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WOBURN, MASSACHUSETTS

FINAL GSIP SCOPE OF WORK
Volume 4
DOWNGRADIENT TRANSPORT DRAFT REPORT

Part I of III
Text, Tables, and Figures

INDUSTRI-PLEX SITE
WOBURN, MASSACHUSETTS

APRIL 1, 2002

Prepared for:

Industri-Plex Site Remedial Trust
Commerce Way
Woburn, Massachussetts

Prepared by:

ROUX ASSOCIATES, INC.
25 Corporate Drive, Suite 230
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ROUX

INDUSTRI-PLEX SITE

REMEDIAL TRUST

P.O. BOX 2563
WOBURN, MA 01888-1680

April 1, 2002

Joseph F. LeMay, P. E.
Remedial Project Manager
Office of Remediation and Restoration
US EPA - I
JFK Federal Building HRM-CAN3
Boston, MA 02203

Re: Industri-Plex Site Final GSIP
Downgradient Transport Draft Report

Dear Joe,

Pursuant to the Final GSIP Statement of Work (SOW) within EPA's letter of August 25, 1998 to the Industri-Plex Site Remedial Trust ("ISRT"), as agreed to by the ISRT in a September 18, 1998 letter to the Agencies, enclosed for EPA's review and approval is the Downgradient Transport Draft Report, prepared by Roux Associates. Reports for the remaining work elements stipulated in the Final GSIP SOW, including the Groundwater and Soil Investigation Draft Report (including Data Validation and Database), and the Surface Water Monitoring Draft Report are being submitted under separate cover.

Sincerely,

D. M. Light
ISRT Coordinator

cc: (w/ Attachments)
Anna Mayor – MDEP
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1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) has prepared this report to present the data generated during the Downgradient Transport (Surface Water and Sediments) Investigation conducted at the Hall's Brook Holding Area (HBHA), located just downstream of the Industri-Plex Superfund Site in Woburn, Massachusetts (Figure 1). This investigation was conducted by Roux Associates, on behalf of the Industri-Plex Site Remedial Trust (ISRT), between March 2000 and June 2001, and in accordance with the U.S. Environmental Protection Agency (USEPA)-approved Downgradient Transport (Surface Water and Sediments) Investigation Work Plan (Work Plan), dated September 1, 1999 and amended May 25, 2000. The Work Plan addressed tasks outlined in Sections 2.4.1 and 2.4.2 of the Final Ground-Water/Surface Water Investigation Plan (GSIP) Statement of Work (SOW) issued by the U.S. Environmental Protection Agency (USEPA) on August 25, 1998. This report represents Volume 4 of the Final GSIP SOW Report.

2.0 INVESTIGATION OVERVIEW

The principal objective of the Downgradient Transport (Surface Water and Sediments) Investigation was to determine if sediments within the HBHA are entrained and/or transported out of the HBHA during storm events. This objective was to be accomplished by:

- Determining the hydraulic characteristics of the HBHA Pond and Wetland over a range of discharge scenarios;
- Identifying the physical characteristics of HBHA sediments; and
- Quantifying sediment loading, retention, and export budgets for the HBHA under normal and high-flow conditions.

As described in the Work Plan, the Downgradient Transport (Surface Water and Sediments) Investigation scope of work included two main components (Sediments and Surface Water), and each component comprised several tasks. The specific activities associated with each task are discussed below.

2.1 Sediments Component

As scoped in the Work Plan, the Sediments component of the Downgradient Transport (Surface Water and Sediments) Investigation comprised the following five tasks:

- Task 1 – HEC-2 Model Verification and Recalibration;
- Task 2 – Suspended Sediment Sampling and Streamflow Gaging;
- Task 3 – Bottom Sediment Volume and Characterization Analysis;
- Task 4 – Hydraulic and Sediment Fate and Transport Analysis; and
- Task 5 – Design Storm Analysis.

As scoped in the Work Plan, the Sediments component of the Downgradient Transport (Surface Water and Sediments) Investigation included construction of a two-dimensional surface water and sediment fate and transport model of the HBHA. Subsequent to agency approval of the Work Plan, the USEPA and the ISRT engaged in several discussions regarding which model would be most appropriate to use given the objectives of the investigation. At this time, a model has not yet been selected; hence Tasks 1, 4, and 5 above have not yet been conducted.

Therefore, to-date, the only tasks performed for the Sediments component are Task 2 (Suspended Sediment Sampling and Streamflow Gaging) and Task 3 (Bottom Sediment Volume and Characterization Analysis). These are discussed in some detail below.

2.1.1 Task 2 – Suspended Sediment Sampling and Streamflow Gaging

It was recognized in the Work Plan that Task 2 (Suspended Sediment Sampling and Streamflow Gaging) was functionally equivalent to the entire Surface Water component of the Downgradient Transport (Surface Water and Sediments) Investigation as scoped in the Final GSIP SOW. To ensure consistency with the Final GSIP SOW format, it was identified in the Work Plan as a task under the Sediments component; however, the activities associated with Task 2 (Suspended Sediment Sampling and Streamflow Gaging) are described herein under the Surface Water component in Section 2.2.

2.1.2 Task 3 – Bottom Sediment Volume and Characterization Analysis

The thickness of the sediments present at the base of the HBHA Pond and in the three ponds located within the HBHA Wetland were measured in order to approximate the volume of sediment that has accumulated in these areas. Within the HBHA Pond, sediment thickness were measured at 22 locations, while in the HBHA Wetland ponds, sediment thickness were measured at three to five locations, depending on the size and geometry of the ponds. Sediment thickness measurement locations in the HBHA Pond and HBHA Wetland are shown in Figures 2 and 3, respectively. Sediment thickness measurements were obtained using a measuring tape weighted with a 1-foot-diameter perforated disc, and a length of 1-inch-diameter solid PVC pipe. At each location, the disc was lowered slowly through the water column until resistance was met. This depth was interpreted as the sediment-water interface, and recorded as such. (These data were also used to determine the bathymetry of the HBHA Pond.) The PVC pipe was then lowered slowly through the water column (with attention paid to sense the sediment-water interface, in order to confirm the reading obtained with the disc) and then advanced by hand through the fine-grained sediments, until resistance was met. This depth was recorded as the interface between the fine-grained sediments and the underlying native sand.

Samples of bottom sediment were collected from three locations in the HBHA Pond and from six locations in the HBHA Wetland (Figure 4). All three samples from the HBHA Pond were collected from the centerline of the pond, while the six locations in the HBHA Wetland were collected from a variety of depositional environments (e.g., open-water pond, stream bank, and stream channel). Sampling was conducted concurrently with the sediment thickness measurements. All samples were collected from 0 to 6 inches below the sediment-water interface (or land surface, if aerially exposed) using a Ponar dredge, and analyzed for particle size, specific gravity, and dry bulk density.

2.2 Surface Water Component

The Surface Water component of the Downgradient Transport (Surface Water and Sediments) Investigation comprised the following five tasks:

- Task 1 – Collection of Depth-Integrated Suspended Sediment Samples;
- Task 2 – Determination of Stage Response;
- Task 3 – Water-Quality Monitoring;
- Task 4 – Stage-Discharge Monitoring; and
- Task 5 – Collection of Discharge Measurements.

Surface water monitoring was conducted at nine monitoring stations within the HBHA: the three points of tributary inflow to the HBHA Pond (SW-1 through SW-3), the HBHA Pond outlet (SW-4), four stormwater culverts draining inflow into the HBHA Wetland (SW-5 through SW-8), and the HBHA outlet at Mishawum Road (SW-9). These monitoring stations are shown in Figure5.

2.2.1 Preliminary Activities

The following sections summarize the preliminary activities performed during the establishment and initial activation of the surface-water monitoring network described above. These activities were performed over the period March 20 to July 6, 2000.

2.2.1.1 Station Establishment and Improvement

Prior to the initiation of surface water monitoring, extensive improvements were undertaken at each station to enhance data quality. Specific improvements included the installation of hydraulic control structures (weirs) at stations SW-2, SW-7 and SW-8, the removal of debris and obstructions from active channel areas, and the selective pruning of vegetation. The hydraulic features of each monitoring location are provided in the table below:

Station ID	Hydraulic Control	Dimensions	Flow Characteristics
SW – 1	Existing Box Culvert	5.1'H x 6.8'W	Perennial
SW – 2	New Concrete Weir	4.0'H x 7.2'W	Ephemeral/Intermittent
SW – 3	Existing Culvert	4.0'H x 5.3'W Arch Pipe	Ephemeral
SW – 4	HBHA Pond Outlet	Natural Channel	Perennial
SW – 5	Existing Culvert	2.5' Round Pipe	Ephemeral
SW – 6	Existing Culvert	3.5' Round Pipe	Ephemeral
SW – 7	New Concrete Weir	3.0'H x 8.3'W	Ephemeral
SW – 8	New Concrete Weir	2.1'H x 7.3'W	Ephemeral
SW – 9	Existing Culvert	5.0' Round Pipe	Perennial

In addition to these improvements, and in accordance with the Work Plan, an engineered sample intake designed to permit the collection of depth-integrated surface-water samples was installed at each station. This intake consisted of an open-ended, 4-foot length of 1.5-inch-diameter PVC pipe, with quarter-inch slots cut on opposite sides of the pipe at one half-inch intervals throughout the entire length of the pipe. A suction tube was attached to the lower part of the intake: for perennial stations, the suction tube was attached at the mid-point depth of non-storm stage; at transient stations, the suction tube was attached just above the base of the PVC pipe. The intakes were mounted on fence posts bolted to the new weirs (SW-2, SW-7, and SW-8) or existing wingwalls (SW-9), or driven securely into the "streambed" at the downstream end of culverts (SW-1, SW-3, SW-5, SW-6) or in mid-channel if no culvert existed (SW-4). Each station was also supplied with a concrete pad, steel shelter, and reinforced piping to protect

monitoring and sampling equipment. As an added security measure, each shelter was enclosed in a fenced area equipped with a locked access gate. Photographs of the nine monitoring stations are provided in Appendix A.

A staff gage was also installed at each station, and a transect established across each station channel. The elevation of each staff gage and the cross-sectional profile of each transect were then field-surveyed to establish a base datum and to detail the geometric characteristics of each channel cross section, respectively.

2.2.1.2 Instrumentation

Upon completion of station establishment and improvement activities, each station was equipped with an ISCO™ Model 6700 programmable water sampler. Each unit contained a state-of-the-art Doppler velocity and level sensor, a data logger to record and store hydrologic and precipitation data, and an auto sampler featuring a peristaltic pump and central compositing container for the automatic collection and storage of water samples. The Doppler sensors were placed mid-stream in either the newly-installed hydraulic control structures or in existing culverts and channels. Each ISCO™ sampler was also equipped with an ISCO™ Model 674 tipping-bucket rain gage. The ISCO™ units were programmed to record hydrologic (stage and flow velocity) and precipitation data at two-minute sampling intervals, to activate the auto sampler following receipt of a pre-determined volume of precipitation, and to collect flow-weighted samples over the duration of runoff events (i.e., during both the rising and falling limbs of the storm hydrograph). The geometry of each station was then programmed into the ISCO™units to permit the calculation of streamflows. The survey data (transects) are provided in Appendix B.

2.2.1.3 ISCO Performance Evaluation

The operational status of each of the nine ISCO™ units was evaluated prior to field deployment and immediately following installation in the field. The pre-deployment evaluation included an operational assessment of program activation, sample extraction timing and volume, and the accuracy of depth measurements provided by each sensor. The extended on-board memory and power utilization of each unit was also evaluated. All nine units were found to operate within the manufacturer's specifications and hence were deemed ready for field deployment.

Following their installation at the Site, the ISCO™ units at those stations exhibiting flow (i.e., SW-1, SW-4, SW-9, and SW-2) were subjected to a real-time performance assessment. Specific operational tests included level and velocity measurements, unit activation in accordance with pre-programmed instructions, and the proper operation and cycling of the sample extraction mechanism. The table below compares the discharge measurements calculated from manual level and velocity measurements taken with a Marsh-McBirney FloMate™ Model 2000 flowmeter and those recorded by the ISCO™ units:

Station	FloMate™ Model 2000	ISCO™
SW-1	5.42 cfs	5.20 cfs
SW-2	0.81 cfs	0.63 cfs
SW-4	6.92 cfs	-
SW-9	28.08 cfs	27.20 cfs

As shown above, the data for the most reliable stations (i.e., SW-1 and SW-9) compare favorably, while the data for station SW-2 are only slightly less comparable. The reduced precision at station SW-2 is attributed to the low stage (approximately one inch of water) at this station, which is close to the measurement sensitivity limit for the FloMate™ Model 2000 flowmeter. The discharge measurements calculated with the ISCO™ unit at station SW-4 were clearly not representative of the true flow conditions at that station (the readings indicated flow upstream). Upon evaluation of the problem, it was determined that the Doppler velocity sensor at SW-4 was not functioning properly due to the clarity of the water at that station (i.e., there was insufficient suspended material in the water column to reflect the radar waves). Additional improvements were therefore made to that station to improve the representativeness of the ISCO™ measurements. Specifically, an aquarium air-stone was installed just upstream of the flow sensor, and the air bubbles created by the air-stone served as a surrogate for suspended matter in the water column. Subsequent flow readings taken immediately after installation of the air-stone were representative of actual conditions; however, this problem persisted throughout the study period, both under baseflow conditions and during storm events.

The ephemeral nature of the five remaining stations (SW-3, SW-5, SW-6, SW-7 and SW-8) limited field testing solely to programming-related functions. All nine units were found operational and field ready for activation. The units were subsequently activated on July 11, 2000 for the purpose of completing the preliminary suspended sediment and stage response evaluations (Tasks 1 and 2 of the Surface Water component), which are discussed in the following two sections.

2.2.2 Task 1 – Collection of Depth-Integrated Suspended Sediment Samples

On July 29, 2000, following a storm event during which over an inch of rain fell on the HBHA study area, Roux Associates collected surface water samples from four of the nine HBHA monitoring stations (SW-1, SW-2, SW-4, and SW-9). The remaining five stations (all stormwater culverts) did not contain any stormwater flow, as precipitation had ceased by the time Roux Associates' staff arrived at the study area. At the four stations exhibiting flow, surface-water samples were collected using both the engineered sample intake discussed in Section 2.2.1.1 and a US DH-48 depth-integrating suspended-sediment sampler. Sample collection with the US DH-48 sampler was performed using the equal-transit rate method described in Appendix A of the Work Plan (Field Sampling Plan). Surface-water samples were submitted to Severn Trent Laboratories of Westfield, Massachusetts for analysis of total suspended solids (TSS). The analytical results are summarized in the text box below. The laboratory report is provided in Appendix C.

Sample ID	Analysis	Method	Result	Date Sampled
SW-1/ISCO	TSS	EPA 160.2	<5 mg/L	7/28/2000
SW-1/DH-48	TSS	EPA 160.2	<5 mg/L	7/28/2000
SW-2/ISCO	TSS	EPA 160.2	<5 mg/L	7/28/2000
SW-2/DH-48	TSS	EPA 160.2	<5 mg/L	7/28/2000
SW-4/ISCO	TSS	EPA 160.2	6.5 mg/L	7/28/2000
SW-4/DH-48	TSS	EPA 160.2	7.0 mg/L	7/28/2000
SW-9/ISCO	TSS	EPA 160.2	8.0 mg/L	7/28/2000
SW-9/DH-48	TSS	EPA 160.2	6.5 mg/L	7/28/2000

As shown above, laboratory analysis of the surface-water samples collected following the moderate (1-inch-plus) storm event indicates general consistency between the TSS concentrations measured using the engineered sample intake and the US DH-48 depth-integrating suspended-sediment sampler. This indicates that the surface-water samples collected using the engineered sample intake are representative of the entire water column.

2.2.3 Task 2 – Determination of Stage Response

A preliminary evaluation of stage response was conducted at the HBHA over the period between July 10 and July 28, 2000. The principal objective of the evaluation was to monitor and evaluate stage response at each of the nine surface-water monitoring stations during three independent precipitation/runoff events. Additional objectives included:

- Evaluating the timing, magnitude, and duration of the response hydrographs recorded at each station;
- Determining the flow-proportioned sampling intervals and extraction volumes to be used at each station during implementation monitoring;
- Initiating the development of stage discharge relationships for each station;
- Further assessing the performance of each ISCO™ unit under actual field conditions; and
- Correcting any performance deficiencies encountered during the preliminary evaluation.

The following section presents and describes the activities and findings of the preliminary stage response evaluation.

2.2.3.1 Precipitation Monitoring

Three precipitation events occurred and were recorded at each of the nine monitoring stations during the preliminary stage-response evaluation period. Total rainfall catch varied by storm event and monitoring location. The dates of the storms and precipitation totals per event, as recorded at station SW-1, are summarized below:

Storm Number	Date(s) of Occurrence	Total Rainfall
1	July 16, 2000	1.14 inches
2	July 20-22, 2000	0.63 inches
3	July 26-28, 2000	1.37 inches
		Three-Storm Total = 3.14 inches

Cumulative three-storm precipitation totals recorded at stations SW-2, SW-3, SW-7 and SW-8 were relatively similar (2.94-3.14 inches) to that measured at SW-1. Conversely, low catch efficiencies were observed at stations SW-4, SW-5, SW-6 and SW-9 (1.55-1.99 inches). The low cumulative totals recorded at the latter four stations were attributed mainly to rain-gage malfunctions that occurred during the initial (July 16th) storm event. The malfunctions were corrected immediately after the event, and catch efficiencies at all stations but SW-6 were relatively similar for the remaining two events. Roux Associates discovered that bird droppings had fouled the rain gage at the SW-6 gage during these events. This problem was subsequently remedied and the gage returned to normal operating conditions. Routine maintenance was conducted weekly throughout the study period to ensure proper operation of the monitoring instruments.

2.2.3.2 Discharge Monitoring

Discharge monitoring commenced on July 10, 2000 and continued through the end of the month. Discharge data (i.e., stage and velocity) were collected at 2-minute intervals as specified in the Work Plan. The runoff hydrographs generated by the three storm events were successfully monitored at each station. The stage response varied significantly by storm event and location. The duration of runoff generated by storm number two, for example, ranged from a low of 2 hours at station SW-7, to a high of 28 hours at SW-9. Rapid response hydrographs like those recorded at station SW-7 were also observed at stations SW-2, SW-3, SW-5, SW-6 and SW-8. Each of these stations is ephemeral (SW-2 was dry at the time) and generates discharge only in response to significant storm events. Conversely, the runoff hydrographs at locations SW-1, SW-4 and SW-9 (perennial stations) were significantly longer, varying from 24 to 48 hours in duration. The longer response is attributed primarily to the higher contributing drainage area

(SW-1) and greater retention-storage capacities of the HBHA Pond (SW-4) and Wetland (SW-9). A station-by-station summary of the preliminary HBHA stage response data for each of the three storms monitored is provided in Appendix D.

2.2.3.3 Establishment of Sample Collection Intervals and Volumes

The total runoff volumes (Appendix D) and hydrographs generated by each storm were subsequently used to select the initial flow-proportioned sample collection intervals and total extraction volumes to be used for future automated surface-water sample collection at the various monitoring stations (i.e., Task 3 of the Surface Water component). A target total extraction volume of 3,000-milliliters (mL) was selected, to provide adequate volume to perform the requisite chemical analyses (see Task 3 below). Then, using the runoff generated by storm number two as a basis and assuming that 100 individual sub-samples would be collected at each station over the course of each storm, flow-based sample collection intervals were calculated for each station. Collection intervals and sample volumes for some stations were then adjusted based on the hydrographs (i.e., some stations were too "flashy" to permit the desired sample spacing). The remaining capacity of the central composting vessel (i.e., 6,000 mL) was left available for additional sample collection should larger precipitation/runoff events occur. The last column in Table 10 lists the maximum volume of runoff that could be sampled at the selected settings given the storage capacity of the central compositing vessel. It should be noted that larger (i.e., 18,000-mL) compositing vessels were installed at stations SW-1 and SW-9 to permit collection of additional volume for quality control (QC) sampling.

2.2.4 Task 3 – Water-Quality Monitoring

Following the completion of the preliminary TSS and stage response evaluations (Tasks 1 and 2), surface-water samples were collected during eight storm events (two summer, three fall, and three spring) and three non-storm (baseflow) events, as shown below:

Date of Sampling Event	Type of Event	Amount of Precipitation
August 28-29, 2000	Summer Baseflow	0.00 inches
September 2, 2000	Summer Storm 1	0.59 inches
September 15, 2000	Summer Storm 2	1.22 inches
October 4-5, 2000	Fall Baseflow	0.00 inches

Date of Sampling Event	Type of Event	Amount of Precipitation
October 5-6, 2000	Fall Storm 1	0.65 inches
October 18-19, 2000	Fall Storm 2	0.94 inches
December 17-18, 2000	Post-Turnover Storm	1.84 inches
March 21-22, 2001	Spring Storm 1	5.31 inches
March 30, 2001	Spring Storm 2A	1.76 inches
April 4-5, 2001	Spring Baseflow	0.00 inches
May 22-24, 2001	Spring Storm 2B	0.57 inches

Originally, as scoped in the Work Plan, surface water samples were to have been collected during only two storm events during each of the three sampling seasons. However, as it was unclear exactly when fall turnover occurred in the HBHA Pond due to the persistence of anoxic conditions at the base of the pond, the USEPA requested a third fall storm-sampling event (Post-Turnover Storm) be conducted to ensure that storm samples were collected subsequent to pond turnover. The third spring storm ("Spring Storm 2B") was added as the analytical laboratory did not properly handle a portion of the samples from the second spring storm ("Spring Storm 2A").

Table 1 shows which stations were sampled during each storm and baseflow event. As shown in Table 1, the ephemeral stations were not sampled during baseflow events, due to absence of flow (station SW-2 exhibited flow during the Spring Baseflow sampling event, and was therefore sampled) or during the Post-Turnover Storm (the ISCOs™ had been deactivated for the winter). Samples were also not collected at station SW-4 on three occasions due to the recurring problems with signal strength (due to the clarity of the water at SW-4; see Section 2.2.1.3). (It should also be noted that the SW-4 ISCO™ unit was re-programmed to collect time-weighted samples for Summer Storm 2 and Spring Storm 2B.) Samples were not collected at SW-8 during the first two spring storms, due to the magnitude of the first spring storm. During that storm, the SW-8 ISCO™ unit was completely submerged, and Roux Associates considered the sample in the compositing vessel to have been compromised. Water levels were still high in the HBHA just prior to the second spring storm (approximately one week after the first storm), and as additional flooding was predicted during the second spring storm, Roux Associates did not re-deploy the

SW-8 ISCO™ unit, which had been pulled for maintenance following the previous week's flood event. Lastly, samples were not collected at station SW-6 during Spring Storm 2B due to a power failure

As discussed in the Work Plan, sampling during storm events was triggered by rainfall intensity, as recorded by the individual rain gages linked to each unit. A second trigger was added following the initial stage-response monitoring (Task 2) to prevent "false alarms" caused by disturbance of the rain gages by birds or from other influences. Storm samples were flow-proportioned (i.e., collected at intervals determined by flow passing the station). Baseflow sampling was conducted when no precipitation had occurred for 72 hours, and when stage was visually stable at typical non-storm levels for respective monitoring periods (e.g., summer). Baseflow samples were collected by the ISCO™ hourly over a 24-hour period.

Immediately following each sampling event (i.e., either when the ISCO™ compositing vessels were full or when the storm hydrograph had passed), the surface-water samples at each station were processed for shipment to the analytical laboratory. The compositing vessel was removed from each ISCO™ unit, and the samples re-mixed. Aliquots were then poured into laboratory-supplied, pre-preserved bottles. Samples from stations SW-4 and SW-9 were analyzed for TSS, Target Analyte List (TAL) metals (total/unfiltered), dissolved (filtered) arsenic, and Target Compound List (TCL) semivolatile organic compounds (SVOCs), and cyclohexanone (a non-TCL SVOC). Cyclohexanone was not included in the analytical suite described in the Work Plan, but was added to the analytical suite for SW-4 and SW-9 based on the analytical laboratory's observation of this compound at relatively high concentrations (outside of calibration limits) in the summer baseflow samples.

The chemical analytical suite for the samples collected at stations SW-1 through SW-3 and SW-5 through SW-8 included the following:

Metals	SVOCs
Arsenic (total and dissolved)	Bis (2-ethylhexyl) phthalate
Chromium (total)	Diethylphthalate
Lead (total)	Polynuclear aromatic hydrocarbons
Mercury (total)	4-methylphenol
	Cyclohexanone

As shown in Table 1, the sample collected at station SW-6 during the first spring storm was not analyzed for SVOCs or dissolved arsenic due to insufficient sample volume in the compositing vessel. Dissolved arsenic analyses were likewise not performed on the samples collected from stations SW-3 and SW-5 during the second spring storm. It should also be noted that the analytical laboratory neglected to log in the SVOC samples from the second spring storm. Consequently, these samples had to be collected during a third spring storm. Due to the size of the first spring storm, a second sample was collected at SW-9, to characterize conditions during the lengthy falling limit of that storm hydrograph.

The Work Plan also called for the geotechnical analysis of suspended sediments from each sampling station, and the calculation of settling velocities for the suspended solids at stations SW-1, SW-4, and SW-9, if sufficient suspended sediment volume was present in the samples. However, even during the largest storms, none of the water samples contained near enough suspended material to perform any of the geotechnical analyses.

Temperature, dissolved oxygen, and turbidity were measured weekly at the northern end, middle part, and southern end of the HBHA Pond during the summer, fall, and spring to document water-quality conditions in the pond during the sampling periods. Readings were taken at 1-foot intervals from the pond surface down to the bottom, and are presented in Table 2.

2.2.5 Task 4 – Stage-Discharge Monitoring

Stage and velocity were recorded at two-minute intervals at each surface-water monitoring station during the period of ISCO™ deployment. The ISCO™ units at the ephemeral stations (SW-2, SW-3, and SW-5 through SW-8) were deployed from July through November 2000, and again from mid-March (immediately following thawing of the HBHA Pond) through May 2001. The ISCO™ units at stations SW-1 and SW-4 were deployed from July through mid-December 2000, as well as from mid-March through May 2001. The SW-9 unit was deployed from July through mid-December 2000, and again from mid-March through June 2001.

2.2.6 Task 5 – Collection of Discharge Measurements

Manual discharge measurements were taken at each monitoring station exhibiting flow during the retrieval of the water quality samples, to periodically calibrate the accuracy of the ISCO™ flow sensor data. For open channels, the "partial-section" method recommended by the U.S. Geological Survey was used to calculate discharge. For stations established at a culvert, flow was measured and discharge calculated using standard geometric tables.

3.0 PRESENTATION OF RESULTS

The results of the Downgradient Transport (Surface Water and Sediments) Investigation are provided below. In keeping with the format of the USEPA's Final GSIP SOW, the results for the Sediments component of the investigation are presented first, followed by the results for the Surface Water component.

3.1 Sediments

Sediment thickness measurements and contours for the HBHA Pond and the three HBHA Wetland ponds are shown in Figures 6and 7, respectively. Roux Associates calculated the sediment volumes in each of the ponds by digitizing the thickness contours and multiplying the areal extent of each inter-contour area by the average numerical thickness for that area. For example, the area between the 1-foot and 2-foot contours on Figure 6 is 40,382 square feet. Assuming an average thickness of 1.5 feet for that area, a volume of 60,573 cubic feet of sediment is derived for that area. The following table shows the areal extent, assumed average sediment thickness, and volume of sediment calculated for each inter-contour area in each of the four ponds:

Contour Interval	Areal Extent	Average Thickness	Sediment Volume
HBHA Pond			
0 to 1 foot	50,429 square feet	0.5 feet	25,215 cubic feet
1 to 2 feet	40,382 square feet	1.5 feet	60,573 cubic feet
2 to 3 feet	45,583 square feet	2.5 feet	113,958 cubic feet
3 to 4 feet	34,383 square feet	3.5 feet	120,341 cubic feet
4 to 5 feet	12,508 square feet	4.5 feet	56,286 cubic feet
5 to 6 feet	408 square feet	5.25 feet	2,142 cubic feet
	TOTAL SEDIMENT THICKNESS =		378,515 cubic feet
HBHA Wetland Pond 1			
0 to 1 foot	22,623 square feet	0.5 feet	11,312 cubic feet
1 to 2 feet	4,865 square feet	1.25 feet	6,081 cubic feet
	TOTAL SEDIMENT THICKNESS =		17,393 cubic feet

HBHA Wetland Pond 2			
0 to 1 foot	8,386 square feet	0.5 feet	4,193 cubic feet
1 to 2 feet	2,064 square feet	1.5 feet	3,096 cubic feet
	TOTAL SEDIMENT THICKNESS =		7,289 cubic feet
HBHA Wetland Pond 3			
0 to 1 foot	25,330 square feet	0.5 feet	12,665 cubic feet
1 to 2 feet	5,839 square feet	1.5 feet	8,759 cubic feet
2 to 3 feet	2,623 square feet	2.5 feet	6,558 cubic feet
3 to 4 feet	1,864 square feet	3.5 feet	6,524 cubic feet
4 to 5 feet	785 square feet	4.5 feet	3,533 cubic feet
5 to 6 feet	314 square feet	5.5 feet	1,727 cubic feet
6 to 7 feet	135 square feet	6.25 feet	844 cubic feet
	TOTAL SEDIMENT THICKNESS =		40,610 cubic feet

The bathymetry of the HBHA Pond is shown in Figure 8.

The results of geotechnical analysis of the bottom sediment samples collected from the HBHA Pond and Wetland are summarized in Table 3. The geotechnical laboratory report is provided in Appendix E. It should be noted that the Work Plan called for grain shape factors and settling velocities to be determined, but these parameters could not be determined due to the abundance of organic matter of varying shapes and densities contained within the sediment samples.

3.2 Surface Water

The results of the baseflow and storm sampling of surface water at the nine HBHA monitoring stations are provided in Tables 4 though 23. Tables 4 through 13 contain the TSS and metals results for each baseflow and storm event, while Tables 14 through 23 contain the SVOC data. The TSS and metals data are also presented in summary fashion in Figures 9 through 28. Figures 9 through 18 show the concentrations of arsenic (total and dissolved), chromium, lead, mercury,

and TSS detected during each baseflow and storm event. Figures 19 through 28 show the relative concentrations of total (unfiltered) arsenic detected during each baseflow and storm event. In these ten figures, the relative concentrations of arsenic are indicated by color-coded circles.

The laboratory analytical reports for TSS, metals, and SVOCs are provided in Appendix F. In accordance with the Work Plan, all metals and SVOC data developed during the Downgradient Transport (Surface Water and Sediments) Investigation were subject to data validation by an independent third party. Data validation reports for each sampling event are provided in Appendix G.

Hydrographs for the eight storms monitored during the deployment period are shown in Appendix H. Baseflow hydrographs are also included in Appendix H. Manual discharge measurements for those stations exhibiting flow during sample retrieval are provided in Appendix I.

Respectfully Submitted,

ROUX ASSOCIATES, INC.

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TABLES

Table 1
Surface Water Sampling Summary Table

Location	Sampling Event										
	Summer Baseflow 8/28-29/00	Summer Storm 1 9/2/00	Summer Storm 2 9/15/00	Fall Baseflow 10/4-5/00	Fall Storm 1 10/5-6/00	Fall Storm 2 10/18-19/00	Post Turnover 12/17-18/00	Spring Storm 1 3/21-22/01	Spring Storm 2A 3/30/01	Spring Baseflow 4/4-5/01	Spring Storm 2B 5/22-24/01
SW-1	TMS	TMS	TMS	TMS	TMS	TMS	TMS	TMS	TM	TMS	S
SW-2	-	TMS	TMS	-	TMS	TMS	-	TMS	TM	TMS	S
SW-3	-	TMS	TMS	-	TMS	TMS	-	TMS	TM*	-	S
SW-4	TMS	-	TMS[1]	TMS	TMS	TMS	-	-	TM	TMS	S[2]
SW-5	-	TMS	TMS	-	TMS	TMS	-	TMS	TM*	-	S
SW-6	-	TMS	TMS	-	TMS	TMS	-	TM*	TM	-	-
SW-7	-	TMS	TMS	-	TMS	TMS	-	TMS	TM	-	S
SW-8	-	TMS	TMS	-	TMS	TMS	-	-	-	-	S
SW-9	TMS	TMS	TMS	TMS	TMS	TMS	TMS	TMS	TM	TMS	S

Notes:
T = TSS
M = Metals
S = SVOCs
M* = No dissolved arsenic sample collected
TMS[1] = Two time-weighted samples collected ("rising limb" and "falling limb")
S[2] = Sample was time-weighted
- = Not sampled

Table 2
HBHA Pond Profiling Data

North - Temperature (°C)																	
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/21/01	3/27/01	4/3/01	4/12/01
1	25.04	20.57	20.81	26.36	21.86	20.71	14.15	11.31	14.19	14.00	10.49	9.99	8.57	8.59	5.91	6.13	10.62
2	23.87	20.37	20.43	23.48	21.30	19.80	14.07	11.07	13.20	13.77	9.88	9.81	8.38	8.57	5.86	6.00	10.67
3	23.06	18.86	19.96	21.11	17.65	19.34	13.99	10.85	12.99	13.28	9.79	9.75	8.33	8.15	5.59	5.96	10.63
4	21.63	18.38	18.89	19.29	17.27	16.13	13.94	11.00	12.57	12.83	9.52	9.73	8.22	8.00	5.54	5.93	10.60
5	18.08	17.53	17.44	17.22	16.89	15.99	13.96	11.94	10.53	11.72	9.45	9.70	8.15	5.92	5.53	5.95	10.60
6	16.87	17.03	16.15	15.73	15.91	15.88	14.16	11.26	10.33	12.47	9.42	9.71	8.17	5.87	5.47	5.92	10.64
7	14.61	14.55	13.53	14.03	14.21	-	14.13	11.05	12.85	12.78	-	9.88	8.44	5.78	5.51	5.89	10.67
8	14.16	-	13.44	13.57	13.81	-	13.49	11.07	12.67	12.68	-	-	-	7.00	5.50	5.79	10.61
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.84	5.44	10.30
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.97	6.45	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.74	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.62	-	-

North - Dissolved Oxygen (mg/L)																	
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/21/01	3/27/01	4/3/01	4/12/01
1	5.89	6.57	6.60	6.50	7.04	7.77	5.64	5.96	6.54	6.26	7.75	7.78	9.50	11.38	11.59	13.19	9.56
2	5.13	5.93	6.28	7.10	6.68	7.01	5.29	6.16	6.57	6.61	7.20	7.74	8.12	10.74	11.29	12.10	8.80
3	4.97	5.56	5.65	5.71	5.76	6.81	5.01	6.11	6.56	6.81	7.08	7.72	8.06	10.40	11.19	11.50	8.32
4	3.59	4.82	4.73	4.06	4.67	3.96	4.77	5.30	6.03	5.09	7.05	7.62	7.86	10.30	11.11	10.92	8.12
5	1.12	4.07	3.65	1.92	3.75	3.00	4.52	1.55	6.21	0.60	7.00	7.59	7.82	10.07	11.08	10.62	7.98
6	0.57	2.15	1.74	0.68	1.48	1.09	3.17	0.67	6.17	0.65	6.50	7.56	7.84	10.08	10.98	10.12	7.80
7	0.43	0.89	0.52	0.46	0.52	-	0.45	3.82	0.69	0.42	-	6.74	6.93	9.92	11.02	9.80	7.61
8	0.41	-	0.38	0.37	0.36	-	0.25	0.47	0.29	0.17	-	-	-	8.94	10.96	8.89	7.44
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.43	8.52	6.36
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.10	4.86	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.76	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.92	-	-

North - Turbidity (NTU)																	
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/21/01	3/27/01	4/3/01	4/12/01
1	6.97	9.94	8.36	10.41	8.75	10.43	16.7	16.8	15.00	10.38	18.80	8.78	9.78	32.10	7.19	13.60	18.90
2		9.54	8.35	11.8	8.87	10.48	16.6	15.9	15.00	10.38	18.70	8.34	9.38	29.10	7.29	14.60	17.60
3	7.18	10.24	8.45	15.5	10.74	10.6	17.4	12.6	14.00	9.13	19.90	8.48	9.40	29.70	7.24	15.90	15.30
4	18.4	10.88	9.24	42.2	12.8	15.4	20.1	12.2	16.00	18.70	19.10	8.53	9.80	31.00	7.22	14.80	15.00
5	17.3	14.2	13.4	86.4	19.8	16.7	18.9	16.3	24.00	26.60	20.10	8.70	10.00	27.50	7.32	15.80	14.90
6	28.4	24.1	30.6	46.6	31.8	21.8	28.5	38.3	16.00	48.30	23.80	8.98	9.98	25.90	7.17	15.80	14.80
7	20.4	54.1	14.5	27.2	21.2	-	25.7	26.9	15.40	19.00	-	-	9.47	29.90	7.47	15.50	14.50
8	12.7	-	14.2	-	-	-	17.5	18.1	-	34.30	-	-	-	265.00	7.39	15.30	109.50
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.10	14.80	356.00
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.70	142.00	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.10	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.10	-	-

Table 2
HBHA Pond Profiling Data

Central - Temperature (°C)																		
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/13/01	3/21/01	3/27/01	4/3/01	4/12/02
1	25.84	20.30	22.72	25.70	22.52	19.59	13.95	11.00	11.75	13.37	10.39	9.90	8.41	2.12	6.13	5.49	5.71	10.47
2	24.15	18.90	21.50	22.62	18.97	18.87	13.94	10.85	11.82	13.31	10.33	9.77	8.38	2.15	6.12	5.58	5.72	10.55
3	23.13	18.64	20.10	21.16	17.62	16.70	13.93	10.74	11.76	13.08	10.29	9.74	8.36	2.31	6.11	5.60	5.72	10.56
4	21.42	18.21	18.99	19.86	17.09	16.28	13.94	10.72	11.65	11.33	9.79	9.74	8.34	2.38	6.07	5.64	5.73	10.54
5	19.17	17.65	17.80	18.17	16.99	16.07	13.96	11.66	11.37	11.21	9.54	9.70	8.35	2.57	5.96	5.65	5.74	10.53
6	17.47	17.10	16.90	16.89	16.75	15.84	14.03	12.08	10.69	11.82	9.47	9.69	8.38	2.92	5.95	5.68	5.73	10.51
7	16.75	16.20	15.61	15.70	16.02	15.54	14.19	13.21	12.09	12.19	9.34	9.85	8.26	3.11	5.96	5.64	5.64	10.50
8	-	-	15.24	-	15.58	15.42	14.22	13.91	12.39	12.30	10.67	10.07	8.54	4.96	5.95	5.62	5.62	10.49
9	-	-	-	-	-	-	14.19	13.91	-	-	-	10.33	-		-	5.60	-	-

Central - Dissolved Oxygen (mg/L)																		
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/13/01	3/21/01	3/27/01	4/3/01	4/12/01
1	6.79	6.01	7.14	7.95	6.89	7.03	6.42	7.78	7.56	7.94	7.50	8.64	8.86	8.64	13.65	13.48	14.36	9.60
2	6.21	6.76	6.96	6.74	7.10	6.90	5.65	6.77	7.27	7.57	7.38	7.92	8.30	8.54	12.36	12.22	13.27	8.84
3	5.34	7.13	5.97	5.92	6.00	5.31	5.46	6.29	7.18	7.17	7.33	7.74	8.22	8.28	11.87	12.31	13.00	8.35
4	2.93	6.85	4.54	5.28	5.52	4.71	5.32	5.60	7.23	5.60	7.21	7.70	8.17	7.80	11.66	11.64	11.24	8.20
5	1.51	4.09	1.48	2.19	4.33	4.12	4.92	1.45	7.50	4.46	7.09	7.71	8.13	7.13	11.51	11.41	10.25	8.11
6	0.66	1.04	1.23	1.04	1.61	2.17	3.85	0.53	6.19	1.38	6.94	7.73	8.10	5.56	11.31	11.29	10.50	8.07
7	0.44	0.50	0.54	0.49	0.67	0.87	1.77	0.37	2.09	0.47	6.33	7.76	8.08	4.37	10.95	11.21	9.31	8.03
8	-	-	0.33	-	0.37	0.46	0.49	0.33	0.54	0.18	1.99	6.03	7.51	3.38	10.89	11.21	8.81	8.00
9	-	-	-	-	-	-	0.24	0.30	-	-	-	1.47	-	-	-	9.35	-	-

Central - Turbidity (NTU)																		
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/13/01	3/21/01	3/27/01	4/3/01	4/12/01
1	7.09	9.98	8.39	11.60	9.14	10.16	17.10	10.40	14.70	10.75	17.10	9.25	9.72	65.00	28.90	6.91	13.50	14.88
2	7.12	9.74	8.59	10.08	9.53	10.54	17.20	10.02	15.70	9.53	16.40	9.38	9.39	70.00	30.30	7.59	15.30	14.81
3	7.24	9.12	8.78	11.10	9.96	12.40	17.60	12.10	13.80	9.37	17.80	8.89	9.39	60.00	27.20	7.28	15.20	14.60
4	8.12	9.78	9.45	11.90	10.08	13.30	18.40	11.20	14.00	10.27	17.90	8.29	9.23	60.00	30.00	7.06	15.70	14.00
5	12.70	17.00	12.20	41.90	15.80	12.80	19.00	13.50	13.60	10.24	19.30	9.16	9.85	65.00	28.50	7.42	14.90	14.00
6	33.50	54.90	74.00	239.00	99.40	20.70	24.40	56.30	13.60	32.00	19.30	8.85	9.44	65.00	74.60	7.47	14.90	15.50
7	34.40	40.60	91.00	-	34.60	35.20	40.70	114.00	25.70	25.40	20.20	8.63	10.72	65.00	31.60	7.15	14.80	16.00
8	-	-	-	-	-	-	-	20.90	-	52.50	-	9.02	9.75	80.00	121.00	7.22	13.40	66.00
9	-	-	-	-	-	-	-	25.00	-		-	-	-		-	8.82	-	-

Table 2
HBHA Pond Profiling Data

South - Temperature (°C)																	
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/21/01	3/27/01	4/3/01	4/12/01
1	26.72	19.42	23.61	26.64	21.79	18.75	14.16	12.87	10.78	12.83	10.77	10.00	8.78	6.02	4.85	5.57	10.65
2	26.85	18.99	23.04	23.52	20.20	17.96	14.13	11.60	10.67	12.43	10.77	10.00	8.75	6.01	4.90	5.58	10.68
3	24.25	18.29	21.83	21.53	18.96	17.25	14.08	11.13	10.60	12.24	10.75	9.72	8.70	5.98	4.91	5.57	10.66
4	20.15	18.20	18.85	19.83	17.83	16.41	14.03	10.90	10.36	11.43	10.61	9.66	8.70	5.95	4.92	5.56	10.61
5	18.81	18.50	18.37	18.41	17.56	16.18	14.01	10.76	10.16	11.22	9.38	9.66	8.69	5.95	4.94	5.54	10.60
6	17.45	17.83	17.14	16.72	16.87	15.87	14.01	11.70	10.67	11.68	9.21	9.64	8.62	5.97	4.96	5.55	10.59
7	16.30	16.44	16.02	15.85	15.87	15.78	14.51	13.49	12.26	12.40	9.26	9.63	8.47	5.92	4.96	5.55	10.58
8	15.30	15.32	15.31	15.40	14.86	15.41	14.67	14.01	12.78	12.74	9.53	9.66	8.21	5.86	5.21	5.54	10.55
9	14.94	14.62	14.84	14.82	14.37	14.58	14.70	14.24	13.21	13.12	10.27	9.85	8.21	5.66	5.19	5.53	10.54
10	14.12	14.10	14.12	14.12	14.11	14.21	14.47	14.09	13.59	13.43	10.79	10.48	9.57	5.68	5.23	-	10.53
11	13.57	13.75	13.73	13.66	13.89	13.93	14.20	13.91	13.70	13.63	11.30	11.07	11.09	7.11	5.26	-	10.48
12	13.22	13.48	13.50	13.52	13.66	13.71	13.98	13.81	13.67	13.63	11.43	11.38	11.32	8.43	-	-	10.24
13	-	-	13.45	13.51	13.54	13.49	13.80	13.75	13.51	13.54	-	11.45	11.33	8.71	-	-	8.86
14	-	-	-	-	-	-	-	-	-	-	-	-	-	8.84	-	-	8.40
15	-	-	-	-	-	-	-	-	-	-	-	-	-	8.97	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	9.12	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	9.13	-	-	-

South - Dissolved Oxygen (mg/L)																	
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/21/01	3/27/01	4/3/01	4/12/01
1	7.37	5.29	6.60	7.41	6.08	6.78	5.78	7.99	6.86	6.55	7.60	8.26	8.72	13.37	12.83	14.94	11.19
2	7.27	4.56	8.00	6.94	5.91	6.31	5.56	7.17	6.54	6.42	7.58	7.84	8.34	12.69	12.04	13.43	9.78
3	6.26	4.74	7.04	5.66	5.69	6.07	5.47	6.91	6.44	6.32	7.53	7.74	8.23	12.31	11.72	12.47	9.41
4	5.63	3.67	2.69	4.18	5.00	4.58	5.41	6.78	6.45	6.08	7.34	7.64	8.20	12.08	11.47	11.58	9.07
5	5.45	0.86	1.82	2.84	2.11	1.80	5.35	6.17	6.52	2.14	6.66	7.64	8.17	11.93	11.36	10.68	8.97
6	2.47	0.48	1.33	0.85	0.70	0.73	5.24	3.18	4.51	0.44	6.39	7.62	8.14	11.81	11.31	9.59	8.84
7	0.87	0.42	0.75	0.50	0.35	0.45	1.15	0.97	1.06	0.27	5.38	7.58	8.13	11.79	11.28	9.24	8.88
8	0.50	0.39	0.50	0.40	0.27	0.40	0.30	0.51	0.37	0.19	2.54	7.56	8.07	11.75	11.20	8.74	8.83
9	1.05	0.36	0.43	0.36	0.27	0.35	0.23	0.37	0.26	0.15	0.52	4.86	7.33	12.43	11.21	8.63	8.76
10	0.49	0.33	0.38	0.33	0.25	0.33	0.22	0.28	0.24	0.14	0.22	1.04	1.49	12.91	11.22	-	8.75
11	0.36	0.30	0.35	0.31	0.24	0.31	0.19	0.27	0.22	0.14	0.16	0.31	0.31	7.84	11.19	-	8.72
12	0.32	0.29	0.33	0.30	0.22	0.29	0.18	0.25	0.23	0.13	0.15	0.23	0.23	17.04	-	-	8.53
13	-	-	0.30	0.27	0.21	0.28	0.18	0.24	0.18	0.12	-	0.19	0.20	18.95	-	-	7.74
14	-	-	-	-	-	-	-	-	-	-	-	-	-	7.79	-	-	5.95
15	-	-	-	-	-	-	-	-	-	-	-	-	-	8.58	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	8.74	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	7.65	-	-	-

South - Turbidity (NTU)																	
Depth	8/10/00	8/18/00	8/25/00	9/1/00	9/8/00	9/19/00	10/6/00	10/13/00	10/23/00	10/27/00	11/3/00	11/13/00	11/17/00	3/21/01	3/27/01	4/3/01	4/12/01
1	6.87	10.70	8.58	12.50	8.28	10.51	15.50	18.90	14.00	9.37	17.50	9.86	8.73	32.10	6.36	13.80	13.80
2	6.98	10.44	8.48	10.00	8.47	10.89	15.40	11.80	14.20	10.84	17.50	9.46	8.92	30.40	6.84	14.50	13.70
3	6.92	12.10	8.47	8.06	8.84	10.70	15.70	11.60	14.50	8.56	17.30	9.51	9.06	31.00	6.95	13.20	13.70
4	7.21	10.99	11.50	10.68	9.80	12.20	15.80	11.60	14.20	8.81	18.10	8.57	9.13	31.00	6.35	13.10	13.70
5	10.74	15.00	10.04	19.30	20.60	14.60	16.80	13.20	14.50	9.61	18.30	9.20	8.80	30.60	6.39	14.70	13.60
6	46.00	29.30	194.00	121.00	182.00	18.00	16.70	30.30	16.50	17.70	21.30	8.86	8.97	92.70	6.50	14.50	13.60
7	213.00	43.70	72.20	138.00	40.60	40.50	56.80	38.50	33.90	30.10	27.90	8.90	9.00	32.10	7.60	15.40	13.10
8	61.30	25.60	39.80	83.10	23.00	20.10	84.10	25.90	35.20	15.50	62.70	9.68	9.28	31.30	6.52	15.60	13.30
9	36.10	23.00	27.70	36.20	12.80	18.30	51.20	10.85	17.90	10.95	35.70	18.40	9.02	53.90	6.87	55.30	13.30
10	27.80	10.74	17.80	46.60	11.80	14.50	44.60	14.40	13.80	11.70	17.60	12.10	17.20	38.60	7.02	-	13.20
11	10.37	20.60	24.40	41.70	22.60	10.01	25.80	12.90	14.10	12.20	20.90	10.61	12.90	40.50	35.90	-	13.90
12	18.90	22.70	18.20	29.30	14.20	20.10	10.77	10.39	9.18	9.15	22.70	15.50	10.76	29.40	-	-	14.60
13	-	-	-	-	-	-	-	12.40	29.10	9.92	-	-	-	34.00	-	-	25.40
14	-	-	-	-	-	-	-	-	-	-	-	-	-	26.00	-	-	78.10
15	-	-	-	-	-	-	-	-	-	-	-	-	-	97.00	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	143.00	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	308.00	-	-	-

Table 3
Summary of Geotechnical Data for HBHA Sediments

Sample Designation	Percent Gravel	Percent Sand	Percent Silt and Clay	Specific Gravity	Dry Bulk Density
SED-1	0.0	40.9	59.1	2.09	0.14
SED-2	0.0	80.6	19.4	2.09	0.31
SED-3	0.0	42.3	57.7	2.16	0.13
SED-4	0.0	98.1	1.9	2.70	1.30
SED-5	0.0	83.9	16.1	2.40	0.24
SED-6	0.0	61.6	38.9	2.15	0.15
SED-7	0.0	81.3	18.7	0.95	0.11
SED-8	0.0	55.2	44.8	2.13	0.19
SED-9	0.0	3.3	96.7	2.23	0.20

Table 4
Surface Water TSS and Metals Analytical Results
Summer Baseflow

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)									
TSS	8.0	NS	NS	5.0 U	NS	NS	NS	NS	8.5
Metals (ug/l)									
Arsenic	3.6 J	NS	NS	21.1	NS	NS	NS	NS	23.5
Arsenic (dissolved)	3.1 U	NS	NS	3.1 U	NS	NS	NS	NS	3.1 U
Aluminum	NA	NS	NS	57.7 U	NS	NS	NS	NS	172 U
Antimony	NA	NS	NS	2.1 U	NS	NS	NS	NS	2.1 U
Barium	NA	NS	NS	27.0	NS	NS	NS	NS	31.5
Beryllium	NA	NS	NS	0.20 U	NS	NS	NS	NS	0.20 U
Cadmium	NA	NS	NS	3.4 U	NS	NS	NS	NS	0.20 U
Calcium	NA	NS	NS	45,500 U	NS	NS	NS	NS	43,400 U
Chromium	3.5	NS	NS	1.8	NS	NS	NS	NS	6.2
Cobalt	NA	NS	NS	1.4 U	NS	NS	NS	NS	1.2 U
Copper	NA	NS	NS	11.8	NS	NS	NS	NS	13
Iron	NA	NS	NS	1,150	NS	NS	NS	NS	2,770
Lead	3.3 J	NS	NS	1.3 U	NS	NS	NS	NS	2.3 J
Magnesium	NA	NS	NS	6,950 U	NS	NS	NS	NS	6,920 U
Manganese	NA	NS	NS	408	NS	NS	NS	NS	488
Mercury	0.10 U	NS	NS	0.10 U	NS	NS	NS	NS	0.10 U
Nickel	NA	NS	NS	1.6 J	NS	NS	NS	NS	1.9 J
Potassium	NA	NS	NS	8,280 J	NS	NS	NS	NS	8,090 J
Selenium	NA	NS	NS	7.3 UJ	NS	NS	NS	NS	6.6 UJ
Silver	NA	NS	NS	10 U	NS	NS	NS	NS	0.30 U
Sodium	NA	NS	NS	45,000	NS	NS	NS	NS	45,800
Thallium	NA	NS	NS	5.3 UJ	NS	NS	NS	NS	5.3 UJ
Vanadium	NA	NS	NS	0.30 U	NS	NS	NS	NS	0.63
Zinc	NA	NS	NS	262	NS	NS	NS	NS	115 U

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 5
Surface Water TSS and Metals Analytical Results
Summer Storm 1

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)									
TSS	5 U	5 U	5 U	NS	12	5 U	5 U	5 U	8.5
Metals (ug/l)									
Arsenic	2.8 B	2.0 U	5.8 B	NS	19.8	6.8 B	2.0 U	2.0 U	22.0
Arsenic (dissolved)	2.0 U	2.0 U	5.7 B	NS	20.8	7.0 B	2.0 U	2.0 U	2.0 J
Aluminum	NA	NA	NA	NS	NA	NA	NA	NA	102
Antimony	NA	NA	NA	NS	NA	NA	NA	NA	2.1 U
Barium	NA	NA	NA	NS	NA	NA	NA	NA	30.4
Beryllium	NA	NA	NA	NS	NA	NA	NA	NA	0.20 U
Cadmium	NA	NA	NA	NS	NA	NA	NA	NA	0.40 U
Calcium	NA	NA	NA	NS	NA	NA	NA	NA	42,000 U
Chromium	1.5 B	1.0 U	1.0 U	NS	3.3 B	1.0 U	1.0 U	3.2 B	4.2
Cobalt	NA	NA	NA	NS	NA	NA	NA	NA	1.4
Copper	NA	NA	NA	NS	NA	NA	NA	NA	9.9 U
Iron	NA	NA	NA	NS	NA	NA	NA	NA	2,400
Lead	1.3 B	12.5	1.3 U	NS	9.1	1.9 B	1.3 U	3.6	2.8 J
Magnesium	NA	NA	NA	NS	NA	NA	NA	NA	6,230 U
Manganese	NA	NA	NA	NS	NA	NA	NA	NA	426
Mercury	0.10 U	0.10 U	0.10 U	NS	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	NA	NA	NA	NS	NA	NA	NA	NA	1.4 J
Potassium	NA	NA	NA	NS	NA	NA	NA	NA	6,200
Selenium	NA	NA	NA	NS	NA	NA	NA	NA	3.4 UJ
Silver	NA	NA	NA	NS	NA	NA	NA	NA	1.0 U
Sodium	NA	NA	NA	NS	NA	NA	NA	NA	40,700
Thallium	NA	NA	NA	NS	NA	NA	NA	NA	3.8 U
Vanadium	NA	NA	NA	NS	NA	NA	NA	NA	1.0 U
Zinc	NA	NA	NA	NS	NA	NA	NA	NA	146

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 6
Surface Water and Metals Analytical Results
Summer Storm 2

	SW-1	SW-2	SW-3	SW-4A*	SW-4B*	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)										
TSS	5 U	5 U	5 U	20.0	18.5	5 U	8	30	16	7.0
Metals (ug/l)										
Arsenic	4.4 B	2.5 U	10.2	55.0	45.2	2.5 U	2.5 U	2.5 U	2.5 U	21.5
Arsenic (dissolved)	2.5 U	2.5 U	3.7B	3.4 J	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.8 J
Aluminum	NA	NA	NA	112	120	NA	NA	NA	NA	42.2
Antimony	NA	NA	NA	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U
Barium	NA	NA	NA	29.2	26.1	NA	NA	NA	NA	27.4
Beryllium	NA	NA	NA	0.50 U	0.50 U	NA	NA	NA	NA	0.50 U
Cadmium	NA	NA	NA	1.2	2.4	NA	NA	NA	NA	0.50 U
Calcium	NA	NA	NA	54,600 U	42,200 U	NA	NA	NA	NA	38,100 U
Chromium	3.1 B	1.0 U	1.2 B	3.8	3.8	1.0 U	1.0 U	4.0 B	5.2 B	2.1
Cobalt	NA	NA	NA	2.3	1.6 J	NA	NA	NA	NA	1.0 J
Copper	NA	NA	NA	8.5 U	9.5 U	NA	NA	NA	NA	6.8 U
Iron	NA	NA	NA	5,660	5,010	NA	NA	NA	NA	1,730
Lead	2.0 U	2.0 U	2.0 U	2.0 U	2.7 J	3.2	2.0 U	12.1	5.8	2.0 U
Magnesium	NA	NA	NA	7,710 U	6,030 U	NA	NA	NA	NA	5,430 U
Manganese	NA	NA	NA	570	413	NA	NA	NA	NA	324
Mercury	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	NA	NA	NA	2.9 J	3.3	NA	NA	NA	NA	2.4 J
Potassium	NA	NA	NA	8,750	7,160	NA	NA	NA	NA	6,880
Selenium	NA	NA	NA	5.0 UJ	5.0 UJ	NA	NA	NA	NA	5.0 U
Silver	NA	NA	NA	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U
Sodium	NA	NA	NA	43,700	36,500	NA	NA	NA	NA	33,500
Thallium	NA	NA	NA	6.0 U	6.0 U	NA	NA	NA	NA	6.0 U
Vanadium	NA	NA	NA	1.2 J	1.1 J	NA	NA	NA	NA	1.0 U
Zinc	NA	NA	NA	178	136	NA	NA	NA	NA	149

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)
*Note: During Summer Storm 2, two time-weighted samples were collected at SW-4: one on the rising limit and one on the falling limit of the storm hydrograph.

Table 7
Surface Water TSS and Metals Analytical Results
Fall Baseflow

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)									
TSS	5 U	NS	NS	5.0 U	NS	NS	NS	NS	5.0 U
Metals (ug/l)									
Arsenic	2.5 U	NS	NS	13.1	NS	NS	NS	NS	12.6
Arsenic (dissolved)	2.5 U	NS	NS	2.5 U	NS	NS	NS	NS	12.3
Aluminum	NA	NS	NS	37.3 U	NS	NS	NS	NS	50.7 U
Antimony	NA	NS	NS	5.0 U	NS	NS	NS	NS	5.0 U
Barium	NA	NS	NS	27.1	NS	NS	NS	NS	26.0
Beryllium	NA	NS	NS	0.50 U	NS	NS	NS	NS	0.50 U
Cadmium	NA	NS	NS	1.2	NS	NS	NS	NS	0.50 U
Calcium	NA	NS	NS	41,800	NS	NS	NS	NS	42,600
Chromium	1.7 B	NS	NS	1.3 J	NS	NS	NS	NS	2.2 J
Cobalt	NA	NS	NS	1.2 J	NS	NS	NS	NS	1.0 U
Copper	NA	NS	NS	23.1	NS	NS	NS	NS	7.9 U
Iron	NA	NS	NS	966	NS	NS	NS	NS	1,540
Lead	2.0 U	NS	NS	2.0 UJ	NS	NS	NS	NS	3.3 J
Magnesium	NA	NS	NS	6,280	NS	NS	NS	NS	6,580
Manganese	NA	NS	NS	310	NS	NS	NS	NS	383
Mercury	0.10 U	NS	NS	0.10 U	NS	NS	NS	NS	0.10 U
Nickel	NA	NS	NS	2.4 J	NS	NS	NS	NS	1.5 U
Potassium	NA	NS	NS	8,150	NS	NS	NS	NS	8,010
Selenium	NA	NS	NS	5.0 UJ	NS	NS	NS	NS	5.0 UJ
Silver	NA	NS	NS	1.0 U	NS	NS	NS	NS	1.0 U
Sodium	NA	NS	NS	42,700	NS	NS	NS	NS	44,300
Thallium	NA	NS	NS	6.0 UJ	NS	NS	NS	NS	6.0 UJ
Vanadium	NA	NS	NS	1.0 U	NS	NS	NS	NS	1.0 U
Zinc	NA	NS	NS	231	NS	NS	NS	NS	160

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 8
Surface Water TSS and Metals Analytical Results
Fall Storm 1

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)									
TSS	5.0 U	5.0 U	5.0 U	5.0 U	18.5	9.0	6.0	46.0	5.0
Metals (ug/l)									
Arsenic	2.5 U	2.5 U	8.4 B	10.0	2.5 U	2.5 U	2.5 U	2.5 U	9.3
Arsenic (dissolved)	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Aluminum	NA	NA	NA	31.3 U	NA	NA	NA	NA	55.9 U
Antimony	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U
Barium	NA	NA	NA	29.8	NA	NA	NA	NA	25.5 U
Beryllium	NA	NA	NA	0.50 U	NA	NA	NA	NA	0.50 U
Cadmium	NA	NA	NA	0.68 J	NA	NA	NA	NA	0.50 U
Calcium	NA	NA	NA	42,900 U	NA	NA	NA	NA	35,300 U
Chromium	1.5 B	1.0 U	1.2 B	1.0 U	8.2 B	1.0 U	1.0 U	6.6 B	1.7 J
Cobalt	NA	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U
Copper	NA	NA	NA	6.1 U	NA	NA	NA	NA	6.7 U
Iron	NA	NA	NA	800	NA	NA	NA	NA	1,140
Lead	2.0 U	2.0 U	3.9	2.0 UJ	34.1	4.1	2.6 B	17.2	2.0 UJ
Magnesium	NA	NA	NA	6,330 U	NA	NA	NA	NA	5,290 U
Manganese	NA	NA	NA	330	NA	NA	NA	NA	266
Mercury	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	NA	NA	NA	1.5 U	NA	NA	NA	NA	1.5 U
Potassium	NA	NA	NA	7,670	NA	NA	NA	NA	6,500
Selenium	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U
Silver	NA	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U
Sodium	NA	NA	NA	41,300	NA	NA	NA	NA	36,000
Thallium	NA	NA	NA	6.0 U	NA	NA	NA	NA	6.0 U
Vanadium	NA	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U
Zinc	NA	NA	NA	230	NA	NA	NA	NA	182

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 9
Surface Water TSS and Metals Analytical Results
Fall Storm 2

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)									
TSS	25.5	12	5	7.5	9.3	5 U	9	6	5.0 U
Metals (ug/l)									
Arsenic	6.2 B	3.6 B	12.2	30.5	2.5 U	2.5 U	2.5 U	2.5 U	19.4
Arsenic (dissolved)	5.0 U	2.5 U	9.3 B	10.8	2.5 U	3.0 B	2.5 U	2.5 U	10.8
Aluminum	NA	NA	NA	71.0 U	NA	NA	NA	NA	181 U
Antimony	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U
Barium	NA	NA	NA	27.5 U	NA	NA	NA	NA	25.7 U
Beryllium	NA	NA	NA	0.5 U	NA	NA	NA	NA	0.50 U
Cadmium	NA	NA	NA	0.7 J	NA	NA	NA	NA	0.50 U
Calcium	NA	NA	NA	37,900 U	NA	NA	NA	NA	33,600 U
Chromium	13.7	5.0 B	2.2 B	1.7 U	1.4 B	1.0 U	1.7 B	3.8 B	4.2 U
Cobalt	NA	NA	NA	1.5 J	NA	NA	NA	NA	1.0 U
Copper	NA	NA	NA	10.7 U	NA	NA	NA	NA	10.7 U
Iron	NA	NA	NA	2,520	NA	NA	NA	NA	1900
Lead	16.4	4.8	3.7	3.4 UJ	8.9	5.6	6.9	7.3	3.1 UJ
Magnesium	NA	NA	NA	5,530 U	NA	NA	NA	NA	5090 U
Manganese	NA	NA	NA	359	NA	NA	NA	NA	266.
Mercury	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	NA	NA	NA	2.1 U	NA	NA	NA	NA	3.0 U
Potassium	NA	NA	NA	6,760	NA	NA	NA	NA	6320
Selenium	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U
Silver	NA	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U
Sodium	NA	NA	NA	39,600	NA	NA	NA	NA	31800
Thallium	NA	NA	NA	6.0 UJ	NA	NA	NA	NA	6.0 UJ
Vanadium	NA	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U
Zinc	NA	NA	NA	225	NA	NA	NA	NA	198

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 10
Surface Water TSS and Metals Analytical Results
Post-Turnover Storm

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)									
TSS	13.6	NS	NS	NS	NS	NS	NS	NS	5.0 U
Metals (ug/l)									
Arsenic	6.3 B	NS	NS	NS	NS	NS	NS	NS	9.0
Arsenic (dissolved)	3.5 U	NS	NS	NS	NS	NS	NS	NS	3.9 J
Aluminum	NA	NS	NS	NS	NS	NS	NS	NS	204
Antimony	NA	NS	NS	NS	NS	NS	NS	NS	5.0 U
Barium	NA	NS	NS	NS	NS	NS	NS	NS	28.1
Beryllium	NA	NS	NS	NS	NS	NS	NS	NS	1.0 U
Cadmium	NA	NS	NS	NS	NS	NS	NS	NS	1.0 U
Calcium	NA	NS	NS	NS	NS	NS	NS	NS	32,700 U
Chromium	17.1	NS	NS	NS	NS	NS	NS	NS	2.0 U
Cobalt	NA	NS	NS	NS	NS	NS	NS	NS	6.5
Copper	NA	NS	NS	NS	NS	NS	NS	NS	6.6 U
Iron	NA	NS	NS	NS	NS	NS	NS	NS	1,500
Lead	21.6	NS	NS	NS	NS	NS	NS	NS	3.5 J
Magnesium	NA	NS	NS	NS	NS	NS	NS	NS	5,270 U
Manganese	NA	NS	NS	NS	NS	NS	NS	NS	357
Mercury	0.10 U	NS	NS	NS	NS	NS	NS	NS	0.10 U
Nickel	NA	NS	NS	NS	NS	NS	NS	NS	2.9 J
Potassium	NA	NS	NS	NS	NS	NS	NS	NS	8,750
Selenium	NA	NS	NS	NS	NS	NS	NS	NS	4.0 U
Silver	NA	NS	NS	NS	NS	NS	NS	NS	2.0 U
Sodium	NA	NS	NS	NS	NS	NS	NS	NS	81,200
Thallium	NA	NS	NS	NS	NS	NS	NS	NS	10.0 UJ
Vanadium	NA	NS	NS	NS	NS	NS	NS	NS	2.0 U
Zinc	NA	NS	NS	NS	NS	NS	NS	NS	187

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 11
Surface Water TSS and Metals Analytical Results
Spring Storm1

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9	SW-9A
Total Suspended Solids (mg/l)										
TSS	62.8	21.6	35.6	NS	87.2	351	65.8	NS	7.2	5.0 U
Metals (ug/l)										
Arsenic	3.6 J	3.5 U	22.0	NS	3.5 U	8.4	7.7	NS	14.2	3.5 U
Arsenic (dissolved)	3.5 U	3.5 U	10.6	NS	3.5 U	NA	3.7 B	NS	8.6	NA
Aluminum	NA	NA	NA	NS	NA	NA	NA	NS	163	NA
Antimony	NA	NA	NA	NS	NA	NA	NA	NS	3.6 U	NA
Barium	NA	NA	NA	NS	NA	NA	NA	NS	26.7	NA
Beryllium	NA	NA	NA	NS	NA	NA	NA	NS	0.20 UJ	NA
Cadmium	NA	NA	NA	NS	NA	NA	NA	NS	0.30 UJ	NA
Calcium	NA	NA	NA	NS	NA	NA	NA	NS	24800	NA
Chromium	33.3	1.2	3.6	NS	14.0	23.8	7.0	NS	2.3	1.8
Cobalt	NA	NA	NA	NS	NA	NA	NA	NS	1.3 U	NA
Copper	NA	NA	NA	NS	NA	NA	NA	NS	6.6 UJ	NA
Iron	NA	NA	NA	NS	NA	NA	NA	NS	1490	NA
Lead	34.9	1.8 U	3.0 J	NS	28.8	63.1	12.6	NS	3.3 J	2.5 J
Magnesium	NA	NA	NA	NS	NA	NA	NA	NS	3560	NA
Manganese	NA	NA	NA	NS	NA	NA	NA	NS	219	NA
Mercury	0.10 U	0.10 U	0.10 U	NS	0.11 B	0.10 U	0.10 U	NS	0.10 U	0.10 U
Nickel	NA	NA	NA	NS	NA	NA	NA	NS	2.7 U	NA
Potassium	NA	NA	NA	NS	NA	NA	NA	NS	4780 UJ	NA
Selenium	NA	NA	NA	NS	NA	NA	NA	NS	R	NA
Silver	NA	NA	NA	NS	NA	NA	NA	NS	1.0 B	NA
Sodium	NA	NA	NA	NS	NA	NA	NA	NS	46300 J	NA
Thallium	NA	NA	NA	NS	NA	NA	NA	NS	8.4 UJ	NA
Vanadium	NA	NA	NA	NS	NA	NA	NA	NS	1.4 U	NA
Zinc	NA	NA	NA	NS	NA	NA	NA	NS	82.2 J	NA

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 12
Surface Water TSS and Metals Analytical Results
Spring Storm 2A

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)									
TSS	5.2	14.0	55.6	7.2	44.4	142	27.2	NS	14.4
Metals (ug/l)									
Arsenic	2.4 U	2.5 B	76.3	6.0 J	2.4 U	6.0 B	2.4 U	NS	7.2
Arsenic (dissolved)	4.2 U	4.2 U	NA	7.1 J	NA	4.2 U	4.2 U	NS	4.2 U
Aluminum	NA	NA	NA	255	NA	NA	NA	NS	364
Antimony	NA	NA	NA	1.5 U	NA	NA	NA	NS	1.5 U
Barium	NA	NA	NA	25.0 J	NA	NA	NA	NS	28.5 U
Beryllium	NA	NA	NA	0.10 U	NA	NA	NA	NS	0.10 U
Cadmium	NA	NA	NA	0.49 J	NA	NA	NA	NS	0.30 U
Calcium	NA	NA	NA	25,900 U	NA	NA	NA	NS	25,500 U
Chromium	6.5 B	1.8 B	11.2	4.1 U	10.3	17.6	6.4 B	NS	3.3 U
Cobalt	NA	NA	NA	1.2 U	NA	NA	NA	NS	1.2 U
Copper	NA	NA	NA	13.6 U	NA	NA	NA	NS	12.4 U
Iron	NA	NA	NA	881 UJ	NA	NA	NA	NS	1,180 UJ
Lead	9.4	2.9 B	12.4	6.0	20.9	27.5	7.0	NS	3.3
Magnesium	NA	NA	NA	3,720 U	NA	NA	NA	NS	4,060 U
Manganese	NA	NA	NA	163 U	NA	NA	NA	NS	170
Mercury	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NS	0.10 U
Nickel	NA	NA	NA	3.3	NA	NA	NA	NS	2.2
Potassium	NA	NA	NA	5,100 UJ	NA	NA	NA	NS	5,120 UJ
Selenium	NA	NA	NA	3.0 U	NA	NA	NA	NS	2.7 J
Silver	NA	NA	NA	0.40 U	NA	NA	NA	NS	0.51 J
Sodium	NA	NA	NA	57,900 U	NA	NA	NA	NS	63,400 U
Thallium	NA	NA	NA	8.2 U	NA	NA	NA	NS	8.2 U
Vanadium	NA	NA	NA	0.87 U	NA	NA	NA	NS	1.3 U
Zinc	NA	NA	NA	193 U	NA	NA	NA	NS	202 U

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 13
Surface Water TSS and Metals Analytical Results
Spring Baseflow

	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9
Total Suspended Solids (mg/l)									
TSS	5 U	10.8	NS	5.0 U	NS	NS	NS	NS	5.0 U
Metals (ug/l)									
Arsenic	3.5 U	9.8 B	NS	6.9 J	NS	NS	NS	NS	3.5 UJ
Arsenic (dissolved)	3.5 U	6.8 B	NS	11.2 J	NS	NS	NS	NS	3.8 J
Aluminum	NA	NA	NS	107	NS	NS	NS	NS	62.2
Antimony	NA	NA	NS	3.6 U	NS	NS	NS	NS	3.6 U
Barium	NA	NA	NS	36.6	NS	NS	NS	NS	34.9
Beryllium	NA	NA	NS	0.20 U	NS	NS	NS	NS	0.20 U
Cadmium	NA	NA	NS	0.64	NS	NS	NS	NS	0.47 J
Calcium	NA	NA	NS	32,500 U	NS	NS	NS	NS	32, 200 U
Chromium	10.6	1.0 B	NS	1.8 U	NS	NS	NS	NS	1.6 U
Cobalt	NA	NA	NS	1.4 U	NS	NS	NS	NS	0.98 U
Copper	NA	NA	NS	21.9	NS	NS	NS	NS	16.2
Iron	NA	NA	NS	1,050	NS	NS	NS	NS	883
Lead	2.5 B	1.8 U	NS	1.8 U	NS	NS	NS	NS	1.8 U
Magnesium	NA	NA	NS	4,810 U	NS	NS	NS	NS	4,710
Manganese	NA	NA	NS	235	NS	NS	NS	NS	183
Mercury	0.10 U	0.10 U	NS	0.10 U	NS	NS	NS	NS	0.10 U
Nickel	NA	NA	NS	2.4	NS	NS	NS	NS	2.0
Potassium	NA	NA	NS	6,890 J	NS	NS	NS	NS	6,890 J
Selenium	NA	NA	NS	3.6 UJ	NS	NS	NS	NS	3.6 UJ
Silver	NA	NA	NS	0.40 U	NS	NS	NS	NS	0.40 U
Sodium	NA	NA	NS	56,100	NS	NS	NS	NS	56,800
Thallium	NA	NA	NS	4.2 U	NS	NS	NS	NS	4.6 U
Vanadium	NA	NA	NS	0.55 J	NS	NS	NS	NS	0.56 J
Zinc	NA	NA	NS	334	NS	NS	NS	NS	284

NS = Not sampled
NA= Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified by data validator as "estimated" (based on one or more criteria)
B = Concentration qualified by analytical laboratory as "estimated" (result is between instrument detection limit and method reporting limit)

Table 14
Surface Water SVOC Analytical Results
Summer Baseflow

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
1,2-Dichlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
1,3-Dichlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
1,4-Dichlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2,4,5-Trichlorophenol	NA	NS	NS	61 U	NS	NS	NS	NS	55 U
2,4,6-Trichlorophenol	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2,4-Dichlorophenol	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2,4-Dimethylphenol	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2,4-Dinitrophenol	NA	NS	NS	61 U	NS	NS	NS	NS	55 U
2,4-Dinitrotoluene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2,6-Dinitrotoluene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2-Chloronaphthalene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2-Chlorophenol	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2-Methylnaphthalene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
2-Methylphenol	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
2-Nitroaniline	NA	NS	NS	61 U	NS	NS	NS	NS	55 U
2-Nitrophenol	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
3,3'-Dichlorobenzidine	NA	NS	NS	24 U	NS	NS	NS	NS	22 U
3-Nitroaniline	NA	NS	NS	61 U	NS	NS	NS	NS	55 U
4,6-Dinitro-2-methylphenol	NA	NS	NS	61 U	NS	NS	NS	NS	55 U
4-Bromophenyl-phenylether	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
4-Chloro-3-methylphenol	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
4-Chloroaniline	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
4-Chlorophenyl-phenylether	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
4-Methylphenol	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
4-Nitroaniline	NA	NS	NS	61 U	NS	NS	NS	NS	55 U
4-Nitrophenol	NA	NS	NS	61 U	NS	NS	NS	NS	55 U
Acenaphthene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Acenaphthylene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Anthracene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Benzo(a)anthracene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Benzo(a)pyrene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Benzo(b)fluoranthene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Benzo(g,h,i)perylene	12 UJ	NS	NS	12 UJ	NS	NS	NS	NS	11 UJ
Benzo(k)fluoranthene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Benzoic acid	NA	NS	NS	R	NS	NS	NS	NS	R
Benzyl alcohol	NA	NS	NS	12 U	NS	NS	NS	NS	11 U

Table 14
Surface Water SVOC Analytical Results
Summer Baseflow

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
bis(2-Chloroethyl)ether	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
bis(2-Chloroisopropyl)ether	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
bis(2-Ethylhexyl)phthalate	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Butylbenzylphthalate	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Chrysene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Cyclohexanone	NA	NS	NS	290 J	NS	NS	NS	NS	100 J
Dibenzo(a,h)anthracene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Dibenzofuran	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Diethylphthalate	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Dimethylphthalate	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Di-n-butylphthalate	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Di-n-octylphthalate	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Flourene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Fluoranthene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Hexachlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Hexachlorobutadiene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Hexachlorocyclopentadine	NA	NS	NS	12 UJ	NS	NS	NS	NS	11 UJ
Hexachloroethane	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Indeno(1,2,3-cd)pyrene	12 UJ	NS	NS	12 UJ	NS	NS	NS	NS	11 UJ
Isophorone	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Naphthalene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Nitrobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
N-Nitroso-di-n-propylamine	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
N-Nitrosodiphenylamine (1)	NA	NS	NS	12 U	NS	NS	NS	NS	11 U
Pentachlorophenol	NA	NS	NS	61 U	NS	NS	NS	NS	55 U
Phenanthrene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U
Phenol	NA	NS	NS	7 J	NS	NS	NS	NS	6 J
Pyrene	12 U	NS	NS	12 U	NS	NS	NS	NS	11 U

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 15
Surface Water SVOC Analytical Results
Summer Storm 1

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
1,2-Dichlorobenzene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
1,3-Dichlorobenzene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
1,4-Dichlorobenzene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2,4,5-Trichlorophenol	NA	NA	NA	NS	NA	NA	NA	NA	58 U
2,4,6-Trichlorophenol	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2,4-Dichlorophenol	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2,4-Dimethylphenol	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2,4-Dinitrophenol	NA	NA	NA	NS	NA	NA	NA	NA	58 U
2,4-Dinitrotoluene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2,6-Dinitrotoluene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2-Chloronaphthalene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2-Chlorophenol	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2-Methylnaphthalene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
2-Methylphenol	NA	NA	NA	NS	NA	NA	NA	NA	12 U
2-Nitroaniline	NA	NA	NA	NS	NA	NA	NA	NA	58 U
2-Nitrophenol	NA	NA	NA	NS	NA	NA	NA	NA	12 U
3,3'-Dichlorobenzidine	NA	NA	NA	NS	NA	NA	NA	NA	23 U
3-Nitroaniline	NA	NA	NA	NS	NA	NA	NA	NA	58 U
4,6-Dinitro-2-methylphenol	NA	NA	NA	NS	NA	NA	NA	NA	58 U
4-Bromophenyl-phenylether	NA	NA	NA	NS	NA	NA	NA	NA	12 U
4-Chloro-3-methylphenol	NA	NA	NA	NS	NA	NA	NA	NA	12 U
4-Chloroaniline	NA	NA	NA	NS	NA	NA	NA	NA	12 U
4-Chlorophenyl-phenylether	NA	NA	NA	NS	NA	NA	NA	NA	12 U
4-Methylphenol	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
4-Nitroaniline	NA	NA	NA	NS	NA	NA	NA	NA	58 U
4-Nitrophenol	NA	NA	NA	NS	NA	NA	NA	NA	58 U
Acenaphthene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Acenaphthylene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Anthracene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Benzo(a)anthracene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Benzo(a)pyrene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Benzo(b)fluoranthene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Benzo(g,h,i)perylene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Benzo(k)fluoranthene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Benzoic acid	NA	NA	NA	NS	NA	NA	NA	NA	R
Benzyl alcohol	NA	NA	NA	NS	NA	NA	NA	NA	12 U

Table 15
Surface Water SVOC Analytical Results
Summer Storm 1

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NA	NA	NS	NA	NA	NA	NA	12 U
bis(2-Chloroethyl)ether	NA	NA	NA	NS	NA	NA	NA	NA	12 U
bis(2-Chloroisopropyl)ether	NA	NA	NA	NS	NA	NA	NA	NA	12 U
bis(2-Ethylhexyl)phthalate	1 JB	1 JB	1 JB	NS	2 JB	1 JB	1 JB	2 JB	120
Butylbenzylphthalate	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Chrysene	11 U	11 U	11 U	NS	12 U	0.6 J	12 U	14 U	12 U
Cyclohexanone	NA	NA	NA	NS	NA	NA	NA	NA	21
Dibenzo(a,h)anthracene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Dibenzofuran	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Diethylphthalate	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	0.3 J
Dimethylphthalate	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Di-n-butylphthalate	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Di-n-octylphthalate	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Flourene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Fluoranthene	11 U	11 U	11 U	NS	12 U	1 J	12 U	14 U	12 U
Hexachlorobenzene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Hexachlorobutadiene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Hexachlorocyclopentadine	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Hexachloroethane	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Indeno(1,2,3-cd)pyrene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Isophorone	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Naphthalene	11 U	11 U	11 U	NS	12 U	16 U	12 U	14 U	12 U
Nitrobenzene	NA	NA	NA	NS	NA	NA	NA	NA	12 U
N-Nitroso-di-n-propylamine	NA	NA	NA	NS	NA	NA	NA	NA	12 U
N-Nitrosodiphenylamine (1)	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Pentachlorophenol	NA	NA	NA	NS	NA	NA	NA	NA	58 U
Phenanthrene	11 U	11 U	11 U	NS	12 U	0.3 J	12 U	14 U	12 U
Phenol	NA	NA	NA	NS	NA	NA	NA	NA	12 U
Pyrene	11 U	11 U	11 U	NS	12 U	0.8 J	12 U	14 U	12 U

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 16
Surface Water SVOC Analytical Results
Summer Storm 2

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4A ug/L	SW-4B ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 U
1,2-Dichlorobenzene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
1,3-Dichlorobenzene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
1,4-Dichlorobenzene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2,4,5-Trichlorophenol	NA	NA	NA	50 U	53 U	NA	NA	NA	NA	50 UJ
2,4,6-Trichlorophenol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2,4-Dichlorophenol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2,4-Dimethylphenol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2,4-Dinitrophenol	NA	NA	NA	50 U	53 U	NA	NA	NA	NA	50 UJ
2,4-Dinitrotoluene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2,6-Dinitrotoluene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2-Chloronaphthalene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2-Chlorophenol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2-Methylnaphthalene	11 U	10 U	10 U	10 U	11 U	10 U	11 U	11 U	10 U	10 UJ
2-Methylphenol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
2-Nitroaniline	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	50 UJ
2-Nitrophenol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
3,3'-Dichlorobenzidine	NA	NA	NA	20 U	21 U	NA	NA	NA	NA	20 UJ
3-Nitroaniline	NA	NA	NA	50 U	53 U	NA	NA	NA	NA	50 UJ
4,6-Dinitro-2-methylphenol	NA	NA	NA	50 U	53 U	NA	NA	NA	NA	50 UJ
4-Bromophenyl-phenylether	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
4-Chloro-3-methylphenol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
4-Chloroaniline	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
4-Chlorophenyl-phenylether	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
4-Methylphenol	11 U	10 U	10 U	10 U	11 U	10 U	11 U	NA	10 U	10 UJ
4-Nitroaniline	NA	NA	NA	50 U	53 U	NA	NA	NA	NA	50 UJ
4-Nitrophenol	NA	NA	NA	50 U	50 U	NA	NA	11 U	NA	50 UJ
Acenaphthene	11 U	10 U	10 U	10 U	11 U	10 U	11 U	11 U	10 U	10 UJ
Acenaphthylene	11 U	10 U	10 U	10 U	11 U	10 U	11 U	2 J	10 U	10 UJ
Anthracene	11 U	10 U	10 U	10 U	11 U	10 U	11 U	11 U	10 U	10 UJ
Benzo(a)anthracene	11 U	10 U	10 U	10 U	11 U	10 U	0.7 J	0.8 J	10 U	10 UJ
Benzo(a)pyrene	11 U	10 U	10 U	10 U	11 U	10 U	1 J	1 J	10 U	10 UJ
Benzo(b)fluoranthene	11 U	10 U	10 U	10 U	11 U	10 U	2 J	2 J	10 U	10 UJ
Benzo(g,h,i)perylene	11 U	10 U	10 U	10 UJ	11 UJ	10 U	0.9 J	2 J	10 U	10 UJ
Benzo(k)fluoranthene	11 U	10 U	10 U	10 U	11 U	10 U	2 J	2 J	10 U	10 UJ
Benzoic acid	NA	NA	NA	R	R	NA	NA	NA	NA	R
Benzyl alcohol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ

Table 16
Surface Water SVOC Analytical Results
Summer Storm 2

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4A ug/L	SW-4B ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
bis(2-Chloroethyl)ether	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
bis(2-Chloroisopropyl)ether	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
bis(2-Ethylhexyl)phthalate	3 JB	2 JB	2 JB	10 U	11 U	2 JB	2 JB	5 JB	6 JB	10 UJ
Butylbenzylphthalate	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Chrysene	11 U	10 U	10 U	10 U	11 U	10 U	2 J	3 J	10 U	10 UJ
Cyclohexanone	11 U	10 U	10 U	29	24	10 U	11 U	11 U	10 U	10 UJ
Dibenzo(a,h)anthracene	11 U	10 U	10 U	10 UJ	11 UJ	10 U	11 U	11 U	10 U	10 UJ
Dibenzofuran	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Diethylphthalate	11 U	10 U	10 U	0.2 J	11 U	10 U	11 U	11 U	10 U	10 UJ
Dimethylphthalate	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Di-n-butylphthalate	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Di-n-octylphthalate	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Flourene	11 U	10 U	10 U	10 U	11 U	10 U	11 U	11 U	10 U	10 UJ
Fluoranthene	0.3 J	10 U	10 U	10 U	11 U	10 U	3 J	4 J	0.3 J	10 UJ
Hexachlorobenzene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Hexachlorobutadiene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Hexachlorocyclopentadine	NA	NA	NA	10 UJ	11 UJ	NA	NA	NA	NA	10 UJ
Hexachloroethane	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Indeno(1,2,3-cd)pyrene	11U	10 U	10 U	10 UJ	11 UJ	10 U	0.9 J	2 J	10 U	10 UJ
Isophorone	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Naphthalene	11 U	10 U	10 U	10 U	11 U	10 U	11 U	11 U	10 U	10 UJ
Nitrobenzene	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
N-Nitroso-di-n-propylamine	NA	NA	NA	10 UJ	11 UJ	NA	NA	NA	NA	10 UJ
N-Nitrosodiphenylamine (1)	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Pentachlorophenol	NA	NA	NA	50 U	53 U	NA	NA	NA	NA	50 UJ
Phenanthrene	11 U	10 U	10 U	10 U	11 U	10 U	1 J	2 J	10 U	10 UJ
Phenol	NA	NA	NA	10 U	11 U	NA	NA	NA	NA	10 UJ
Pyrene	0.3 J	10 U	10 U	10 U	11 U	10 U	3 J	4 J	0.4 J	10 UJ

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 17
Surface Water SVOC Analytical Results
Fall Baseflow

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
1,2-Dichlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
1,3-Dichlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
1,4-Dichlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2,4,5-Trichlorophenol	NA	NS	NS	59 U	NS	NS	NS	NS	69 U
2,4,6-Trichlorophenol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2,4-Dichlorophenol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2,4-Dimethylphenol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2,4-Dinitrophenol	NA	NS	NS	59 UJ	NS	NS	NS	NS	69 UJ
2,4-Dinitrotoluene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2,6-Dinitrotoluene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2-Chloronaphthalene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2-Chlorophenol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2-Methylnaphthalene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
2-Methylphenol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
2-Nitroaniline	NA	NS	NS	59 U	NS	NS	NS	NS	69 U
2-Nitrophenol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
3,3'-Dichlorobenzidine	NA	NS	NS	24 U	NS	NS	NS	NS	28 U
3-Nitroaniline	NA	NS	NS	59 U	NS	NS	NS	NS	69 U
4,6-Dinitro-2-methylphenol	NA	NS	NS	59 U	NS	NS	NS	NS	69 U
4-Bromophenyl-phenylether	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
4-Chloro-3-methylphenol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
4-Chloroaniline	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
4-Chlorophenyl-phenylether	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
4-Methylphenol	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
4-Nitroaniline	NA	NS	NS	59 U	NS	NS	NS	NS	69 U
4-Nitrophenol	NA	NS	NS	59 U	NS	NS	NS	NS	69 U
Acenaphthene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Acenaphthylene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Anthracene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Benzo(a)anthracene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Benzo(a)pyrene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Benzo(b)fluoranthene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Benzo(g,h,i)perylene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Benzo(k)fluoranthene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Benzoic acid	NA	NS	NS	69 J	NS	NS	NS	NS	69 UJ
Benzyl alcohol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U

Table 17
Surface Water SVOC Analytical Results
Fall Baseflow

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
bis(2-Chloroethyl)ether	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
bis(2-Chloroisopropyl)ether	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
bis(2-Ethylhexyl)phthalate	2 JB	NS	NS	12 U	NS	NS	NS	NS	14 U
Butylbenzylphthalate	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Chrysene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Cyclohexanone	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Dibenzo(a,h)anthracene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Dibenzofuran	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Diethylphthalate	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Dimethylphthalate	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Di-n-butylphthalate	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Di-n-octylphthalate	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Flourene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Fluoranthene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Hexachlorobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Hexachlorobutadiene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Hexachlorocyclopentadine	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Hexachloroethane	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Indeno(1,2,3-cd)pyrene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Isophorone	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Naphthalene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Nitrobenzene	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
N-Nitroso-di-n-propylamine	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
N-Nitrosodiphenylamine (1)	NA	NS	NS	59 U	NS	NS	NS	NS	69 U
Pentachlorophenol	NA	NS	NS	R	NS	NS	NS	NS	69 UJ
Phenanthrene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U
Phenol	NA	NS	NS	12 U	NS	NS	NS	NS	14 U
Pyrene	12 U	NS	NS	12 U	NS	NS	NS	NS	14 U

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 18
Surface Water SVOC Analytical Results
Fall Storm 1

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
1,2-Dichlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
1,3-Dichlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
1,4-Dichlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2,4,5-Trichlorophenol	NA	NA	NA	57 U	NA	NA	NA	NA	57 U
2,4,6-Trichlorophenol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2,4-Dichlorophenol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2,4-Dimethylphenol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2,4-Dinitrophenol	NA	NA	NA	57 UJ	NA	NA	NA	NA	57 UJ
2,4-Dinitrotoluene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2,6-Dinitrotoluene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2-Chloronaphthalene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2-Chlorophenol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2-Methylnaphthalene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
2-Methylphenol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
2-Nitroaniline	NA	NA	NA	57 U	NA	NA	NA	NA	57 U
2-Nitrophenol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
3,3'-Dichlorobenzidine	NA	NA	NA	23 U	NA	NA	NA	NA	23 U
3-Nitroaniline	NA	NA	NA	57 U	NA	NA	NA	NA	57 U
4,6-Dinitro-2-methylphenol	NA	NA	NA	57 U	NA	NA	NA	NA	57 U
4-Bromophenyl-phenylether	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
4-Chloro-3-methylphenol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
4-Chloroaniline	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
4-Chlorophenyl-phenylether	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
4-Methylphenol	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
4-Nitroaniline	NA	NA	NA	57 U	NA	NA	NA	NA	57 U
4-Nitrophenol	NA	NA	NA	57 U	NA	NA	NA	NA	57 U
Acenaphthene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Acenaphthylene	11 U	13 U	10	11 U	12 U	14 U	12 U	12 U	11 U
Anthracene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Benzo(a)anthracene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Benzo(a)pyrene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Benzo(b)fluoranthene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Benzo(g,h,i)perylene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Benzo(k)fluoranthene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Benzoic acid	NA	NA	NA	57 U	NA	NA	NA	NA	57 U
Benzyl alcohol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U

Table 18
Surface Water SVOC Analytical Results
Fall Storm 1

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
bis(2-Chloroethyl)ether	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
bis(2-Chloroisopropyl)ether	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
bis(2-Ethylhexyl)phthalate	11 U	13 U	10 U	11 U	12 U	14 U	12 U	8 J	11 U
Butylbenzylphthalate	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Chrysene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Cyclohexanone	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Dibenzo(a,h)anthracene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Dibenzofuran	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Diethylphthalate	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Dimethylphthalate	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Di-n-butylphthalate	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Di-n-octylphthalate	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Flourene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Fluoranthene	11 U	13 U	10 U	11 U	12 U	1 J	0.7 J	0.8 J	11 U
Hexachlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Hexachlorobutadiene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Hexachlorocyclopentadine	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Hexachloroethane	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Indeno(1,2,3-cd)pyrene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Isophorone	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Naphthalene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Nitrobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
N-Nitroso-di-n-propylamine	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
N-Nitrosodiphenylamine (1)	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Pentachlorophenol	NA	NA	NA	R	NA	NA	NA	NA	57 UJ
Phenanthrene	11 U	13 U	10 U	11 U	12 U	14 U	12 U	12 U	11 U
Phenol	NA	NA	NA	11 U	NA	NA	NA	NA	11 U
Pyrene	11 U	13 U	10 U	11 U	12 U	0.7 J	0.5 J	0.8 J	11 U

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 19
Surface Water SVOC Analytical Results
Fall Storm 2

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
1,2-Dichlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
1,3-Dichlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
1,4-Dichlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2,4,5-Trichlorophenol	NA	NA	NA	57 U	NA	NA	NA	NA	50 U
2,4,6-Trichlorophenol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2,4-Dichlorophenol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2,4-Dimethylphenol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2,4-Dinitrophenol	NA	NA	NA	57 U	NA	NA	NA	NA	50 U
2,4-Dinitrotoluene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2,6-Dinitrotoluene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2-Chloronaphthalene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2-Chlorophenol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2-Methylnaphthalene	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
2-Methylphenol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
2-Nitroaniline	NA	NA	NA	57 U	NA	NA	NA	NA	50 U
2-Nitrophenol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
3,3'-Dichlorobenzidine	NA	NA	NA	23 U	26 U	NA	NA	NA	20 U
3-Nitroaniline	NA	NA	NA	57 U	NA	NA	NA	NA	50 U
4,6-Dinitro-2-methylphenol	NA	NA	NA	57 U	NA	NA	NA	NA	10 U
4-Bromophenyl-phenylether	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
4-Chloro-3-methylphenol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
4-Chloroaniline	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
4-Chlorophenyl-phenylether	NA	NA	NA	11 U	NA	NA	NA	NA	50 U
4-Methylphenol	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
4-Nitroaniline	NA	NA	NA	57 U	NA	NA	NA	NA	50 U
4-Nitrophenol	NA	NA	NA	57 U	NA	NA	NA	NA	50 U
Acenaphthene	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
Acenaphthylene	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
Anthracene	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	11 U	13 U	0.4 J	11 U	11 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	11 U	13 U	0.6 J	11 U	11 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	11 U	13 U	1 J	0.6 J	11 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	11 U	13 U	0.6 J	11 U	11 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	11 U	13 U	1 J	0.5 J	11 U	10 U
Benzoic acid	NA	NA	NA	57 U	NA	NA	NA	NA	50 U
Benzyl alcohol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U

Table 19
Surface Water SVOC Analytical Results
Fall Storm 2

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
bis(2-Chloroethyl)ether	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
bis(2-Chloroisopropyl)ether	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
bis(2-Ethylhexyl)phthalate	NA	NA	NA	11 U	NA	11 U	11 U	4J	10 U
Butylbenzylphthalate	NA	NA	NA	11 U	13 U	NA	NA	NA	10 U
Chrysene	10 U	10 U	10 U	11 U	13 U	1 J	0.7 J	11 U	10 U
Cyclohexanone	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
Dibenzofuran	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Diethylphthalate	10 U	0.5 JB	10 U	11 U	13 U	11 U	11 U	11 U	10 U
Dimethylphthalate	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Di-n-butylphthalate	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Di-n-octylphthalate	NA	NA	NA	11 U	2 J	NA	NA	NA	10 U
Flourene	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
Fluoranthene	10 U	10 U	10 U	11 U	13 U	2 J	1 J	.3J	10 U
Hexachlorobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	50 U
Hexachlorobutadiene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Hexachlorocyclopentadine	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Hexachloroethane	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	11 U	13 U	0.6 J	11 U	11 U	10 U
Isophorone	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Naphthalene	10 U	10 U	10 U	11 U	13 U	11 U	11 U	11 U	10 U
Nitrobenzene	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
N-Nitroso-di-n-propylamine	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
N-Nitrosodiphenylamine (1)	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Pentachlorophenol	NA	NA	NA	57 U	NA	NA	NA	NA	10 U
Phenanthrene	10 U	10 U	10 U	11 U	13 U	0.7 J	0.4 J	11 U	10 U
Phenol	NA	NA	NA	11 U	NA	NA	NA	NA	10 U
Pyrene	10 U	10 U	10 U	11 U	13 U	1 J	0.7 J	.3J	10 U

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 20
Surface Water SVOC Analytical Results
Post-Turnover Storm

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
1,2-Dichlorobenzene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
1,3-Dichlorobenzene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
1,4-Dichlorobenzene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2,4,5-Trichlorophenol	NA	NS	NS	NS	NS	NS	NS	NS	50 UJ
2,4,6-Trichlorophenol	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2,4-Dichlorophenol	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2,4-Dimethylphenol	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2,4-Dinitrophenol	NA	NS	NS	NS	NS	NS	NS	NS	50 U
2,4-Dinitrotoluene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2,6-Dinitrotoluene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2-Chloronaphthalene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2-Chlorophenol	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2-Methylnaphthalene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
2-Methylphenol	NA	NS	NS	NS	NS	NS	NS	NS	10 U
2-Nitroaniline	NA	NS	NS	NS	NS	NS	NS	NS	50 U
2-Nitrophenol	NA	NS	NS	NS	NS	NS	NS	NS	10 U
3,3'-Dichlorobenzidine	NA	NS	NS	NS	NS	NS	NS	NS	20 U
3-Nitroaniline	NA	NS	NS	NS	NS	NS	NS	NS	50 U
4,6-Dinitro-2-methylphenol	NA	NS	NS	NS	NS	NS	NS	NS	50 U
4-Bromophenyl-phenylether	NA	NS	NS	NS	NS	NS	NS	NS	10 U
4-Chloro-3-methylphenol	NA	NS	NS	NS	NS	NS	NS	NS	10 U
4-Chloroaniline	NA	NS	NS	NS	NS	NS	NS	NS	10 U
4-Chlorophenyl-phenylether	NA	NS	NS	NS	NS	NS	NS	NS	10 U
4-Methylphenol	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
4-Nitroaniline	NA	NS	NS	NS	NS	NS	NS	NS	50 U
4-Nitrophenol	NA	NS	NS	NS	NS	NS	NS	NS	50 U
Acenaphthene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Acenaphthylene	0.5 J	NS	NS	NS	NS	NS	NS	NS	10 U
Anthracene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Benzo(a)anthracene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Benzo(a)pyrene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Benzo(b)fluoranthene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Benzo(g,h,i)perylene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Benzo(k)fluoranthene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Benzoic acid	NA	NS	NS	NS	NS	NS	NS	NS	50 U
Benzyl alcohol	NA	NS	NS	NS	NS	NS	NS	NS	10 U

Table 20
Surface Water SVOC Analytical Results
Post-Turnover Storm

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NS	NS	NS	NS	NS	NS	NS	10 U
bis(2-Chloroethyl)ether	NA	NS	NS	NS	NS	NS	NS	NS	10 U
bis(2-Chloroisopropyl)ether	NA	NS	NS	NS	NS	NS	NS	NS	10 U
bis(2-Ethylhexyl)phthalate	1 JB	NS	NS	NS	NS	NS	NS	NS	10 U
Butylbenzylphthalate	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Chrysene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Cyclohexanone	1 J	NS	NS	NS	NS	NS	NS	NS	10 U
Dibenzo(a,h)anthracene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Dibenzofuran	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Diethylphthalate	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Dimethylphthalate	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Di-n-butylphthalate	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Di-n-octylphthalate	NA	NS	NS	NS	NS	NS	NS	NS	0.3 J
Flourene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Fluoranthene	0.6 J	NS	NS	NS	NS	NS	NS	NS	0.6 J
Hexachlorobenzene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Hexachlorobutadiene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Hexachlorocyclopentadine	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Hexachloroethane	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Indeno(1,2,3-cd)pyrene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Isophorone	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Naphthalene	10 U	NS	NS	NS	NS	NS	NS	NS	10 U
Nitrobenzene	NA	NS	NS	NS	NS	NS	NS	NS	10 U
N-Nitroso-di-n-propylamine	NA	NS	NS	NS	NS	NS	NS	NS	10 U
N-Nitrosodiphenylamine (1)	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Pentachlorophenol	NA	NS	NS	NS	NS	NS	NS	NS	50 U
Phenanthrene	0.4 J	NS	NS	NS	NS	NS	NS	NS	10 U
Phenol	NA	NS	NS	NS	NS	NS	NS	NS	10 U
Pyrene	0.4 J	NS	NS	NS	NS	NS	NS	NS	0.4 J

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 21
Surface Water SVOC Analytical Results
Spring Storm 1

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
1,2-Dichlorobenzene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
1,3-Dichlorobenzene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
1,4-Dichlorobenzene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2,4,5-Trichlorophenol	NA	NA	NA	NS	NA	NS	NA	NS	50 U
2,4,6-Trichlorophenol	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2,4-Dichlorophenol	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2,4-Dimethylphenol	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2,4-Dinitrophenol	NA	NA	NA	NS	NA	NS	NA	NS	50 U
2,4-Dinitrotoluene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2,6-Dinitrotoluene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2-Chloronaphthalene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2-Chlorophenol	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2-Methylnaphthalene	10 U	10 U	13 U	NS	12 U	NS	10 U	NS	10 U
2-Methylphenol	NA	NA	NA	NS	NA	NS	NA	NS	10 U
2-Nitroaniline	NA	NA	NA	NS	NA	NS	NA	NS	50 U
2-Nitrophenol	NA	NA	NA	NS	NA	NS	NA	NS	10 U
3,3'-Dichlorobenzidine	NA	NA	NA	NS	NA	NS	NA	NS	20 U
3-Nitroaniline	NA	NA	NA	NS	NA	NS	NA	NS	50 U
4,6-Dinitro-2-methylphenol	NA	NA	NA	NS	NA	NS	NA	NS	50 U
4-Bromophenyl-phenylether	NA	NA	NA	NS	NA	NS	NA	NS	10 U
4-Chloro-3-methylphenol	NA	NA	NA	NS	NA	NS	NA	NS	10 U
4-Chloroaniline	NA	NA	NA	NS	NA	NS	NA	NS	10 U
4-Chlorophenyl-phenylether	NA	NA	NA	NS	NA	NS	NA	NS	10 U
4-Methylphenol	10 UJ	10 UJ	13 UJ	NS	12 UJ	NS	10 UJ	NS	10 UJ
4-Nitroaniline	NA	NA	NA	NS	NA	NS	NA	NS	50 U
4-Nitrophenol	NA	NA	NA	NS	NA	NS	NA	NS	50 U
Acenaphthene	10 U	10 U	13 U	NS	12 U	NS	10 U	NS	10 U
Acenaphthylene	10 U	10 U	13 U	NS	12 U	NS	10 U	NS	10 U
Anthracene	0.3 J	10 U	13 U	NS	12 U	NS	10 U	NS	0.1 J
Benzo(a)anthracene	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Benzo(a)pyrene	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Benzoic acid	NA	NA	NA	NS	NA	NS	NA	NS	R
Benzyl alcohol	NA	NA	NA	NS	NA	NS	NA	NS	10 U

Table 21
Surface Water SVOC Analytical Results
Spring Storm 1

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NA	NA	NS	NA	NS	NA	NS	10 U
bis(2-Chloroethyl)ether	NA	NA	NA	NS	NA	NS	NA	NS	10 U
bis(2-Chloroisopropyl)ether	NA	NA	NA	NS	NA	NS	NA	NS	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Butylbenzylphthalate	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Chrysene	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Cyclohexanone	10 U	10 U	13 U	NS	0.6 J	NS	16	NS	10 U
Dibenzo(a,h)anthracene	10 U	10 U	13 U	NS	12 U	NS	0.4 J	NS	10 U
Dibenzofuran	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Diethylphthalate	0.2 J	1 J	13 UJ	NS	12 UJ	NS	0.3 J	NS	0.2 J
Dimethylphthalate	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Di-n-butylphthalate	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Di-n-octylphthalate	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Flourene	0.2 J	10 U	13 U	NS	12 U	NS	10 U	NS	10 U
Fluoranthene	10 U	10 U	10 U	NS	10 U	NS	10 U	NS	10 U
Hexachlorobenzene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Hexachlorobutadiene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Hexachlorocyclopentadine	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Hexachloroethane	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Isophorone	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Naphthalene	10 U	10 U	13 U	NS	12 U	NS	10 U	NS	10 U
Nitrobenzene	NA	NA	NA	NS	NA	NS	NA	NS	10 U
N-Nitroso-di-n-propylamine	NA	NA	NA	NS	NA	NS	NA	NS	10 U
N-Nitrosodiphenylamine (1)	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Pentachlorophenol	NA	NA	NA	NS	NA	NS	NA	NS	50 U
Phenanthrene	10 U	10 U	10 U	NS	12 U	NS	10 U	NS	10 U
Phenol	NA	NA	NA	NS	NA	NS	NA	NS	10 U
Pyrene	10 U	10 U	10 U	NS	10 U	NS	10 U	NS	10 U

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 22
Surface Water SVOC Analytical Results
Spring Baseflow

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
1,2-Dichlorobenzene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
1,3-Dichlorobenzene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
1,4-Dichlorobenzene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2,4,5-Trichlorophenol	NA	NA	NS	50 U	NS	NS	NS	NS	51 U
2,4,6-Trichlorophenol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2,4-Dichlorophenol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2,4-Dimethylphenol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2,4-Dinitrophenol	NA	NA	NS	50 U	NS	NS	NS	NS	51 U
2,4-Dinitrotoluene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2,6-Dinitrotoluene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2-Chloronaphthalene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2-Chlorophenol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2-Methylnaphthalene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
2-Methylphenol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
2-Nitroaniline	NA	NA	NS	50 U	NS	NS	NS	NS	51 U
2-Nitrophenol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
3,3'-Dichlorobenzidine	NA	NA	NS	20 U	NS	NS	NS	NS	20 U
3-Nitroaniline	NA	NA	NS	50 U	NS	NS	NS	NS	51 U
4,6-Dinitro-2-methylphenol	NA	NA	NS	50 U	NS	NS	NS	NS	51 U
4-Bromophenyl-phenylether	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
4-Chloro-3-methylphenol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
4-Chloroaniline	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
4-Chlorophenyl-phenylether	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
4-Methylphenol	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
4-Nitroaniline	NA	NA	NS	50 U	NS	NS	NS	NS	51 U
4-Nitrophenol	NA	NA	NS	50 U	NS	NS	NS	NS	51 U
Acenaphthene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Acenaphthylene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Anthracene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Benzo(a)anthracene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Benzo(a)pyrene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Benzo(b)fluoranthene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Benzo(g,h,i)perylene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Benzo(k)fluoranthene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Benzoic acid	NA	NA	NS	R	NS	NS	NS	NS	R
Benzyl alcohol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U

Table 22
Surface Water SVOC Analytical Results
Spring Baseflow

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4 ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
bis(2-Chloroethyl)ether	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
bis(2-Chloroisopropyl)ether	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
bis(2-Ethylhexyl)phthalate	0.7 JB	0.7 JB	NS	10 U	NS	NS	NS	NS	10 U
Butylbenzylphthalate	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Chrysene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Cyclohexanone	10 U	10 U	NS	10 UJ	NS	NS	NS	NS	10 UJ
Dibenzo(a,h)anthracene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Dibenzofuran	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Diethylphthalate	0.2 J	1 J	NS	10 U	NS	NS	NS	NS	10 U
Dimethylphthalate	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Di-n-butylphthalate	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Di-n-octylphthalate	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Flourene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Fluoranthene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Hexachlorobenzene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Hexachlorobutadiene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Hexachlorocyclopentadine	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Hexachloroethane	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Isophorone	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Naphthalene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Nitrobenzene	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
N-Nitroso-di-n-propylamine	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
N-Nitrosodiphenylamine (1)	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Pentachlorophenol	NA	NA	NS	50 U	NS	NS	NS	NS	51 U
Phenanthrene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U
Phenol	NA	NA	NS	10 U	NS	NS	NS	NS	10 U
Pyrene	10 U	10 U	NS	10 U	NS	NS	NS	NS	10 U

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator

Table 23
Surface Water SVOC Analytical Results
Spring Storm 2B

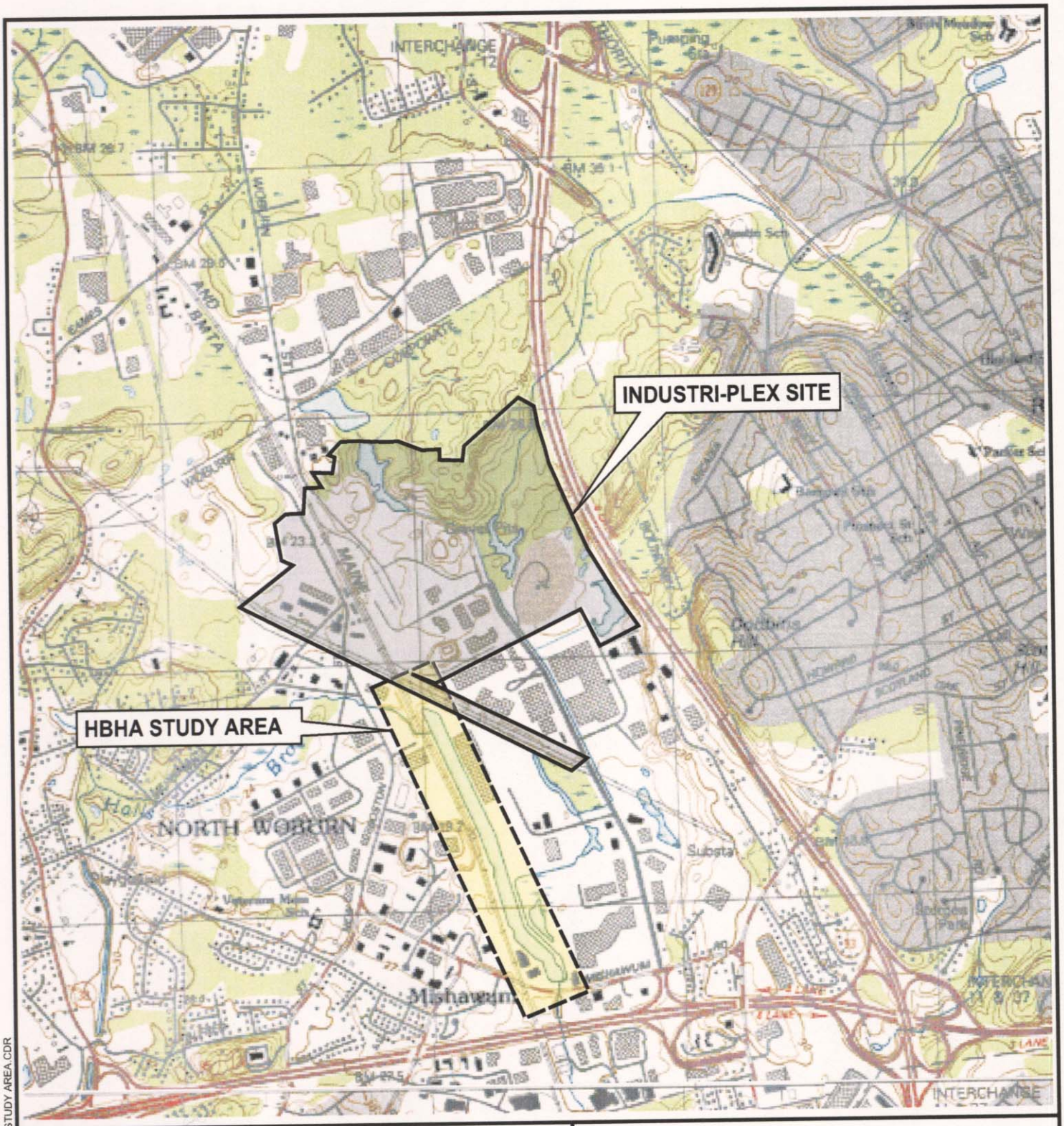
Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4* ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
1,2,4-Trichlorobenzene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
1,2-Dichlorobenzene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
1,3-Dichlorobenzene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
1,4-Dichlorobenzene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2,4,5-Trichlorophenol	NA	NA	NA	50 UJ	NA	NS	NA	NA	59 UJ
2,4,6-Trichlorophenol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2,4-Dichlorophenol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2,4-Dimethylphenol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2,4-Dinitrophenol	NA	NA	NA	50 U	NA	NS	NA	NA	59 U
2,4-Dinitrotoluene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2,6-Dinitrotoluene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2-Chloronaphthalene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2-Chlorophenol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	12 U
2-Methylphenol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
2-Nitroaniline	NA	NA	NA	50 U	NA	NS	NA	NA	59 U
2-Nitrophenol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
3,3'-Dichlorobenzidine	NA	NA	NA	20 U	NA	NS	NA	NA	24 U
3-Nitroaniline	NA	NA	NA	50 U	NA	NS	NA	NA	59 U
4,6-Dinitro-2-methylphenol	NA	NA	NA	50 U	NA	NS	NA	NA	59 U
4-Bromophenyl-phenylether	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
4-Chloro-3-methylphenol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
4-Chloroaniline	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
4-Chlorophenyl-phenylether	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	12 U
4-Nitroaniline	NA	NA	NA	50 U	NA	NS	NA	NA	59 U
4-Nitrophenol	NA	NA	NA	50 U	NA	NS	NA	NA	59 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	12 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	NS	10 U	0.1 J	12 U
Anthracene	0.06 J	10 U	10 U	10 U	10 U	NS	10 U	0.2 J	12 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	NS	0.5 J	0.6 J	12 U
Benzo(a)pyrene	0.1 J	10 U	10 U	10 U	10 U	NS	1 J	1 J	12 U
Benzo(b)fluoranthene	0.1 J	10 U	10 U	10 U	10 U	NS	2 J	1 J	12 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	NS	1 J	1 J	12 U
Benzo(k)fluoranthene	0.1 J	10 U	10 U	10 U	10 U	NS	2 J	1 J	12 U
Benzoic acid	NA	NA	NA	1 J	NA	NS	NA	NA	0.9 J
Benzyl alcohol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U

Table 23
Surface Water SVOC Analytical Results
Spring Storm 2B

Compound	SW-1 ug/L	SW-2 ug/L	SW-3 ug/L	SW-4* ug/L	SW-5 ug/L	SW-6 ug/L	SW-7 ug/L	SW-8 ug/L	SW-9 ug/L
bis(2-Chloroethoxy)methane	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
bis(2-Chloroethyl)ether	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
bis(2-Chloroisopropyl)ether	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
bis(2-Ethylhexyl)phthalate	2 JB	2 JB	1 JB	10 U	2 JB	NS	2 JB	3 JB	12 U
Butylbenzylphthalate	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Chrysene	10 U	10 U	10 U	10 U	10 U	NS	2 J	1 J	12 U
Cyclohexanone	10 U	31	10 U	10 U	10 U	NS	10 U	1 J	35
Dibenzo(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	NS	10 U	0.4 J	12 U
Dibenzofuran	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Diethylphthalate	0.9 J	1 J	10 U	0.1 J	10 U	NS	10 U	0.3 J	0.3 J
Dimethylphthalate	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Di-n-butylphthalate	NA	NA	NA	0.2 J	NA	NS	NA	NA	0.2 J
Di-n-octylphthalate	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Flourene	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	12 U
Fluoranthene	0.2 J	10 U	0.2 J	10 U	10 U	NS	4 J	2 JB	0.2 J
Hexachlorobenzene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Hexachlorobutadiene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Hexachlorocyclopentadine	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Hexachloroethane	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	NS	1 J	1 J	12 U
Isophorone	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Naphthalene	0.1 J	0.1 J	10 U	10 U	10 U	NS	10 U	10 U	12 U
Nitrobenzene	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
N-Nitroso-di-n-propylamine	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
N-Nitrosodiphenylamine (1)	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Pentachlorophenol	NA	NA	NA	50 U	NA	NS	NA	NA	59 U
Phenanthrene	0.2 J	0.1 J	10 U	10 U	10 U	NS	10 U	1 J	12 U
Phenol	NA	NA	NA	10 U	NA	NS	NA	NA	12 U
Pyrene	0.2 J	0.1 J	0.1 J	10 U	10 U	NS	2 JB	2 JB	0.2 J

NS = Not sampled
NA = Not analyzed
U = Not detected, with reporting limit shown
J = Concentration qualified as "estimated" by analytical laboratory or data validator
B = Analyte also found in field or laboratory blanks
R = Data rejected by data validator
*Note: The sample collected at SW-4 was time-weighted.

FIGURES



■ QUADRANGLE LOCATION

N

SOURCE:
USGS; 1987, READING, MA
7.5 Minute Topographic Quadrangle

Title:

LOCATION OF STUDY AREA

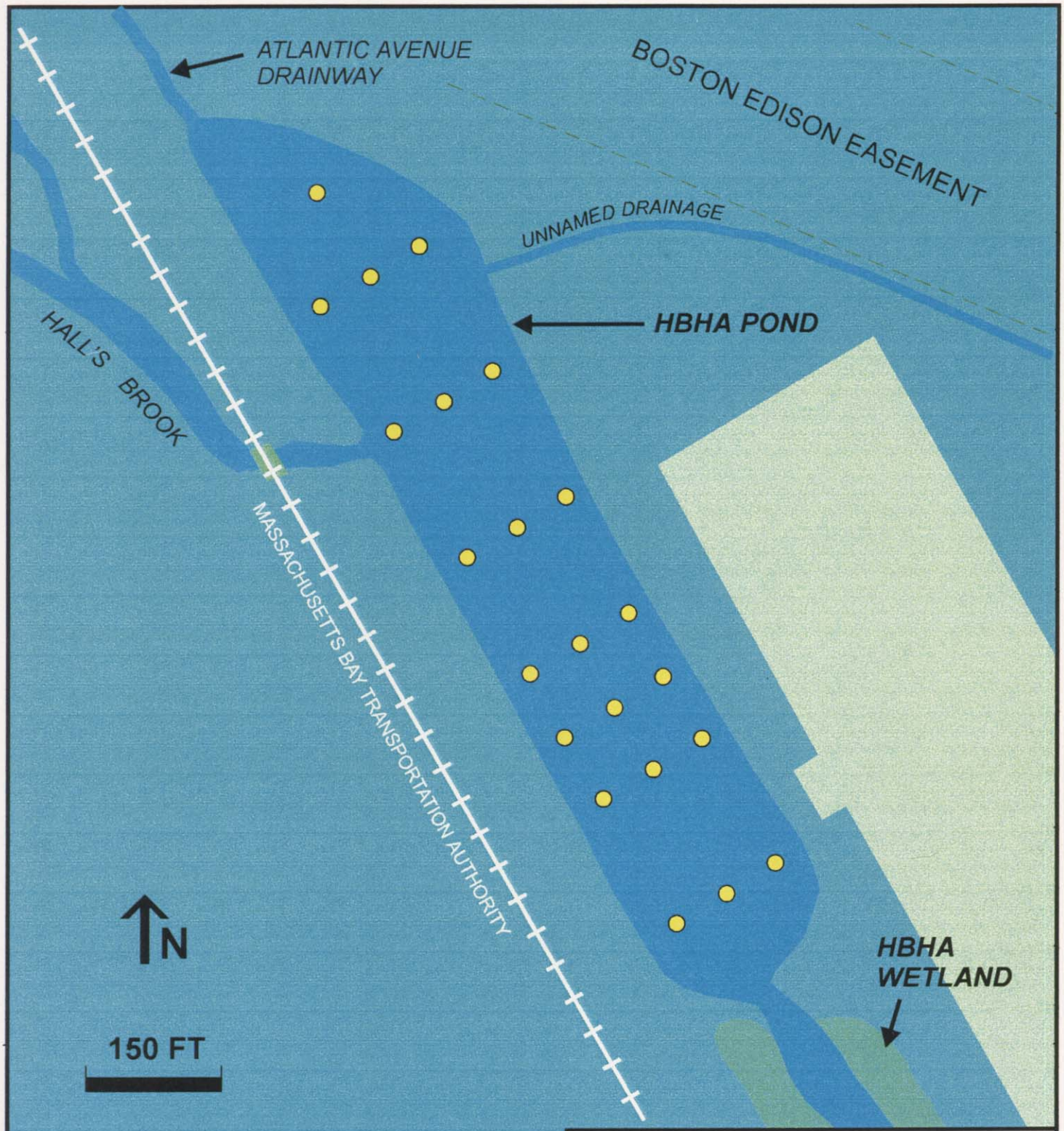
Originals in color.

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC. *Environmental Consulting & Management*	Compiled by: LM	Date: 3/14/02	FIGURE
	Prepared by: RF	Scale: 1"=2000'	1
	Project Mgr.: LM	Office: MA	
	File No.: site location	Project No.: 06626M32	

N:\PROJECTS\Solutia 066\MO066M\MO26M\155\LOCATION OF STUDY AREA.CDR



LEGEND

APPROXIMATE LOCATION OF SEDIMENT THICKNESS MEASUREMENT STATION

Title:

HBHA POND SEDIMENT THICKNESS MEASUREMENT LOCATIONS

Original includes color coding.

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC. *Environmental consulting & Management*	Compiled by: LM	Date: 3/27/02		FIGURE
	Prepared by: RF	Scale: AS SHOWN		2
	Project Mgr.: LM	Office: MA		
	File No.: MO2615507	Project No.: 06626M32		

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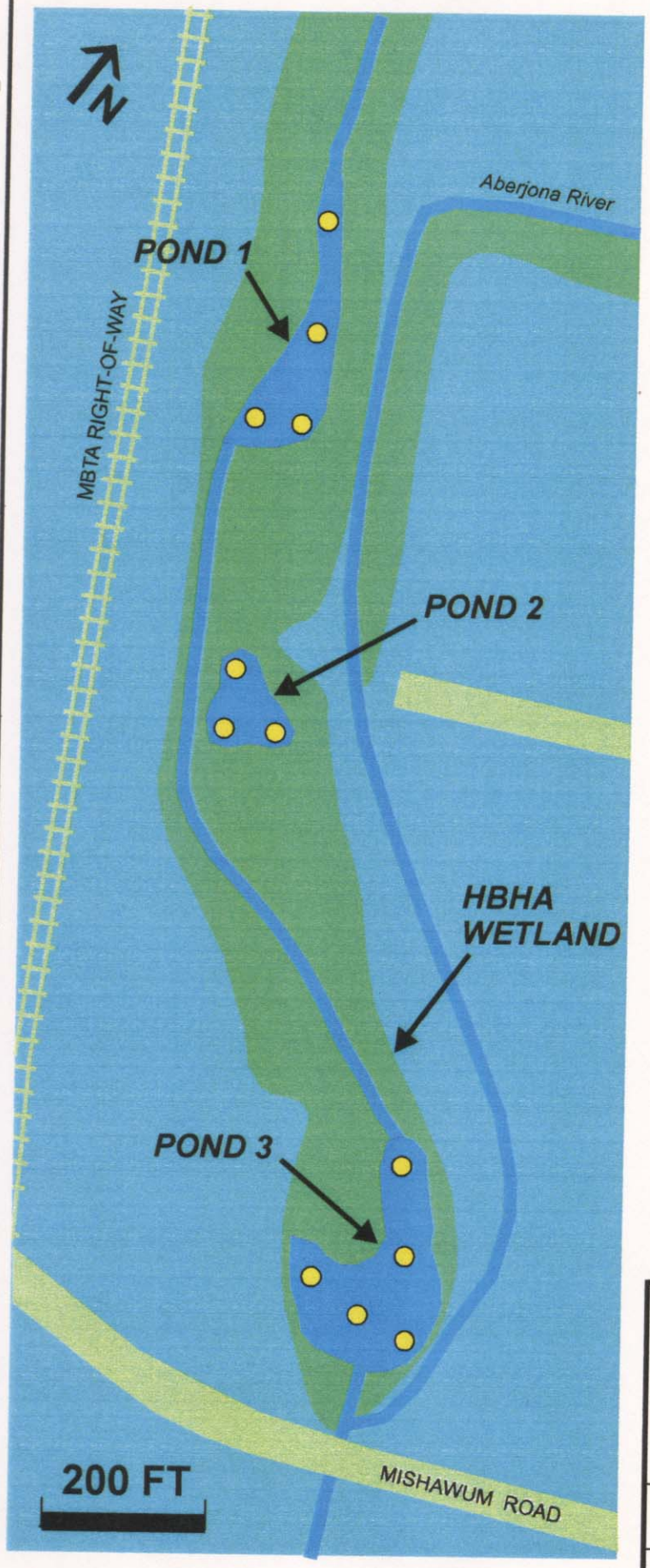

LEGEND

APPROXIMATE LOCATION OF SEDIMENT THICKNESS MEASUREMENT STATION

Original includes color coding.

Title:

HBHA WETLAND SEDIMENT THICKNESS MEASUREMENT LOCATIONS

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC. *Environmental consulting & Management*	Compiled by: LM	Date: 3/27/02		FIGURE
	Prepared by: RF	Scale: AS SHOWN		3
	Project Mgr.: LM	Office: MA		
	File No.: MO2615506	Project No.: 06626M32		

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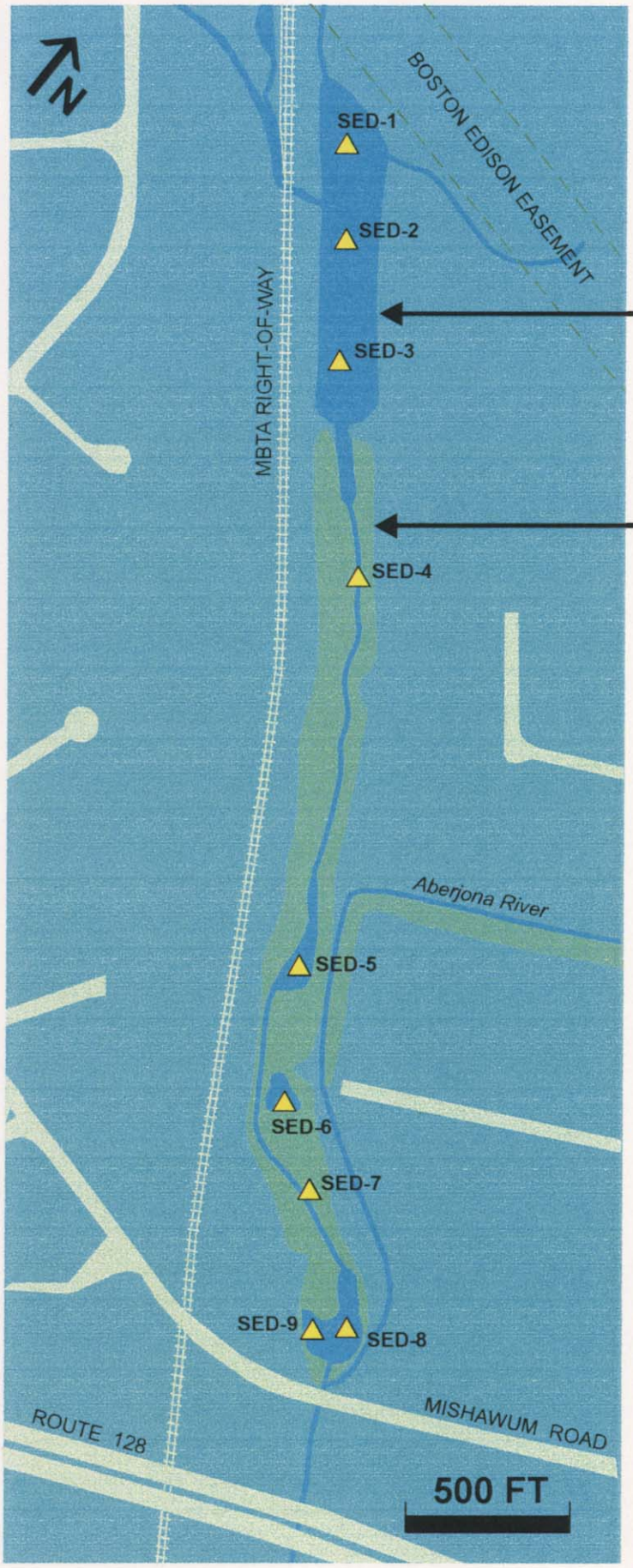

LEGEND

SED-1 △ APPROXIMATE LOCATION AND DESIGNATION OF SEDIMENT SAMPLING STATION

Original includes color coding.

Title:

HBHA SEDIMENT SAMPLING LOCATIONS

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC. *Environmental consulting & Management*	Compiled by: LM	Date: 3/27/02		FIGURE
	Prepared by: RF	Scale: AS SHOWN		4
	Project Mgr.: LM	Office: MA		
	File No.: MO2615501	Project No.: 06626M32		

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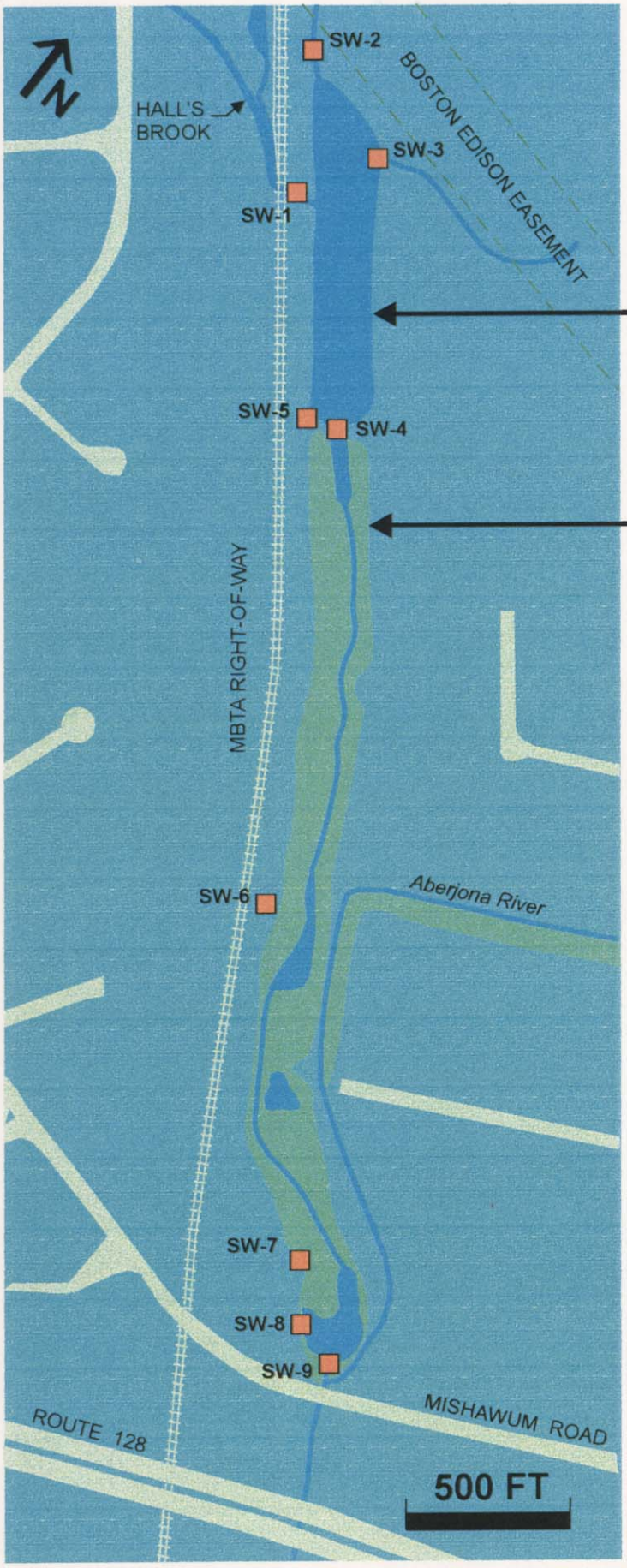

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAMFLOW GAGING STATION

Original includes color coding.

Title:

HBHA SURFACE WATER MONITORING LOCATIONS

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC. *Environmental consulting & Management*	Compiled by: LM	Date: 3/27/02		FIGURE
	Prepared by: RF	Scale: AS SHOWN		5
	Project Mgr.: LM	Office: MA		
	File No.: MO2615501	Project No.: 06626M32		

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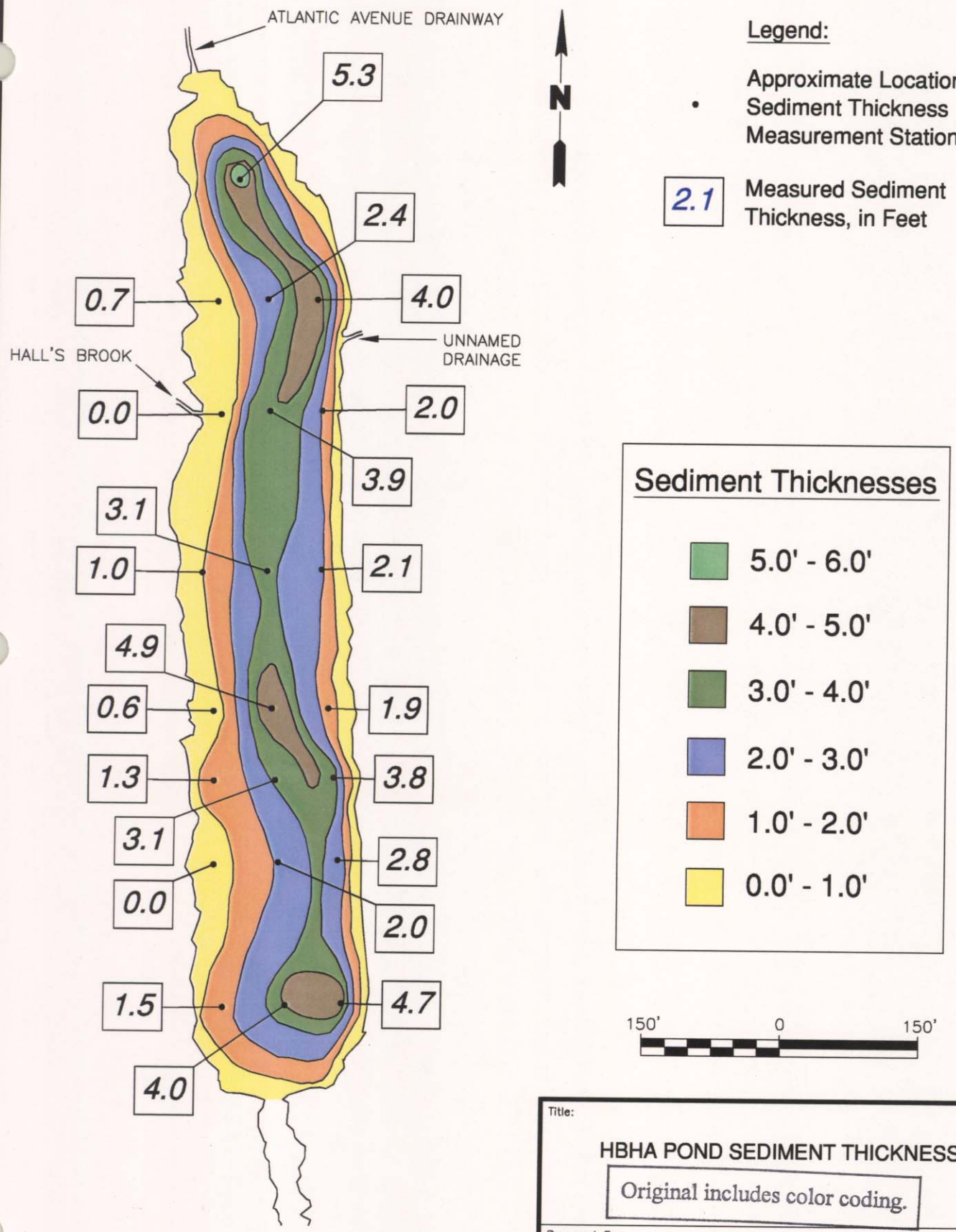

Title:

HBHA POND SEDIMENT THICKNESS

Original includes color coding.

Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled by: HAT	Date: 3/27/02	FIGURE
	Prepared by: RF	Scale: AS SHOWN	6
	Project Mgr: LM	Office: MA	
	File No: M02615505	Project: 06626M32	

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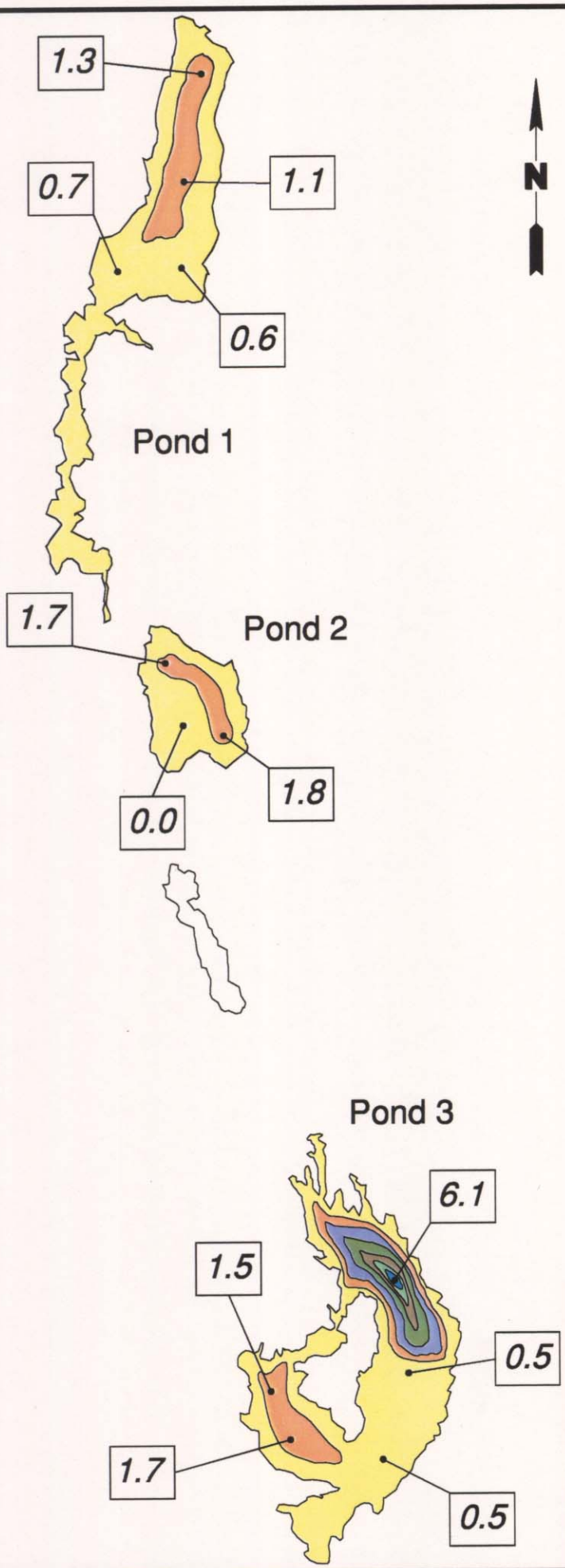

Legend:

• Approximate Location of Sediment Thickness Measurement Station

1.8 Measured Sediment Thickness, in Feet

Note: Refer to Figure 3 for Pond Settings

Sediment Thicknesses

- 6.0' - 7.0'
- 5.0' - 6.0'
- 4.0' - 5.0'
- 3.0' - 4.0'
- 2.0' - 3.0'
- 1.0' - 2.0'
- 0.0' - 1.0'

150' 0 150'

Title:

HBHA WETLAND SEDIMENT THICKNESS

Original includes color coding.

Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled by: HAT	Date: 3/27/02	FIGURE
	Prepared by: RF	Scale: AS SHOWN	7
	Project Mgr: LM	Office: MA	
	File No: M02615505	Project: 06626M32	

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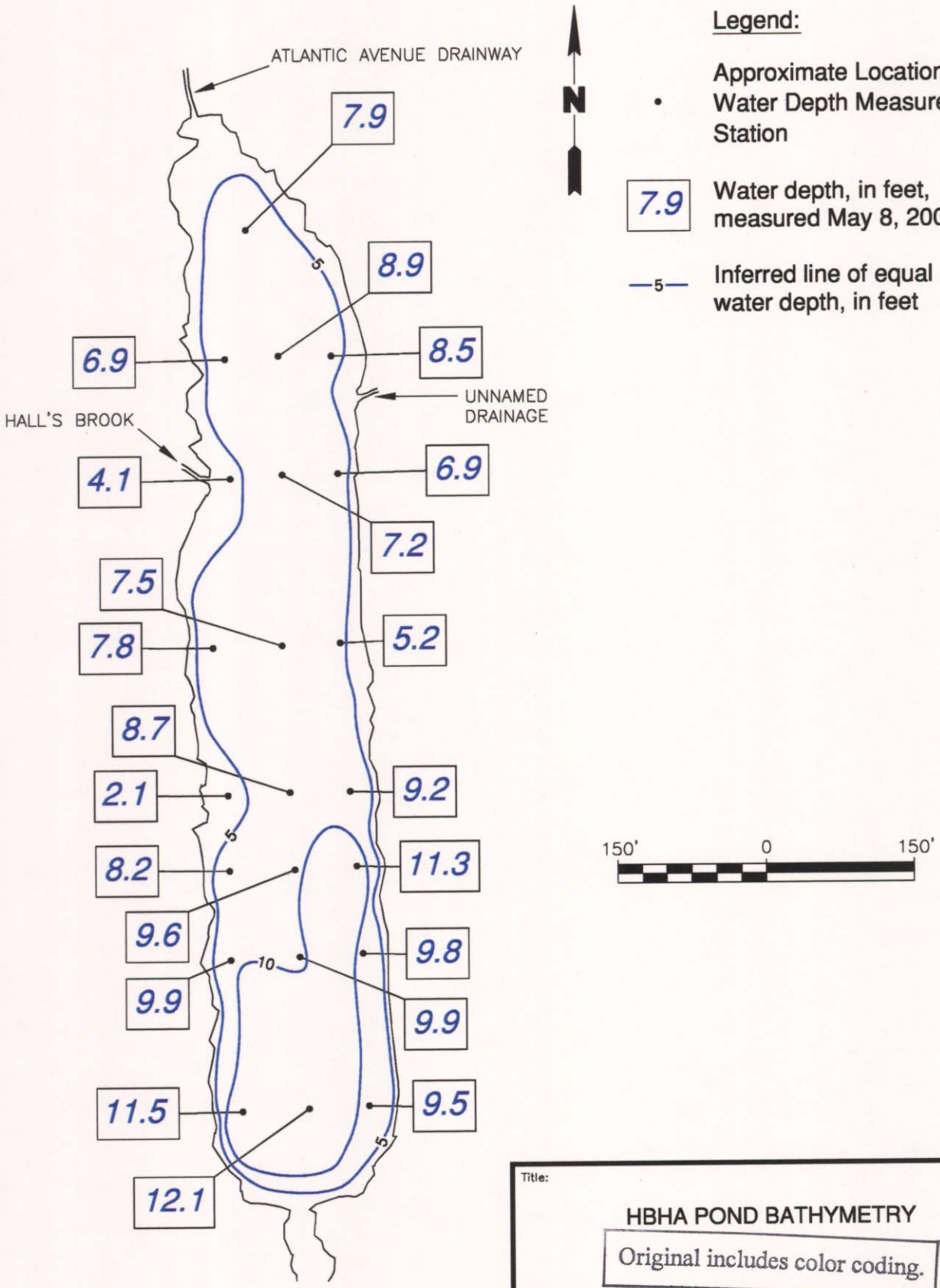

Title:

HBHA POND BATHYMETRY

Original includes color coding.

Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled by: LM	Date: 3/27/02	FIGURE
	Prepared by: RF	Scale: AS SHOWN	8
	Project Mgr: LM	Office: MA	
	File No: MO2615505	Project: 06626M32	

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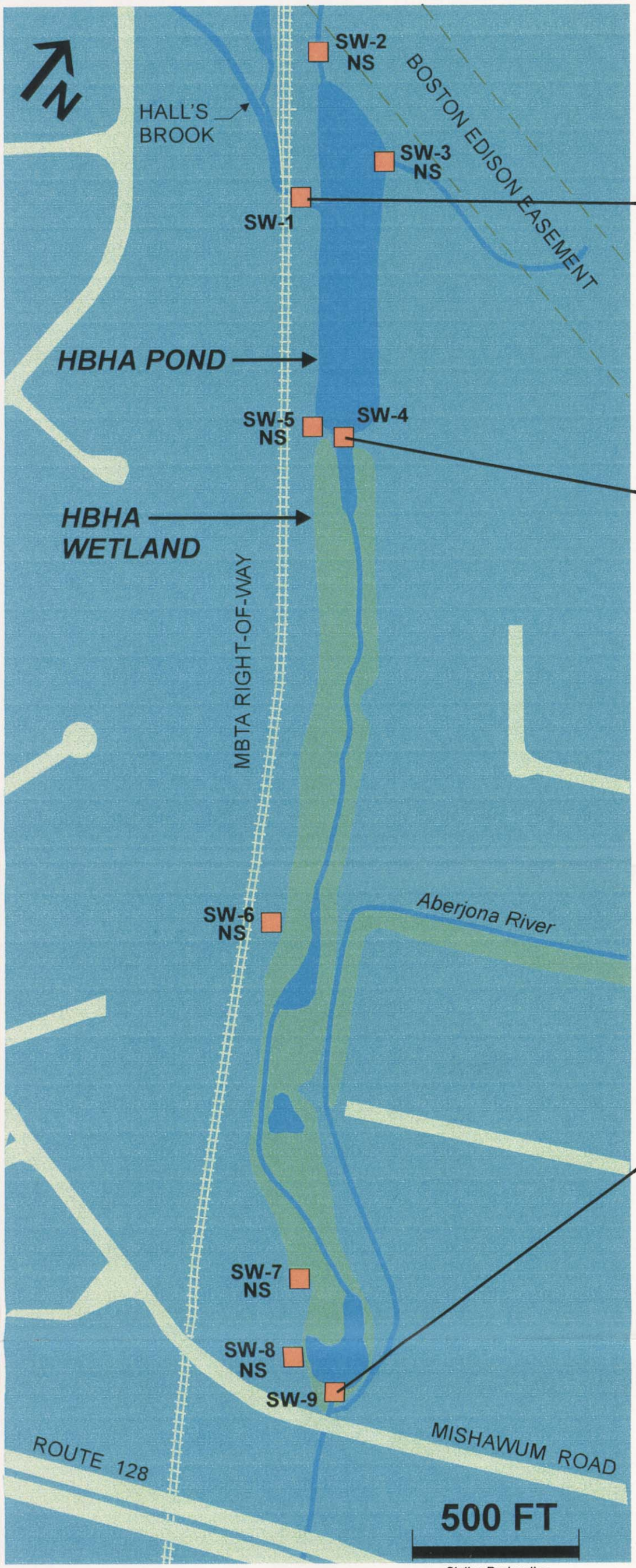


SW-1	
arsenic(t)	3.6J
arsenic(d)	3.1U
chromium(t)	3.5
lead(t)	3.3J
mercury(t)	0.10U
TSS	8.0

SW-4	
arsenic(t)	21.1
arsenic(d)	3.1U
chromium(t)	1.8
lead(t)	1.3U
mercury(t)	0.10U
TSS	5.0U

SW-9	
arsenic(t)	23.5
arsenic(d)	3.1U
chromium(t)	6.2
lead(t)	2.3J
mercury(t)	0.10U
TSS	8.5

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

NS NOT SAMPLED

SW-9	
arsenic(t)	23.5
arsenic(d)	3.1U
chromium(t)	6.2
lead(t)	2.3J
mercury(t)	0.10U
TSS	8.5

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

Title:

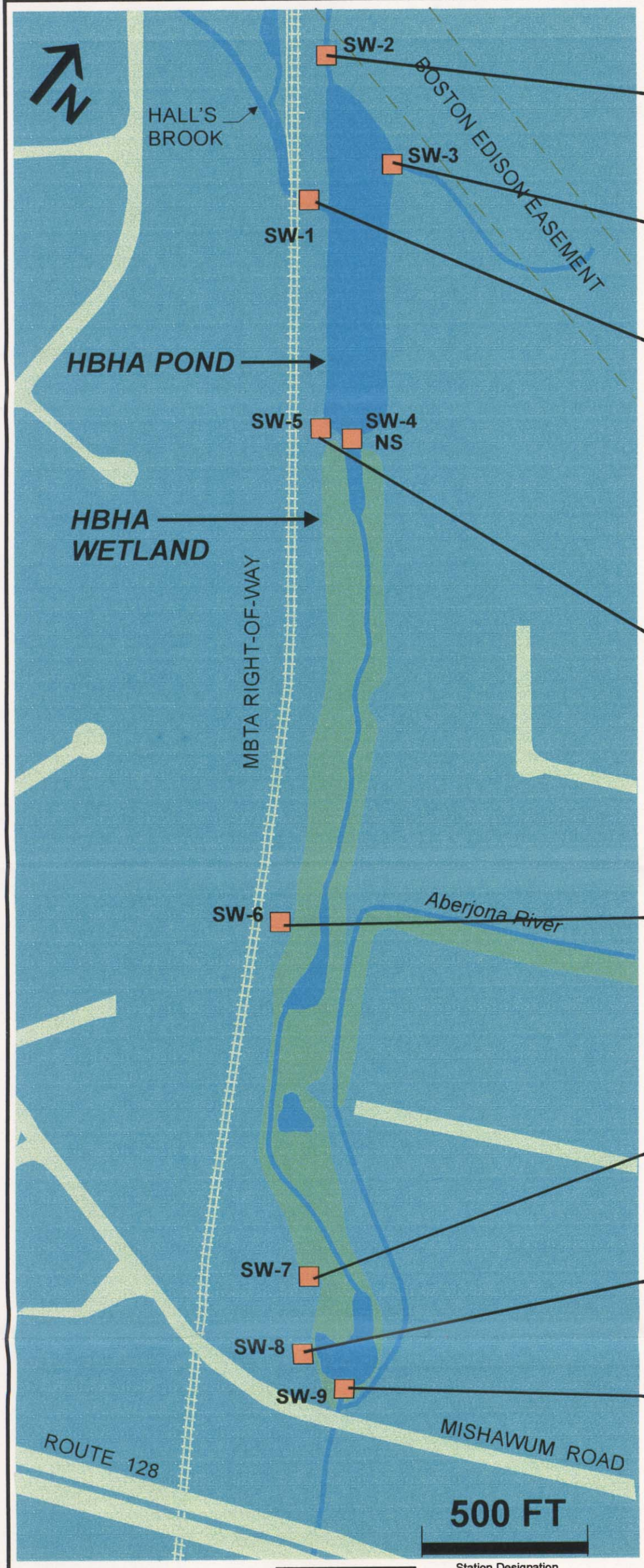
METALS AND TSS DATA FOR SUMMER BASEFLOW

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.		Date:	3/29/02	FIGURE
Prepared by: R.F.		Scale:	AS SHOWN	9
Project Mgr.: L.M.		Office:	MA	
File No.: MO2615503.CDR		Project No.: 06626M32		



SW-2	
arsenic(t)	2.0U
arsenic(d)	2.0U
chromium(t)	1.0U
lead(t)	12.5
mercury(t)	0.10U
TSS	5U

SW-3	
arsenic(t)	5.8B
arsenic(d)	5.7B
chromium(t)	1.0U
lead(t)	1.3U
mercury(t)	0.10U
TSS	5U

SW-1	
arsenic(t)	2.8B
arsenic(d)	2.0U
chromium(t)	1.5B
lead(t)	1.3B
mercury(t)	0.10U
TSS	5U

SW-5	
arsenic(t)	19.8
arsenic(d)	20.8
chromium(t)	3.3B
lead(t)	9.1
mercury(t)	0.10U
TSS	12

SW-6	
arsenic(t)	6.8B
arsenic(d)	7.0B
chromium(t)	1.0U
lead(t)	1.9B
mercury(t)	0.10U
TSS	5U

SW-7	
arsenic(t)	2.0U
arsenic(d)	2.0U
chromium(t)	1.0U
lead(t)	1.3U
mercury(t)	0.10U
TSS	5U

SW-8	
arsenic(t)	2.0U
arsenic(d)	2.0U
chromium(t)	3.2B
lead(t)	3.6
mercury(t)	0.10U
TSS	5U

SW-9	
arsenic(t)	22
arsenic(d)	2.0J
chromium(t)	4.2
lead(t)	2.8J
mercury(t)	0.10U
TSS	8.5

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

NS NOT SAMPLED

SW-9	
arsenic(t)	22
arsenic(d)	2.0J
chromium(t)	4.2
lead(t)	2.8J
mercury(t)	0.10U
TSS	8.5

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

Title:

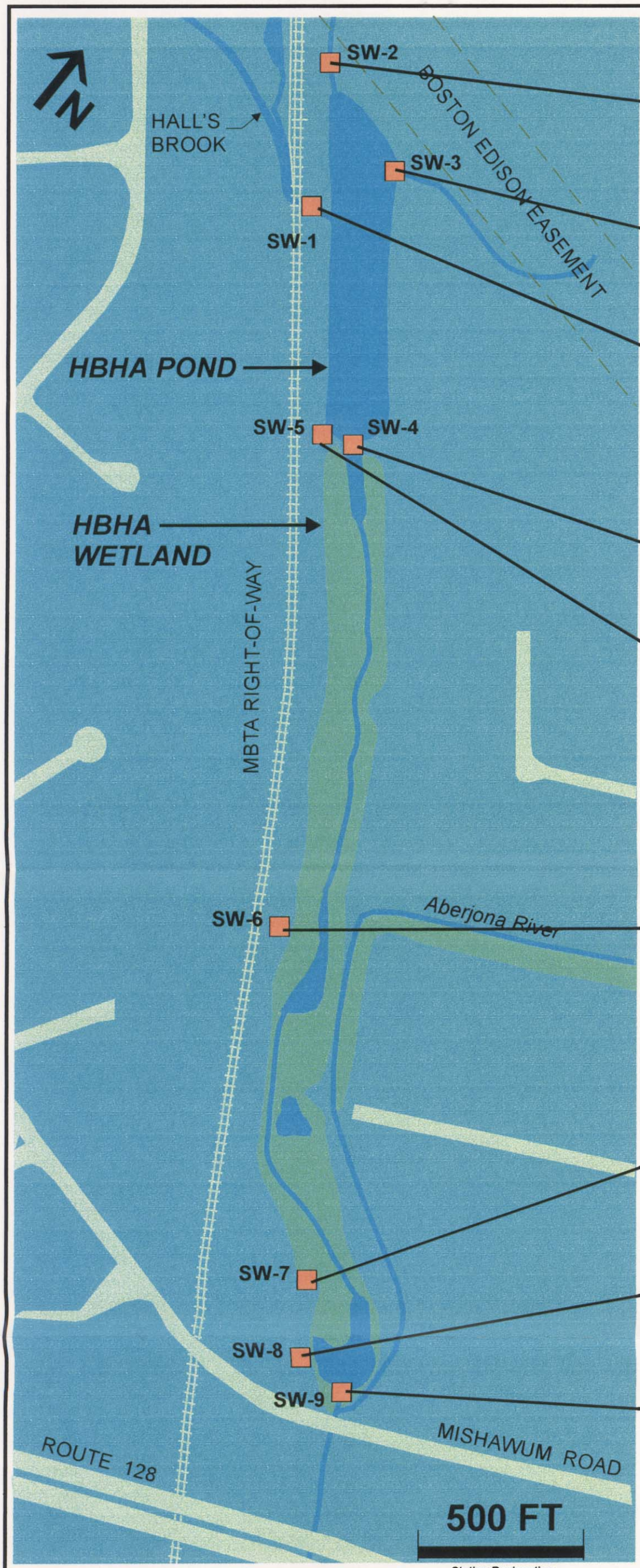
METALS AND TSS DATA FOR SUMMER STORM 1

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE
Prepared by: R.F.	Scale: AS SHOWN	10
Project Mgr.: L.M.	Office: MA	
File No.: MO2615503.CDR	Project No.: 06626M32	



SW-2	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.0U
lead(t)	2.0U
mercury(t)	0.10U
TSS	5U

SW-3	
arsenic(t)	10.2
arsenic(d)	3.7B
chromium(t)	1.2B
lead(t)	2.0U
mercury(t)	0.10U
TSS	5U

SW-1	
arsenic(t)	4.4B
arsenic(d)	2.5U
chromium(t)	3.1B
lead(t)	2.0U
mercury(t)	0.10U
TSS	5U

SW-4A		SW-4B	
arsenic(t)	55.0	arsenic(t)	45.2
arsenic(d)	3.4J	arsenic(d)	2.5U
chromium(t)	3.8	chromium(t)	3.8
lead(t)	2.0U	lead(t)	2.7J
mercury(t)	0.10U	mercury(t)	0.10U
TSS	20.0	TSS	18.5

SW-5	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.0U
lead(t)	3.2
mercury(t)	0.10U
TSS	5U

SW-6	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.0U
lead(t)	2.0U
mercury(t)	0.10U
TSS	8

SW-7	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	4.0B
lead(t)	12.1
mercury(t)	0.10U
TSS	30

SW-8	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	5.2B
lead(t)	5.8
mercury(t)	0.10U
TSS	16

SW-9	
arsenic(t)	21.5
arsenic(d)	2.8J
chromium(t)	2.1
lead(t)	2.0U
mercury(t)	0.10U
TSS	7.0

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

SW-9	
arsenic(t)	21.5
arsenic(d)	2.8J
chromium(t)	2.1
lead(t)	2.0U
mercury(t)	0.10U
TSS	7.0

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

Title:

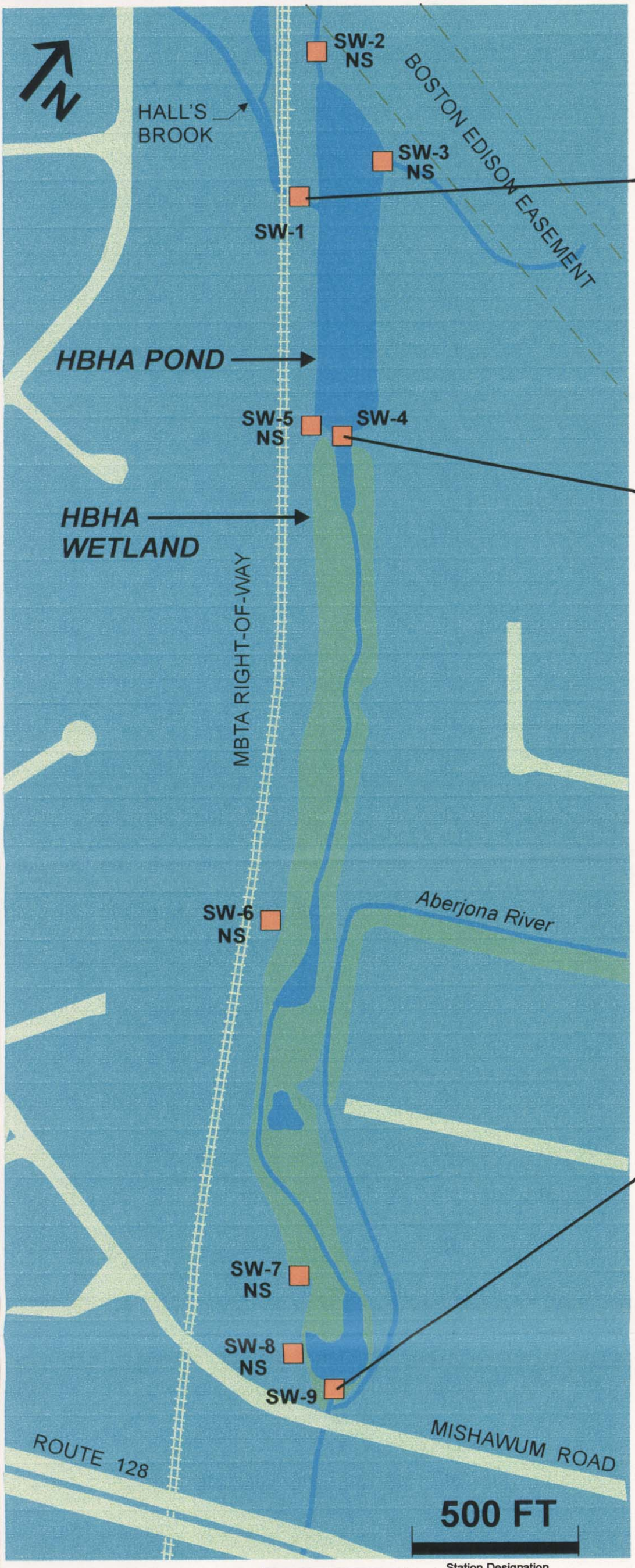
METALS AND TSS DATA FOR SUMMER STORM 2

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environ(t)mental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE
Prepared by: R.F.	Scale: AS SHOWN	11
Project Mgr.: L.M.	Office: MA	
File No.: MO2615503.CDR	Project No.: 06626M32	



SW-1	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.7B
lead(t)	2.0U
mercury(t)	0.10U
TSS	5U

SW-4	
arsenic(t)	13.1
arsenic(d)	2.5U
chromium(t)	1.3J
lead(t)	2.0UJ
mercury(t)	0.1U
TSS	5.0U

SW-9	
arsenic(t)	12.6
arsenic(d)	12.3
chromium(t)	2.2J
lead(t)	3.3J
mercury(t)	0.10U
TSS	5.0U

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

NS NOT SAMPLED

SW-9	
arsenic(t)	12.6
arsenic(d)	12.3
chromium(t)	2.2J
lead(t)	3.3J
mercury(t)	0.10U
TSS	5.0U

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

Title:

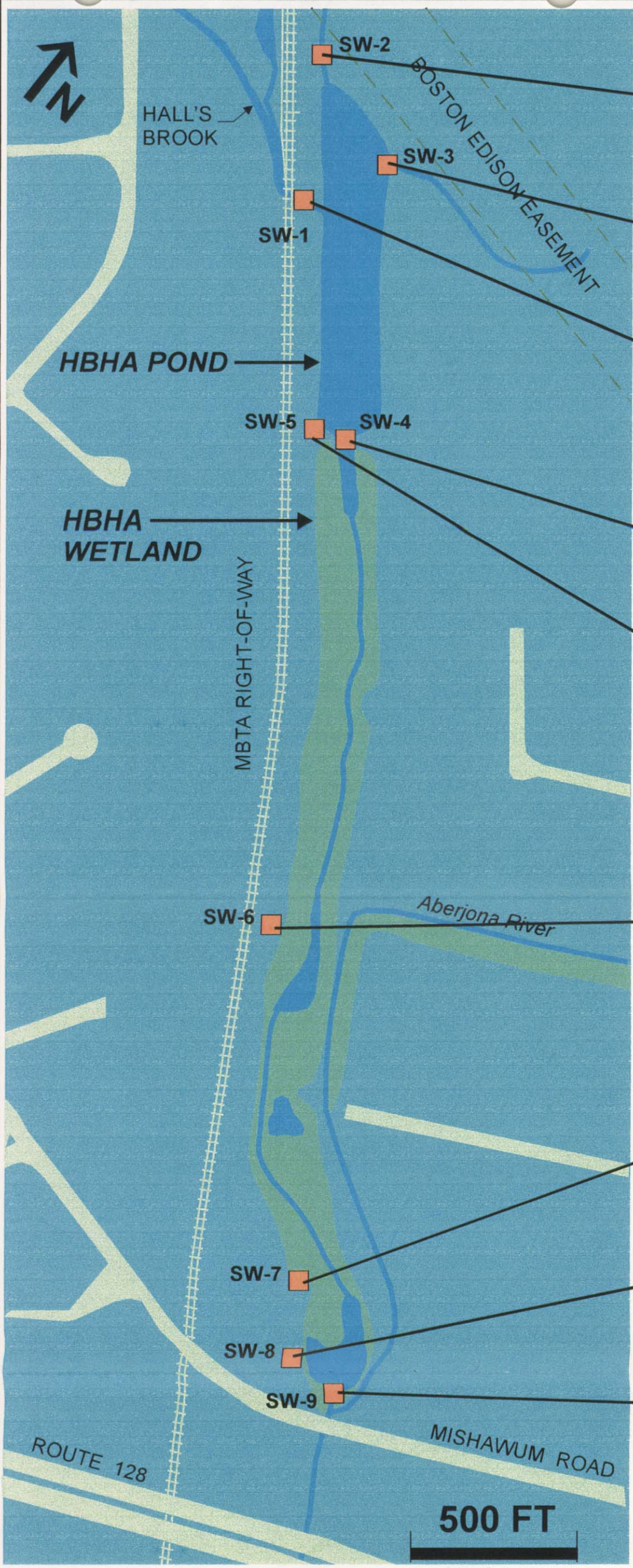
METALS AND TSS DATA FOR FALL BASEFLOW

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE
Prepared by: R.F.	Scale: AS SHOWN	12
Project Mgr.: L.M.	Office: MA	
File No.: MO2615503.CDR	Project No.: 06626M32	



SW-2	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.0U
lead(t)	2.0U
mercury(t)	0.10U
TSS	5.0U

SW-3	
arsenic(t)	8.4B
arsenic(d)	2.5U
chromium(t)	1.2B
lead(t)	3.9
mercury(t)	0.10U
TSS	5.0U

SW-1	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.5B
lead(t)	2.0U
mercury(t)	0.10U
TSS	5.0U

SW-4	
arsenic(t)	10.0
arsenic(d)	2.5U
chromium(t)	1.0U
lead(t)	2.0UJ
mercury(t)	0.10U
TSS	5.0U

SW-5	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	8.2B
lead(t)	34.1
mercury(t)	0.10U
TSS	18.5

SW-6	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.0U
lead(t)	4.1
mercury(t)	0.10U
TSS	9.0

SW-7	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.0U
lead(t)	2.6B
mercury(t)	0.10U
TSS	6.0

SW-8	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	6.6B
lead(t)	17.2
mercury(t)	0.10U
TSS	46.0

SW-9	
arsenic(t)	9.3
arsenic(d)	2.5U
chromium(t)	1.7J
lead(t)	2.0UJ
mercury(t)	0.10U
TSS	5.0

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

SW-9	
arsenic(t)	9.3
arsenic(d)	2.5U
chromium(t)	1.7J
lead(t)	2.0UJ
mercury(t)	0.10U
TSS	5.0

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

Title:

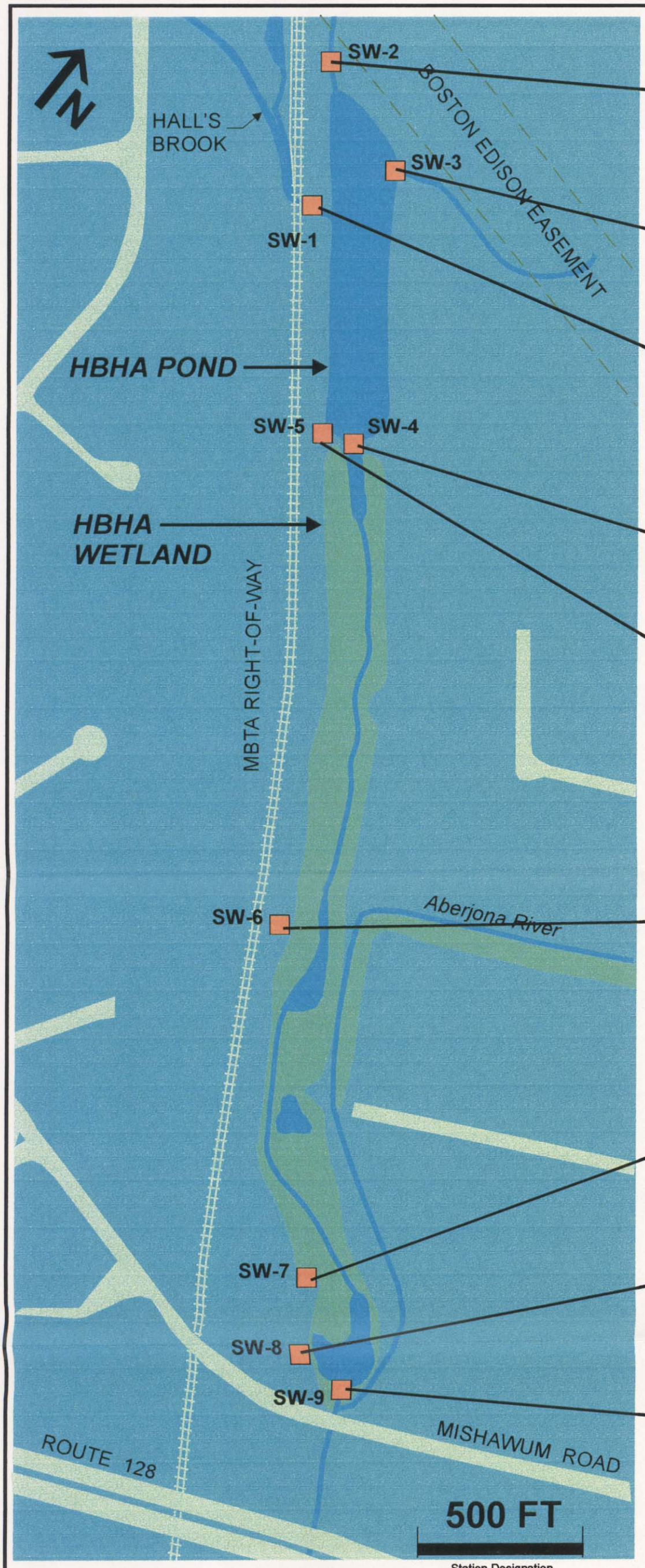
METALS AND TSS DATA FOR FALL STORM 1

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environ(t)mental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE
Prepared by: R.F.	Scale: AS SHOWN	13
Project Mgr.: L.M.	Office: MA	
File No.: MO2615503.CDR	Project No.: 06626M32	



SW-2	
arsenic(t)	3.6B
arsenic(d)	2.5U
chromium(t)	5.0B
lead(t)	4.8
mercury(t)	0.10U
TSS	12.0

SW-3	
arsenic(t)	12.2
arsenic(d)	9.3B
chromium(t)	2.2B
lead(t)	3.7
mercury(t)	0.10U
TSS	5.0

SW-1	
arsenic(t)	6.2B
arsenic(d)	5.0U
chromium(t)	13.7
lead(t)	16.4
mercury(t)	0.10U
TSS	25.5

SW-4	
arsenic(t)	30.5
arsenic(d)	10.8
chromium(t)	1.7U
lead(t)	3.4UJ
mercury(t)	0.10U
TSS	7.5

SW-5	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.4B
lead(t)	8.9
mercury(t)	0.10U
TSS	9.3

SW-6	
arsenic(t)	2.5U
arsenic(d)	3.0B
chromium(t)	1.0U
lead(t)	5.6
mercury(t)	0.10U
TSS	5U

SW-7	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	1.7B
lead(t)	6.9
mercury(t)	0.10U
TSS	9.0

SW-8	
arsenic(t)	2.5U
arsenic(d)	2.5U
chromium(t)	3.8B
lead(t)	7.3
mercury(t)	0.10U
TSS	6.0

SW-9	
arsenic(t)	19.4
arsenic(d)	10.8
chromium(t)	4.2U
lead(t)	3.1UJ
mercury(t)	0.10U
TSS	5.0U

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

SW-9	
arsenic(t)	19.4
arsenic(d)	10.8
chromium(t)	4.2U
lead(t)	3.1UJ
mercury(t)	0.10U
TSS	5.0U

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

Title:

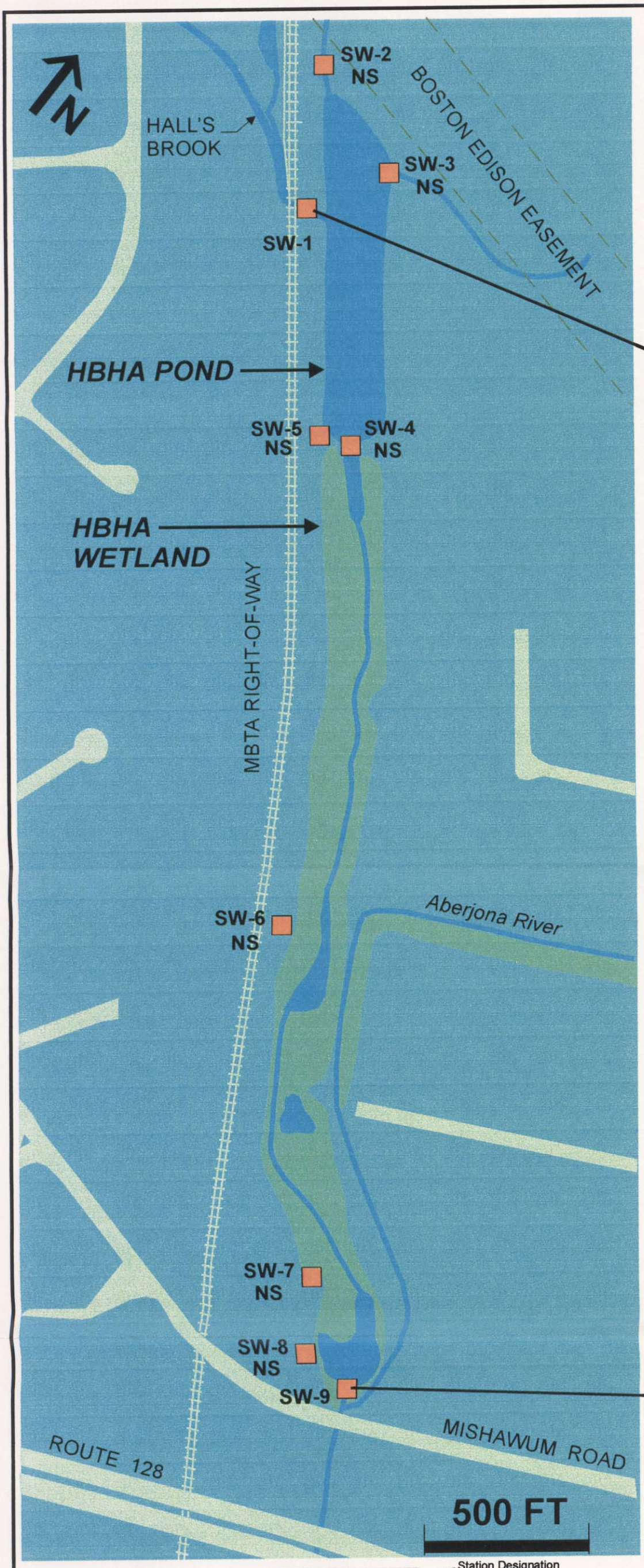
METALS AND TSS DATA FOR FALL STORM 2

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environ(l)mental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE
Prepared by: R.F.	Scale: AS SHOWN	14
Project Mgr.: L.M.	Office: MA	
File No.: MO2615503.CDR	Project No.: 06626M32	



SW-1	
arsenic(t)	6.3B
arsenic(d)	3.5U
chromium(t)	17.1
lead(t)	21.6
mercury(t)	0.10U
TSS	13.6

SW-9	
arsenic(t)	9.0
arsenic(d)	3.9J
chromium(t)	2.0U
lead(t)	3.5J
mercury(t)	0.10U
TSS	5.0U

Original includes color coding.

LEGEND

SW-1 ■ APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

NS NOT SAMPLED

SW-9	
arsenic(t)	9.0
arsenic(d)	3.9J
chromium(t)	2.0U
lead(t)	3.5J
mercury(t)	0.10U
TSS	5.0U

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

Title:

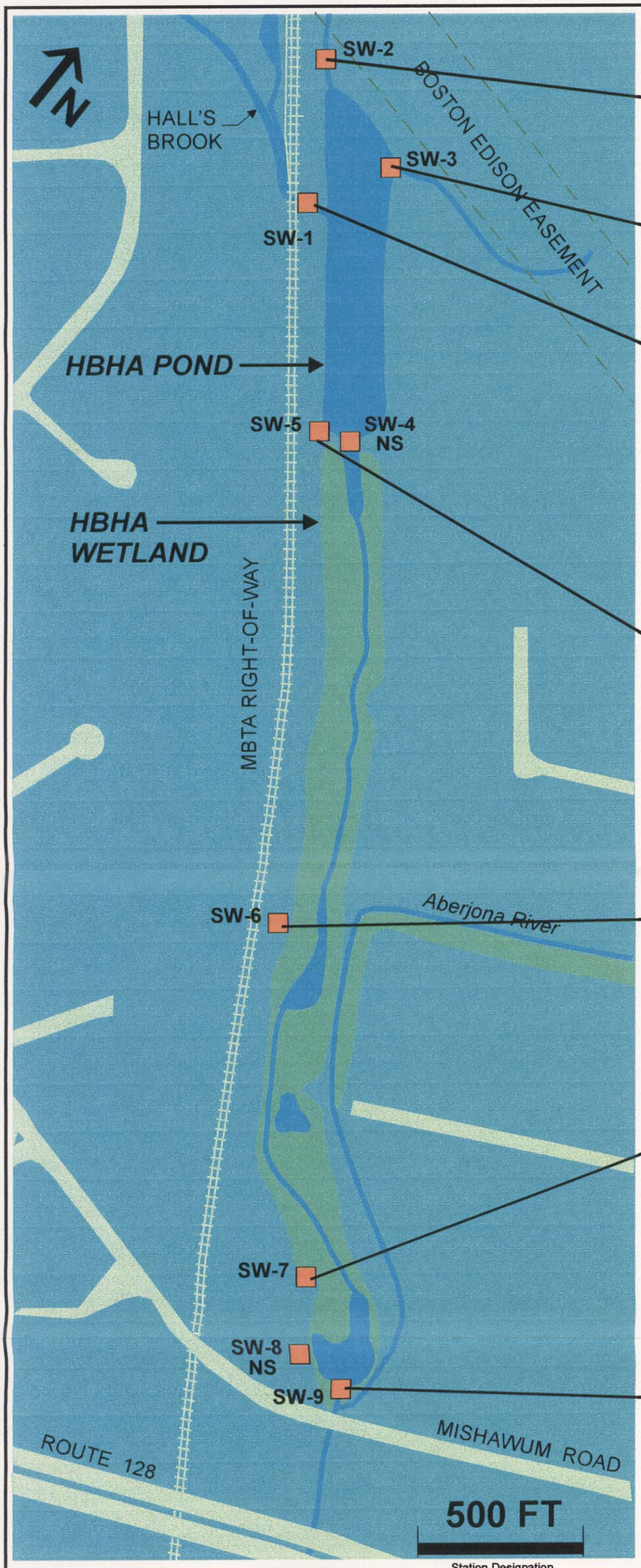
DATA FOR POST-TURNOVER STORM

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE
Prepared by: R.F.	Scale: AS SHOWN	15
Project Mgr.: L.M.	Office: MA	
File No.: MO2615503.CDR	Project No.: 06626M32	



SW-2	
arsenic(t)	3.5U
arsenic(d)	3.5U
chromium(t)	1.2
lead(t)	1.8U
mercury(t)	0.10U
TSS	21.6

SW-3	
arsenic(t)	22.0
arsenic(d)	10.6
chromium(t)	3.6
lead(t)	3.0J
mercury(t)	0.10U
TSS	35.6

SW-1	
arsenic(t)	3.6J
arsenic(d)	3.5U
chromium(t)	33.3
lead(t)	34.9
mercury(t)	0.10U
TSS	62.8

SW-5	
arsenic(t)	3.5U
arsenic(d)	3.5U
chromium(t)	14.0
lead(t)	28.8
mercury(t)	0.11B
TSS	87.2

SW-6	
arsenic(t)	8.4
arsenic(d)	NA
chromium(t)	23.8
lead(t)	63.1
mercury(t)	0.10U
TSS	351

SW-7	
arsenic(t)	7.7
arsenic(d)	3.7B
chromium(t)	7.0
lead(t)	12.6
mercury(t)	0.10U
TSS	65.8

SW-9	
arsenic(t)	14.2
arsenic(d)	8.6
chromium(t)	2.3
lead(t)	3.3J
mercury(t)	0.10U
TSS	7.2

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

NS NOT SAMPLED

SW-9	
arsenic(t)	14.2
arsenic(d)	8.6
chromium(t)	2.3
lead(t)	3.3J
mercury(t)	0.10U
TSS	7.2

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

NA Not analyzed

Title:

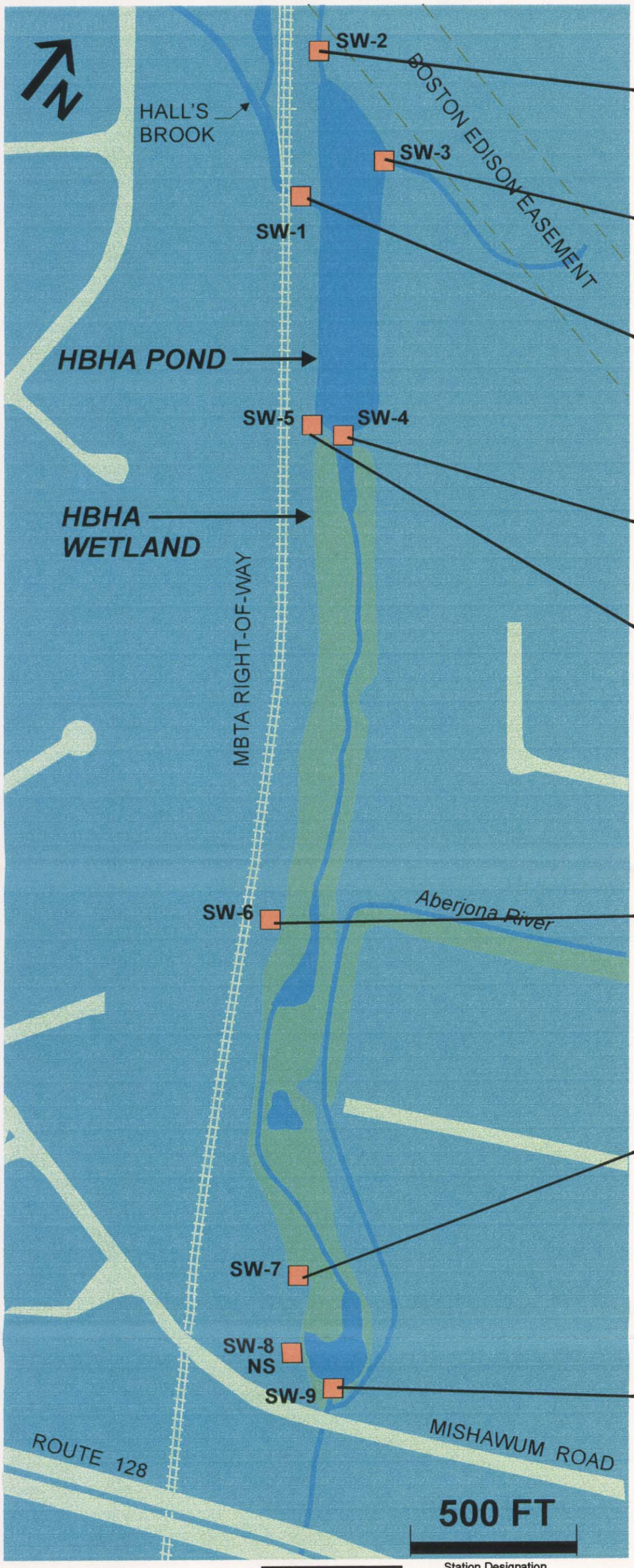
METALS AND TSS DATA FOR SPRING STORM 1

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.		Date:	3/29/02	FIGURE
Prepared by: R.F.		Scale:	AS SHOWN	16
Project Mgr.: L.M.		Office:	MA	
File No.: MO2615503.CDR		Project No.: 06626M32		



SW-2	
arsenic(t)	2.5B
arsenic(d)	4.2U
chromium(t)	1.8B
lead(t)	2.9B
mercury(t)	0.10U
TSS	14.0

SW-3	
arsenic(t)	76.3
arsenic(d)	NA
chromium(t)	11.2
lead(t)	12.4
mercury(t)	0.10U
TSS	55.6

SW-1	
arsenic(t)	2.4U
arsenic(d)	4.2U
chromium(t)	6.5B
lead(t)	9.4
mercury(t)	0.10U
TSS	5.2

SW-4	
arsenic(t)	6.0J
arsenic(d)	7.1J
chromium(t)	4.1U
lead(t)	6.0
mercury(t)	0.10U
TSS	7.2

SW-5	
arsenic(t)	2.4U
arsenic(d)	NA
chromium(t)	10.3
lead(t)	20.9
mercury(t)	0.10U
TSS	44.4

SW-6	
arsenic(t)	6.0B
arsenic(d)	4.2U
chromium(t)	17.6
lead(t)	27.5
mercury(t)	0.10U
TSS	142

SW-7	
arsenic(t)	2.4U
arsenic(d)	4.2U
chromium(t)	6.4B
lead(t)	7.0
mercury(t)	0.10U
TSS	27.2

SW-9	
arsenic(t)	7.2
arsenic(d)	4.2U
chromium(t)	3.3U
lead(t)	3.3
mercury(t)	0.10U
TSS	14.4

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

NS NOT SAMPLED

SW-9	
arsenic(t)	7.2
arsenic(d)	4.2U
chromium(t)	3.3U
lead(t)	3.3
mercury(t)	0.10U
TSS	14.4

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

NA Not analyzed

Title:

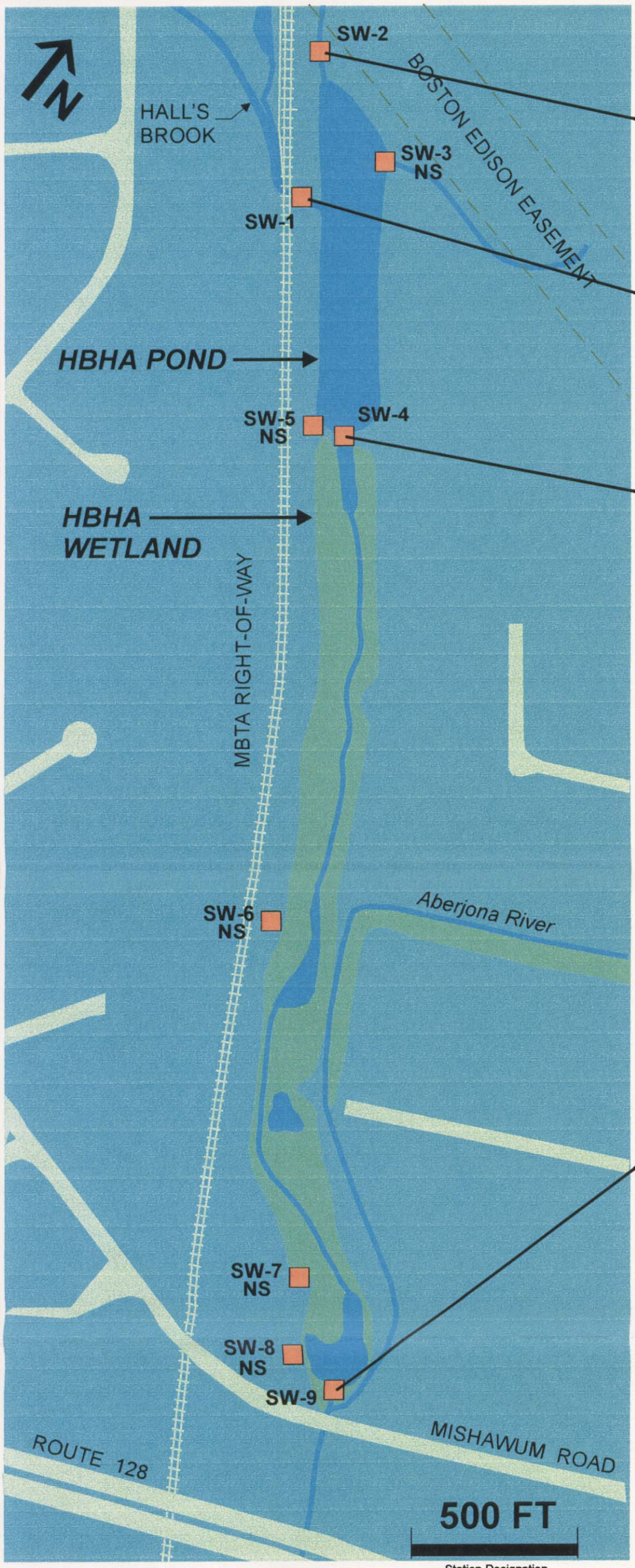
METALS AND TSS DATA FOR SPRING STORM 2A

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environ(t)mental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE	
Prepared by: R.F.	Scale: AS SHOWN	17	
Project Mgr.: L.M.	Office: MA		
File No.: Mo2615503.CDR	Project No.: 06626M32		



SW-2	
arsenic(t)	9.8B
arsenic(d)	6.8B
chromium(t)	1.0B
lead(t)	1.8U
mercury(t)	0.10U
TSS	10.8

SW-1	
arsenic(t)	3.5U
arsenic(d)	3.5U
chromium(t)	10.6
lead(t)	2.5B
mercury(t)	0.10U
TSS	5U

SW-4	
arsenic(t)	6.9J
arsenic(d)	11.2J
chromium(t)	1.8U
lead(t)	1.8U
mercury(t)	0.10U
TSS	5.0U

SW-9	
arsenic(t)	3.5UJ
arsenic(d)	3.8J
chromium(t)	1.6U
lead(t)	1.8U
mercury(t)	0.10U
TSS	5.0U

Original includes color coding.

LEGEND

SW-1 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

NS NOT SAMPLED

SW-9	
arsenic(t)	3.5UJ
arsenic(d)	3.8J
chromium(t)	1.6U
lead(t)	1.8U
mercury(t)	0.10U
TSS	5.0U

Station Designation

Concentrations of target metals detected in surface water, measured in micrograms per liter (t=total; d=dissolved)

Concentration of total suspended solids detected in surface water, measured in milligrams per liter

B Concentration qualified as "estimated" by analytical laboratory

J Concentration qualified as "estimated" by the data validator

U Not detected, with reporting limits shown

Title:

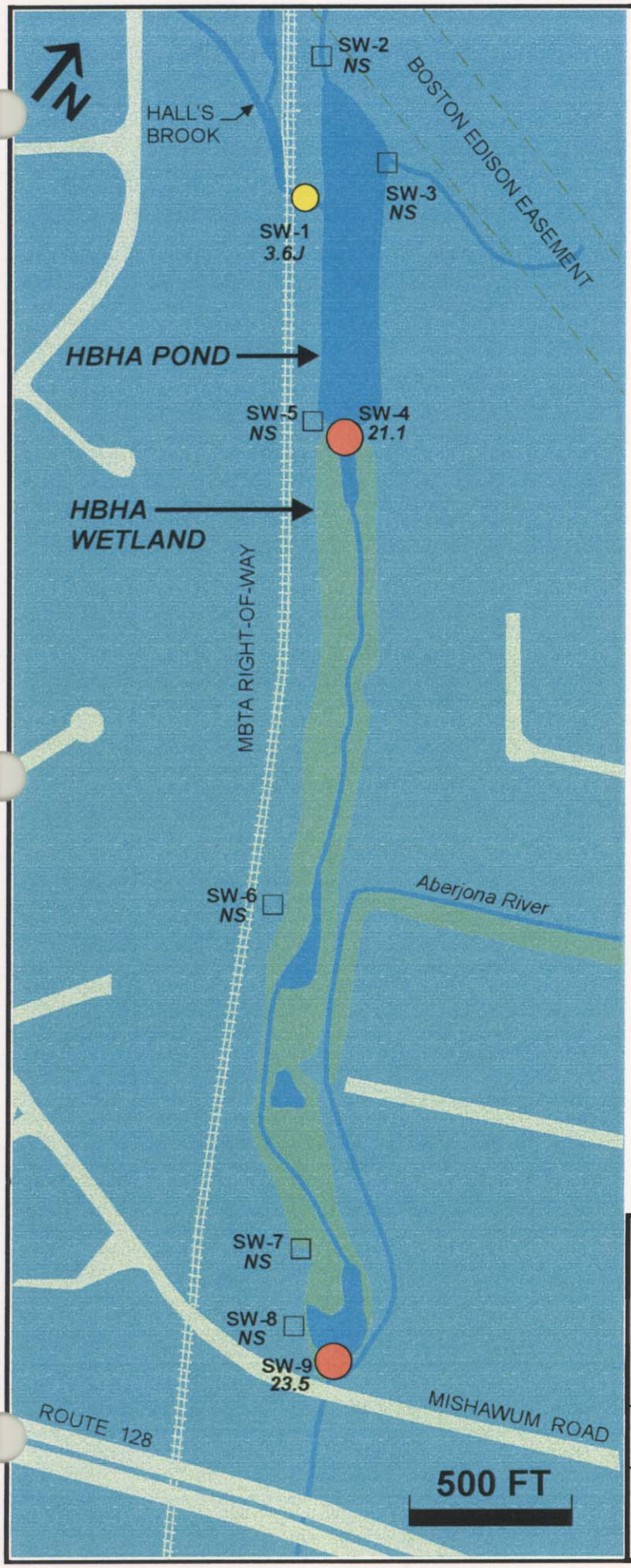
METALS AND TSS DATA FOR SPRING BASEFLOW

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environ(t)mental consulting & Management

Compiled by: L.M.		Date:	3/29/02	FIGURE
Prepared by: R.F.		Scale:	AS SHOWN	18
Project Mgr.: L.M.		Office:	MA	
File No.: MO2615503.CDR		Project No.: 06626M32		



LEGEND

SW-4 APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION

INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)

21.1 CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER

B CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY

J CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR

ND NOT DETECTED

NS NOT SAMPLED

Total Arsenic Concentrations

Not detected

Detected at concentration <10 µg/L

Detected at concentration between 10 and 25 µg/L

Detected at concentration >25 µg/L

Original includes color coding.

Title:

TOTAL ARSENIC - SUMMER BASEFLOW

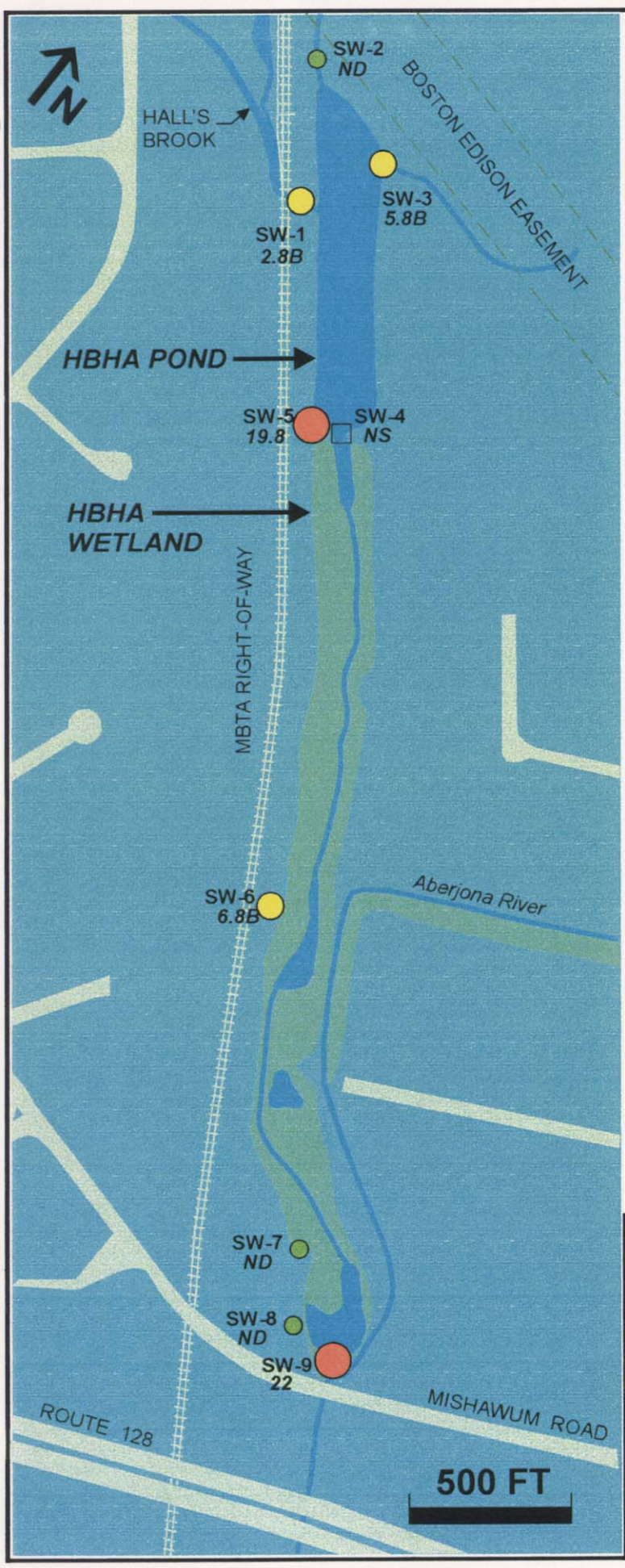
Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE
Prepared by: R.F.	Scale: AS SHOWN	19
Project Mgr.: L.M.	Office: MA	
File No.: MO2615504.CDR	Project No.: 06626M32	



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

Title:

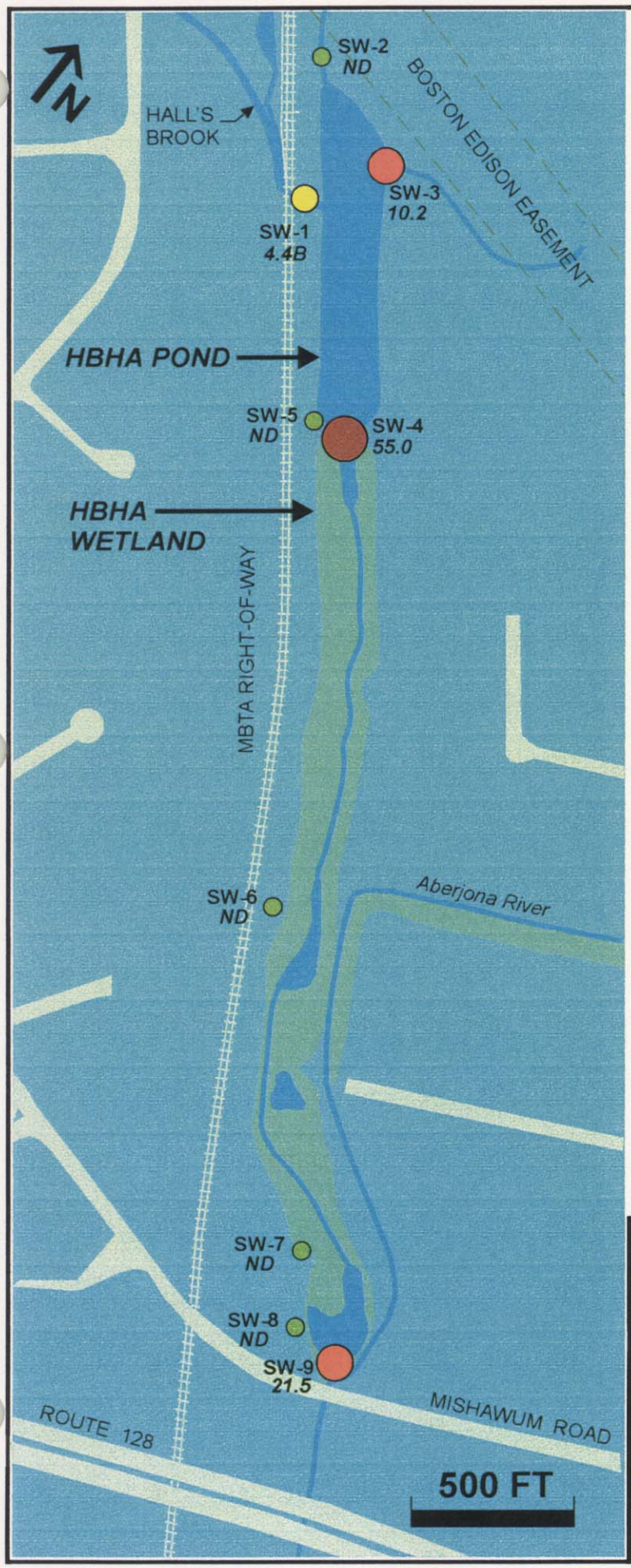
TOTAL ARSENIC - SUMMER STORM 1

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.		Date:	3/29/02	FIGURE
Prepared by: R.F.		Scale:	AS SHOWN	20
Project Mgr.: L.M.		Office:	MA	
File No.: MO2615504.CDR		Project No.:	06626M32	



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

Title:

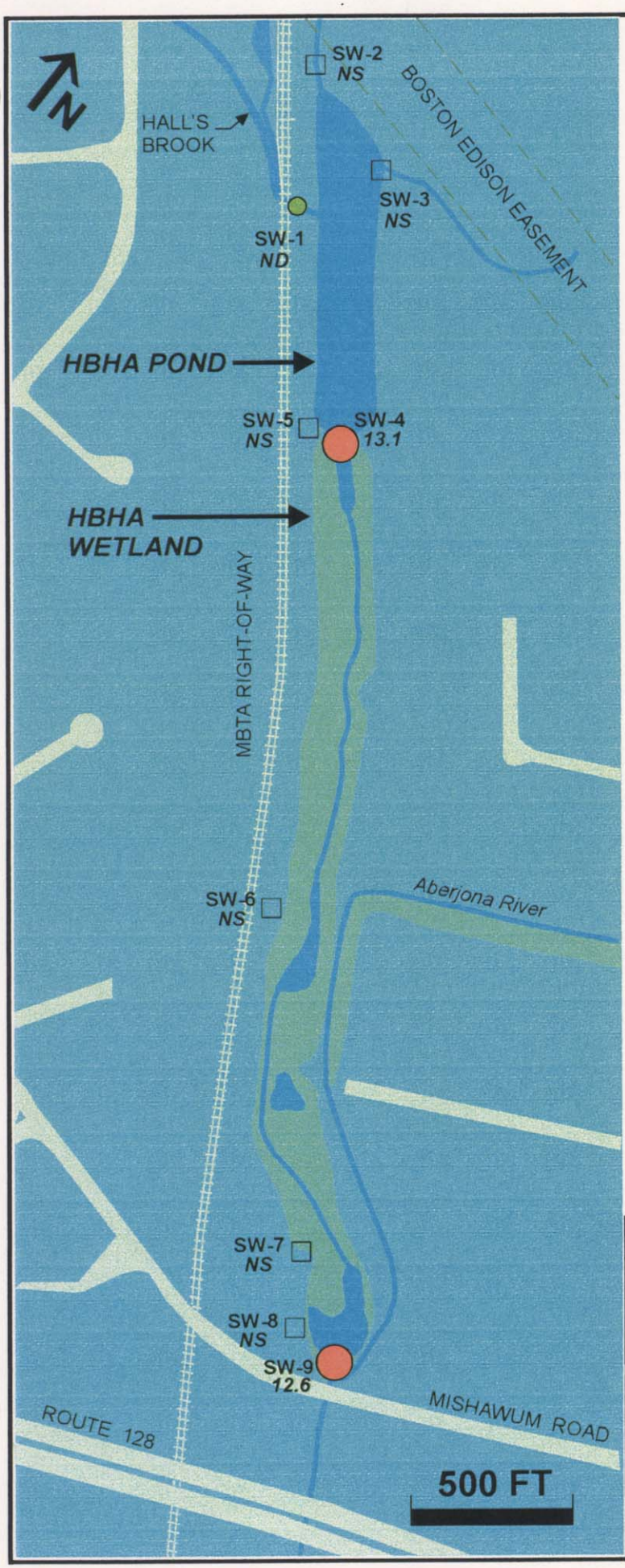
TOTAL ARSENIC - SUMMER STORM 2

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.		Date:	3/29/02	FIGURE
Prepared by: R.F.		Scale:	AS SHOWN	21
Project Mgr.: L.M.		Office:	MA	
File No.: MO2615504.CDR		Project No.: 06626M32		



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

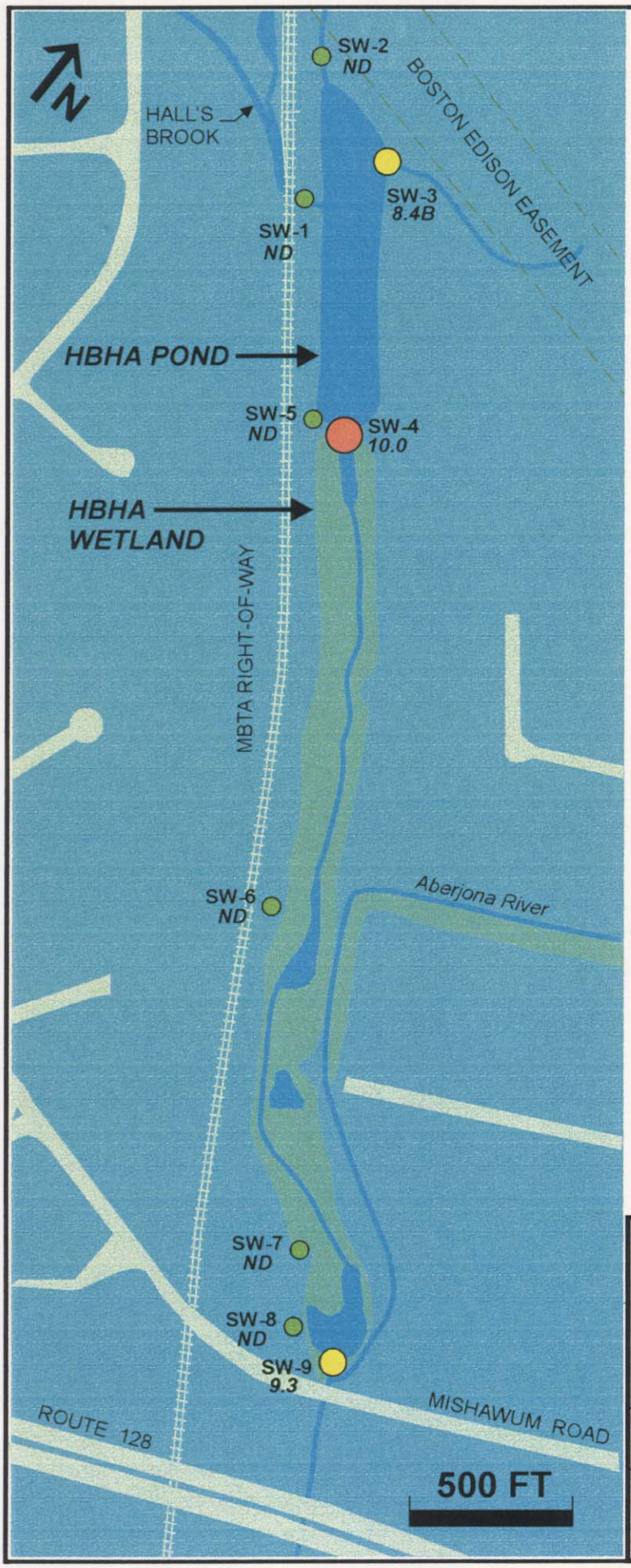
Title:

TOTAL ARSENIC - FALL BASEFLOW

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC. *Environmental consulting & Management*	Compiled by: L.M.	Date: 3/29/02		FIGURE
	Prepared by: R.F.	Scale: AS SHOWN		22
	Project Mgr.: L.M.	Office: MA		
	File No.: MO2615504.CDR	Project No.: 06626M32		



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

Title:

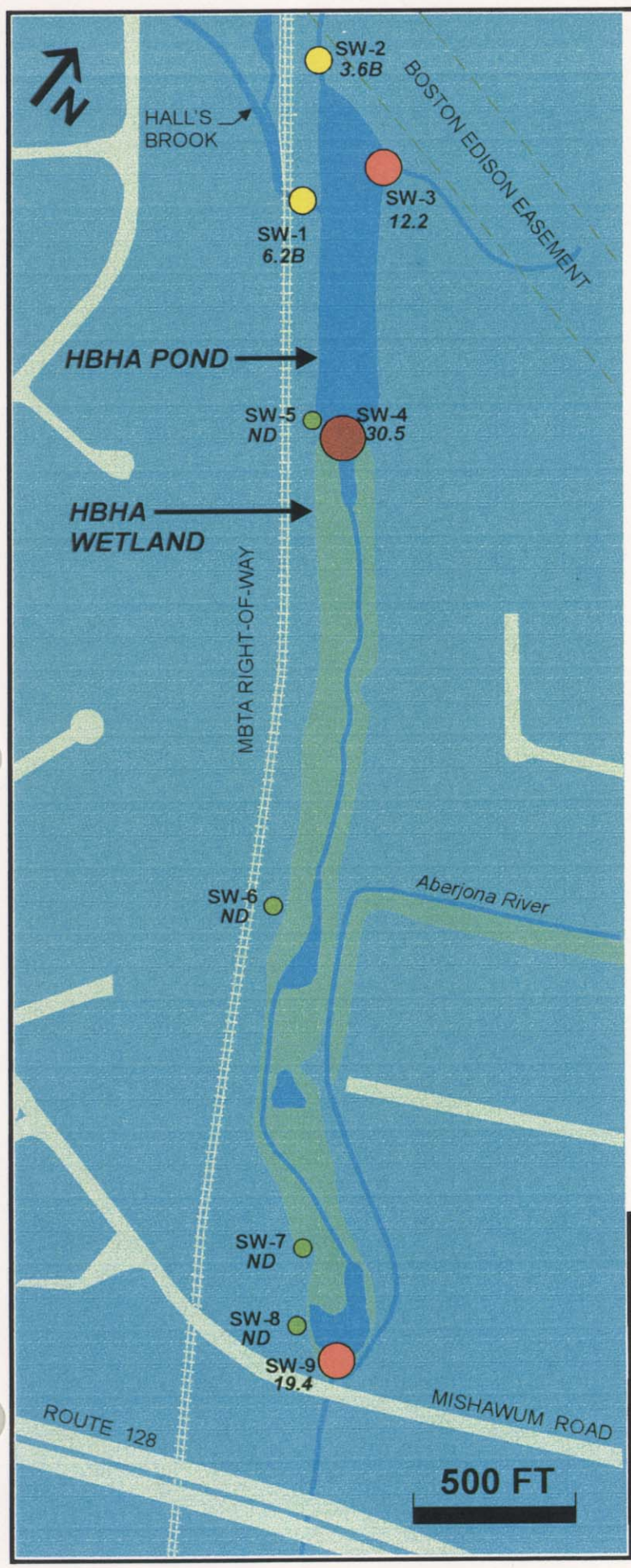
TOTAL ARSENIC - FALL STORM 1

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.		Date:	3/29/02	FIGURE
Prepared by: R.F.		Scale:	AS SHOWN	23
Project Mgr.: L.M.		Office:	MA	
File No.: MO2615504.CDR		Project No.: 06626M32		



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

Title:

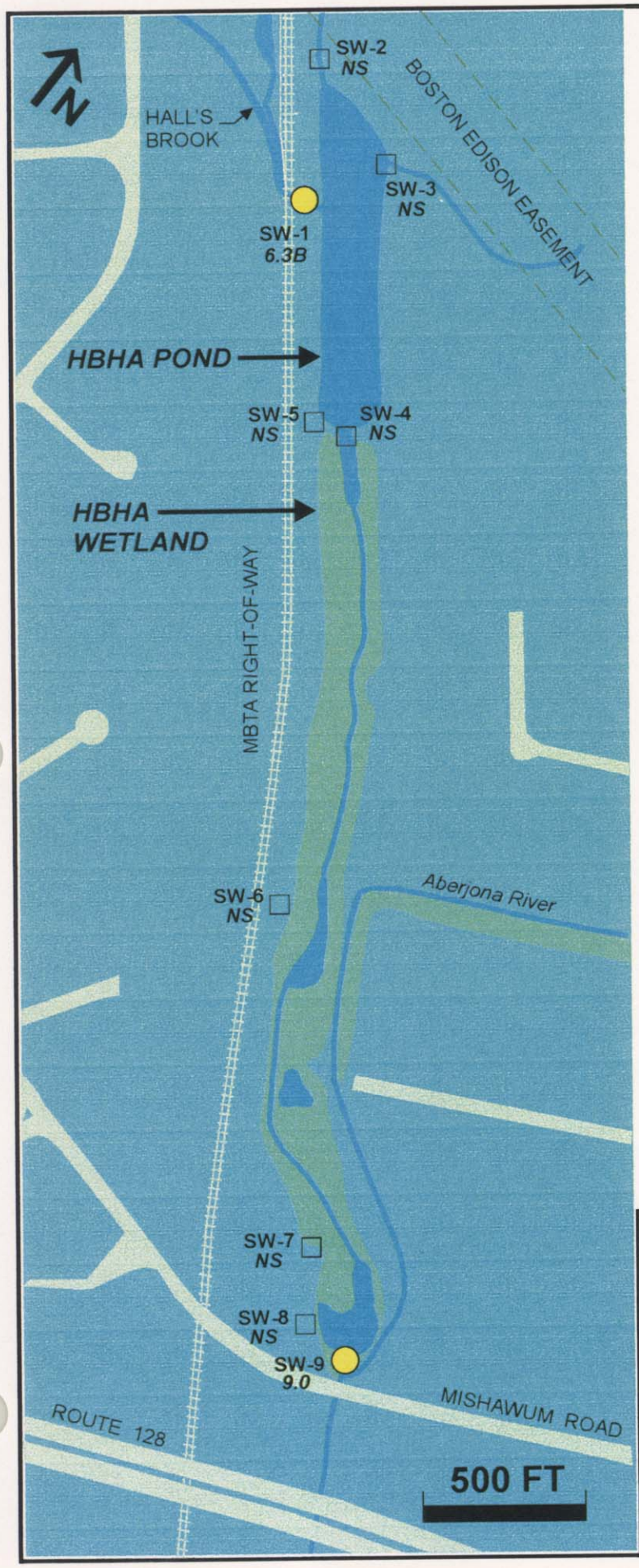
TOTAL ARSENIC - FALL STORM 2

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE	
Prepared by: R.F.	Scale: AS SHOWN	24	
Project Mgr.: L.M.	Office: MA		
File No.: MO2615504.CDR	Project No.: 06626M32		



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

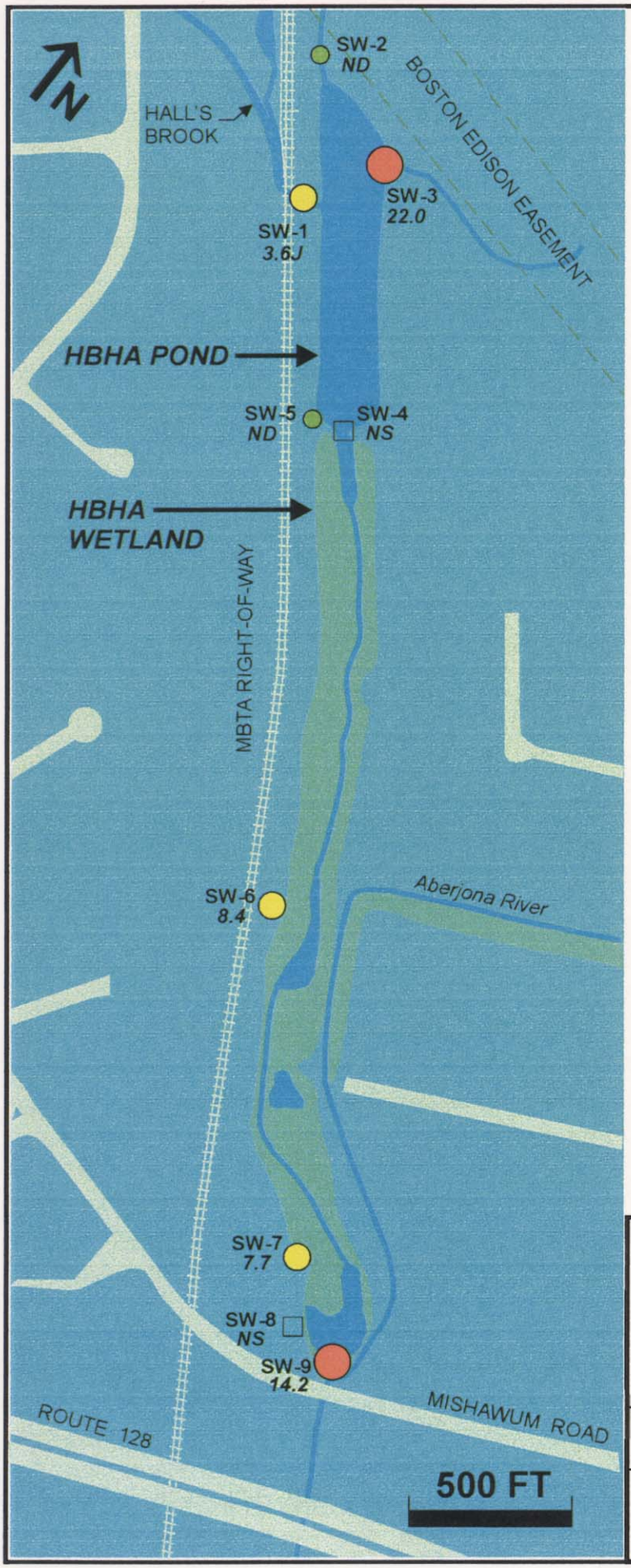
Title:

TOTAL ARSENIC - POST TURNOVER STORM

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC. *Environmental consulting & Management*	Compiled by: L.M.	Date: 3/29/02		FIGURE
	Prepared by: R.F.	Scale: AS SHOWN		25
	Project Mgr.: L.M.	Office: MA		
	File No.: MO2615504.CDR	Project No.: 06626M32		



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

Title:

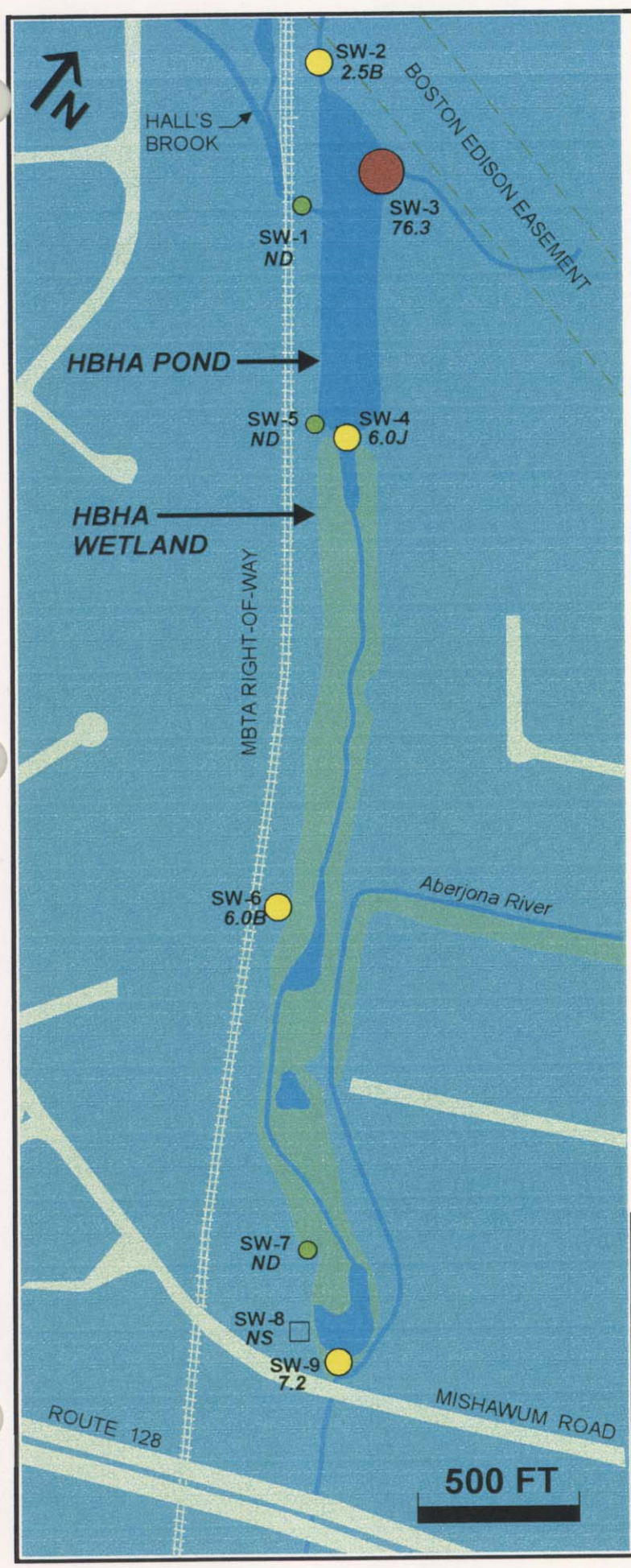
TOTAL ARSENIC - SPRING STORM 1

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.		Date:	3/29/02	FIGURE
Prepared by: R.F.		Scale:	AS SHOWN	26
Project Mgr.: L.M.		Office:	MA	
File No.: Mo2615504.CDR		Project No.: 06626M32		



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

Title:

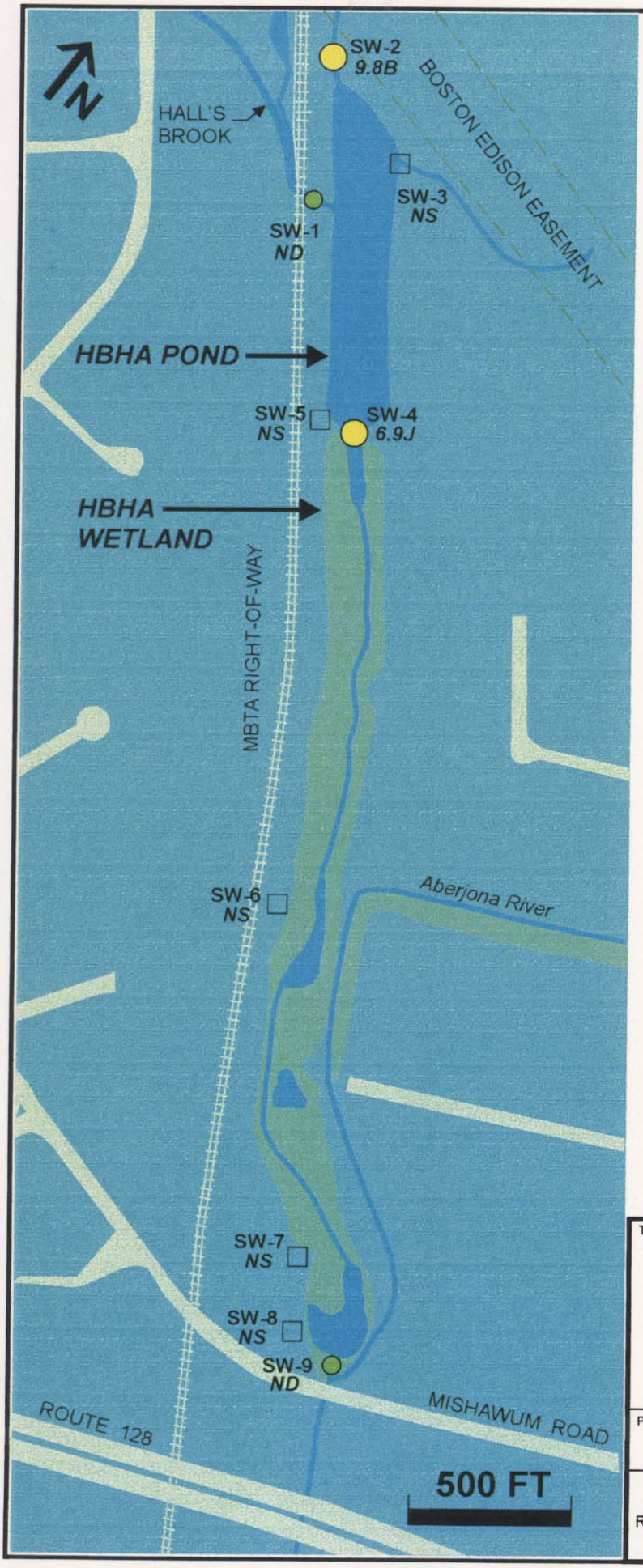
TOTAL ARSENIC - SPRING STORM 2A

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX
ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.	Date: 3/29/02	FIGURE
Prepared by: R.F.	Scale: AS SHOWN	27
Project Mgr.: L.M.	Office: MA	
File No.: Mo2615504.CDR	Project No.: 06626M32	



LEGEND

SW-4	APPROXIMATE LOCATION AND DESIGNATION OF WATER QUALITY MONITORING AND STREAM-FLOW GAGING STATION
	INDICATOR OF ARSENIC CONCENTRATION (SEE BELOW)
21.1	CONCENTRATION OF TOTAL (UNFILTERED) ARSENIC DETECTED IN SURFACE WATER, MEASURED IN MICROGRAMS PER LITER
B	CONCENTRATION QUALIFIED AS "ESTIMATED" BY ANALYTICAL LABORATORY
J	CONCENTRATION QUALIFIED AS "ESTIMATED" BY THE DATA VALIDATOR
ND	NOT DETECTED
NS	NOT SAMPLED

Total Arsenic Concentrations

- Not detected
- Detected at concentration <10 µg/L
- Detected at concentration between 10 and 25 µg/L
- Detected at concentration >25 µg/L

Original includes color coding.

Title:

TOTAL ARSENIC - SPRING BASEFLOW

Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX
ROUX ASSOCIATES INC.
Environmental consulting & Management

Compiled by: L.M.		Date:	3/29/02	FIGURE
Prepared by: R.F.		Scale:	AS SHOWN	28
Project Mgr.: L.M.		Office:	MA	
File No.: Mo2615504.CDR		Project No.: 06626M32		