	Type: Composite Kemmerer: 95	19.1	0-4	-		Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp. • East and Main Channel)	9;55 10:15	Type: Composite Kemmerer: 96K	20.	0.6E 0.5W	Ms		
HRM 188.5 (10 (Thompson Island Dam)	(25?) 1m	Type: Grab	20	Sulfinde	DυP		
Equipment blank: HRM }08.5	6:10	Type: Grab Kemmerer: NA				<u> </u>	
Ft. Edward Staff Gage (518) 747-9900	906 100	3					Level: 21.17 21.20 2900
Additional Notes: (a)	0100						21.16
Weather Data Description:	1 bre	<u>eye</u>				<u>.</u>	Sampled by: <u>Aybuc</u>

317443 January 3, 1997

Precipitation:

FIELD LOG FOR ________ /997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	inspect Sample	Comments
HRM 197.0 (County Rt, 27 Bridge)	1450	Type: Composite Kemmerer: <i>95</i>	2£C	0-6'	MS		Bakers Falls: dry, one discharge veke hin hater. Ilas, boards
HRM 194.2 (Rt. 197 Bridges Comp. • East and Main Channel)	5150 610	Type: Composite Kemmerer: 964	24°C	0-UE	DUP		
HRM 188.5 (Thompson Island Dam)	630 449	Type: Grab	23°(Juefrel	_		material on brata Surface Sead (dandeling type), algae poplar?
Equipment blank; HRM 108.5	1435	Type: Grab Kemmerer: &					
					-		
Ft. Edward Staff Gage (518) 747-9900							Level: 21.19 2900
Additional Notes:			•				
Weather Data							Sampled by: A. Ayling
Description: <u>Hazy</u> Temperature:	BREEZ Ligh 7	y spr					

Innuary 3 1007

Precipitation:

Wind:

317444

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FIELD LOG FOR <u>Sure 23, 1997 (Sampling Data)</u> Hydro faer bry Monitoring

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	inspect Sample	Comments
HRM 197.0 - HFD (County Rt. 27 Bridge)	10:45	Туре: Composite Kemmerer: 95	~	0-6	4		Bakers Falls: Water flowing over West porton Would fush bounds
HRM 194.2 - HFD (Rt. 197 Bridges Comp East and Main Channel)	1255t	Type: Composite Kemmerer: 966	-	0-6'E 0-5'W	•		
HRM 188.5 - HFO (Thompson Island Dam)	2535	Type: Grab	(JURFREE	1		
Equipment blank: HRM	1	Type: Grab Kemmerer: ~					
	N. 14				•		Lavel: 21,00
(518) 747-9900	1236						20.83 -2,000
Additional Notes:	1246		<u></u>				26.91
				`			
Weather Data Description: Temperature:	Clord F	5 (Cumulare)		<u></u>			Sampled by: Alphag

Precipitation: _____

January 3, 1997

Wind:

ght wens

NONE

O'Brien & Gere Engineers, Inc.

FIELD LOG FOR JUNE 23 1972 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	inspect Sample		Comments
HRM 197.0 (County Rt. 27 Bridge)	0905	Type: Composite Kemmerer:	73	0-6	-	~	Bakers Falls: CI floring our	an fuer wet witch 10'wiche sector at west
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	10101 10:254	Type: Composite Kemmerer: <i>96</i> 8	23	0-5W 673,0	M5			
HRM 188.5 (Thompson Island Dam)	2015	Type: Grab	23	Surface	Dvp			
Equipment blank: HRM (94.2	0850	Type: Grab Kemmerer: 964						
Ft. Edward Staff Gage (518) 747-9900	0855 014				•		Level: ۲۰۶۰ کاریک	7760 32 <i>0</i> 0
Additional Notes:	14 0 5 1600		,				22.23 20.63	640D 1600

Temperature: Wind:

Precipitation:

A 4007

O'Brien & Gere Engineers. Inc.

FIELD LOG FOR ______ 30 1997-(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: 95	24	6-6'	_	~	Bakers Falls: no flow uver dan dan face het
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	10:000 10:154	Type: Composite Kemmerer: 96A	25	6.0E 5.0W	MS		
HRM 188.5 (Thompson Island Dam)	1125	Type: Grab	26	Suerna.	DUP		
Equipment blank: HRM /94.2	0905	Type: Grab Kemmerer: 96A					
TIP-BC	11:00	Componite	+	0-5'	1	~	Total Depth ~ 6' (depth gase reaching)
Ft, Edward Staff Gage (518) 747-9900	0900 1007		L	I		I	Level: 21.17 - 2800 21.42 3600
Additional Notes:	11:20						21.25 - 3,100

 Weather Data

 Description:

 Temperature:

 Ø05 F

 Wind:

 Precipitation:

Sampled by: _____ Myhing

FIELD LOG FOR July 7, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0745	Type: Composite Kemmerer: <i>G</i> 5	22"C	0-6	ms	~	Bakers Falls: den foce wer with coursesional trickle over dan
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	08120	Type: Composite Kemmerer: 46	28%	0-5W 0-6E	DUP		
HRM 188.5 (Thompson Island Dam)	09.10	Type: Grab	230	Suppose			0940 lum
Equipment blank: HRM / && 5	0925	Type: Grab Kemmerer: —		I			
Ft. Edward Staff Gage (518) 747-9900	072E 0800						Level: 22.24 -6400053 21.94 - 5, 500 cF3
Additional Notes:							
Weather Data					• •		Sampled by: Ar ling

July 2, 1997

Wind:

Temperature:

Precipitation:

317448

Light breeze

NOTE

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FIELD LOG FOR May wy 14 1947 HSampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	10:20	Type: Composite Kemmerer: 966	23	0-6'		۲ В.	Bakers Falls: no floz, foce wer
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	10551	Type: Composite Kemmerer: 96A	23	0-4W 0-5'E	nis	<u>~</u> .	
HRM 188.5 (Thompson Island Dam)	1280	Type: Grab	24	Surfine	Dur		
Equipment blank: HRM <i>(う</i> ぞ、く	135	Type: Grab Kemmerer:					
Ft. Edward Staff Gage (518) 747-9900				<u> </u>			Level: 20.58 = 1503cfs
Additional Notes:							
Weather Data Description: <u>Summary</u> Temperature: <u>Just</u>							Sampled by:

July 2, 1997

Wind:

Precipitation:

317449

1912

NONE

O'Brien & Gere Engineers, Inc.

Huguss 20, 1997 Sampling Date) FIELD LOG FOR

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	23°C	0-6'	M5		Bakers Falls: no flow over falls, dum foce her
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1035E 1015W	Type: Composite Kemmerer: <i>9</i> (A	23°C	0-5.5'E 0-5.0'W	Dur	<u>∕</u>	
HRM 188.5 (Thompson Island Dam)	1125	Type: Grab	23°C	SURAX	-		
Equipment blank: HRM 194.2	094S	Type: Grab Kemmerer: <i>96</i> A					
				· .			
Ft. Edward Staff Gage (518) 747-9900	1025						Level: 20 97 - 2300
Additional Notes:							
						•	• • • • • • • • • • • • • • • • • • •
Weather Data Description: <u>کب ع</u> Temperature: <u>۲۵۶</u> Wind: ۱۹۸۲	Clord F breez	<u> </u>		<u>, (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (19</u>			Sampled by: W. Ay hig

July 9 4007

Precipitation:

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317450

NONE

Aug 26, 1997 FIELD LOG FOR (Sampling Date)

: Wet, no flow over
Sized orginic Autorial /boxa
gized orginic material (brown)
maple.
- 2700 CFS

1.1. 9 4007

Precipitation:

317451

acceptional Sprinkly
Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1025	Type: Composite Kemmerer: 95	⁰ ا بر	0-6'	ms	V	Bakers Falls: no flow over falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	11100W 1120 E	Type: Composite Kemmerer: _{GLA}	21%	0-5'W 0-6'E	Dup	V	
HRM 188.5 (Thompson Island Dam)	120D	Type: Grab	ی، و <i>ت</i> ه	JULFACE		~	2.7' at north corner of chutment depth
Equipment blank: HRM 197. L	1042	Type: Grab Kemmerer: 96A					
Ft. Edward Staff Gage (518) 747-9900	1050						Level: 21.28 - 310005
Additional Notes:							
Weather Data Description: <u>لو لي ط</u> Temperature: <u>لو ال</u> Wind: <u>ال</u> لي ط Precipitation:	Fma l USF IT NU Jone	venntan Cloups		<u></u>			Sampled by: AJ Ayhng

July 2, 1997

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FIELD LOG FOR September 11, 1997 Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample		Comments
HRM 197.0 (County Rt. 27 Bridge)	0735	Type: Composite Kemmerer: <i>95</i>	ん	0.6'	_		Bakers Falls:	no flow over falls, face her
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	8200 08051 890 W	Type: Composite Kemmerer: 9 54 768	280	0-35 0-55	MC,	V	0-5.5E 0-5 W	Small Sheens observed In river
HRM 188.5 (Thompson Island Dam)	0900	Type: Grab	21°C		PUP			
Equipment blank: HRM 」を8.5	0525	Type: Grab Kemmerer:						
				:				
Ft. Edward Staff Gage (518) 747-9900	6807		<u> </u>	<u> </u>	<u> </u>	I	Level: 2082	~ 2000 CFS
Additional Notes:								
Weather Data Description: Overco Temperature: Tcs Wind: CLI Precipitation: Mind:	~57 F e						Sample	d by: <u>Agling</u>
July 2, 1997 317	7453							

FIELD LOG FOR SEPTEMBER 17, 1997 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: 75	208	0.6	ms		Bakers Falls: No flow over falls, face we f 33.1 24.4 B.7 Tom Deon!
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1020W	Type: Composite Kemmerer: 96 ø	Jo'C	0-5H 0-6'E	-	~	Shull pièce of Veretation in PCB Sample- aquitic lused - pencil areser dia.
HRM 188.5 (Thompson Island Dam)	1120	Type: Grab	21°C	SURFACE	DUP	~	
Equipment blank: HRM KY, 2	1010	Type: Grab Kemmerer: 96x					
				:			
Ft. Edward Staff Gage (518) 747-9900	1005						Level: 21.45 ~ 3700 < Fs
Additional Notes:							
					• 1		1
Weather Data Description: <u>50009</u> Temperature: 705 Wind: <u>CA</u> U	I CI F M	4 <u>LM</u>		<u>der men sola sola de 2000</u> 2			Sampled by: Ayhing

July 2, 1997

Precipitation:

NONE

A'Drinn & Care Frankson !

FIELD LOG FOR _______

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1053	Type: Composite Kemmerer:95	170	0-6			Bakers Falls: no flow, face dog
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1240W 1250E	Type: Composite Kemmerer: <i>96</i> A	1 8 °C	0-5W 0-6E	Ms	~	
HRM 188.5 (Thompson Island Dam)	1145	Type: Grab	172	SWATTER	Dup	-	
Equipment blank: HRM (990.5	1130	Type: Grab Kemmerer:		T	I	1	
					·		
Ft. Edward Staff Gage (518) 747-9900	1224						Level: 2126 -3100
Additional Notes:		· · · · · · · · · · · · · · · · · · ·					
Weather Data Description: Temperature: Wind:	de t N						Sampled by: WAyhag

July 2, 1997

Precipitation:

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NONE

O'Rrion & Com Englisher to

FIELD LOG FOR <u>October 1, 1997</u> (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: ନର୍ଯ	14°C	U-6 Tenyeligeth	ms	~	Bakers Falls: no flow ober fully, claim free her
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1030 h 1050E	Type: Composite Kemmerer: 96M	14°C	0-5W 0-6E	Dul		US65 propined to Sample at east channel after us.
HRM 188.5 (Thompson Island Dam)	1530	Type: Grab	15%	SURFACE			
Equipment blank: HRM (485	06:30	Type: Grab Kemmerer:					
Ft. Edward Staff Gage (518) 747-9900	1020						Level: 21.27 ~ SION
Additional Notes:							
Weather Data Description: Temperature: Wind: Precipitation:	E Wes	25 F					Sampled by: <u>M. Andreg</u>

July 2, 1997

GENERAL ELECTRIC COMPANY 1997 POST-CONSTRUCTION REMNANT DEPOSIT MONITORING PROGRAM (Project 612.225) CCTOBER 9 -FIELD LOG FOR OCTOBER 10, 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: <i>95</i>	18°C	0-6			Bakers Falls: No flow over Fulls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	14902 1445	Type: Composite Kemmerer: 964	200	0-6E 0-5 W	ms Dup		
HRM 188.5 16/9/9 (Thompson Island Dam)	7 1447	Type: Grab	10/10/44 18°C	Sulfree	-	~	Temp Sample anlected @ 1445 on 20/10/47
Equipment blank: HRM / 94.2	CB 45	Type: Grab Kemmerer: <i>96</i> A-					
				:			
Ft. Edward Staff Gage (518) 747-9900	1411						Level: 21.30 - 3200
Additional Notes:							
Weather Data				an er mysen ginn i st		<u></u>	Sampled by: WAybap

Description:

Wind:

Temperature:

Precipitation:

317457

705 -50

NonE

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FIELD LOG FOR ATOBER & 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	<i>1145</i>	Type: Composite Kemmerer: <i>95</i>	142	0-6	MS	~	Bakers Falls: Trickle over falls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1350W 1410C	Type: Composite Kemmerer: _{<i>flGA</i>}	15°C	0-6E'	Tur	1	
HRM 188.5 (Thompson Island Dam)	1025	Type: Grab	14°C	Surfree	~	-	2.5 1 TOTAL depth at N. for New bucket
Equipment blank: HRM 194, 2	1340 8555	Type: Grab Kemmerer: <i>96</i> 7					Decon in field (used in an for TID/TIP)
		· · ·		:			
Ft. Edward Staff Gage (518) 747-9900	i340						Level: 21.12 ~ 2700 cfs
Additional Notes:							

Weather Data Description: Temperature: Wind: Precipitation:

Sin, Clouds gove by 1130 505F N NONE

Sampled by: _____ Aybap

FIELD LOG FOR _______ OCTOBER 23, 1997(Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)]0:5D	Type: Composite Kemmerer: 95	9	0-6			Bakers Falls: no flow over dem, portions "& force domp Yoral depth: B"
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	: 1220 5 1240	Type: Composite Kemmerer: 969	12	0-6E 0-5W	Ms		
HRM 188.5 (Thompson Island Dam)	1330	Type: Grab	11	SUCFACE	Dr	V	
Equipment blank: HRM) めらいち	13:5	Type: Grab Kemmerer: ——					
TID-PRW2	1411	Type: Composite Kemmerer: 948		0-11	-		Tond dan 128
SCH	1615	Type: Composite Kemmerer: <i>96B</i>	1	0-12'			Tutaldepth ~ 14' (d.f. to measure hund)
Ft. Edward Staff Gage (518) 747-9900	\Z11						Level: 21.33 ~ 3,300
Additional Notes:							
Weather Data Description: <u>UULTCOM</u> Temperature: <u>HUD</u> Wind: <u>S</u>	4† F						Sampled by: Aybing

October 22, 1997

Precipitation:

NONE

O'Brien & Gere Engineers, Inc.

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FIELD LOG FOR OCTOBER 29, 49 + (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1050	Type: Composite Kemmerer: <i>9</i> 5	9ë	0-6	Mis	-	Bakers Falls: Intermittent for over West portion of falls 9' Toim Depit
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1210 1225	Туре: Composite Kemmerer: <i>GGA</i> -	1210 10°	0-6E 0-5W		~	
HRM 188.5 (Thompson Island Dam)	1255	Type: Grab	10°C	Gurfolie	-		
Equipment blank: HRM /%4.2-	1070	Type: Grab Kemmerer: 92,4				•	
TID-PRW2	1310	Type: Composite Kemmerer: 94B	180	0-9			Tonl dept 11.8
SCH	1510	Type: Composite Kemmerer: 96A	ήe	0-12'	Dup		Tural depth w/6.
Ft. Edward Staff Gage (518) 747-9900	1203		and a second	and an ann an		ra da antesia	Level: マル・3・イ うろいい
Additional Notes:			•				
							j
Weather Data Description: <u>Overco</u> Temperature: <u>47</u> F Wind: <u> </u>	; r [⁶ 14	<u></u>		······································		· · · · · · · · · · · · · · · · · · ·	Sampled by:

October 22, 1997 (61220225/4/fd/002)

Precipitation:

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O'Brien & Gere Engineers, Inc.

FIELD LOG FOR Novender 5, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments		
HRM 197.0 (County Rt. 27 Bridge)	1030	Type: Composite Kemmerer: <i>95</i>	9"	0-7'	MS		Bakers Falls: no flow over fulls, Attoc fics) bounds remared except new JOAN wirk Area		
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1155E	Type: Composite Kemmerer: <i>96A</i> √	<i>\</i> °¢	6-6' EEW	DUP				
HRM 188.5 (Thompson Island Dam)	1245	Type: Grab	10%	Support	-		-3.2' @ Norol face		
Equipment blank: HRM /94.2	07:20	Type: Grab Kemmerer: <i>964</i>							
TID-PRW2	1300	Type: Composite Kemmerer: <i>948</i>	10%	0-9.5'	•		Total depte ~ 12.2'		
SCH	1435	Type: Composite Kemmerer: 96B	100	0-12	-		Total dept u 17.5'		
Ft. Edward Staff Gage (518) 747-9900	1020 1150				4		Level: 21.92 - 5200		
Additional Notes: KAY 46A 0715 = hexare Black of Kennerer 96A									
Weather Data Description: לא איש ל)pic_C	laws		<u></u>	<u></u>		Sampled by:		

Description: Temperature: Wind: Precipitation:

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50'5F	
W	
NONE	
1	•

October 22, 1997

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FIELD LOG FOR November 11, 1997-(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	Fc	0.7'			Bakers Falls: WATER FLOWING OVER DAM Total With depth 9,5
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1:25 1:40	Type: Composite Kemmerer: <i>96A</i> -	7°C	0-655 06'W	m5		
HRM 188.5 (Thompson Island Dam)	1215	Type: Grab	7°C	Surfree	Dup	-	Total depite Q N abutment 3.6'
Equipment blank: HRM /94,2-	0655	Type: Grab Kemmerer: 96A					
TID-PRW2	1290	Type: Composite Kemmerer: <i>96B</i>	7°C	0-9	_	~	Total depth 12.1'
SCH	1415	Type: Composite Kemmerer:	8°C	0-12'	_		Total depth - 17'
Ft. Edward Staff Gage (518) 747-9900	i)1Z					8	Level: 21.48 5500
Additional Notes:							

317462

Weather Data Description: # Cla SUN 705 Temperature: N. light PONE Precipitation:

W.A. Sampled by:

r)

Wind:

7

FIELD LOG FOR November 19, 1997 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments			
HRM 197.0 (County Rt. 27 Bridge)	095 ⁰	Type: Composite Kemmerer: <i>95</i>	20	0-71	H12-4		Bakers Falls: 10 flow over falls.			
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	:25E 1:45W	Type: Composite Kemmerer: <i>96</i> 4	3C	0-6'E 0-5W	HR-3 HR-3-M8					
HRM 188.5 (Thompson Island Dam)	1225	Type: Grab	30	SUATHE	Hr-1		Total depth of North face 2.9			
Equipment blank: H RM <i>TID-PAW2-E6B</i>	0645	Type: Grab Kemmerer: <i>968</i>			HR-5-EQI	82				
TID-PRW2	1245	Type: Composite Kemmerer: <i>968</i>	36	0-9'	DUP, HR-5		Total depth -11'			
SCH	1446	Type: Composite Kemmerer: <i>968</i>	36	0-12'	He-2		Total depth - 16			
Ft, Edward Staff Gage (518) 747-9900	1117				•		Level: 21.49 -> 3800			
Additional Notes: * SAMPLES SUBMITTED TO LABORATOR, AS BLIND AUDIT SAMPLES, SAMPLE ID'S INDICATED ON BUTTLES ARE LISTED IN THE "OABLSTMPLE" COLUMN										
Weather Data Description: <u>Sum & Clouds</u> Temperature: <u>31°F @ 1115</u>										

October 22, 1997

Wind:

Precipitation:

Can

NAL

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	1020	Type: Composite Kemmerer: ₉₅	J.°Ć	0-7'	MS	~	Bakers Falls: no flowover fulls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	1150	Type: Composite Kemmerer: ₉₆₇ +	7°C-	0-6E 0-5W	_	V Algae In Archu Sample	~
HRM 188.5 (Thompson Island Dam)	1220	Type: Grab	2°C	SURFACE	DUP		2.8' Toralder H at North frescher
Equipment blank: HRM <i>18</i> よう	0710	Type: Grab Kemmerer:				•	. 2.2 '
TID-PRW2	1295	Туре: Composite Kemmerer: <i>ЭLB</i>	a.C	0.9'			11.6 contractor
SCH	1325	Type: Composite Kemmerer: 96 <i>B</i>	2°C	0-12'	_		-
Ft. Edward Staff Gage (518) 747-9900	1128						Level: -1,22 3,000
Additional Notes:							
Weather Data Description: <u>Sin 2 Climps Hen Cluberty</u> Temperature: <u>3045</u> Jour preself							

October 22, 1997

Precipitation:

Wind:

Light Breeze

NUTE

DECOMBER 2, 1997 (Sampling Date) FIELD LOG FOR

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: 45	Э°С эМ	ù-7'	ms		Bakers Falls: No flow over falls	
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	(4735E (95W)	Type: Composite Kemmerer: <i>GL</i> A	2°C	0.6'E 0-5'W	Ωſ	-		
HRM 188.5 (Thompson Island Dam)	1045	Type: Grab	2°C	Suppag	-	1	- 5' () A. Free of dam	
Equipment blank: HRM_ SCH	1330	Type: Grab Kemmerer: 96B						
TID-PRW2	1055	Type: Composite Kemmerer: 968	2°C	0-9'			Toni deport -12.2'	
SCH	1345	Type: Composite Kemmerer: 96.0	J'C	6-12	-			
Ft. Edward Staff Gage (518) 747-9900	0933						Level: 21.6) ~ 4200	
Additional Notes: Nut & Imp - petineted bised on comparison of field thermometer date Corrected W, lab thermometer								
•								
Weather Data							Sampled by: Aying June Fors	

317465

Description:

Wind:

Temperature:

Precipitation:

hun a Clau

305F Cum

NONE

her 9, 1997 (Sampling Date) FIELD LOG FOR _____

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: 96	Juc	0-7			Bakers Falls: no flow over fulls
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	GANS	Type: Composite Kemmerer: 964	12 2°C	0-6E 0-5'W	MS	~	some suits in hiter 12565 Sampling @ ~ 1130.921
HRM 188.5 (Thompson Island Dam)	1045	Type: Grab	Hart	Sultate	DUP		3.2' Tital unlaw depticit N face of lin
Equipment blank: HRM 194.2	09125	Type: Grab Kemmerer: 96A					
TID-PRW2	1055	Type: Composite Kemmerer:	Hest	0.9'	. 	-	10-12' Juni depth
SCH	1940	Type: Composite Kemmerer: பிப்பு	je	0-12'		~	
Ft. Edward Staff Gage (518) 747-9900	6920						Level: 31.60 ~ 4100cfs
Additional Notes:							
							<u>a seconda de la composición de la compo</u>
Weather Data Description:	1 2						Sampled by: N Aykay / 2. 1/2

Precipitation:

Wind:

24FE Onic

CMM

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O'Brien & Gere Engineers, Inc.

m c'

FIELD LOG FOR DECEMBER 16, M97 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments	
HRM 197.0 (County Rt. 27 Bridge)	CACD	Type: Composite Kemmerer: 95	¢ι,	6-7	MS	\checkmark	Bakers Falls: citry dun	
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	0950	Type: Composite Kemmerer: 96.4 Gi	1. J.L.	0.6E 0.5'W				
HRM 188.5 (Thompson Island Dam)	1035	Type: Grab	50		ar	~	2.50' at N face of class	
Equipment blank: HRM ' どといく	06(Type: Grab Kemmerer: 95 ^{0m}						
TID-PRW2	1055	Type: Composite Kemmerer: 96B	0°C	0-85')	/	10'6" total	
SCH	1235	Type: Composite Kemmerer: 94	1C	0-12"	_	~		
Ft. Edward Staff Gage (518) 747-9900	e 930						Level: 21.21 ~ 3000 crs	
Additional Notes: 1600 Kimmerens 16A 2156B Cliened in Freld offer Sompling at Horm 194.2								
							1	
Weather Data Description: <u>Servery</u> Temperature: <u>JU</u>	@ 43	0					Sampled by:/ //////	

Precipitation:

Wind:

Tight

Noré

FIELD LOG FOR DECEMBER 22 1417 (Sampling Date)

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	0840	Type: Composite Kemmerer: 95	oc	0-7'			Bakers Falls: no flow over fullis
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	0915E 2930i.	Туре: Composite Kemmerer: _{G&A}	ΰĽ	0-6'E 0-575'W	m5	/ th	in the flowing on surface jest ch
HRM 188.5 (Thompson Island Dam)	1135	Type: Grab	٥	Surfre	DUR	V	
Equipment blank: HRM / 94.2	0410	Type: Grab Kemmerer: 9:14					
TID-PRW2	145	Type: Composite Kemmerer: 9cB	0ë	0.8%	. <u> </u>		
SCH	(24	Type: Composite Kemmerer: <i>96B</i>	68	6-12"	-		
Ft. Edward Staff Gage (518) 747-9900	v653		n de la la Suite Brain Al esta suit				Level: 21.67 - 4400
Additional Notes:							
	•					•	
Weather Data	~ 1						Sampled by: UAthy 15. For
Description: <u>کن کا</u> Temperature: <u>کن</u>	C1020	<u>~~</u> <u>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</u>					

Temperature: Wind:

Precipitation:

Colm None



Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:				INFO:	Laurie Beattie, D&M		
FROM:	Chris T	allon, D	&M CT		Eliko Fujita, Dæm		
DATE:	August	7, 1997					
SUBJECT:	Hudson	River	Water Sampling		DKAFI		
Date of Sam	pling:	Mond	ay August 4, 1997	(Sunny 8	0°)		
Time:		08:57 to 09:15. ADHC trash gate was last open on Friday July 25 15:00.					
River Flow Rate: 1,597 cfs at 07:00 (USGS station at South C flowing over any portion of the dam during riv					at South Glens Falls). Water was m during river sampling.	s not	
Sampling L	ocations	: 1. 2. 3.	Plunge Pool, Bak <u>Time:</u> 08:57 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 33 HR20FROMEAS <u>Time:</u> 09:15 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 14 than 1.5 feet. HR50FROMEAS <u>Time:</u> 09:12 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 14 than 2 feet.	ers Falls. ongener a feet belo T ongener foot belov T ongener foot belov	nd Total Suspended Solids (TSS). ow river surface. w the river surface. Water depth was	less	

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Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	INFO: Laurie Beattie, D&M
FROM: John H	awley, D&M JH
DATE: August	14, 1997
SUBJECT: Hudsor	River Water Sampling
Date of Sampling:	Thursday August 14, 1997 (Sunny 74°)
Time:	08:34 to 08:56. ADHC trash gate was last open on Friday July 25, 1997 at 15:00.
River Flow Rate:	1,231 cfs at 07:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.
Sampling Locations	 Plunge Pool, Bakers Falls. <u>Time:</u> 08:34 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> 32 feet below river surface. HR20FROMEAST <u>Time:</u> 08:56 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.5 foot below the river surface. Water depth was 2.0 feet. HR50FROMEAST <u>Time:</u> 08:54 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.5 foot below the river surface. Water depth was 3 feet.

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Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:			INFO:	Laurie Beattie, D&M
FROM:	John H	lawley, D&M JH		Barbara Bierden, D&M
DATE:	August	20, 1997		
SUBJECT:	Hudsor	n River Water Sampling		DRAFI
Date of San	npling:	Wednesday August 20,	1997 (Sun	ny 70°)
Time:		09:05 to 09:29. ADHC	trash gate	was last open on Friday August 15, 1997.
River Flow	Rate:	1,023 cfs at 08:00 (US flowing over any portic	SGS statior on of the da	n at South Glens Falls). Water was not m during river sampling.
Sampling L	ocations	 Plunge Pool, Ba <u>Time:</u> 09:05 <u>Analysis:</u> PCB (<u>Sample Depth:</u> 2 HR20FROMEA <u>Time:</u> 09:29 <u>Analysis:</u> PCB (<u>Sample Depth:</u> 1 then 2 0 feet 	kers Falls. Congener a 32 feet belo ST Congener .5 foot belo	and Total Suspended Solids (TSS). ow river surface. ow the river surface. Water depth was less
		3. HR50FROMEA <u>Time:</u> 09:27 <u>Analysis:</u> PCB (<u>Sample Depth:</u>	.ST Congener 1.5 foot bel	ow the river surface. Water depth was 3

feet.



Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	INFO: Laurie Beattie, D&M Barbara Diarden D&M
FROM: John H	awley, D&M JH
DATE: August	27, 1997
SUBJECT: Hudson	n River Water Sampling
Date of Sampling:	Tuesday August 26, 1997 (Showers 68°)
Time:	09:03 to 09:30. ADHC trash gate was last open on Friday August 15, 1997.
River Flow Rate:	1,005 cfs at 07:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.
Sampling Locations	 Plunge Pool, Bakers Falls. <u>Time:</u> 09:03 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> 32 feet below river surface. HR20FROMEAST <u>Time:</u> 09:25 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.5 foot below the river surface. Water depth was less than 2.0 feet. HR50FROMEAST <u>Time:</u> 09:30 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.5 foot below the river surface. Water depth was less than 3 feet.



6 Century Hill Drive Latham, New York 12110

Memorandum - Albany

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:			INFO:	Laurie Beattie, D&M
FROM: Chris 7	Tallon, I	D&M CT		Barbara Bierden, Dælvi
DATE: Septem	ber 4, 1	997		DDAET
SUBJECT: Hudson	n River	Water Sampling		DRAFI
Date of Sampling:	Wedn	esday September 3	, 1997 (S	unny 70°)
Time:	09:07	to 09:44. ADHC to	ash gate v	was last open on Friday August 28, 1997.
River Flow Rate:	3,013 flowin	cfs at 07:00 (USC ng over any portion	GS statior of the da	n at South Glens Falls). Water was not m during river sampling.
Sampling Locations	S:			
	1.	Plunge Pool, Bak Time: 09:07	ers Falls.	
		Analysis: PCB Co Sample Depth: 32	ongener a 2 feet belo	nd Total Suspended Solids (TSS). ow river surface.
	2.	HR20FROMEAS	T	
		Time: 09:44	ngener	
		Sample Depth: 1.0) foot belo	ow the river surface. Water depth was less
		than 2.0 feet.		
	3.	HR50FROMEAS	Т	
		<u>Analysis:</u> PCB Co	ongener	
		Sample Depth: 1.0 than 3 feet.) foot belo	w the river surface. Water depth was less



Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	•	INFO:	Laurie Beattie, D&M
FROM: Chris T	Îallon, D&M (ÈT		Barbara Bierden, Dæm
DATE: Septem	ber 12, 1997		DDAET
SUBJECT: Hudsor	n River Water Sampling		DKAFI
Date of Sampling:	Wednesday September 1	0, 1997 (Sunny 65°)
Time:	09:12 to 09:37. ADHC 1997.	trash gate	e was last open on Monday September 8,
River Flow Rate:	3,200 cfs at 07:00 (USC flowing over any portion	GS statior of the da	n at South Glens Falls). Water was not m during river sampling.
Sampling Locations	 Plunge Pool, Bak <u>Time:</u> 09:12 <u>Analysis:</u> PCB C <u>Sample Depth:</u> 33 HR20FROMEAS <u>Time:</u> 09:37 <u>Analysis:</u> PCB C <u>Sample Depth:</u> 1.4 than 1.5 feet. HR50FROMEAS <u>Time:</u> 09:32 <u>Analysis:</u> PCB C <u>Sample Depth:</u> 1.6 than 3.5 feet. 	cers Falls. ongener a 3 feet belo ST ongener 0 foot belo ST ongener 0 foot belo	and Total Suspended Solids (TSS). ow river surface. ow the river surface. Water depth was less

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Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	INFO:	Laurie Beattie, D&M
FROM: Chris T	allon, D&M CT	Barbara Bierden, D&M
DATE: Septem	ber 19, 1997	
SUBJECT: Hudsor	River Water Sampling	DRAFT
Date of Sampling:	Wednesday September 17, 1997 ((Sunny 70°)
Time:	09:53 to 10:21. AHDC trash gate 1997.	was last open on Saturday September 13,
River Flow Rate:	1,045 cfs at 07:00 (USGS station flowing over any portion of the data	n at South Glens Falls). Water was not am during river sampling.
Sampling Locations	 Plunge Pool, Bakers Falls. <u>Time:</u> 09:53 <u>Analysis:</u> PCB Congener a <u>Sample Depth:</u> 32 feet bel HR20FROMEAST <u>Time:</u> 10:21 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.0 foot bel than 2.0 feet. 	and Total Suspended Solids (TSS). ow river surface. ow the river surface. Water depth was less
	 HR50FROMEAST <u>Time:</u> 10:16 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.0 foot bel than 2.5 feet. 	ow the river surface. Water depth was less

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6 Century Hill Drive Latham, New York 12110

Memorandum - Albany

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:		INFO: Laurie Beatt	ie, D&M
FROM: Chris 7	Tallon, D&M CT	Darbara Die	den, Dæm
DATE: Septem	iber 25, 1997		
SUBJECT: Hudson	n River Water Sampling		DRAFI
Date of Sampling:	Wednesday September 2	24, 1997 (Sunny 60°)	
Time:	10:20 to 10:50. AHDC 1997.	trash gate was last oper	on Sunday September 21,
River Flow Rate:	1,077 cfs at 07:00 (US) flowing over any portion	GS station at South Gle of the dam during rive	ens Falls). Water was not sampling.
Sampling Locations	S:	· · ·	
	1. Plunge Pool, Bal Time: 10:20	cers Falls.	
	<u>Analysis:</u> PCB C Sample Depth: 3	ongener and Total Susp 2 feet below river surfac	ended Solids (TSS). e.
	2. HR20FROMEAS	ST	
	<u>Time:</u> 10:43	ongener	
	Sample Depth: 0 less than 0.5 foot	.33 foot below the river	surface. Water depth was
	3. HR50FROMEAS	ST	
	<u>11me:</u> 10:50 Analysis: PCB C	ongener	
	Sample Depth: 0 less than 1.5 feet	.67 foot below the river	surface. Water depth was

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Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:				INFO:	Laurie Beattie, D&M	M
FROM:	Chris T	allon, Da	&M CT		Barbara Bielden, Dec	
DATE:	Octobe	r 2, 1997				
SUBJECT:	Hudson	ı River W	Vater Sampling		DRAI	-1
Date of Sam	pling:	Wedne	sday October 1, 19	997 (Sunr	ny 52°)	
Time:		09:38 to 1997.	o 09:55. AHDC ti	rash gate	was last open on Tuesd	ay September 30,
River Flow Rate: 1,007 cfs at 07:00 (US)			cfs at 07:00 (USC g over any portion	S station of the dat	at South Glens Falls) m during river samplin	o. Water was not g.
Sampling L	ocations	: 1. 2. 3.	Plunge Pool, Baka <u>Time:</u> 09:38 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 32 HR20FROMEAS <u>Time:</u> 09:57 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 0. less than 1.0 foot. HR50FROMEAS <u>Time:</u> 09:55 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 0. less than 2.0 feet.	ers Falls. ongener a feet belo T ongener 55 foot b T ongener 67 foot b	nd Total Suspended So ow river surface. elow the river surface. elow the river surface.	lids (TSS). Water depth was Water depth was



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Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	Bill	Ayling		INFO:	Laurie Beattie, D&M			
FROM:	Chris T	allon, D&MCT			Barbara Bierden, Dæm			
DATE:	Octobe	r 14, 19	97					
SUBJECT:	Hudson	River	Water Sampling		DKAFI			
Date of Sam	pling:	Wedn	esday October 10,	1997 (Su	nny 70°)			
Time:		16:02 @ 14: sampl:	to 16:23. AHDC to 14. The trash gat ing events.	rash gate v e was ope	was last open on Friday October 10, 1997 en for approximately 2 hours before the			
River Flow Rate: 2		2,943 over th	2,943 cfs at 07:00 (USGS station at South Glens Falls). Water was flowing over the entire western portion of the dam during river sampling.					
Sampling Lo	ocations	:	• • •		•			
		1.	Plunge Pool, Bak <u>Time:</u> 16:02 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 33	ers Falls. ongener a 3 feet belo	nd Total Suspended Solids (TSS). ow river surface.			
		2.	HR20FROMEAS <u>Time:</u> 16:23 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 1. less than 2 feet.	ST ongener .00 foot b	elow the river surface. Water depth was			
		3.	HR50FROMEAS <u>Time:</u> 16:21 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 1. less than 3.0 feet.	5T ongener .00 foot b	elow the river surface. Water depth was			

•

Date of Sampling:	Wednesday October 16, 1997 (Sunny 52°)					
Time:	11:58 to 12:29. AHDC trash gate was last open on Friday October 13, 1997. Mechanical failure has prevented the trash gate from closing completely since the last sampling event.					
River Flow Rate:	1,056 cfs at 07:00 (USGS station at South Glens Falls). Water was flowing over the entire western portion of the dam ½ hour before river sampling.					
Sampling Locations						
• •	 Plunge Pool, Bakers Falls. <u>Time</u>: 11:58 <u>Analysis</u>: PCB Congener and Total Suspended Solids (ISS). <u>Sample Depth</u>: 33 feet below river surface. 					
	 HR20FROMEAST <u>Time:</u> 12:19 <u>Apalysis:</u> PCB Congener <u>Sample Depth:</u> 1.00 foot below the river surface. Water depth was less than 2 feet. 					
	 IIR50FROMEAST <u>Time:</u> 12:17 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.00 foot below the river surface. Water depth was less than 3.5 feet. 					
	Nater Temp = 60.10F					

CLEMBERD

FIELD LOG FOR

Station	Time	Sample Data	Water Temp.	Sample Depths	QA/QC Sample	Inspect Sample	Comments
HRM 197.0 (County Rt. 27 Bridge)	9:15	Type: Composite Kemmerer: 95	1°C	0-6'	ms	(1)	Bakers Falls: DAM FACE MOSTLY DRY - FEW TRIELE'S IN CENTER
HRM 194.2 (Rt. 197 Bridges Comp East and Main Channel)	10:25	Type: Composite Kemmerer: _{AA}	1°C	5'-WEST 6'-E1.ST	DUP	(1)	
HRM 188.5 (Thompson Island Dam)	13:05	Type: Grab	0° C.	Surfice	<u> </u>	(1)	
Equipment blank: HRM /00/5	13:30	Type: Grab Kemmerer: <u>96</u> B					DECON. 968 AFTER PRW2 BEFORE EQEL
TID-PRW2	19:45	Type: Composite Kemmerer: 9&B	್	0-12'	((1)	
SCH	141:00	Type: Composite Kemmerer: <i>RB</i>			-	(1)	
Ft. Edward Staff Gage (518) 747-9900	9:40						Level: 21,55
Additional Notes: (1) -	NOTHIN	UNVSUAL NOT	ED.				
•							

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2017

Sampled by: M.D. LARUE

October 22, 1997 (:61220225/4/fidlog2)

Weather Data

Temperature:

Description:

RIVE POINT 4A, SAME AS 1457 week 54 AR 45 1451 502 river surface 317481CAURH NUAR R.P. 41A, SAME AS 44, week (~5' west of R.P. 4A And 2-3' below SAmpled From Buft LAUNCH NEAR RIVER POUNT Mun 1.51=01 330 1957 week. No samples from Plunge Pool ₹ 2 RILT POINT ll in the swing light snow (20 K 8000 0208 9:12 C 8:46 ی ری م Land appr こかみん 34° P C 9:58 PCB 5:23 "I ID/18/96 OVERCAST OULICAST J Yuny, wrudy Runt Pc & Congener + Tss BLANK C 8:57 Bost counch 220 PCB Cingenee + TSS C Congrata + 755 6:17 5445 755 0 9:49 from. Rinse Blank C 8:40 Bur T 7045 35.5 DUCICAST 35.6 96 [22]21 5 hr cg - pros د. ک - 67 45 LINGE BLANK C 16.4 + - 36.0 Temp - 410 Sampled Sampled L ... ۱ PcB conginie -6.1 fun Cond ph - 6.4 Einse Islank 12/30/96 Jome 1 1697 لم لم dust Cuncl Temp Curd mondby Ruse sompled 40 ہ م Pc B ٢٢

RINSE BLANK C 12:53 (PCB 8080) in boat over Plunge Poel · PCB Congener & TSS from Plunge Pool C 13:06 from A depth of ~ 32 feet below River Surface.

Spoke with John Connelly of ADHC on 3/25/97, he said trash gates were not opened yesterday. Because the river is flowing "clean" they have been opening the gales on Tuesdays, Thuisdays, And Saturdays. Nevertheless, I will call ADHC every Monday to ASK when gate have been opened. Field parameter from Phage Pool: 13:08

ph - 6.58 Tomp - 37,5 Cond - 74.545

We Also took two samples down stream of Plunge Pool. See Attached MAP & TexT. Julin Hanley

3/31/97 Monday RAIN 34° Mix Snow

Because River was turbulent (with water flowing over dam) we only SAmpled from BUAT LAMCH MEAR RIVER POINT 4A. · Rinse BlANK (RB970331) C 9:30 (PCB 8080) · PCB Congener \$ TSS C9:35 from 3-5 fret below river And 2-4 fert from NW Comm of NIMO Blg. "ph - 5.92 Temp - 40.00 F cond - 66.7 45

Im Hund

	High 305 12:53 (PCB 8080) in boat over	Plunge Pool
	d TSS Sun Dlang Popl Q 13	
	2 2 2 C T I LO River Suffe	.06 trom
	66 - 52 feel below Miller Surface	τ.
	Sohn Commelly of ADHC on 3/25/97,	he said
	des were not opened yesterday, Becau	se the river
-	jowing "clean" they have been opening the	gales on
	days, Thuisdays, And Saturdays. Nevertheless, I	will CAIL
ADH	the every Monday to Ask when gate have been	w opened.
f f	Field parameter from Phage Pool:	· · ·
Ye	13:08 ph - 6.58	
	7 mp - 31, 5	
we Al	ISD FOOK EWO SAMPLES down Stream of Plunge P	ool. Sæ
Attache	ed MAP & Text. Juliu Ha	wley
3/3/19-	7 Monday RAIN 34° Mix Snow	
Because	River was turbulent (with water flowing over dam)	we only
SAmpled	from BUAT LAINCH MEAR RIVER POINT 4A.	
· P	nse BlANK (RB970331) C 9:30 (PCB 8080)	ана стана br>И стана ст
• Pc	CB Congener & TSS C9:35 from 3-5 fret Deli ad 2-4 Cart found A/W Comm ad A/1m2 Bla	ow riven surface
7 2 ^{A.M}		
Temp	- 40.0°F	
Cond	- 66.7 - 45	
	Juli Succession Juli	- Hennely
4/7/97	Monday sonny 35 P	
Decause	I FIVER WAS FUR DUTENT (WITH WITH FOUND BUD ONM) W	ie only
Stoulie	RINSE BLANK (RB970407) C 9:00 PCB 8080	
•	PCB Congener \$ 755 C 9:12 from 3 - 5 fee	T below river
-	Surface And Approximatoly 2 feet off boat Launch. 5	strong river
	Current prevented US from getting the sample directly PINOR POINT 4A	off of
Field	parameters were not taken today.	
		317483

A 11-1rJ 1 éed Lafoint wanted us to sample today because OB\$6 was sampling. The river was turbulant Again so we sampled from the bat launch. . Rinse Blank (RB 97 0408) C 10:00 PCB 8080 · PCB Congener + TSS C 10:06 from 3-5 feet below river surface And Approximatoly 2 feet off bust CAunch Field Parametus: 10:12 Temp - 43° F ph - 6.02 John Hawley_ Cond - 52-45 4/14/97 Monday Sunny cool The River was calm so we were able to use the boat to sample the Plinge Pool and the two location downstream. . Rince Blank C 9:20 (PCB 8080) in boat over flunge Pool . Plunge Pool, Baker Falls sample for PCB Congener + TSS C 9:25 from a depth of ~ 32 feet below rule surface. · Two downstream samples : HR SO FROM EAST & HR ZO FROMEAST sample at 9:50 \$ 10:00, respectively. Both sample analyzed for PCB Congener. Both sample taken about 2 feet below river surface. . NO fild parameter taken boologe today. Julin Hendy +1/97 Monday Partly Sunny 450 We sampled from the Bost Cauch today became the River was too Turbulent. · Rune Blank COB:00 (PCB 8080) from boot County · Boot curren c OP:05 (PCB Congener + TSS) fun 3-5 below men surface and approximately 2 feet all River Point 4A (RP-4A) Field Parameter: ph - 43.8°F Tenp - 6.19 cond - 60.645 Julin Henley

	DAT
* Becquse the river current whis moving swiftly the two samples were taken along A 10 feet long drift from West to EASI Across the River. These sample were not taken from one particular location like the Plunge Pool sample	
* (1) + (2)	
Weture was not flowing over any portion of the dam while river samples were obtailord. Sampling LOCL, Baker Falls Dilunge 100L, Baker Falls IIImy : 1:06 P.M Analysis : 728 Congenter and Total Suspended Solids (755) Analysis : 728 Congenter and Total Suspended Solids (755)	REVISIONS BY
ADHL HEASH GATE NOT OPEN today - HAST Flushing EVENT. Occubered on Saturday Bland, regularly on Tuesdays, Thursdays, the trash gate will be open regularly on Tuesdays, Thursdays, And Saturdays. River conditions will dictate future flushings. River Flow Bate - 5465 CFS (South Flons Fall)	DATETO ED
FILE GE- HUZSON FAILS SUBJECT Miden River WATER SAMPLIAD DATE OF SAMPLIAD - 3/24/67 MONDAY TOME - 3/24/67 MONDAY TOME - 1:55 AM	

DAMES & MOORE

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Mar-25-97 17:21 Dames and Moore

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A 2.U MI GETNIAR (CT-ST) = CHR

FILE <u>GE- Hudson FAlls</u> SUBJECT Hudson River WAter Sampling SHEET___OF Date of Sampling 3/31/97 Monday Time 09:35 TO EO. ADHC trash gate was not open during river sampling. The last flushing event occurred on 3/27/97 - Thuisday. DATE River Flow Rate 12,000 CFS (South Glens FAlls). Water was Flowing over All sections of the dam during sampling. * SAMPLING Location O BOAT LAUNCH TIME : 09:35 Analysis: PCB Congener And Total Suspended Solids (TSS) SAmple Depth: 3-5 feet below river surface and 2-4 feet West of River POINT 4A near the northwest corner of the Ningara-Mohawk Building.

> * Due to Adverse weather Plunge Pool SAmpling was not performed today.

NOIS

Juhn Haully DAMES & MOORE

SUBJECT HUDSON KIVER WELTE

_SHEET___OF_

Date of Sampling 4/7/97 Monday TIME 09:12 ADHC trash gate was not open during river sampling. The last flushing event occurred on 4/4/97 - Friday River Flow Rate 16,300 cfs (South Glens Falls). Water was flowing over all sections of the dam during sampling. * Sampling Location @ Boat Launch TIME: 09:12 Analysis: RB Congener and Total Suspended Solids (TSS) Sample Depth: 3-5 feet below river surface and 2-3 feet west of the boat launch Capproximately 7 feet North of River Point 4A).

* Due to adverse river conditions, Plunge Pool sampling was not performed today.

DAT- " 1147 3Y_____1T___ CHECKED BY__ COPY TO E0__

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DATE -

BY.

John Hawke DAMES & MOORE
SUBJECT HUGSON

SHEET OF

Date of Sampling 4/7/97 Monday TIME 09:12 ŵ 0 ADHC trash gate was not open during river sampling. The last flushing event occurred on 4/4/97 - Friday River Flow Rate 16,300 cfs (South Glens Falls). Water was flowing over all sections of the dam during sampling. | | | \ | \ | \ * Sampling Location @ Boat Launch TIME: 09:12 Analysis: RB Congener and Total Suspended Solids (TSS) Sample Desth: 3-5 feet below river surface and 2-3 feet west of the boat launch Capproximately 7 feet North of River Point 4A).

* Due to adverse river conditions, Plunge Pool sampling was not performed today.

Juliu Hawley DAMES & MOORE

BY

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1	FILE MULLON I WILS
	SUBJECT Hudson River Water Sampling
	Date of Sampling
E0	<u>Time</u> 10:06 A.M. DRAFT
A I E TO A TE TO	ADHC trash gate was not open during river sampling. ADHC reported that the last flushing event occurred on Friday 4/4/97
<u>ة د</u>	River Flow Rate
A Since Sin B	19,066 cfs (USGS station at South Glens Falls). ADAC personnel report that the Eurbines in their Down
	plant have A combined copacity of 6 500 cfc. (1) ten
	was flowing over all sections of the dam during Sampling.
	* Sempling Location
	Boat Launch
\sim	Time : 10:06
	Analysis: PCB Congener And Total Suspended Solids (TSS)
	Sample Depth: 3-5 feet below river surface and 2-3 feet west of boat launch

* Due to adverse river conditions, Plunge Pool sampling was not performed today

Dames & Moore

.:НЕ(ВY СОРҮ ТО ЕО_

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3

Date of Sampling 4/14/97 Monday	DRAFT
<u>TIME</u> 9:20 ^{AM} to 10:00 AM ADHC trash gate u ADHC reported that on Sunday 4/13/97. <u>River Flow Rate</u> 7,700 cfs (USGS was flowing over boards used to be	was not open during river sampling. the last flushing event occurred station at South Glens Falls). Water the dam where the wooden flash located.
Sampling Locations @ Plunge Pool, Baker TIME: 09:25 Analysis: PCB conger Sample Depth: 325 @ HR 20FROMEAST Time: 10:00 <u>Analysis: PCB Con</u> <u>Sample Depth</u> : 2	Falls Hen And Total Suspended Solids (TSS) feet below river surface gener 2 feet below river surface. Depth of water = 5 feet
B HR SO FROMEAST <u>TIME</u> : 09:5D <u>Analysis</u> : PCB <u>Sample Depth</u> : HO	Longener 2 feet below river surface. Depth of water = 5 feet

DAMES & MOORE 0

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GE- HUDSON Falls SUBJECT_Hudson River Water Sampling SHEET 1 OF 1 Date of Sampling 4/21/97 Monday DRAFT TIME TO E0____ 08:05 ADHC trash gate was not open during river sampling. ADHC reported that the last flushing event occurred on DATE. DATE Thursday 4/17/97. River Flow Rate VISI 11,400 cfs (USGS station at South Glens Falls). Water was flowing over All sections of the dam during river sampling. * Sampling Location 0 Boat Launch Time: 08:05 Analysis: PCB Congener and Total Suspended Solids (TSS) Sample Depth : 3-5 feet below river surface and 2-3 feet west as boat Launch

* Due to adverse river conditions, Plunge Pool sampling was not performed today

John Hendley DAMES & MOORE

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udson River Water Sampling SUBJECT . SHEET ____OF. Date of Sampling 4/28/97 Monday (rain 50°F) DRAFT Time το εο. 12:20 P.M. ADHC trash gate was not open during river sampling. A DI+C reported that the last flushing event occurred on DATE. Wednesday 4/23/97 River Flow Rate 10,600 cfs (USGS station at South Glens Falls). Water was ΒΥ. - Υ8 flowing over all sections of the dam during sampling. * Sampling Location @ Boat Launch Time: 12:20 PM Analysis: PCB Congenera and Total Suspended Solids (TSS) Sample Depth: 3-5 feet below river surface and 4-5 feet west of boat launch.

ruason ralls

* Due to adverse river conditions, Plunge Pool sampling was not performed.

Chem Har DAMES & MOORE

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REVININS

SUBJECT Hudson Kiver Water Sampling______SHEET_1_OF_L

	Date of S	Sampling			`		
EO	Time	5/5/97	Monday (sunny 50°	F)		
T0		ADHC -	trash gat	e was n	ot open	during ris	ver sampling.
S DATE DATE	• •	ADHC Sunday	report <i>e</i> d 5/4/97 .	that the	last flus	hing event	occurred on
-	River Fle	w Rate					
R Е < В 1 В 1		18,000	cfs (USG:	s station	at Sout	h Gleas Fal	ls). Water
: 		was fl	owing ou	ver all s	ections a	of the da	m during
		sampl	ing.		• •		
	* Sampling	Location	$\underline{\mathbf{v}}$				
·	Ø	Boat La	.unch				
		And	<u>42</u> 104.10 1 <u>ysis</u> : PCB	Congener	And total	Suspendet S	inds (TSS)
		San	ple Depth	: 3-5 fee	t below	river surfac	e and 2-3
				feet w	est of b	bat launch.	
	· ·			_	_		
	* Due to ad	verse riu	rer conditi	ons, Plun	ge Pool	sampling	was not
	pertormed	1.					
						•	
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BY CHEI COPI							

John Hawky DAMES & MOORE

FILE <u>GE - Hudson Falls</u> SUBJECT <u>Hudson River Water Sampling</u> Date of Sampling 5/12/97 Monday (sunny 50°F) DRAFT Time 08:40 ADHC trash gate was not open during river sampling. ADHC reported that the last flushing event occurred on DATE DA ... Friday 5/9/97 River Flow Rate 13,000 cfs (USGS station at South Glens Falls). Water β was flowing over all sections of the dam during sampling. * Sampling Location @ Boat Launch Time: 08:40 Analysis : PCB Congener And Total Suspend Solids (TSS) Sample Doth: 3-5 feet below river surface And 1-2 feet west of boat launch.

* Due to adverse river conditions, Plunge Pool sampling was not performed.

Juliu (tamley DAMES & MOORE

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FILE <u>GE-Hudson</u> Falls SUBJECT_ Hudson River Water Sampling SHEET ____OF Date of Sampling 5/19/97 Monday (RAIN 52°F) DRAFT TO E0 TIME 10:01 AD He trash gate was not open during river sampling. ADHC reported that the last flushing event occurred DATE. DATE either on Saturday 5/17/97 or Sunday 5/18/97. River Flow Rate 8,825 cfs (USGS station at South Glens Falls). Water 7 8 was flowing over all sections of the dam during sampling. * Sampling Location @ Boat Launch Time: 10:01 Analysis : ACB Congener and Total Suspended Solids (TSS) Sample Depth: 3-5 feet below river surface and 4-5 feet west of River Point 4A(RP.4A)

* Due to adverse river conditions, Plunge Poul sampling was not performed.

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(2) HR 20 FROMEAST
 (3) HR 20 FROMEAST
 (3) HR 50 FROMEAST
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 (4) FROMEAST
 (5) FROMEAST
 (5) FROMEAST
 (6) FROMEAST
 (7) FROMEAST

O Plunge Pool, Baker Falls AnAlysis : PCB Congener and Total Suspended Solids (TSS) Sample Depth : 32 feet below river Surface

Sampling Locations

V.H

Loure 2 19 Jana J

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DATE

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river sampling.

<u>Kiver Flow Kate</u> 5,300 cfs (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during

09:49 to 10:40 A.M. ADHC trash gate was not open during river sampling. ADHC reported that the last flushing event occurred on Monday 5/19/97 at 3:00 P.M.

(10,60 yound) Kubsout rolrals

SHEET				
phildmos	Water	2EVIA	Nosbull	SUBJECT
	5	n Fall	ospuH-3	EILE G

Date of Sampling 5/27/97 Tuesday (Sunny 62°F) Time 09:49 to 10:40 A.M. ADHC trash gate was not open during river sampling. ADHC reported that the last flushing event occurred on Monday 5/19/97 at 3:00 p.m. River Flow Rate 5,300 cfs (USGS station at South Glens Falls). Water was BY BY not flowing over any portion of the dam during river sampling. Sampling Locations @ Plunge Pool, Baker Falls TIME: 10:00 AnAlysis : PCB Congener and Total Suspended Solids (TSS) <u>Sample Depth</u>: 32 feet below river surface O HR ZO FROMEAST TIME: 10:40 Analysis : PCB Congener Sample Depth: 1-2 feet below river surface. Water depth = 3 feet 3 HR 50 FROMEAST TIME: 10:30 Analysis: PCB Congener <u>Sample Depth</u>: 1-2 feet below river surface. Water depth = 3 feet

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ВҮ, ^О, <u>Н</u> СНЕСКЕР ВҮ. СОРҮ ТО ЕО_

DAMES & MOORE A DAMES & MOORE GROUP COMPANY

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:

FROM: John Hawley, D&M

DATE: June 12, 1997

INFO: Laurie Beattie, D&M

DRAFT

SUBJECT: Hudson River Water Sampling

ROUND ONE

Date of Sampling: Monday June 9, 1997 (Sunny 77°)

Time: 09:26 to 09:54. ADHC trash gate was not open during round one river sampling. ADHC reported that the last flushing event occurred on Saturday June 7, 1997.

River Flow Rate: 3,031 cfs at 09:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.

Sampling Locations:

 Plunge Pool, Bakers Falls. <u>Time:</u> 09:26 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> 32 feet below river surface.

- HR20FROMEAST <u>Time:</u> 09:54 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 to 2 feet below the river surface. Water depth was less than 3 feet.
- HR50FROMEAST <u>Time:</u> 09:45 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 3 to 4 feet below the river surface. Water depth was less than 5 feet.

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Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	INFO: Laurie Beattie, D&M
FROM: Chris 7	Fallon, D&M CT
DATE: August	t 7, 1997
SUBJECT: Hudson	n River Water Sampling
Date of Sampling:	Monday August 4, 1997 (Sunny 80°)
Time:	08:57 to 09:15. ADHC trash gate was last open on Friday July 25, 1997 at 15:00.
River Flow Rate:	1,597 cfs at 07:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.
Sampling Locations	S:
	1. Plunge Pool, Bakers Falls.
	Analysis: PCB Congener and Total Suspended Solids (TSS). Sample Depth: 33 feet below river surface.
	2. HR20FROMEAST
	<u>Time:</u> 09:15
· · · ·	Analysis: PCB Congener
	than 1.5 feet.
	3. HR50FROMEAST
	<u>Time:</u> 09:12
	<u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 foot below the river surface. Water depth was less than 2 feet.

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6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:

INFO: Laurie Beattie, D&M Barbara Bierden, D&M

FROM: John Hawley, D&M JH

DATE: August 14, 1997

SUBJECT: Hudson River Water Sampling



Date of Sampling: Thursday August 14, 1997 (Sunny 74°)

Time: 08:34 to 08:56. ADHC trash gate was last open on Friday July 25, 1997 at 15:00.

River Flow Rate: 1,231 cfs at 07:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.

Sampling Locations:

- Plunge Pool, Bakers Falls. <u>Time:</u> 08:34 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> 32 feet below river surface.
- HR20FROMEAST <u>Time:</u> 08:56 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.5 foot below the river surface. Water depth was 2.0 feet.
- 3.
- HR50FROMEAST

<u>Time:</u> 08:54

Analysis: PCB Congener

Sample Depth: 1.5 foot below the river surface. Water depth was 3 feet.

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6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	INFO:	Laurie Beattie, D&M Barbara Bierden, D&M
FROM: John H	wley, D&M JH	Darbara Brordon, Dechi
DATE: August	20, 1997	
SUBJECT: Hudson	River Water Sampling	DKAFI
Date of Sampling:	Wednesday August 20, 1997 (Sun	ny 70°)
Time:	09:05 to 09:29. ADHC trash gate	was last open on Friday August 15, 1997.
River Flow Rate:	1,023 cfs at 08:00 (USGS station flowing over any pertion of the da	n at South Glens Falls). Water was not m during river sampling.
Sampling Locations	 Plunge Pool, Bakers Falls. <u>Time:</u> 09:05 <u>Analysis:</u> PCB Congener a <u>Sample Depth:</u> 32 feet belo HR20FROMEAST <u>Time:</u> 09:29 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.5 foot belo than 2.0 feet. HR50FROMEAST <u>Time:</u> 09:27 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.5 foot belo feet. 	and Total Suspended Solids (TSS). ow river surface. ow the river surface. Water depth was less low the river surface. Water depth was 3



Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	INFO: Laurie Beattie, D&M
FROM: John H	lawley, D&M
DATE: Augus SUBJECT: Hudso	n River Water Sampling
Date of Sampling:	Tuesday August 26, 1997 (Showers 68°)
Time:	09:03 to 09:30. ADHC trash gate was last open on Friday August 15, 1997.
River Flow Rate:	1,005 cfs at 07:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.
Sampling Location	 Plunge Pool, Bakers Falls. <u>Time:</u> 09:03 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> 32 feet below river surface. HR20FROMEAST <u>Time:</u> 09:25 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.5 foot below the river surface. Water depth was less than 2.0 feet. HR50FROMEAST <u>Time:</u> 09:30
	Analysis: PCB Congener Sample Depth: 1.5 foot below the river surface. Water depth was less than 3 feet.

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6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:				INFO:	Laurie Beattie, D&M
FROM:	Chris Tallon, D&M CT				Barbara Bierden, D&M
DATE:	Septem	ber 4, 1	997		
SUBJECT:	SUBJECT: Hudson River Water Sampling				DRAFI
Date of San	npling:	Wedn	esday September 3	, 1997 (Si	unny 70°)
Time:		09:07	to 09:44. ADHC to	rash gate v	was last open on Friday August 28, 1997.
River Flow Rate:		3,013 flowir	cfs at 07:00 (USC ng over any portion	GS station of the da	a at South Glens Falls). Water was not m during river sampling.
Sampling L	ocations				
		1.	Plunge Pool, Bak <u>Time:</u> 09:07 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 32	ers Falls. ongener a 2 feet belo	nd Total Suspended Solids (TSS). ow river surface.
· · · ·		2.	HR20FROMEAS <u>Time:</u> 09:44 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 1.0 than 2.0 feet.	ST ongener) foot belo	ow the river surface. Water depth was less
		3.	HR50FROMEAS <u>Time:</u> 09:37 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 1.0	T ongener) foot belo	ow the river surface. Water depth was less

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than 3 feet.



Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:			INFO:	Laurie Beattie, D&M Borborn Bierden, D&M
FROM: Chris T	`allon, I	D&M (CT		Baibara Bielden, Delvi
DATE: Septem	ber 12,	1997		DDAET
SUBJECT: Hudsor	n River	Water Sampling		DRAFI
Date of Sampling:	Wedn	esday September	10, 1997 (Sunny 65°)
Time:	09:12 1997.	to 09:37. ADHC	trash gate	e was last open on Monday September 8,
River Flow Rate:	3,200 flowir	cfs at 07:00 (US) ng over any portion	GS station n of the da	n at South Glens Falls). Water was not m during river sampling.
Sampling Locations	:			
	1.	Plunge Pool, Bal <u>Time:</u> 09:12	cers Falls.	
		<u>Analysis:</u> PCB C <u>Sample Depth:</u> 3	longener a 3 feet belo	nd Total Suspended Solids (TSS). ow river surface.
	2.	HR20FROMEAS	ST	
		Analysis: PCB C	ongener	
		Sample Depth: 1. than 1.5 feet.	0 foot belo	ow the river surface. Water depth was less
	3.	HR50FROMEAS <u>Time:</u> 09:32 <u>Analysis:</u> PCB C Sample Depth: 1	ST ongener 0 foot belo	w the river surface. Water depth was less
		than 3.5 feet.		water deput was less



Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:				INFO:	Laurie Beattie, D&M	
FROM:	Chris Tallon, D&M CT				Barbara Bierden, D&M	
DATE:	Septemb	per 19, 1	1997			P
SUBJECT:	Hudson River Water Sampling				DRAFI	
Date of Sam	pling:	Wedne	esday September 17	7, 1997 (S	unny 70°)	
Time:		09:53 1 1997.	to 10:21. AHDC tra	ash gate v	vas last open on Saturday Sept	tember 13,
River Flow Rate:		1,045 flowin	cfs at 07:00 (USG g over any portion	S station of the dar	at South Glens Falls). Wate n during river sampling.	er was not
Sampling L	ocations:					
or and house and		1.	Plunge Pool, Bake <u>Time:</u> 09:53 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 32	ers Falls. ongener ar feet belo	nd Total Suspended Solids (TS w river surface.	SS).
		2.	HR20FROMEAS ^T <u>Time:</u> 10:21 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 1.0 than 2.0 feet.	T ongener foot belo	w the river surface. Water dep	th was less
		3.	HR50FROMEAS <u>Time:</u> 10:16 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 1.0 than 2.5 feet.	T ongener foot belo	w the river surface. Water dep	th was less

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6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO: Bill f FROM: Chris T	allon, D&MCT	Laurie Beattie, D&M Barbara Bierden, D&M			
DATE: October	r 14, 1997 Piver Water Sempling	DRAFT			
Date of Sampling:	Wednesday October 10, 1997 (Sur	ייייע 70°)			
Time:	16:02 to 16:23. AHDC trash gate v @ 14:14. The trash gate was ope sampling events.	was last open on Friday October 10, 1997 en for approximately 2 hours before the			
River Flow Rate:	2,943 cfs at 07:00 (USGS station at South Glens Falls). Water was flowing over the entire western portion of the dam during river sampling.				
Sampling Locations	: 1. Plunge Pool, Bakers Falls. <u>Time:</u> 16:02 <u>Analysis:</u> PCB Congener at <u>Sample Depth:</u> 33 feet belo	nd Total Suspended Solids (TSS). w river surface.			
	2. HR20FROMEAST <u>Time:</u> 16:23 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.00 foot be less than 2 feet.	elow the river surface. Water depth was			
	 HR50FROMEAST <u>Time:</u> 16:21 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.00 foot be less than 3.0 feet. 	elow the river surface. Water depth was			

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Date of Sampling:	Wednesday October 16, 1997 (Sunny 52°)				
Time:	11:58 to 12:19. AHDC trash gate was last open on Friday October 13, 1997. Mechanical failure has prevented the trash gate from closing completely since the last sampling event.				
River Flow Rate:	1,056 cfs at 07:00 (USGS station at South Glens Falls). Water was flowing over the entire western portion of the dam ½ hour before river sampling.				
Sampling Locations:	 Plunge Pool, Bakers Falls. <u>Time:</u> 11:58 <u>Analysis:</u> PCB Congener and Total Suspended Solids (ISS). <u>Sample Depth:</u> 33 feet below river surface. HR20FROMEAST <u>Time:</u> 12:19 <u>Analysis:</u> PCB Congener 				
	 3. IIR50FROMEAST <u>Time:</u> 12:17 Analysis: PCB Congener 				

Sample Depth: 1.00 foot below the river surface. Water depth was less than 3.5 feet.

Water Temp = 60.1°F

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DRAFT

GE-Hudson Falls June 12, 1997

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ROUND TWO

Date of Sampling: Monday June 9, 1997 (Sunny 77°)

Time: 11:04 to 11:27. ADHC trash gate was open between 10:30 and 11:00 prior to round two river sampling.

River Flow Rate: 3,031 cfs at 09:00 (USGS station at South Glens Falls). Between 10:40 and 11:10 water was flowing over sections of the dam not affixed with flashboards.

Sampling Locations:

1. Plunge Pool, Bakers Falls.

<u>Time:</u> 11:04 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> 32 feet below river surface.

- 2. HR20FROMEAST <u>Time:</u> 11:27 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 to 2 feet below the river surface. Water depth was less than 3 feet.
- 3. HR50FROMEAST <u>Time:</u> 11:19 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 to 2 feet below the river surface. Water depth was less than 3 feet.

Special Considerations: During Round Two, the Plunge Pool sampling was to occur while ADHC's trash gate was open and water flowing over the dam. However, a strong river current caused by the release of water from the trash gate prevented us from positioning the boat over the Plunge Pool sampling area. The Plunge Pool sample was collected four minutes after the trash gate was closed and while water was still flowing over the dam.

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n Th Ngarata	A DAMES & MODRE GROUP COMPANY

PPmemo-jun16

Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

· ·		Fax - (518) /86-1989
TO:		INFO: Laurie Beattie, D&M
FROM:	Chris Tallon, D&M CT	
DATE:	June 19, 1997	DRAFU
SUBJEC	Hudson River Water Sampling	
Date of S	ampling: Monday June 16, 1997 (Partl	y Cloudy, Windy 80°)
Time: 14 re	09 to 15:16. ADHC trash gate was not ported that the last flushing event occur	open during Plunge Pool sampling. ADH red on Monday June 9, 1997.
River Flo	w Rate: 2,900 cfs at 09:00 (USGS station over the western portion of the states over the western portion of the states over th	ion at South Glens Falls). Water was trick e dam only.
Sampling 1	Locations: Plunge Pool, Bakers Falls. <u>Time:</u> 14:09 <u>Analysis:</u> PCB Congener and Total Sus <u>Sample Depth:</u> 32 feet below river surf	spended Solids (TSS). ace.
2.	HR20FROMEAST <u>Time:</u> 15:06 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 to 2 feet below the riv	ver surface. Water depth was less than 3 f
3.	HR50FROMEAST <u>Time:</u> 15:16 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 2 to 2.5 feet below the :	river surface. Water depth was less than 3
Special C	onsiderations: During the week of June flashboards westward al- into the Wing Dam area	e 9, 1997, ADHC further extended the ong the dam. Thus, limiting the flow of w
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6 Century Hill Drive Latham, New York 12110

		N	lemorandu	m - All	bany	Telephone - (518) 786-3201 Fax - (518) 786-1989		
TO:				INFO:	Laurie Beat	tie, D&M		
FROM:	John H	awley,	D&MJH	•	Linko i ujita			
DATE:	July 2,	1997				DRAFT		
SUBJECT:	Hudsor	n River	Water Sampling		•			
Date of San	ıpling:	Mono	lay June 30, 1997	(Sunny 83	°)			
Time:		09:24 was o	09:24 to 09:48. Price to today's Plunge Pool sampling, ADHC trash gate was open between 08:40 and 08:55.					
River Flow	Rate:	3,288 and 0 flasht	cfs at 07:00 (USC 9:05 wate: was flo poards.	GS station a owing over	tt South Glens sections of th	s Falls). Between 08:40 e dam not affixed with		
Sampling L	ocations	1. 2. 3.	Plunge Pool, Ba <u>Time:</u> 09:24 <u>Analysis:</u> PCB (<u>Sample Depth:</u> 3 HR20FROMEA <u>Time:</u> 09:48 <u>Analysis:</u> PCB (<u>Sample Depth:</u> 1 foot. HR50FROMEA <u>Time:</u> 09:46 <u>Analysis:</u> PCB (<u>Sample Depth:</u> 2 less than 3 feet.	kers Falls. Congener and 2 feet belo ST Congener foot below ST Congener feet below	nd Total Susp w river surface w the river sur	ended Solids (TSS). ce. face. Water depth was 1 face. Water depth was		
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Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

10.	A II
FROM: John H	Hawley, D&M & O
DATE: June 2	
SUBJECT: Hudso	on River Water Sampling
	ROUND ONE
Date of Sampling:	Monday June 23, 1997 (Sunny 80°)
Time:	08:54 to 09:17. ADHC trash gate was not open during round o sampling. ADHC reported that the last flushing event occurred on June 22, 1997.
River Flow Rate:	2 800 afe at 07:00 (LISCS station at South Class Falls) Wester
	flowing over any portion of the dam during river sampling.
Sampling Location	flowing over any portion of the dam during river sampling.
Sampling Location	 2,890 cls at 07.00 (USGS station at South Glens Fails). Water flowing over any portion of the dam during river sampling. s: Plunge Pool, Bakers Falls. <u>Time:</u> 08:54 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS) <u>Sample Depth:</u> 32 feet below river surface.
Sampling Location	 2,890 cls at 07.00 (USGS station at South Glens Fails). Water flowing over any portion of the dam during river sampling. s: Plunge Pool, Bakers Falls. <u>Time:</u> 08:54 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS) <u>Sample Depth:</u> 32 feet below river surface. HR20FROMEAST <u>Time:</u> 09:17 Analysis: PCB Congener
Sampling Location	 2,890 cls at 07.00 (USGS station at South Glens Fails). Water flowing over any portion of the dam during river sampling. s: Plunge Pool, Bakers Falls. <u>Time:</u> 08:54 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS) <u>Sample Depth:</u> 32 feet below river surface. HR20FROMEAST Time: 09:17 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 to 2 feet below the river surface. Water de 2 feet.
Sampling Location	 2,390 cls at 07.00 (USGS station at South Glens Fails). Water flowing over any portion of the dam during river sampling. s: Plunge Pool, Bakers Falls. <u>Time:</u> 08:54 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS) <u>Sample Depth:</u> 32 feet below river surface. HR20FROMEAST Time: 09:17 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 to 2 feet below the river surface. Water de 2 feet. HR50FROMEAST Time: 09:15 <u>Analysis:</u> PCB Congener



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DAMES & MOORE A DAMES & MOORE GROLIP COMIPANY

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:		INFO: Laurie Beattie, D&M
FROM:	John Hawley, D&M \mathcal{A}	
DATE:	June 10, 1997	D R A F V
SUBJECT	: Hudson River Water Sampling	
Date of Sa	mpling: Tuesday June 3, 1997	(Sunny 73°)
Time: 14: the	06 to 14:40. ADHC trash gate was last flushing event occurred on l	as not open during river sampling. ADHC reported that Monday May 19, 1997.
River Flov	w Rate: 4,000 cfs at 08:00 (US flowing over any portio	GS station at South Glens Falls). Water was not on of the dam during river sampling.
Sampling 1	Locations: Plunge Pool, Bakers Falls. <u>Time:</u> 14:06 <u>Analysis:</u> PCB Congener and To <u>Sample Depth:</u> 32 feet below riv	otal Suspended Solids (TSS). er surface
2.	HR20FROMEAST <u>Time:</u> 14:40 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 to 2 feet below	the river surface. Water depth was less than 3 feet.
3.	HR50FROMEAST <u>Time:</u> 14:45 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 to 2 feet below	the river surface. Water depth was less than 3 feet.
Special Co	onsiderations: During the week wooden flashboar extend from the Raceway out app	of May 26, 1997, ADHC re-installed 2 foot high ds atop the eastern portion of the dam. The flashboards gatehouse structure at the north end of the Eastern roximately 315 feet to the middle of the dam.



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6 Century Hill Drive Latham, New York 12110

Memorandum - Albany

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	INFO: Laurie Beattie, D&M Friko Fujita, D&M
FROM: Joh	Hawley, D&M JH
DATE: July	10, 1997
SUBJECT: Huc	on River Water Sampling DRAFT
Date of Samplin	: Monday July 7, 1997 (Sunny 80°)
Time:	07:57 to 08:15. ADHC trash gate flushing schedule was unavailable.
River Flow Rate	5,456 cfs at 06:00 (USGS station at South Glens Falls). Between 07:45 and 08:22 water was flowing over sections of the dam not affixed with flashboards.
Sampling Locati	 Plunge Pool, Bakers Falls. <u>Time:</u> 07:57 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> 33 feet below river surface. HR20FROMEAST



6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	•			INFO:	Laurie Beattie, D&M
FROM:	John Ha	awley, I	D&M SHT		Eriko Fujita, D&M
DATE:	July 14	, 1997			DRAFT
SUBJECT:	Hudson	River	Water Sampling		1
Date of Sam	pling:	Mond	ay July 14, 1997 (S	unny 82°)
Time:		08:21	to 08:46. ADHC ti	rash gate	was last open on Friday July 11, 1997.
River Flow	Rate:	1,902 flowin	cfs at 07:00 (USG ag over any portion	S station of the day	at South Glens Falls). Water was not m during river sampling.
Sampling L	ocations	:			
		1.	Plunge Pool, Bake <u>Time:</u> 08:21 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 33	ers Falls. ongener a feet belo	nd Total Suspended Solids (TSS). w river surface.
		2.	HR20FROMEAS <u>Time:</u> 08:46 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 1 for than 1.5 feet.	T ongener oot below	the river surface. Water depth was less
		3.	HR50FROMEAS <u>Time:</u> 08:45 <u>Analysis:</u> PCB Co <u>Sample Depth:</u> 2 f than 3 feet.	T ongener èet below	the river surface. Water depth was less



6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

	TO:			INFO:	Laurie Beattie, I	D&M
	FROM: Joh	n Hawley,	D&M JH			
	DATE: July					
	SUBJECT: Hud	dson River	Water Sampling			DRVLL
			ROU	<u>ND ONE</u>		
	Date of Samplin	g: Mono	lay July 21, 1997 (J	Light rain	68°)	
	Time:	08:17 samp Wedr	to 08:37. ADHC ling. ADHC rep nesday July 16, 199	C trash gat ported that 97.	te was not open of t the last flushir	luring round one river ng event occurred on
ý	River Flow Rate	e: 2,662 flowi	cfs at 07:00 (US) of over any portior	GS station of the dat	at South Glens I m during round or	Falls). Water was not ne river sampling.
	Sampling Locati	ions:				
		1.	Plunge Pool, Bak <u>Time:</u> 08:17 <u>Analysis:</u> PCB C <u>Sample Depth:</u> 33	kers Falls. Congener a 2 feet belo	nd Total Suspende w river surface.	ed Solids (TSS).
() () ()	N N	2.	HR20FROMEAS <u>Time:</u> 08:37 <u>Analysis:</u> PCB C <u>Sample Depth:</u> 1 foot.	ST ongener foot belo	w the river surfac	e. Water depth was 1
	. · ·	3.	HR50FROMEAS <u>Time:</u> 08:35 <u>Analysis:</u> PCB C <u>Sample Depth:</u> 1 than 2 feet.	ST ongener foot below	the river surface.	Water depth was less

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6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	•	2		INFO:	Laurie Beattie, D&M
FROM:	Chris T	allon, I	D&M CT		Enko Fujita, Dæm
DATE:	July 30	, 1997			DRAFT
SUBJECT:	Hudson	River	Water Sampling	-	• • • • • • • • • • • • • • • • • • •
Date of Sam	pling:	Mond	ay July 28, 1997 (Sunny 82°	°)
Time:		08:53 15:00.	to 09:53. ADHC	trash gate	was last open on Friday July 25, 1997 at
River Flow Rate:		1,254 flowin	cfs at 07:00 (US g over any portion	GS station n of the da	n at South Glens Falls). Water was not m during river sampling.
Sampling Lo	ocations	: 1. 2.	Plunge Pool, Bal <u>Time:</u> 08:53 <u>Analysis:</u> PCB C <u>Sample Depth:</u> 3 HR20FROMEA	kers Falls. Congener a 2 feet belo ST	nd Total Suspended Solids (TSS). ow river surface.
			<u>Time:</u> 09:12 <u>Analysis:</u> PCB C <u>Sample Depth:</u> (0.67 foot.	Congener 0.5 foot be	low the river surface. Water depth was
•		3.	HR50FROMEAS <u>Time:</u> 09:17 <u>Analysis:</u> PCB C <u>Sample Depth:</u> 1 than 2 feet.	ST Congener foot below	v the river surface. Water depth was less
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3.

Date of Sampling: Thursday October 23, 1997 (Cloudy 50°)

Time:

11:57 to 12:17. AHDC trash gate was open during plunge pool sampling

River Flow Rate:

1,715 cfs at 07:00 (USGS station at South Glens Falls). Water was not Nowing over any portion of the dam during river sampling.

Sampling Locations:

Plunge Pool, Bakers Falls. <u>Time:</u> 11:57 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth</u>: 33 fect below river surface.

 HR20FROMEAST <u>Time:</u> 12:17 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.00 foot below the river surface. Water depth was less than 3 feet.

HR50FROMEAST <u>Time:</u> 12:14 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.00 foot below the river surface. Water depth was less than 3.5 feet.

Water temp= 54.5°F

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Date of Sampling: Wednesday October 29, 1997 (Sumy 51°)

Time:

11:08 to 11:33. AHDC trash gate was opened and closed prior to sampling.

River Flow Rate:

3,100 cfs at 07:00 (USGS station at South Glens Falls). Water was flowing over the entire dam precedent to plunge pool sampling.

Sampling Locations:

1.

Plunge Pool, Bakers Falls. <u>Time:</u> 11:09 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> 33 feet below river surface.

 HR20FROMEAST Time: 11:33 Analysis: PCB Congener Sample Depth: 1.00 foot below the river surface. Water depth was less than 2.5 feet.

 HR50FROMEAST Time: 11:31 Analysis: PCB Congener Sample Depth: 1.00 foot below the river surface. Water depth was less than 3.5 feet.

Water temp= 50.7 °F

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6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

Memorandum - Albany

TO: Ed LaPoint, GE

INFO: Laurie Beattie, D&M Barbara Bierden, D&M

DRAFT

FROM: Chris Tallon, D&M CT

DATE: November 6, 1997

SUBJECT: Hudson River Water Sampling

1.

Date of Sampling: Thursday November 5, 1997 (Cloudy 47°)

Time: 11:34 to 11:37. AHDC trash gate was open during and 3 hours prior to river sampling.

River Flow Rate: 5,000 cfs at 07:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.

Sampling Locations:

Plunge Pool, Bakers Falls.

The plunge pool sample was inaccessible because of extremely turbulent water caused by the open AHDC trash gate.

- HR20FROMEAST <u>Time:</u> 11:34 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.00 foot below the river surface. Water depth was less than 3 feet.
- HR50FROMEAST <u>Time:</u> 11:37 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1.00 foot below the river surface. Water depth was less than 3.5 feet.

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6 Century Hill Drive Latham, New York 12110

Fax - (518) 786-1989

Telephone - (518) 786-3201

Memorandum - Albany

TO: **Ed LaPoint**, GE INFO: Lauric Beattie, D&M Barbara Bierden, D&M

FROM: Chris Tallon, D&M CT

DATE: November 12, 1997

SUBJECT: Hudson River Water Sampling

DRAFT

Date of Sampling: Tuesday November 11, 1997 (Cloudy 49°)

Time: AHDC trash gate was open ½ hour prior to sampling.

River Flow Rate: 5,086 cfs at 07:00 (USGS station at South Glens Falls). For one-half hour prior to sampling, water was flowing over the entire dam. This was the first plunge pool sampling event since the partial removal of the AHDC flashboards on November 3, 1997.

Sampling Locations:

1. Plunge Pool, Bakers Falls. Time: 11:01 Analysis: PCB Congener and Total Suspended Solids (TSS). Sample Depth: 33 feet below river surface.

2. HR20FROMEAST Time: 11:16 Analysis: PCB Congener Sample Depth: 1.00 foot below the river surface. Water depth was less than 2 feet.

3. HR50FROMEAST <u>Time:</u> 11:14 Analysis: PCB Congener Sample Depth: 1.00 foot below the river surface. Water depth was less than 3.5 feet.

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DRAFT

Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

Ed LaPoint, GE TO: INFO: Laurie Beattie, D&M Barbara Bierden, D&M John Hawley, D&N FROM: Bill Ayling, OBG DATE: November 21, 1997 SUBJECT: Hudson River Water Sampling Date of Sampling: Wednesday November 19, 1997 (Overcast 28°) 11:00 to 11:30. AHDC trash gate was last open on Tuesday morning Time: November 18, 1997. **River Flow Rate:** 3,288 cfs at 06:30 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling. Sampling Locations: 1. Plunge Pool, Bakers Falls. Time: 11:00 Analysis: PCB Congener and Total Suspended Solids (TSS). Sample Depth: 32 feet below river surface. 2. HR20FROMEAST Time: 11:28 Analysis: PCB Congener Sample Depth: I foot below the river surface. Water depth was less than 2 feet. 3. HR50FROMEAST Time: 11:20 Analysis: PCB Congener Sample Depth: 1 foot below the river surface. Water depth was less than 2 feet.

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DAMES AND MOORE ALBA

INFO: Laurie Beattie, D&M

Barbara Bierden, D&M

Bill Ayling, OBO

PAGE 02

DAMES & MOORE

6 Censury Hill Drive Lasham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO: Ed LaPoint, GE

FROM: John Hawley, D&MQ #-

DATE: November 25, 1997

SUBJECT: Hudson River Water Sampling

Date of Sampling: Tuesday November 25, 1997 (Overcast 19°)

Time:

11:05 to 11:26. AHDC trash gate was last open on Monday November 24, 1997 at 08:30.

River Flow Rate: 3,086 cfs at 07:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam chring river sampling.

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Sampling Locations:

Plunge Pool, Bakers Falls.
 <u>Lime:</u> 11:05
 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS).
 <u>Sample Depth:</u> 32 feet below river surface.

 HR20FROMEAST Time: 11:26 Analysis: PCB Congener Sample Depth: 1 foot below the river surface. Water depth was less than 2 feet.

 HR50FROMEAST <u>Time.</u> 11:25 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 foot below the river surface. Water depth was less than 2 feet.

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INFO:

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

DRAFT

TO: Ed LaPoint, GE

FROM: Jeff Williams, D&M

DATE: December 5, 1997

SUBJECT: Hudson River Water Sampling

1.

Date of Sampling: Tuesday December 2, 1997 (Sunny 33°F)

Time:

10:31 to 10:53. AHDC trash gate was last open on Monday December 1, 1997 at 10:30.

Laurie Beattie, D&M Barbara Bierden, D&M

Bill Ayling, OBG

River Flow Rate: 4,180 cfs at 07:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.

Sampling Locations:

Plunge Pool, Bakers Falls. <u>Time</u>: 10:31 <u>Analysis</u>: PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth</u>: 32 feet below river surface. <u>Field Parameters</u>: pH=5.86 SU, Temp=3.9°C, Sp. Conductivity=72.9 μS/cm.

 HR20FROMEAST <u>Time:</u> 10:53 <u>Analysis:</u> PCB Congener <u>Sample Depth:</u> 1 foot below the river surface. Water depth was less than 2 feet.

3. HR50FROMEAST <u>Time:</u> 10:51 <u>Analysis:</u> PCB Congener

Sample Depth: 1 foot below the river surface. Water depth was less than 2 feet.

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Memorandum - Albany

INFO:

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

DRAFT

TO: Ed LaPoint, GE

FROM: Jeff Williams, D&M W

DATE: December 9, 1997

SUBJECT: Hudson River Water Sampling

1.

Date of Sampling: Tuesday December 9, 1997 (Partly Sunny 20°F)

Time:

09:53 to 10:04. AHDC trash gate was reportedly last open on Friday December 5, 1997 at 10:00.

Laurie Beattie, D&M Barbara Bierden, D&M

Bill Ayling, OBG

River Flow Rate: 3,966 cfs at 07.00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.

Sampling Location:

Boat Launch adjacent to the plunge pool at Bakers Falls <u>Time:</u> 10:03 <u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS). <u>Sample Depth:</u> Approximately 2.5 feet below the river surface and approximately 1.0 foot above the bottom. <u>Field Parameters:</u> pH=5.91 SU, Temp=5.1 °C, Sp. Conductivity=95.4 µS/cm.

Note: Conditions determined unsafe to launch the boat. Thus, the plunge pool sample and the two downstream samples were not aquired.

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Memorandum - Albany

INFO:

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

DRAFT

TO: Ed LaPoint, GE

FROM: Jeff Williams, D&M W

DATE: December 17, 1997

SUBJECT: Hudson River Water Sampling

1.

Date of Sampling: Tuesday December 16, 1997 (Partly Sunny 29°F)

Time:

09:26 to 09:37. AHDC trash gate was reportedly last open on Friday December 15, 1997 at 10:00.

Laurie Beattie, D&M Barbara Bierden, D&M

Bill Ayling, OBG

River Flow Rate: 3,090 cfs at 08:30 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.

Sampling Location:

Boat Launch adjacent to the plunge pool at Bakers Falls <u>Time:</u> 09:36

Analysis: PCB Congener and Total Suspended Solids (TSS).

<u>Sample Depth:</u> Approximately 3.0 feet below the river surface and approximately 1.0 foot above the bottom.

<u>Field Parameters:</u> pH=6.51 SU, Temp=4.0°C, Sp. Conductivity=58.2 µS/cm.

Note: Conditions determined unsafe to launch the boat. Thus, the plunge pool sample and the two downstream samples were not aquired.

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Memorandum - Albany

6 Century Hill Drive Latham, New York 12110

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO:	Ed LaPoint, GE	
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INFO:

D: Laurie Beattie, D&M Barbara Bierden, D&M Bill Ayling, OBG

DRAFT

SUBJECT: Hudson River Water Sampling

1.

December 24, 1997

Jeff Williams, D&M

Date of Sampling: Monday December 22, 1997 (Partly Sunny 15°F)

Time:

FROM:

DATE:

09:31 to 09:41. AHDC trash gate was reportedly last open on Sunday December 21, 1997 at 10:00.

River Flow Rate: 3,175 cfs at 10:03 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.

Sampling Location:

Boat Launch adjacent to the plunge pool at Bakers Falls <u>Time:</u> 09:37
<u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS).
<u>Sample Depth:</u> Approximately 3.0 feet below the river surface and approximately 1.0 foot above the bottom. <u>Field Parameters:</u> pH=6.34 SU, Temp=3.5°C, Sp. Conductivity=76.1 µS/cm.

Note: Conditions determined unsafe to launch the boat. Thus, the plunge pool sample and the two downstream samples were not aquired.

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Laurie Beattie, D&M Barbara Bierden, D&M

DEST

Bill Ayling, OBG

Memorandum - Albany

INFO:

Telephone - (518) 786-3201 Fax - (518) 786-1989

TO: Ed LaPoint, GE

FROM: Chris Tallon, D&MCT

DATE: January 2, 1998

SUBJECT: Hudson River Water Sampling

1.

Date of Sampling: Monday December 29, 1997 (Sunny 30°F)

Time:

09:35 to 09:40. AHDC trash gate was reportedly last open on Sunday December 28, 1997.

River Flow Rate: 3,213 cfs at 10:00 (USGS station at South Glens Falls). Water was not flowing over any portion of the dam during river sampling.

Sampling Location:

Boat Launch adjacent to the plunge pool at Bakers Falls <u>Time:</u> 09:40
<u>Analysis:</u> PCB Congener and Total Suspended Solids (TSS).
<u>Sample Depth:</u> Approximately 3.0 feet below the river surface and approximately 1.0 foot above the bottom.
<u>Field Parameters:</u> pH=6.50 SU, Temp=2.2°C, Sp. Conductivity=81.9 µS/cm.

Note: Conditions determined unsafe to launch the boat. Thus, the plunge pool sample and the two downstream samples were not acquired.

APPENDIX E

 $C_{\rm eff} = C_{\rm eff} + C_{\rm$

Data Validation Technical Memorandum [Bound Separately]

1.

Several sector in several sector in the

PCB data summary packages (15 volumes; bound separately)

And a start of the

APPENDIX G

Total suspended solids and PCB Method 808V8082 Data summary packages (1 volume; bound separately)

Appendix H

APPENDIX H

1997 PCRDMP Comparison of laboratory-reported Method NEA608CAP data and bias-adjusted PCB data

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Table H-1.	Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for
	analytical bias. (1)

	· · · · · · · · · · · · · · · · · · ·		Total							
Date	Sampling	Location	PCBs		Homolog	g Distribu	tion (wei	ght perce	nt) (4)	
Collected	Program (2)	(3)	(ng/L)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
01/06/97	PCRDMP	HRM 197.0	<11	-	-	-	-		-	+
		revised	<11	-	-	-	-	-	-	-
		Boat Launch	12	0.0	14.0	43.2	22.8	16.3	cent) (4) a Hexa - - 3 3.7 0 4.3 - - - </td <td>0.0</td>	0.0
		revised	12	0.0	9.7	46.1	22.0	18.0		0.0
		HRM 194.2	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5 BD	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-		-	-
01/13/97	PCRDMP	HRM 197.0	<11	-	-		-	-	-	
		revised	11	0.0	2.8	12.8	24.1	44.9	15.5	0.0
		HRM 194.2	<11	-	-	-	~s	-	•	-
		revised	11	0.0	3.9	29.5	19.6	. 35.1	12.0	0.0
		HRM 194.2 BD	<11	-	-	•	-	-	-	-
	•	revised	<11	-	· –	-	-	-	-	-
		HRM 188.5	17	0.0	12.3	30.8	29.0	23.3	4.6	0.0
		revised	18	0.0	6.6	33,4	28.0	27.0	5.1	0.0
01/27/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	· –	-
		revised	<11	-	-	-	-	-	-	-
		HRM 194.2	<11	-	-	-	• •	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5	<11	-	-	. - -	-	•	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5 BD	<11	-	-	-	· •	-	• •	-
		revised	<11	-		-	-	+		
02/03/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	
		HRM 194.2	<11	-	-	-	-	. •	-	-
		revised	<11	-	-	-	-	-	•	-
		HRM 188.5	18	0.0	26.0	37.0	18.8	15.9	2.3	0.0
		revised	23	0.0	37.7	31.6	14.6	14.1	2.1	0.0
		HRM 188.5BD	17	0.0	29.1	38.9	19.9	9.1	2.9	0.0
		revised	22	0.0	41.2	32.9	14.8	8.4	2.7	0.0
02/10/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
	*	revised	<11	-	-	-	-	•	-	-
		HRM 194.2	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 194.2 BD	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	· -	-
		HRM 188.5	<11	-	· -	-	-	•	-	-
		revised	12	0.0	20.1	35.8	21.1	18.2	4.8	0.0
02/18/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	- '	-	-	-
		HRM 194.2	<11	-	-	-	-	÷	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5	14	0.0	31.0	27.3	21.0	16.5	4.2	0.0
		revised	18	0.0	42.6	22.5	16.3	14.8	3.8	0.0
		HRM 188.5 BD	14	0.0	27.9	26.9	22.1	19.5	3.7	0.0
		revised	17	0.0	38.9	22.5	17.4	17.8	3.4	0.0

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	_ "	•	Total							
Date	Sampling	Location	PCBs	Mana	Homolog	Distribu	tion (wei	gnt perce	nt) (4)	Hanta
	Program (2)	(3) HDM 107.0	(ng/L)	Mono		111	letra	Penta	пеха	нерта
02/24/97	PCRDIVIP	HRM 197.0	<11	-	-		-	-	-	
		revised	<11	-	-	-	-	•	-	-
		RKM 194.2	~11	-	-	-	-	-	-	-
			<11	-	-	•	-	-	•	-
			<11	. •	-	-	-	•	-	-
			27		10.0	32.2	25.6	16.2	-	-
		revieed	27	0.0	24.5	30.2	20.0	16.3	0.9	0.0
03/03/07	PCPDMP	HPM 197.0		0.0	24.5			10.4	0.0	0.0
03/03/3/	FORDMIE	reviced	<11	-		-	-	-	-	-
		HDM 104 2	~11	_		-	-	-	-	-
		revised	<11		-	-	-	_	-	
		HDM 188 5	15		24.5	30.5	27.2	13.2	47	- 00
		rikii 100.0	10	0.0	24.0	27.0	21.2	12.2	4.7 A A	0.0
		HDM 102 5 PD	14	0.0	25.0	20.0	27.0	12.0	4.4 8 4	0.0
		FIRINI 100.0 BD	14	0.0	20.9	28.0	21.0	13.5	୬. I ୨୦	0.0
03/10/07	PCPDMP	HPM 107 D	<11	0.0	30.4	20.1	21.4		3.9	0.0
03/10/9/	FURDME	revised	<11	-	-	_		-	-	_
		HOM 104 2	<11	-	-	-	-	-	-	-
		revised	<11	-		-	-	-	•	-
		UDM 192 5	-11	-	19.4	320	- 31 /	14 1	22	- 00
			37	0.0	26.5	22.9	25.4	14.1	3.2	0.0
			31	0.0	10.1	23.0	20.9	14.0	3.2	0.0
			36	0.0	27.0	22.0	25.0	14.1	2.9	0.0
03/10/07	PCPDMP	HPM 197 0	<11	0.0	21.0	29.0	20.9	14.5	2.0	0.0
00/19/9/	FORDIVIE	revised	<11	-	_	_	_	-	-	_
		HPM 194 2	<11	_	_	_		_	_	_
		revised	<11	_	_	_	-	-	-	
		HRM 194 2 BD	<11	_	-	-	-	-	-	_
		revised	<11	-	_	-	-	_	_	_
		HRM 188 5	33	0.0	347	34.5	18 9	10.2	17	0.0
		revised	45	0.0	46.9	28.3	14.5	89	1.7	0.0
03/24/97	PCRDMP	HRM 197 0	<11							
00/24/07		revised	<11	<u>.</u>	-	-	-	_	_	-
		Plunge Pool BE	36	0.0	13.6	41.6	33.8	9.0	21	0.0
		revised	38	0.0	12.9	41.0	30.8	10.1	2.1	0.0
		HR 20 from East	30	0.0	17.3	37.7	33.4	94	23	0.0
		revised	30	0.0	14.5	40.2	31.8	11 0	2.0	0.0
		HR 50 from East	<11	. 0.0	-		51.0	11.0	2.0	0.0
		revieed	12	0.0	9.6	30.1	28.1	25.7	64	
		HRM 194 2	<11	-	-	-	-	-	0.7	
		revieed	<11	-	-	-	-	-	-	-
		HRM 188 5	63	0.0	27 4	38.9	23.9	81	17	
		revised	80	0.0	37 4	34.2	19.3	76	1.7	0.0
		HRM 188 5 BD	61	0.0	28.9	37.8	23.7	79	1.3	0.0
		revised	80	0.0	40.0	32.3	18.7	7.4	1.5	0.0

 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

			Total							
Date	Sampling	Location	PCBs		Homolog	j Distribu	tion (wei	ght perce	nt) (4)	
Collected	Program (2)	(3)	(ng/L)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta
03/31/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	
		Boat Launch	41	0.0	11.0	41.4	37.4	7.9	2.3	0.0
		revised	42	0.0	9.0	44.4	35.5	9.1	2.1	0.0
		HRM 194.2	<11	-	-	-	-	•	-	-
		revised	<11	-	-	-	-	•		-
		HRM 188.5	<11	-	-	-	-	-	-	-
		revised	12	0.0	20.8	33.7	28.7	12.7	4.3	0.0
		HRM 188.5	<11	-	•	-	-	-	-	-
		revised	12	0.0	18.0	33.2	30.3	14.0	4.7	0.0
04/06/97	HIGH FLOW	HRM 197.0-1	12	0.0	0.0	12.4	41.8	35.4	10.5	0.0
		revised	13	0.0	0.0	11.3	36.6	40.5	11.7	0.0
		HRM 194.2E-1	12	0.0	11.2	37.2	34.6	13.1	3.9	0.0
		revised	12	0.0	6.1	38.8	34.9	15.8	4.4	0.0
		HRM 194.2W-1	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-		-	-	-
		HRM 188.5E-1	21	0.0	16.1	30.5	34.8	15.2	3.5	0.0
		revised	23	0.0	22.4	29.0	29.3	15.7	3.7	0.0
		HRM 188.5W-1	17	0.0	17.3	29.5	26.8	20.3	6.1	0.0
		revised	19	0,0	20.5	28.6	23.1	21.2	6.5	0.0
04/07/97	PCRDMP	HRM 197.0	<11	-	-	-	-	~	•	-
		revised	<11	-	-	-	-	-	-	-
		Boat Launch	50	0.0	9.6	32.0	46.6	10.4	1.4	0.0
		revised	52	0.0	9.1	34.6	43.0	11.8	1.4	0.0
		Boat Launch	41	0.0	7.5	34.6	50.0	7.9	0.0	0.0
		revised	42	0.0	4.8	37.6	47.8	9.9	0.0	0.0
		HRM 194.2	12	0.0	0.7	28.9	44.6	21.8	4.0	0.0
		revised	13	0.0	1 .1	29.0	41.4	24.4	4.2	0.0
		HRM 194.2	12	0.0	0.7	31.1	44.0	20.0	4.2	0.0
		revised	13	0.0	1.1	30.9	41.3	22.3	4.5	0.0
	HIGH FLOW	HRM 194.2 W 3	14	0.0	0.0	24.9	46.3	23.6	5.3	0.0
		revised	15	0.0	0.0	22.9	43.2	27.8	6.0	0.0
		HRM 194.2E-2	18	0.0	5.7	31.1	40.3	19.9	3.0	0.0
		revised	19	0.0	3.5	32.7	38.4	22.2	3.3	0.0
		HRM 194.2E-3	28	0.0	8.6	36.0	39.3	13.2	2.9	0.0
		revised	28	0.0	5.2	38.8	37.0	15.9	3.2	0.0
		HRM 194.2E-4	12	0.0	13.9	27.4	35.0	17.6	6.2	0.0
		revised	12	0.0	7.5	29.4	35.9	20.6	6.7	0.0
		HRM 194.2W-2	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	•	-	-
	PCRDMP	HRM 188.5	22	0.0	18.1	34.4	32.6	12.3	2.6	0.0
		revised	25	0.0	22.5	33.8	28.6	12.6	2.5	0.0
	HIGH FLOW	HRM 188.5 W 3A	14	0.0	0.0	27.6	43.1	23.0	6.3	0.0
		revised	14	0.0	0.0	25.5	41.2	26.5	6.9	0.0
		HRM 188.5E-2	29	0.0	35.1	24.7	20.7	14.7	4.8	0.0
		revised	29	0.0	32.9	25.8	19.5	16.4	5.5	0.0
		HRM 188.5E-3	23	0.0	9.1	33.8	40.4	13.5	3.3	0.0
		revised	25	0.0	11.9	33.6	36.5	14.3	3.6	0.0
		HRM 188.5E-3A	21	0.0	14.7	34.2	34.2	13.6	3.3	0.0
		revised	23	0.0	17.2	33.9	30.8	14.7	3.4	0.0
		HKM 188.5W-2	<11	-	-	-	-	-	-	-
		revised	<11	-	-	· · ·	-	.	-	-

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

			Total					<u>-</u>			
Date	Sampling	Location	PCBs		Homolog) Distribu	listribution (weight percent) (4)				
Collected	Program (2)	(3)	(ng/L)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta	
04/08/97	HIGH FLOW	HRM 197.0-6	<11		-	-	-	-	-	-	
		revised	<11	-	-	-	-	-	-	-	
		HRM 197.0-8	25	0.0	10.2	36.0	40.1	11.2	2.4	0.0	
		revised	25	0.0	5.7	38.3	39.4	13.9	2.7	0.0	
		Boat Launch	24	0.0	12.6	33.8	33.0	15.5	5.2	0.0	
		revised	24	0.0	7.5	36.8	31.5	18.2	6.1	0.0	
		HRM 194.2E-5	21	0.0	12.1	30.8	39.5	15.1	2.6	0.0	
		revised	20	0.0	6.6	33.3	39.1	18.1	2.9	0.0	
		HRM 194.2E-6	21	0.0	5.1	26.6	46.7	18.4	3.2	0.0	
		revised	22	0.0	3.0	27.7	45.1	21.1	3.1	0.0	
		HRM 194.2E-7	53	0.0	4.2	33.9	49.4	10.8	1.7	0.0	
		revised	54	0.0	2.8	35.4	47.3	12.6	1.9	0.0	
		HRM 194.2E-8	14	0.0	9.6	27.6	43.4	16.8	2.7	0.0	
		revised	14	0.0	5.1	29.0	42.9	20.1	3.0	0.0	
		HRM 194.2W-6	<11	-	-	-	-	-	-	-	
		revised	<11	-	-	-	-	· 🗕	- 1	-	
		HRM 194.2W-7	15	0.0	0.0	26.3	49.7	19.7	4.3	0.0	
		revised	15	0.0	0.0	24.2	47.5	23.7	4.6	0.0	
		HRM 194.2W-8	<11	-	-	-	-	-	-	-	
		revised	<11	-	-	-	-	-	-	-	
		HRM 194.2W-8 BI	<11	· -	-	-	-	-	-	-	
		revised	<11	-	-	-	-	-	-	-	
		HRM 188.5E-4	22	0.0	12.2	37.9	37.0	10.4	2.6	0.0	
		revised	23	0.0	11.7	39.1	34.8	11.7	2.7	0.0	
		HRM 188.5E-5	37	0.0	11.3	25.9	39.6	19.3	3.9	0.0	
		revised	40	0.0	14.0	25.4	35.0	21.5	4.1	0.0	
		HRM 188.5E-6	21	0.0	15.7	38.1	34.3	9.8	2.1	0.0	
		revised	23	0.0	19.9	37.2	29.8	11.0	2.1	0.0	
		HRM 188.5E-6 BD	41	0.0	8.2	29.1	49.0	10.6	3.1	0.0	
		revised	44	0.0	11.0	28.1	45.8	12.0	3.0	0.0	
		HRM 188.5E-7	43	0.0	10.9	29.4	34.9	17.2	7.7	0.0	
		revised	47	0.0	12.9	29.1	31.0	18.6	8.4	0.0	
		HRM 188.5E-7A	22	0.0	7.5	39.9	37.4	12.8	2.4	0.0	
		revised	-22	0.0	4.1	41.7	36.7	14.7	2.8	0.0	
		HRM 188.5E-8	35	0.0	11.7	36.8	38.7	9.9	2.9	0.0	
-		revised	35	0.0	7.5	40.0	38.0	11.5	3.0	0.0	
•		HRM 188.5E-9	13	0.0	9.7	43.6	32.9	10.7	3.1	0.0	
		revised	13	0.0	5.2	46.3	32.6	12.1	3.8	0.0	
		HRM 188.5W-4	29	0.0	19.9	32.0	28.5	14.8	4.9	0.0	
		revised	31	0.0	21.3	31.9	26.0	15.7	5.2	0.0	
		HRM 188.5W-5	29	0.0	17.6	35.5	34.5	10.1	2.3	0.0	
		revised	33	0.0	23.3	33.7	29.9	10.8	2.4	0.0	
		HRM 188.5W-6	20	0.0	15.3	37.7	31.2	13.5	2.2	0.0	
		revised	23	0.0	20.5	35.7	27.5	14.1	2.2	0.0	
		HRM 188.5W-7	24	0.0	18.3	39.0	32.8	8.4	1.6	0.0	
		revised	27	0.0	23.4	37.0	28.6	9.4	1.6	0.0	
		HRM 188.5W-7A	20	0.0	13.8	38.4	35.6	10.3	2.0	0.0	
		revised	19	0.0	7.4	41.7	36.2	12.4	2.4	0.0	
		HRM 188.5W-8	43	0.0	7.9	41.4	43.0	6.8	1.0	0.0	
		revised	44	0.0	5.4	42.9	42.7	7.9	1.1	0.0	
		HRM 188.5W-9	21	0.0	11.3	40.2	31.7	13.7	3.2	0.0	
		revised	22	0.0	6.1	43.9	30.5	15.7	3.7	0.0	

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

			Total	Total								
Date	Sampling	Location	PCBs		Homolog	j Distribu	tion (wei	ght perce	nt) (4)			
Collected	Program (2)	(3)	(ng/L)	Mono	Di	Tri	Tetra	Penta	Hexa	Hepta		
04/09/97	HIGH FLOW	HRM 194.2E-10	<11	-	-	-	-	-	-	-		
		revised	<11	-	-	-	-	-	-	-		
		HRM 194.2W-10	<11	-	-	-	-	-	-	-		
		revised	<1 1	-		-	-	-	-	-		
		HRM 188.5E-10	<11	-	-	-	-	-	-	-		
		revised	<11	-	-	-	-	-		-		
		HRM 188.5W-10	17	0.0	15.8	38.1	33.0	10.9	2.3	0.0		
		revised	17	0.0	<u>11.6</u>	40.2	32.6	13.1	2.6	0.0		
04/14/97	PCRDMP	HRM 197.0	<11	-	-	-	-	- 1	-	-		
		revised	<11	-	· -	-	-	-	-	-		
		Plunge Pool BF	56	0.0	11.3	53.3	27.9	5.9	1.6	0.0		
		revised	61	0.0	10.1	55.9	25.7	6.4	1.9	0.0		
		HR 20 from East	22	0.0	6.8	33.0	38.8	15.9	5.5	0.0		
		revised	23	0.0	4.5	35.7	35.3	18.0	6.5	0.0		
		HR 50 from East	12	0.0	10.0	24.1	35.4	22.8	7.6	0.0		
		revised	12	0.0	5.3	25.0	33.9	27.2	8.5	0.0		
		HRM 194.2	14	0.0	9.0	23.6	30.9	24.9	11.6	0.0		
		revised	14	0.0	4.8	24.7	28.5	28.2	13.8	0.0		
		HRM 188.5	22	0.0	21.4	36.5	27.3	11.9	2.9	0.0		
		revised	25	0.0	26.5	35.3	23.1	12.1	3.0	0.0		
		HRM 188.5	21	0.0	23.8	36.3	23.7	12.5	3.6	0.0		
		revised	24	0.0	29.2	34.8	19.9	12.4	3.7	0.0		
		HRM 194.2 EQBL	13	0.0	0.0	14.3	23.8	39.4	22.6	0.0		
		revised	14	0.0	0.0	12.4	20.8	42.5	24.3	0.0		
		HRM 194.2 EQBL	<11	· •	-		-	-	-	-		
	-	revised	<11	-	-	-	-	-	•	-		
04/21/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-		
		revised	<11	-	-	-	-	-	-	-		
		Boat Launch	12	0.0	13.5	29.4	35.6	17.8	3.6	0.0		
		revised	12	0.0	7.6	32.7	35.8	19.9	4.0	0.0		
		HRM 194.2	<11	-	-	-	-	-	-	-		
		revised	<11	-	-	-	-	-	-	-		
		HRM 188.5	12	0.0	15.4	36.5	26.9	15.4	5.8	0.0		
		revised	14	0.0	20.0	35.0	24.6	15.6	4.9	0.0		
		HRM 188.5	12	0.0	14.7	32.0	31.8	15.9	5.6	0.0		
		revised	14	0.0	20.7	30.1	28.8	15.6	4.8	0.0		
04/28/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-			
		revised	<11	-	-	-	-	-	•	-		
		Boat Launch	16	0.0	14.3	44.8	28.0	9.5	3.5	0.0		
		revised	17	0.0	8.4	49.5	27.3	10,9	3.8	0.0		
		HRM 194.2	<11	-	-	• -	-	-	-	-		
		revised	<11	-	-	-	-	-	-	-		
		HRM 188.5 BD	17	0.0	25.6	33.2	24.0	13.6	3.6	0.0 ·		
		revised	21	0.0	34.3	30.3	18.9	13.0	3.5	0.0		
		HRM 188.5	17	0.0	22.9	33.5	26.7	14.0	2.9	0.0		
		revised	20	0.0	30.2	31.3	21.5	14.1	2.9	0.0		

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Date	Sampling	Location	Total PCBs		Homolog Distribution (weight percent) (4)					
Collected	Program (2)	(3)	(ng/L)	Mono	DI	Tri	Tetra	Penta	Hexa	Hepta
05/05/97	PCRDMP	HRM 197.0	<11	-	-		-	-	-	-
		revised	<11	-	-	-	· -	-	•	-
		Boat Launch	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 194.2	11	0.0	0.0	53.4	33.1	8.4	5.2	0.0
		revised	<11	-	-	-		-	• •	
		HRM 194.2 BD	<11	-	-	-	· -	-	-	
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5	26	0.0	14.8	41.7	28.0	10.6	4.9	0.0
		revised	29	0.0	23.2	37.8	23.7	10.9	4.4	0.0
05/12/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	
		Boat Launch	13	0.0	13.5	43.6	28.2	10.6	4.1	0.0
		revised	13	0.0	10.7	46.3	26.3	12.2	4.5	0.0
		HRM 194.2	<11	-	-	-	-	*	-	-
		revised	<11	-	-	-	-	-	-	•
		HKM 188.5	22	12.8	25.2	31.1	19.3	9.5	2.1	0.0
		revised	27	10.6	35.7	27.3	15.2	9.1	2.1	0.0
		HRM 188.5 BD	2/	11.5	18.1	20.3	21.2	17.8	6,1	0.0
05/10/07	PCPDMP			10.0	20.2	23.1	17.5	17.3	5.9	0.0
05/19/9/	PCRDMP	TIKIVI 197.0	<11	•	-	-	-	-		-
		Roat Launch	26	-	10 9	41 7	33.8	11 2	25	
		revised	26	0.0	8 1	44.3	32.2	127	2.5	0.0
		Boat Launch BD	<11	0.0	-		-	- 12.7	2.0	0.0
		revised	<11	-	-	· _		-	-	-
		HRM 194.2	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5	25	13.5	28.3	32.9	17.8	5.6	1.9	0.0
		revised	35	10.3	43.0	27.2	13.0	5.0	1.7	0.0
05/27/97	PCRDMP	HRM 197.0	<11	-	+		-	-	· •	-
		revised	<11	-	-	-	-	-	-	-
		Plunge Pool BF	13	0.0	14.4	28.8	31.0	21.6	4.2	0.0
		revised	14	0.0	16.8	31.3	25.7	21.9	4.3	0.0
	-	HR20 from East	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HR50 from East	<11	-	-	-	-	-	-	-
	•	revised	<11	-	-	-	-	-	-	-
		HRM 194.2	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 194.2 BD	<11	-	-	-	-	-	-	-
		revised	<11	• –	-	-		-	-	-
		HRM 188.5	81	32.2	23.2	24.6	14.6	4.4	0.9	0.0
		revised	106	25.6	377	20.7	11 2	40	0.8	00

Table H-1. Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

Date	Sampling	Location	Total PCBs	tal Bs Homolog Distribution (weight percent) (4)								
Collecte	d Brogram (2)	(3)	(na/l)	Mono	וטוווטוו ומ	Tri Tetra Penta i			Hova	Honto		
06/03/0		UPM 197.0	(IIG/L)	MONO			reua		пела	nepta		
00/03/3	/ FORDINE	revised	~11	_	-	-	_	_	-	-		
		Divogo Bool BE	~11	-	-	-	-	-	ent) (4) Hexa - - - - - - - - - - - - -	-		
		Flunge Fool BF	~11	-	-	-	-	-		-		
		HP20 from East	~11		-	-	_	-	-	-		
		rikzo itom East	~11		-	-	-	-	-	-		
		HP50 from East	~11		-	-	-	-	-	-		
		nico non East	~11	-	-		_	-	-	-		
		UDM 104 2	~11	_	-	-	_	_	_	_		
		revised	~11	_			_			_		
		HPM 188 5	101	33.3	25.8	- 24 A	11.8	40	07	-		
		revised	138	25.5	20.0 A1 3	24.4	89	3.5	0.7	0.0		
		HPM 188 5 BD	100	20.0	-1.J 25 A	20.2	123	5.5	17	0.0		
		revised	1/8	24.3	20.4 A1 1	10.0	92.0	4.8	1.7	0.0		
06/00/0		HDM 197 0	<11	27.5	41.1	19.2		4.0	1.5	0.0		
0010010		revised	<11	_	_	_		_	_	-		
		Plunge Pool RE1	14	0.0	25 A	31 3	26.4	12 2	35	00		
		Flunge Foor BF1	16	0.0	20.4 27 A	31.9	20.4	13.3	3.5	0.0		
		Plunce Pool RE2	416	0.0	27.4	31.0	20.1	65	4.0	0.0		
		riunge Fooi BF2	410	0.0	9.0 70	44.0	36.0	7.9	2.1	0.0		
		HP20 from East1	-11	0.0	70.2	25.7	21.0	19.6	2.2	0.0		
		FIRZO NUM East	10	0.0	42.0	20.7	14.5	16.0	0.0	0.0		
		HP20 from East2	12	0.0	40.2	21.3	14.0	10.2	4.0	0.0		
		ravised	10	0.0	20.2	31.5	20.0	10.0	2.1	0.0		
		UDEO from East1	-11	0.0	24.0	30.4	20.0	10.4	2.1	0.0		
		Incourroun East	~11	-	-		-	-	-	-		
		HP50 from East?	16		- 	22 1	- 27 0	44.0	-	-		
		revised	19	0.0	23.0	21 7	27.0	11.2	4.0	0.0		
		HDM 104 2	10	0.0	20.9	31.7	23.0	11.7	4.2	0.0		
		raviood	~11	-	-	-	-	•	•	-		
		HDM 104 2.HEO	-11	-	- 22 6	- -	- 29.1	47.2	4.2	-		
		rikiwi 194.2-nrO	14	0.0	23.0	20.9	20.1	17.0	4.2	0.0		
06/10/0		LIDM 100 5	172	26.0	<u> </u>	23.4	11.0	10.9	4.0	0.0		
00/10/9/	PCRDIMP		227	30.0 27 A	20.1	20.0	11.9	3.2	0.4	0.0		
			237	21.4	41.0	10.0	0.0	2.0	0.4	0.0		
			200	30.0	42.0	40.0	12.4	3.0	0.5	0.0		
			200	27.0	42.0	10.2	9.2	3.1	0.4	0.0		
			14/	30.∠ 07.0	23.1	24.5 10.9	13.0	3.4	0.9	0.0		
		LIDM 100 5 LEO	190	27.2	38.3	19.0	10.0	3.0	0.7	0.0		
			221	30.4	24.4 40.7	24.2	12.2	3.3	0.0	0.0		
06/16/0		HPM 107 0	231	21.2	40.7	19.0	9.1	3.0	0.5	0.0		
00/10/3/	FUNDIME	ritiki 197.0	-11	-	•	-	-	-	-	-		
		Diungo Bool RE	12	-	100		-	47.0	-	-		
		Flunge Fool Br	12	0.0	10.0	29.5	29.1	17.0	5.U A E	0.0 -		
		UD20 from East	-11	0.0	30.2	20.0	23.0	10.7	4.5	0.0		
		nk20 nom East		-	-	-	-	-	-	-		
		VD50 from East	<11	•	-	-	-	-	•.	-		
		HIROU HOM East	~11		-	-	-	-	•	-		
		IDM 104 2	10	-	- 10 6	-	- 25 4	-	- • •	-		
		FIRM 194.2	13	0.0	18.6	20.9	33.1	16.9	8.5	0.0		
		Tevised	10	0.0	20.U 40 0	10.4	20.0	16./	8.2	0.0		
			13	0.0	10.0	24.1	34.1	15.2	7.8	0.0		
		Tevised	15	20.0	20.2	21.2	20.1	15.3	7.2	0.0		
		TIKIN 100.0	302	30.3	∠4.0 40.0	27.0	13.4	3.2	0.8	0.0		
		revisen	41:43	25.3	408	// 4	307		06			

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

-				Total							
	Date	Sampling	Location	PCBs		Homolog	Distribu	tion (wei	ght perce	nt) (4)	
	Collected	Program (2)	(3)	(ng/L)	Mono	Di	- Tri	Tetra	Penta	Hexa	Hepta
-	06/23/97	PCRDMP	HRM 197.0	<11	-	-	-		_	-	
	00.20.01		revised	<11	-	-	-	-	-	-	
		PCROMP	Plunge Pool BE	16	0.0	22.0	27 1	27.0	15.7	81	0.0
		FURDINIE	Fluinge Fluin Di	10	0.0	27.8	26.2	22.4	15.8	7.8	0.0
		UVDBO MON	Diverse Deel PE	144	0.0	17.6	20.2	26.2	5.5	7.0	0.0
		HTDRU MUN	Flurige Fool Br	144	0.0	12.0	44.0	30.0	5.5	0.0	0.0
			revised	147	0.0	10.7	40.2	33.0	0.0	0.9	0.0
		PCRDMP	HR20 from East1	25	0.0	9.8	7.1	17.8	18.1	33.5	13.7
			revised	26	0.0	14.8	6.3	15.8	20.2	30.4	12.5
		HYDRO MON	HR20 from East2	<11		-	-	-	-	-	-
			revised	12	0.0	37.4	7.5	18.0	24.6	12.4	0.0
		PCRDMP	HR50 from East1	19	0.0	17.9	25.7	30.3	18.7	7.4	0.0
			<i>r</i> evised	22	0.0	24.4	23.5	25.1	20.1	6.9	0.0
		HYDRO MON	HR50 from East2	19	0.0	8.4	34.2	34.9	15.7	6.8	0.0
			revised	20	0.0	11.1	34.4	30,9	16.8	6.8	0.0
		PCRDMP	HRM 194.2	<11	-	-	-	-	-	-	-
			revised	<11	-	-	-		-	-	-
		HYDRO MON	HRM 194 2-HEO	20	0.0	17.4	33 7	34.4	11 1	34	0.0
			revised	23	0.0	23.7	32.1	20.0	11 7	3.5	0.0
		DODDMD	UDM 199 5	190	27.0	20.7	JZ.1	29.0	A 4	0.7	0.0
		PCRDIVIE		100	21.5	20.3	20.1	14.0	4.1	0.7	0.0
				243	21.5	40.4	23.2	10.6	3.7	0.5	0.0
		HYDRO MON	HRM 188.5-HFO	195	23.8	20.4	25.6	17.4	6.8	4.7	1.3
			revised	252	19.2	35.0	21.7	13.4	6.3	3.5	1.0
		PCRDMP	HRM 188.5-HFO	179	28.7	24.6	27.8	13.9	4.4	0.6	0.0
			revised	242	22.1	39.9	22.9	10.6	4.0	0.5	0.0
	06/30/97	PCRDMP	HRM 197.0	<11	-	-	-	• •	-	-	-
			revised	<11	-	-	-	-	-	-	-
•			Plunge Pool BF	74	0.0	7.2	27.5	51.0	11.3	3.0	0.0
			revised	76	0.0	10.1	28.3	45.5	13.2	2.9	0.0
			HR20 from East	27	0.0	18.4	27.3	32.5	16.2	5.6	0.0
			revised	30	0.0	22.1	25.6	28.8	17.8	5.7	0.0
			HR50 from East	18	0.0	24.6	28.4	30.1	13.0	4.0	0.0
			revised	21	0.0	32.2	24 7	25.2	13.8	41	0.0
			HRM 194 2	15	0.0	22.8	26.1	31.1	14.2	59	0.0
			revised	18	0.0	32.0	23.4	25.3	13.6	57	0.0
			TID 190	105	27.0	32.0	20.4	15.0	13.0	0.7	0.0
		TIP TRANS		120	27.0	42.2	20.4	15.0	4.0	0.0	0.0
		000010	revised	175	20.2	43.2	21.0	10.9	4.1	0.7	0.0
		PCRDMP	HRM 188.5	197	27.5	25.4	21.1	14.4	3.9	1.1	0.0
			revised	271	20.9	41.6	22.5	10.7	3.4	0.9	0.0
			HRM 188.5	194	26.3	25.1	28.5	15.1	4.1	0.9	0.0
_		·····	revised	267	20.0	41.4	23.1	11.2	3.6	0.8	0.0
	07/07/97	PCRDMP	HRM 197.0	<11	-	-	• -	-	-	-	-
			revised	<11	-	-	-	-	-	-	-
			Plunge Pool BF	36	0.0	12.5	38.1	36.0	11.3	2.0	0.0
			revised	39	0.0	15.2	37.9	32.3	12.4	2.2	0.0
			HR20 from East	18	0.0	20.8	32.2	27.1	14.5	5.3	0.0
			revised	20	0.0	23.8	32.0	23.6	15.4	53	0.0
			HR50 from Fast	17	0.0	17.3	27.5	26.8	22.5	61	0.0
			revised	19	0.0	22.2	25.8	22.2	23.3	63	0.0
			HRM 194 2	16	0.0	120	27.0	36.1	186	0.J E A	0.0
			HINH 107.2	10	0.0	20.1	21.3	20.0	10.0	0.4 E4	0.0
			IDM 104 2	10	0.0	20.1 4E 0	20.2	29.0	10.7	5.4	0.0
			nKM 194.2	1/	0.0	15.8	20.4	34.9	18.1	4.9	0.0
			revised	19	0.0	20.9	25.0	30.6	18.5	5.0	0.0
			HRM 188.5	124	24.0	24.5	30.1	16.0	4.7	0.7	0.0
			revised	169	18.3	40.5	24.3	12.0	4.3	0.6	0.0

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

DateGampingCollectedProgram (1)07/14/97PCRDMPTIP TRANSPCRDMP07/21/97PCRDMP07/21/97PCRDMPHYDRO MCPCRDMP07/22/97HYDRO MC07/22/97HYDRO MCPCRDMPPCRDMP	Location	I OTAI DCBe		Homolog	Dietribu	tion Avei	tht nerco	nt) (A)	
07/14/97 PCRDMP TIP TRANS PCRDMP 07/21/97 PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP			Mono	nomolog	j Discribu Tri	uon (weig Totra	Denta	Heva	Hents
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	HRM 197 0	<11	-			-	-	-	пери
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	<11	-	-	-	-	-	-	
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	Plunge Pool BE	13	0.0	28 7	28.9	27.6	11.7	3.2	0.0
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP	revised	17	0.0	35.9	28.6	22.1	10.5	3.0	0.0
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP	HR20 from East	19	0.0	14.9	26.6	42.7	13.2	27	0.0
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP	revised	22	0.0	24.5	24.2	34.8	13.9	26	0.0
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP	HR50 from East	<11	-		-	-	-	-	0.1
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP	revised	<11	-	-	-	-		-	
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP 07/22/97 HYDRO MO PCRDMP	HRM 194 2	<11	-	-	-	-	_	-	
TIP TRANS PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	14	0.0	40.6	12.8	25.1	14.5	7.1	0.0
PCRDMP 07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	TIP-18C	66	8.8	22.9	36.6	24.2	6.4	1.1	0.0
РСКДМР 07/21/97 РСКДМР НҮДКО МС РСКДМР 07/22/97 НҮДКО МО РСКДМР	revised	92	6.6	40.2	29.7	17.1	5.6	0.9	0.0
07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	HRM 188.5	132	14.3	26.9	35.6	17.5	4.8	0.9	0.0
07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	190	10.4	44.6	27.8	12.5	4.1	0.6	0
07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	HRM 188.5 BD	134	15.0	26.9	35.0	17.7	4.5	0.9	0.0
07/21/97 PCRDMP HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	189	11.1	43.9	27.6	12.9	3.9	0.6	0.0
HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	HRM 197.0	<11		-		-			
HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	<11	-	-	-	-	-	-	
HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	Plunge Pool BF	59	0.0	13.5	43.3	36.2	6.1	1.0	0.0
HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	60	0.0	11.8	45.6	34.4	7.1	1.1	0.
HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	Plunge Pool BF	11	0.0	17.1	28.6	34.5	14.3	5.6	0.0
HYDRO MC PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	<11	-	-		-	-	-	•••
PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	N HR20 from East1	<11	-	-	-	-	-	-	
PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	<11	-	-	-	-	-	-	
PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	HR20 from East2	44	0.0	8.7	30.0	49.8	9.6	19	0.0
PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	48	0.0	11.4	29.6	46.2	10.7	21	0.0
PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	HR50 from East1	<11	-	-		-	-		0.1
PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	<11	-	-	-	-	-	-	
PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	HR50 from East2	22	0.0	21.0	32.2	32.4	11.4	30	0.0
PCRDMP HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	25	0.0	25.9	31.3	27.2	12.4	32	0.0
HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	HRM 194 2	17	0.0	20.8	39.4	28.4	84	31	0.0
HYDRO MO PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	20	0.0	25.0	38.5	24.6	8.9	32	0.0
07/22/97 HYDRO MO PCRDMP	N HRM 194 2 HEO	15	0.0	13.9	36.6	33.9	11 1	4.5	0.0
PCRDMP 07/22/97 HYDRO MO PCRDMP	revised	17	0.0	18.5	35.9	29.5	11 4	4.0	0.0
07/22/97 HYDRO MO PCRDMP	HRM 194 2 HEO F	18	0.0	20.6	39.7	27.8	82	37	0.0
07/22/97 HYDRO MO PCRDMP	revised	21	0.0	25.9	38.5	23.5	82	39	0.0
07/22/97 HYDRO MO PCRDMP	HRM 188 5	97	10.8	27.3	36.3	19.2	5.6	0.0	.0.
07/22/97 HYDRO MO PCRDMP	revised	131	84	41 7	29.5	14.5	52	0.0	0.0
PCRDMP	N HRM 188 5 HEQ	84	17.9	23.0	32.1	19.1	6.5	14	0.0
PCRDMP	revised	108	14.5	35.6	27.2	15.0	6.2	1.4	0.0
	HRM 197 0	<11	-	-		-	-	-	
	revised	<11	-	-	-	-	-	· .	
	Plunge Pool BF	13	0.0	23.8	34.0	26.6	12.2	33	00
	revised	15	0.0	29.3	32.3	22.5	12.8	33	0.0
	HR20 from East	34	0.0	70	18.7	25.7	16.8	23.3	8.6
	revised	36	0.0	11.3	18.5	23.9	17.8	21.0	7.6
	HR50 from East	<11	-	-	-	20.0	. 17.0	21.0	
	revieed	<11	-	-	-	-	-	-	-
	HRM 194 2	15	0.0	18.8	26.5	33.8	17 0	<u>4</u> 0	0.0
	revieed	19	0.0	31.3	23.2	25.8	16.0	37	0.0
	TIP-18C	48		26.3	35.1	24 9	6.6	1.5	0.0
	revieer	67	<u>3.0</u> 4 2	120.0 12 Q	27.8	18 1	57	1.0	0.0
	HRM 188 5	82	∡ 11.7	74.0	37.1	18 9	5.1	1.0	0.0
	revieed	115	87	423	294	13.8	5.0	0.0	0.0
	HRM 188 5 RD	82	10.0	72.3 25 6	38.2	20.1	5.0	0.0	0.0
		446	10.0 7 A	20.0	20.2	147	0.1 4 F	0.9	0.0

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

			Total							
Date	Sampling	Location	PCBs	Homolog Distribution (weight percent)					nt) (4)	(4)
Collected	Program (2)	(3)	(ng/L)	Mono	DI	Tri	Tetra	Penta	Hexa	Hepta
08/04/97	PCRDMP	HRM 197.0	<11	· –	-	-	-	-	-	-
		revised	12	0.0	41.8	9.4	14.0	24.9	9.9	0.0
		Plunge Pool BF	15	0.0	17.1	35.1	34.0	10.9	2.9	0.0
		revised	17	0.0	21.5	34.4	29.4	11.7	3.0	0.0
		HR 20 from East	12	0.0	21.2	35.1	24.6	14.7	4.5	0.0
		revised	14	0.0	25.9	33.3	20.2	15.9	4.7	0.0
		HR 50 from East	13	0.0	19.9	16.4	27.8	30.2	5.7	0.0
		revised	16	0.0	26.5	12.7	21.4	34.0	5.4	0.0
		HRM 194.2	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-		-	-	-
		HRM 188.5	72	7.2	27.4	35.2	20.4	7.6	2.2	0.0
		revised	98	5.6	41.0	29.4	15.5	6.7	1.8	0.0
		HRM 188.5 BD	72	11.0	26.2	35.8	19.6	6.5	1.1	0.0
		revised	99	8.3	41.3	29.3	14.5	5.7	0.9	0.0
08/13/97	TID MON	HRM 188.5E	59	12.8	26.0	31.1	20.6	7.3	2.1	0.0
		revised	81	9.7	41.5	25.2	15.2	6.5	1.9	0.0
		HRM 188.5W	68	13.3	23.7	34.3	20.2	7.9	0.6	0.0
		revised	90	10.4	37.6	28.7	15.7	7.0	0.5	0.0
		TIP-18C	37	0.0	27.9	34.5	26.6	9.2	1.8	0.0
		revised	50	0.0	42.7	28.4	19.5	8.0	1.5	0.0
		TID-PRE	44	14.8	24.3	28.8	22.5	7.7	1.9	0.0
		revised	58	11.8	38.2	24.1	17.0	7.2	1.7	0.0
		TID-PRW	44	14.8	23.0	28.4	23.3	8.8	1.8	0.0
		revised	58	11.7	37.9	23.7	17.7	7.6	1.5	0.0
	1	TID-PRW BD	42	6.4	26.7	35.2	22.8	7.0	2.0	0.0
		revised	57	4.9	41.3	28.9	17.0	6.2	1.7	0.0
		FM	57	9.5	26.2	34.5	21.3	7.1	1.4	0.0
<u></u>		revised	76	7.4	39.7	29.1	16.4	6.5	1.0	0.0
08/14/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	. •	-
		revised	<11	-	-	-	- '	-		-
		Plunge Pool BF	12	0.0	20.7	33.8	27.0	14.5	4.1	0.0
		revised	15	0.0	26.8	31.5	23.0	14.5	4.2	0.0
		HR20 from East	<11	-	-	•		-	-	-
		revised	<11	-	-	-	-	-	-	-
		HR50 from East	<11	-		-	-	-	-	-
		revised	12	0.0	41.7	24.0	18.5	11.4	4.4	0.0
		HRM 194.2	12	0.0	21.6	31.1	29.8	13.3	4.2	0.0
		revised	15	0.0	30.2	28.7	23.6	13.4	4.1	0.0
		HRM 188.5	67	11.1	26.7	34.8	20.4	6.2	0.9	0.0
		revised	93	8.3	42.7	28.0	15.0	5.4	0.7	0.0
		HRM 188.5 BD	68	11.9	25.3	35.5	19.8	6.3	1.2	0.0
		revised	93	9.0	40.5	29.1	14.8	5.6	0.9	0.0
	TID MON	SCH	48	10.6	26.8	33.4	22.0	6.3	0.9	0.0
	5	revised	66	8.0	42.6	27.0	16.3	5.5	0.7	0.0

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

			Total								
Date	Sampling	Location	PCBs	Homolog Distribution (weight percent) (4)							
Collected	Program (2)	(3)	(ng/L)	Mono	Di	Tri	Tetra	Penta	Неха	Hepta	
08/20/97	PCRDMP	HRM 197.0	<11		-	-	-	-	-	-	
		revised	<11	-	-	-	. 🗕	-	-	-	
		Plunge Pool BF	<11	-	-	-	-	-	-	-	
		revised	11	0.0	36.0	22.7	20.1	17.2	4.0	0.0	
		HR20 from East	<11	-	-	-	-	-	-	-	
		revised	12	0.0	30.9	23.5	19.7	15.6	10.3	0.0	
		HR50 from East	<11	-	-	-	-	-	-	-	
		revised	<11	-	-	-		-	· -	-	
		HRM 194.2	<11	-	-	-		-	-	-	
		revised	13	0.0	35.4	23.8	21.4	14.3	5.1	0.0	
		HRM 194.2 BD	<11	-	-	+	-	-	-	-	
		revised	14	0.0	34.1	25.1	22.0	14.4	4.5	0.0	
		HRM 188.5	48	1 9.1	24.9	31.3	17.2	6.2	1.4	0.0	
		revised	67	14.4	40.6	25.6	13.0	5.4	1.1	0.0	
08/26/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-		-	
		revised	<11	-	-	-	-	-	-	-	
		Plunge Pool BF	13	00	23.0	24.5	24.6	20.1	78	0.0	
		revised	16	0.0	28.3	23.3	20.5	20.4	76	0.0	
		HR20 from East	<11	0.0	20.0	20.0	20.0	-	-		
		revised	<11	_	_	_	_	_	-	_	
		HR50 from East	<11	-		· _	_		_		
		revised	~11	-	-	_	-	-	-	-	
		HDM 10/ 2	12	-	23.0	22 4	22.2	140	45		
		raviood	10	0.0	23.0	20.4	22.3	14.9	4.5	0.0	
			62	10.0	33.5 26.6	20.0	21.3	10.0	4.5	0.0	
			02	19.7	42.0	29.0	10.0	0.2	1.5	0.0	
		LIDM 199 5 DD	60	10.0	42.2	20.0	12.4	0.0	1.2	0.0	
			02	10.2	20.0	30.9	10.0	6.U	1.5	0.0	
		revised		14.0	41.8	24.9	12.7	5.4	1.2	0.0	
09/03/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-	
		revised	<11	-	-	-	-	-	-	-	
		Plunge Pool BF	33	0.0	19.5	15.7	30.1	25.3	9.4	0.0	
		revised	31	0.0	13.1	17.7	32.2	27.0	10.1	0.0	
		HR20 from East	13	0.0	52.8	9.2	15.1	17.7	5.2	0.0	
		revised	<11	-	-	-	-	• .	-		
		HR50 from East	20	0.0	36.6	18.0	22.1	15.8	7.6	0.0	
		revised	17	0.0	25.4	21.6	25.8	18.4	8.8	0.0	
		HRM 194.2	22	0.0	41.0	19.4	19.4	16.6	3.6	0.0	
		revised	19	0.0	31.3	23.3	22.2	19.0	4.2	0.0	
		HRM 194.2 BD	22	0.0	42.4	17.2	20.5	16.5	3.4	0.0	
		revised	19	0.0	32.4	20.9	23.7	19.1	3.9	0.0	
		HRM 188.5	117	8.0	55.9	19.1	11.7	4.4	0.9	0.0	
		revised	94	9.9	44.7	24.4	14.5	5.4	1.1	0.0	
09/10/97	PCRDMP	Plunge Pool BF	24	0.0	33.9	17.9	24.9	19.1	4.3	0.0	
		revised	21	0.0	24.9	20.9	28.0	21.5	4.8	0.0	
		HR20 from East	16	0.0	49.2	19.5	16.1	12.3	2.9	0.0	
		revised	13	0.0	37.1	24.8	19.6	15.0	3.6	0.0	
		HR50 from East	17	0.0	49.1	16.3	15.7	14.7	4.2	0.0	
		revised	14	0.0	37.9	20.5	18.9	17.7	5.0	0.0	

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Table H-1.	Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for
	analytical bias. (1)

Dete		1	Total		11			-		
Date	Sampling	Location	PCBS	Mana	Ηοποιος) Distribu	tion (wei	gnt perce	nt) (4)	114-
Collected	Program (2)	(3)	(ng/L)	мопо	Di	15	letra	Penta	Hexa	нерта
09/11/98	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-		-
		HKM 194.2	13	0.0	17.7	28.1	23.4	22.9	7.9	0.0
		revisea	12	0.0	11.0	31.0	24.0	24.2	8.4	0.0
		HRM 188.5	89	13.1	51.7	18.6	9.5	5.8	1.4	0.0
		revised	73	15.9	40.4	23.3	11.6	7.0	1./	0.0
		HRM 188.5 BD	91	13.7	51.4	18.4	9.8	5.5	1.3	0.0
	0000140	revised	/4	16.7	40.2	23.0	11.9	6.7	1.6	0.0
09/1//98	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	•
		revised	<11	-	-	-	-		-	
		Plunge Pool Br	24	0.0	23.6	16.5	25.0	29.7	5.2	0.0
		revised	22	0.0	15.6	18.9	27.3	32.5	5.7	0.0
		HR 20 from East	16	0.0	4/.1	16.2	14.8	17.3	4.7	0.0
		revised	14	0.0	35.5	20.3	17.8	20.8	5.6	0.0
		HR 50 From East	18	0.0	46.8	16.1	17.8	15.7	3.7	0.0
		revised	15	0.0	34.3	20.5	21.6	19.1	4.5	0.0
		HRM 194.2	15	0.0	12.5	27.6	31.6	21.1	7.3	0.0
		revised	14	0.0	7.0	30.3	33.1	22.1	7.6	0.0
		HRM 188.5	103	12.7	52.9	18.5	10.0	4.7	1.2	0.0
		revised	84	15.6	41.7	23.3	12.3	5.7	1.5	0.0
		HRM 188.5 BD	101	11.9	53.6	18.3	10.3	4.8	1.2	0.0
		revised	82	14.6	42.5	23.1	12.6	5.8	1.5	0.0
09/24/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		Plunge Pool BF	24	0.0	25.7	20.9	24.1	24.7	4.6	0.0
		revised	22	0.0	17.2	24.1	26.5	27.2	5.1	0.0
		HR 20 from East	21	0.0	28.3	21.4	27.8	17.7	4.8	0.0
		revised	19	0.0	19.7	24.6	30.8	19.6	5.3	0.0
		HR 50 from East	17	0.0	40.7	17.6	17.7	18.1	5.9	0.0
		revised	14	0.0	30.1	21.3	20.7	21.1	6.9	0.0
		HRM 194.2	22	0.0	40.9	27.3	17.6	10.5	3.7	0.0
		revised	19	0.0	30.1	33.2	20.4	12.1	4.3	0.0
		HRM 188.5	98	13.9	53.9	17.6	9.5	4.1	1.2	0.0
		revised	80	17.0	42.4	22.4	11.6	5.0	1.4	0.0
		HRM 188.5 BD	98	13.5	53.9	17.6	9.2	4.6	1.2	0.0
	·	revised	79	16.7	42.4	22.4	11.4	5.6	1.5	0.0
10/01/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
	•	revised	<11	-	-	-	-	-	-	-
		Plunge Pool BF	13	0.0	29.8	19.2	24.4	20.6	6.0	0.0
		revised	11	0.0	20.5	22.2	27.4	23.2	6.7	0.0
		HR 20 from East	17	0.0	20.0	16.7	24.8	28.8	9.7	0.0
		revised	16	0.0	13.4	18.7	26.7	30.9	10.4	0.0
		HR 50 from East	<11	-	-	-	-	-	-	
		revised	<11	-	-	-	-	-	-	-
		HRM 194.2	<11	-	-	-	-	· •	-	· -
		revised	<11	-	-	-	-	-	-	-
		HRM 194.2 BD	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5	126	16.8	55.9	15.3	7.4	3.8	0.8	0.0
		revised	101	20.9	44.7	19.5	9.2	4.7	0.9	0.0
10/09/97	PCRDMP	HRM 188.5	111	21.6	55.6	12.5	6.1	3.1	1.1	0.0
·		revised	89	26.9	44.3	15.9	7.7	3.8	1.4	0.0

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Table H-1.	Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for
	analytical bias (1)

			Total							
Date	Sampling	Location	PCBs		Homolog) Distribu	tion (wei	ght perce	nt) (4)	
Collected	Program (2)	(3)	(ng/L)	Mono	Di	Tri	Tetra	Penta	Неха	Hepta
10/10/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		Plunge Pool BF	73	0.0	8.6	14.5	21.2	31.5	22.0	2.3
		revised	/1	0.0	5.6	15.5	21.7	32.3	22.6	2.3
		HR 20 from East	32	0.0	3.3	26.4	40.3	26.3	3.7	0.0
		revised	32	0.0	2.0	27.3	40.5	20.4	3.7	0.0
		HR 50 from East	<11	-	-		-		-	-
		revised	<11	-	-	-	•	-	-	-
		HRM 194.2	<11	-	-		-	-	-	-
				-	-		•	-	-	•
		HRM 194.2 BD	<11	-	-	-	-	-	-	-
40/40/07	1014	revised	4 004	-		-		- 4.2		
10/16/97	IRM	IRIVI-OUT	1,821	0.0	38.4	34.1	10.4	4.5	0.8	0.0
		revised	1,531	1.2	26.0	41.2	19.5	5.1	1.0	0.0
			10,345	7.5	40.7	34.2	13.4	3.2	0.9	0.1
	DODDUD	revised	12,795	9.0	38.U	41.8	16.0	3.9	1.0	0.2
	PCRDMP	HRM 197.0	<11	-	-	-	-	. -	•	-
		revised	<11		-	-	-		-	
		Plunge Pool Br	20	0.0	12.5	20.2	28.4	20.0	0.0	0.0
		revised	19	0.0	6.5	28.5	30.1	28.1	6.9	0.0
		HR 20 from East	23	0.0	43.9	23.5	16.5	12.3	3.7	0.0
		revised	19	0.0	31.1	29.5	20.0	15.0	4.4	0.0
		HR 50 from East	21	0.0	49.8	24.7	13.5	8.8	3.3	0.0
		revised	17	0.0	36.3	31.7	16.9	11.0	4.1	0.0
		HRM 194.2	14	0.0	19.7	24.2	22.6	25.0	8.5	0.0
		revised	12	0.0	10.3	27.5	25.0	27.7	9.5	0.0
		HRM 194.2 BD	12	0.0	24.5	28.7	22.2	18.5	6.0	0.0
		revised	<11	-		-	-	-	-	-
		HRM 188.5	118	18.7	58.7	13.5	5.9	2.4	0.7	0.0
0100107	1014	revised	93	23.7	47.3	17.0	10.4	3.0	0.9	0.0
10/23/97	IPCIVI	IRIVI-Out	1,124	1.1	43.2	31.0	14.1	3.0	1.4	0.3
		IDM in	102 464	9.5	30.3	39.1	14.0	4.0	1.7	0.3
		IT IVI-III	00 027	4.0	20.9 10 5	40.0	22.0	0.7	1.0	0.3
	DODDMD	IDM 107 0	90,027	5.2	10.0	42.1	20.0	0.0	1.7	0.3
	PCRDMP		~11	-	-	-	-	-	-	-
		Diungo Deel RE	26	-	20 4	20.0	470	40.0	20	-
		Flunge Fool Br	30	0.0	30.4 26.2	37.3	17.0	10.0	3.0	0.0
		HP20 from East	30	0.0	20.2	37.3	20.2	12.8	3.0	0.0
		rikzu itom East	14	0.0	20.2	21.1	12.4	10.Z	. 44. I E 4	0.0
		HD50 from East	14	0.0	20.2	27.4	10.0	12.0	5.1	0.0
		HROU HUM East	17	0.0	33.Z	24.0	10.9	14.0	0.0	0.0
		HDM 104 2	12	0.0	27.0	29.3	19.0	17.1	0.2	0.0
		TIKIN 194.2	13	0.0	12.7	32.0	23.0	22.9	0.1	0.0
		HDM 199 5	121	21.5	55.2	12.9	20.1	24.1	0.0	0.0
		HIXWI 100.0	105	21.0	44.0	17.6	0.8 7 2	2.0	4 4	0.0
		HDM 189 5 PD	100	20.7	56 9	12.4	1.3	3.4 2 0	1.1	0.0
		FIRINI 100.0 DU	109	20.3	<u>150.0</u>	167	74	2.0	1.0	0.0
		TID_PP\A/2	100	18 1	57 8	13.7	61	3.7	1.0	0.0
		TUTTINVZ	32	22 0	46 2	17 7	0.1 70	3.4 A O	1.1 4. <i>1</i>	0.0
		SCH	132	20.7	-10.2 56 6	133	7.0 5.0	4.U 2 0	1. 4 0.7	0.0
		revieed	102	20.1	16.2	17 1	5.9 7 A	2.0	0.7	0.0
		101300	1001	£.J.J	-0.0		1.4	. 3.0	U.3	0.0

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

			Total							
Date	Sampling	Location	PCBs		Homolog) Distribu	ution (wei	ght perce	nt) (4)	
Collected	Program (2)	(3)	(ng/L)	Mono	Di	- Tri	Tetra	Penta	Hexa	Hepta
10/29/97	IRM	IRM-Out	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		IRM-In	50,861	1.7	16.0	31.4	36.73	10.8	2.8	0.6
		revised	47,676	1.8	9.9	34.0	39.2	11.5	3.0	0.6
	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	0.0	0.0	15.5	29.2	36.9	18.4	0.0
		Plunge Pool BF	34	0.0	19.8	29.5	28.4	18.3	4.0	0.0
		revised	32	0.0	12.9	32.9	30.4	19.6	4.2	0.0
		HR 20 from East	28	0.0	23.9	27.1	27.0	17.2	4.8	0.0
		revised	25	0.0	16.2	30.7	29.3	18.6	5.2	0.0
		HR 50 from East	11	0.0	41.0	15.2	15.3	20.2	8.3	0.0
		revised	<11	-	-	-	-	-	-	-
		HRM 194.2	<11	-	-	-	-	-	-	-
		revised	<11	-	· <u>-</u>	· -	-	· •	-	-
		HRM 188.5	74	15.4	56.0	15.2	8.8	3.6	1.1	0.0
		revised	60	19.2	44.6	19.5	10.9	4.5	1.4	0.0
		TID-PRW2	68	21.6	51.1	12.1	8.9	4.9	1.4	0.0
		revised	55	26.3	40.0	15.2	10.8	6.0	1.7	0.0
		SCH	95	16.7	58.8	13.1	7.2	3.2	1.0	0.0
		revised	75	21.2	47.6	16.9	9.1	4.1	1.2	0.0
		SCH BD	76	15.9	55.3	14.4	8.9	4.2	1.3	0.0
		revised	61	19.7	44.0	18.3	11.1	5.2	1.6	0.0
11/05/97	IRM	IRM-Out	1,034	1.5	36.9	39.2	17.6	3.7	0.8	0.4
		revised	886	1.7	24.8	47.2	20.5	4.3	0.9	0.5
		IRM-In	2,847,593	0.4	22.8	43.9	24.3	6.6	1.7	0.2
		revised	2,607,264	0.5	14.4	49.2	26.5	7.2	1.9	0.3
	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HR20 from East	25	0.0	30.2	29.2	22.0	13.8	4.8	0.0
		revised	22	0.0	20.0	34.1	25.0	15.6	5.4	0.0
		HKOU from East	18	0.0	30.0	28.9	18.0	18.0	5.1	0.0
		revised	10	0.0	19.5	33.8	20.4	20.4	5.8	0.0
			21	0.0	20.0	25.0	21.9	18.8	8.7	0.0
			19	0.0	10.7	28.7	24.2	-20.7	9.6	0.0
			19	0.0	29.0	20.7	20.3	10.4	0.0	0.0
			17	16.1	20.0	31.2	22.0	10.4	7.0 4.7	0.0
			59	20.0	40.4	14.9	10.0	4.9	1.7	0.0
			00	120	42.4 51 7	19.0	10.0	0.0	2.1	0.0
		UD-FINVZ	40	12.0	20 X	20.0	10.1	0.0 2 1	∠.⊃ ว ⊆	0.0
		SCH	75	10.0		19.7	12.3	5.0	∠.0 1 3	0.0
		revieed	60	12.7	<u>⊿</u> ,0 207	24.2	9.0 10 1	0.0 6 0	1.5	0.0
11/11/07	IRM	IRM-Out	720	<u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>	40.0	36.6	15.1	2.2	1.0	0.0
1011131	CLAINI	revieed	607		-0.0 27 ∆	44 R	18.5	3.2 3.2	0.0	0.0
		IRM-In	147 845	42	32.9	39.2	18.2	∆ 1	11	0.0
		revised	128 040	49	21.6	46.2	21 1	47	12	0.2

 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

			Total							
Date	Sampling	Location	PCBs		Homolog) Distribu	tion (wei	ght perce	nt) (4)	
Collected	Program (2)	(3)	(ng/L)	Мопо	Di	Tri	Tetra	Penta	Hexa	Hepta
11/11/97	PCRDMP	HRM 197.0	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		Plunge Pool BF	90	0.0	22.0	40.8	26.1	8.3	2.8	0.0
		revised	83	0.0	13.9	45.8	28.3	9.0	3.0	0.0
		HR20 from East	74	0.0	19.1	22.0	16.5	19.1	18.3	5.1
		revised	68	0.0	11.6	24.5	17.9	20.7	19.8	5.5
		HR50 from East	31	0.0	46.6	30.3	12.5	7.5	3.1	0.0
		revised	25	0.0	32.9	38.6	15.4	9.2	3.9	0.0
		HRM 194.2	21	0.0	24.1	35.4	23.4	12.7	4.4	0.0
		revised	19	0.0	15.8	40.0	25.6	13.8	4.8	0.0
		HRM 188.5	83	25.5	49.8	14.2	5.7	3.8	1.0	0.0
		revised	68	31.0	38.4	17.8	7.0	4.6	1.3	0.0
		HRM 188.5 BD	82	23.7	50.8	15.3	5.5	3.8	1.0	0.0
		revised	67	28.9	39.4	19.2	6.7	4.7	1.2	0.0
		TID-PRW2	65	30.3	38.2	17.3	7.7	5.3	1.1	0.0
		revised	56	35.0	28.0	20.8	8.9	6.1	1.3	0.0
		SCH	117	13.8	47.5	9.7	12.1	8.8	7.1	1.0
		revised	100	16.2	38.0	11.8	14.2	10.3	8.3	1.2
11/19/97	IRM	IRM-Out	33	0.0	19.9	61.2	12.0	4.7	2.2	0.0
		revised	30	0.0	10.8	68.5	13.2	5.2	2.4	0.0
		IRM-In	944,135	1.3	24.2	40.3	25.9	6.8	1.5	0.1
		revised	860,379	1.5	15.6	45.4	28.4	7.5	1.6	0.1
	PCRDMP	HR-4	<11	-	-	-	-	-	-	-
		revised	<11	-	~	-	-	-	-	-
		Plunge Pool BF	12	0.0	14.7	28.3	20.9	21.6	14.6	0.0
		revised	12	0.0	9.4	30.6	21.9	22.7	15.3	0.0
		HR20 from East	13	0.0	33.6	21.3	22.2	16.0	6.9	0.0
		revised	11	0.0	23.2	25.1	25.5	18.3	8.0	0.0
		HR50 from East	20	0.0	13.4	14,1	13.5	20.9	24.3	13.8
		revised	19	0.0	8.7	15.6	14.1	21.9	25.4	14.4
		HR-3	<11	-	•	-	-	-	-	-
		revised	<11	-	•	-	-	-	-	-
		HR-1	106	24.0	44.4	18.6	7.2	4.8	1.0	0.0
		revised	89	28.4	33.5	22.6	8.5	5.7	1.2	0.0
		HR-2	88	19.9	47.1	16.9	8.7	5.1	2.3	0.0
		revised	73	23.9	36.1	20.8	10.5	6.1	2.8	0.0
		HR-5	26	0.0	52.4	20.8	12.6	10.6	3.6	0.0
		revised	21	0.0	40.7	26.3	15.5	13.1	4.5	0.0
		HR-5 BD	28	0.0	49.0	17.8	12.4	11.6	9.3	0.0
		revised	23	0.0	37.3	22.2	15.1	14.1	11.3	0.0
11/25/97	IRM	IRM-Out	114	6.6	35.4	37.3	17.6	3.1	0.0	0.0
		revised	97	7.7	23.5	44.5	20.6	3.6	0.0	0.0
		IRM-In	49,795	7.3	32.3	35.1	19.0	5.0	1.1	0.2
		revised	43,589	8.3	21.7	41.0	21.7	5.8	1.3	0.2

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Table H-1.	Hudson River water column PCB monitoring re	esults: comparison of laborator	y data and results corrected fo
	analytical bias. (1)		

Data	Sampling	Location	Total		Homolo		tion (wei	aht perce	nt\ (A)	
Collocted	Sampling	(2)	(ng/L)	Mono		g Distribu Tei	Totra	Donta Donta	Have	Honto
	Program (2)		(ng/L)	Mono		IFI	leua	renta	пеха	перта
11/25/97	PCRDMP		~11	-	-	-	•	•	-	-
		Diama Deal RE	~11	-	-	-	-	46.5	-	-
		Plunge Pool Br	22	0.0	21.2	34.1	21.0	10.0	. 0.0	0.0
		revised	20	0.0	13.5	38.5	23.2	17.7	7.1	0.0
		HR20 from East	19	0.0	13.7	35.6	29.6	16.9	4.3	0.0
		revised	19	0.0	11.1	37.4	30.0	17.1	4.3	0.0
		HR50 from East	<11	-	-	-	-	-	-	-
		revised	<11	•	-	-	-	-	-	-
		HRM 194.2	<11	-	-	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5	392	20.1	43.2	20.9	11.4	3.8	0.6	0.0
		revised	332	23.7	32.3	25.3	13.4	4.4	0.7	0.0
		HRM 188.5 BD	407	19.6	42.7	19.9	12.0	4.7	1.2	0.0
		revised	344	23.2	31.8	24.0	14.1	5.5	1.4	0.0
		TID-PRW2	36	15.3	50.0	14.8	9.7	7.0	3.1	0.0
		revised	30	18.6	38.6	18.7	11.8	8.5	3.8	0.0
		SCH	64	14.6	49.7	19.5	10.7	4.2	1.3	0.0
		revised	53	17.8	38.3	24.3	13.0	5.1	1.6	0.0
12/02/97	PCRDMP	HRM 197.0	<11	-		-	*	-	-	-
		revised	<11	-	-	-	-	-	-	-
		Plunge Pool BF	15	0.0	25.7	30.5	22.4	15.6	5.8	0.0
		revised	14	0.0	16.4	35.3	24.7	17.2	6.4	0.0
		HR20 from East	13	0.0	31.9	25.1	19.7	16.6	6.7	0.0
		revised	<11	-	-	-	-	-	-	-
		HR50 from East	14	0.0	30.7	26.3	17.8	18.0	7.3	0.0
		revised	12	0.0	20.0	31.1	20.2	20.4	83	0.0
		HRM 194 2	<11	-		-			-	0.0
		revised	<11		_	_	_	_	_	_
		HRM 194 2 BD	<11	_	_	· _	_	-	· _	_
		revised	<11					_		-
		LIDM 199 5	01	27.0	45 E	14.0	71	-	4 2	-
		rivin 100.0	76	27.0	- 24 5	170	05	4.4 50	1.4	0.0
		TID DOMO	70	53.2	34.5	10.0	0.0	0.Z	1.44	0.0
		TID-PRVVZ	71	5.5	10.2	10.0	14.5	10.7	10.1	0.0
		revised	60	5.8	18.2	12.3	16.0	20.6	20.0	1.2
		SCH	59	/.4	31.7	16.2	13.0	13.7	13.8	4.3
40/00/07		revised	52	8.3	22.1	18.7	14.6	15.3	15.6	4.8
12/09/97	PCRDMP	HRM 197.0	<11	-	•	-	-	-	-	-
		revised	<11	-	-	-	-	-	-	-
		Boat Launch	37	0.0	25.3	40.8	22.8	8.9	2.1	0.0
		revised	35	0.0	16.7	46.8	24.6	9.6	2.3	0.0
	PCRDMP	HRM 194.2	<11	-	-	-	-	-	-	.+
		revised	<11	-	-	-	-	-	-	-
		HRM 188.5	36	0.0	49.2	24.73	15.3	8.2	2.6	0.0 ·
		revised	29	0.0	36.9	31.0	18.8	10.2	3.2	0.0
		HRM 188.5 BD	37	0.0	48.6	25.5	14.9	8.5	2.5	0.0
		revised	31	0.0	36.5	31.8	18.2	10.4	3.1	0.0
		TID-PRW2	19	0.0	37.7	20.7	19.1	16.7	5.8	0.0
		revised	16	0.0	26.7	25.2	22.1	19.4	6.7	0.0
-		SCH	38	8.2	54.9	17.3	10.7	6.3	2.6	0.0
		revised	31	10.3	43.1	22.2	13.3	7.9	3.3	0.0
		HRM 194.2 EQBL	15	0.0	0.0	11.5	26.2	43.7	18.7	0.0
		revised	15	0.0	0.0	11.5	26.2	43.7	18.7	0.0

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 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

	Data	Osmalian	1	Total		110		43 - m (-0:70	
	Date	Sampling	Location (2)	PCBS	Mono	Nomolog	j Distribu T-i	uon (wei	gnt perce	nt) (4)	Hanta
		Program (2)	() UDM 107.0	(ng/L)	Mono	DI	111	Tetra	Penta	nexa	перта
	12/10/97	PURDIVIP		<11	-	-	-	-	-	-	-
			Rect Loureb	-11	-	- 27 2	26 7	-	-	-	-
			Dual Launch	40	0.0	18.0	122	24.2	10:0	2.0	0.0
		PCPDMP	HDM 104 2	17	0.0	17.0	42.3 35.7	20.0	17.2	71	0.0
		FORDINE	revised	15	0.0	Q 1	30.7	20.0	18.7	7.1	0.0
			HPM 188 5	64	10.0	50.4	16.0	27.0	42	13	0.0
			revised	53	23.3	38.7	20.1	3.0 11 1	4 .2 5.2	1.3	0.0
			HPM 188 5 BD	64	16.0	50.8	17.0	87	<i>J</i> .2	1.0	0.0
			roviced	52	20.7	30.0	21.3	10.7	 60	21	0.0
				32	20.7	50.5	17.5	12.0	79	2.1	0.0
			nu-raviand	26	9.2 11 A	38.3	22.3	12.0	1.9	2.0	0.0
			SCH Sed	47	15.7	53.0	14.6	92	5.0	0.0 1 A	0.0
			revised	38	19.7	42.3	18.5	11 4	6.5	1.4	0.0
•	12/22/97	POPDMP	HDM 197 0	<11	- 18.5	- 42.5	10.0		0.5		0.0
	122231	FORDWIE	revised	<11	_		_	-	-	-	_
			Bost Launch	30	0.0	27.8	31.5	22.8	11.8	61	0.0
			boat Laurich	28	0.0	10.3	36.4	24.8	120	67	0.0
		DCDDMD	HDM 104 2	<11	0.0	13.5	50.4	24.0	12.5	0.7	0.0
		FUNDME	revised	<11	-	_	_		-		-
			HDM 188 5	34	83	51 3	15.8	97	10.6	- 	0.0
			rovised	29	10.1	30.0	20.0	5.7 11 R	12.0	- 4.4 5.4	0.0
			HDM 188 5 8D	32	8.8	56 O	16.5	83	80	0.4 2 A	0.0
			revised	26	11.0	0.00 AA A	21 4	10.3	0.0	2.4	0.0
			TID-PR\A/2	23	0.0	35.9	18.1	16.0	20.8	0.0	0.0
			revised	20	0.0	25.7	21 4	18.4	23.0	10.6	0.0
			SCH	36	11 4	52 7	16.8	0.4	20.0	28	0.0
			revised	30	14.1	41 2	21.2	11 4	87	2.0	0.0
-	12/29/97	PCRDMP	HRM 197.0	<11	-						
			revised	<11	-	-	-	-	-	··· _	-
			Boat Launch	32	0.0	23.8	43.2	19.5	10.6	3.0	0.0
			revised	31	0.0	16.4	48.7	20.6	11.2	3.2	0.0
			HRM 194 2	<11	-	-	-	-		- U.Z.	-
			revised	<11	-	-	-	-	-	_	-
			HRM 194 2 BD	<11	-	-	-	-		-	-
			revised	<11	-	-	-	-	_	_	-
			HRM 188 5	<11	-	-	-	-	-	_	-
			revised	<11	-	-	-	-	-	-	-
			HRM 188 5 EOBI	13	0.0	0.0	30.3	35.3	27 2	73	0.0
			revised	13	0.0	0.0	30.3	35.3	27.2	73	0.0
			TID-PRW2	17	0.0	39.3	20.9	18.6	14 8	6.5	0.0
			revised	15	0.0	28.6	25.2	21.5	17.0	75	0.0
			SCH	24	0.0	46.8	27 4	13.0	9.2	3.0	0.0 n.n.
			revised	20	0.0	35.2	33.9	15.6	11.8	3.6	0.0

 Table H-1.
 Hudson River water column PCB monitoring results: comparison of laboratory data and results corrected for analytical bias. (1)

Notes:

(1) Samples analyzed by capillary column using NEA Method 608CAP. Revised" Indicates NEA Method 608CAP has been corrected 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) Sampling programs: PCRDMP = Post-Construction Remnant Deposit Monitoring Program; HIGH FLOW = High Flow Monitoring Program; HYDRO MON = Hydroelectric Facility Monitoring; TIP TRANS = Thompson Island Pool Transect Sampling; IRM = Pump House Sediment Removal Remedial Measures Monitoring; TID MON = Thompson Island Dam evaluation.

(3) HRM = Approximate Hudson River mile; HRM 0.0 is located at the Battery in New York City. Samples collected from location HRM 194.2 are a composite of west and east channels; samples collected at the base of Bakers Falls (approximate HRM 196.9) include Plunge Pool,

Boat Launch, HR20 East and HR50 East; sample locations for TIP TRANS and TID MON programs are detailed in the body of this report. (4) Homolog groups octa-, nona-, and deca-chlorinated biphenyls were not detected greater than 0.02% with the exception of the IRM-In samples with homolog groups octa-, nona-, deca-chlorinated biphenyls not detected greater than 0.11%. Homolog distributions for samples with total PCB concentrations less than the method detection limit (<11 ng/L) are not presented.

Key:

1.4.6.8

BD = Blind Duplicate - a field PCB duplicate sample submitted to the laboratory without identification of sampling location.

Source: O'Brien & Gere Engineers, Inc.