Final Focused Feasibility Study Report

Upper Trenton Channel
Detroit River Area of Concern

Wayne County, Michigan

September 2013

United States Environmental Protection Agency

Executive Summary

This *Final Focused Feasibility Study Report, Upper Trenton Channel, Detroit River Area of Concern* report (FFS) presents the remedial objectives (ROs), technology screening, and alternatives development and evaluation completed for a specific reach of the Upper Trenton Channel Area in the Detroit River Area of Concern (AOC) in Wayne County, Michigan (Figure 1). The objective of the FFS is to develop a focused list of remedial alternatives for the Upper Trenton Channel such that the United States Environmental Protection Agency (USEPA) Great Lakes National Program Office (GLNPO), in consultation with the non-federal partners, can select a remedial action to eliminate, reduce, or control risks to human health and the environment and move forward with removing beneficial use impairments (BUIs) in the Detroit River AOC and ultimately delisting the AOC.

This document was prepared jointly by USEPA, CH2M HILL on behalf of the USEPA in accordance with work assignment (WA) No. 121–RICO-3525, under Contract No. EP-S5-06-01, and by ARCADIS on behalf of the current non-federal partners, BASF Corporation and Arkema Inc.

The FFS was prepared to present key information collected to support the FFS, as well as the development and evaluation of remedial alternatives. In summary, the FFS includes the following:

- Results of site investigation activities completed to support the FFS – these were used with previous information in development of remedial alternatives.
- A description of actions taken to address sources of contaminants to the study area, and information concerning ongoing regional sources.
- Identification and screening of remedial technologies.
- Statement of remedial objectives (ROs) and cleanup goals (CUGs).
- Description of remedial alternatives for specific remediation areas of the site.
- Estimates of the sediment mass inventory and surface-weighted average concentration (SWAC) reduction for polychlorinated biphenyls (PCBs), mercury, and total polynuclear aromatic hydrocarbons (TPAH) in each remediation area.
- Cost estimates for each alternative.
- Comparative analysis of the alternatives.
- Identification of a preferred alternative.

Sediment ROs were developed to protect human health and the environment, based on the nature and extent of the contamination, to protect resources that are currently and potentially threatened and to contribute to removing beneficial use impairments and eventual delisting of the AOC.

The Detroit River and Trenton Channel have experienced extensive urban and industrial impacts over the past century or more as the receiving water of one of the greatest manufacturing centers of the United States. Many diverse point sources and diffuse industrial and municipal non-point sources throughout the watershed contributed to environmental degradation. For purposes of the FFS, the extent of contaminant of concern (COC) contamination defined the boundary and areas for which sediment remedial alternatives were developed and evaluated. An Environmental Visualization System (EVS) model was used to estimate hot-spot area sediment removal volumes using isosurface concentrations for key indicator parameters, including PCBs, mercury, and TPAH. The distribution of

other parameters specific to certain sub-areas of the site (e.g., pH and chlorinated naphthalenes) was also considered in the development of the proposed remediation boundaries for the various alternatives. For TPAH, an action level of 165 milligrams per kilogram (mg/kg) was proposed by GLNPO and incorporated in the FFS. Other criteria such as shoreline offsets, utility line offsets, overdredge allowances, and side slope allowances were also developed in consultation with GLNPO and the non-federal partners.

Consistent with the ROs, representative remedial technologies and process options were identified and screened. Remedial technologies and process options that remained following screening were assembled into four alternatives. Based on available staging/processing areas, observations from similar projects, professional judgments, and the remaining remedial technologies and process options available after completion of the screening, the following four alternatives were assembled and then evaluated:

- Alternative 1: No Action
- Alternative 2: Limited Sediment Removal by Mechanical Dredging and Cover
- Alternative 3: Combination of Sediment Removal by Mechanical Dredging, Cover, and Capping
- Alternative 4: Combination of Expanded Sediment Removal by Mechanical Dredging, Cover, and Capping

Mechanical dredging was considered the most feasible dredging technology due to the known presence of debris along the project shorelines and experience with other removal actions previously conducted within the project area. The general layout of the alternatives is depicted in Figure 2b. Alternatives are described in Section 7 and evaluated in Section 8. Alternative 4 has been selected as the preferred alternative based on the comparative analysis of alternatives, and will be further refined in the remedial design phase. Alternative 4 was selected from among the alternatives evaluated in consideration of the evaluation criteria and in particular based on:

- Its effectiveness over Alternatives 1, 2, and 3 in achieving the site–specific ROs and overall protection of human health and the environment. Alternatives 1, 2, and 3 would leave areas of the site unremediated, with less contamination being removed and higher overall surface contaminant concentrations remaining as compared to Alternative 4.
- Alternative 4's higher degree of exposure reduction as indicated by the lowest post-removal SWAC of PCBs, mercury, and TPAH of the three alternatives.
- The degree of contaminant mass removal under Alternative 4 of not only the indicator parameters, but of all contaminants present in the sediment which affords the greatest reduction of the potential for contaminant redistribution to downstream areas in the future.
- The relative cost efficiency of the additional (incrementally greater) area and volume removed under Alternative 4 as compared to the other alternatives – which realizes significant economies of scale compared to the potential for future cleanup requirements should sediment remaining within the project area become redistributed.
- The degree of long-term regulatory acceptability of Alternative 4 based on the fact that the remaining sediment will contain less residual contamination and will therefore have a lower potential to become redistributed and reduce the environmental benefits gained by remediation.

- The greater contribution to removal of BUIs for the Detroit River AOC as compared to the other alternatives due to the larger area of contamination that is addressed and the larger reduction of the surface sediment exposure concentrations.

The completed project will satisfy regulatory requirements and ensure that the specified remediation goals are achieved, short- and long-term risks to human health and the environment are addressed, and progress is made toward removal of BUIs in the Detroit River AOC.

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Acronyms and Abbreviations

AOC	Area of Concern
BUI	beneficial use impairment
CAA	Clean Air Act
CDF	confined disposal facility
CFR	Code of Federal Regulations
COC	contaminant of concern
CSC	Computer Sciences Corporation
CSO	combined sewer overflow
CUG	cleanup goal
CWA	Clean Water Act
DGPS	Differential Global Positioning System
DRO	diesel range organics
ESBTU	Equilibrium Partitioning Sediment Benchmark Toxic Unit
EVS	Environmental Visualization System
FFS	focused feasibility study
GCL	geosynthetic clay liner
GIS	geographic information system
GLLA	Great Lakes Legacy Act
GLNPO	Great Lakes National Program Office
GPS	global positioning system
HDPE	high-density polyethylene

kg	kilogram
MAC	Michigan Administrative Code
mg/kg	milligram per kilogram
MDEQ	Michigan Department of Environmental Quality
MNR	monitored natural recovery
MOU	Memorandum of Understanding
MVS	Mining Visualization System
NAPL	nonaqueous phase liquid
NPDES	National Pollutant Discharge Elimination System
NREPA	Natural Resources and Environmental Protection Act
ORO	oil range organics
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCN	polychlorinated naphthalene
ppm	parts per million
ppb	parts per billion
pH	The negative log of the hydrogen ion concentration or activity
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
RI	remedial investigation
RO	Remedial Objective
RTK	Real-Time Kinetic

SESC	Soil Erosion and Sediment Control
SVOC	semivolatile organic compound
SWAC	surface weighted average concentration
TCLP	toxic characteristic leaching procedure
TPAH	total polynuclear aromatic hydrocarbons
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
USACE	United States Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UTS	universal treatment standard
WA	work assignment
WWTP	wastewater treatment plant
yd^3	cubic yard

1. Introduction

1.1 Purpose

This focused feasibility study report (FFS) presents the remedial alternatives developed by project stakeholders to address contaminated sediment for a specific reach of the Upper Trenton Channel located in the Detroit River Area of Concern (AOC), in Wayne County, Michigan. This document was prepared jointly by the United States Environmental Protection Agency (USEPA), CH2M HILL on behalf of USEPA in accordance with work assignment (WA) No. 121–RICO-3525, under Contract No. EP-S5-06-01, and by ARCADIS on behalf of the current non-federal partners, BASF and Arkema Inc. The work prepared by CH2M HILL was submitted pursuant to the USEPA Statement of Work dated December 7, 2010, and approved CH2M HILL work plans. The FFS was conducted under an agreement between the USEPA Great Lakes National Program Office (GLNPO) and current non-federal partners under the Great Lakes Legacy Act (GLLA).

On behalf of the current non-federal partners, ARCADIS assisted in editing of the document and also contributed the following components:

- Text summary and appendices of non-federal partners' investigations, including sediment database, sediment thickness, shoreline survey, and hydrodynamic evaluation (Appendixes B, C, D, and E)
- Text summary and appendix of control on ongoing sources (Appendix F)
- Identification and screening of containment technologies
- Text summary and Figures 2 and 5 through 18 for description of Alternatives 3 and 4
- Volume estimates for dredging Alternatives 3 and 4
- Capital and operations and maintenance cost estimates for capping (a component of Alternatives 3 and 4), as well as the development of a cost estimate for Alternative 4 by applying the same assumptions used by CH2M Hill for Alternatives 2 and 3, and to incorporate total removal volumes requested by USEPA
- Supplemental text for the detailed analysis of alternatives, and the comparative analysis section of the report

1.2 Site Description

The Detroit River is a 32-mile international channel connecting Lake Saint Clair and the upper Great Lakes to Lake Erie. The Detroit River AOC is a binational AOC that drains approximately 700 square miles of land in Michigan and Ontario, as well as the 107-square-mile City of Detroit sewershed. The Trenton Channel is an 8-mile-long channel of the Detroit River that flows from north to south between Grosse Ile and the Michigan mainland (Figure 1), and includes many areas used for marine navigation (Figure 2a). The Upper Trenton Channel GLLA project site consists of an area that extends approximately 300 feet from the western shoreline and runs parallel to the shoreline along the north-south direction from the area near the end of Grassy Island to the Grosse Ile toll bridge connecting Grosse Ile and the mainland (Figure 2). The remedial investigation (RI) also sampled an area extending downstream from the Grosse Ile toll bridge; however, this area was not included in any of the remedial alternatives based on implementability considerations associated with disruption of toll bridge operations. It was judged that this area would be more feasibly and appropriately addressed through future actions staged downstream of the toll bridge.

The upstream end of the project area is the northern or upstream-most boundary of the BASF North Works (North Works) property, and the project extends to a downstream boundary just south of the Grosse Ile Toll Bridge. The project has a total length of 3.9 river miles, and a project river mile (RM) reference system was established for purposes of this FFS, with RM 0.0 being at the upstream end of the project. In addition to North Works property, shoreline properties along the GLLA site include the former BASF South Works (South Works) property, the former Arkema East Plant (East Plant) property, former Firestone Steel (currently Materials Processing, Inc. [MPI/Firestone]) properties, and BASF Riverview (Riverview Site) property. The project is divided into several sub-areas listed below. The project RM stationing is shown in Figure 2b.

TABLE 1
Project River Mile Stationing
Upper Trenton Channel Site, Wayne County, Michigan

Sub-area	Project River Mile (RM) Interval	Length (miles)
BASF North Works	0 to 1.1	1.1
Wyandotte Power (City of Wyandotte)	1.1 to 1.4	0.3
Bishop Park	1.4 to 1.7	0.3
Wyandotte residential waterfront	1.7 to 2.1	0.4
BASF South Works	2.1 to 2.9	0.8
Arkema East Plant	2.9 to 3.4	0.5
MPI/Firestone	3.4 to 3.6	0.2
BASF Riverview	3.6 to 3.8	0.2
City of Riverview Boat Launch area	3.8 to 3.9	0.1

Reference to the onshore properties does not imply that the properties contributed contaminants to the project area. The properties lie in two municipalities located along the Upper Trenton Channel site including, from north to south: Wyandotte and Riverview, Michigan. The island of Grosse Ile is located across the river from the site. A sediment removal project was previously completed at the BASF Riverview site under an agreement with the State of Michigan. That project removed approximately 35,000 cubic yards (cy) of sediment and 10,000 cy of debris, with additional expanded removal of materials along the shoreline. That removal project was within the Upper Trenton Channel project footprint; and earlier discussions with GLNPO during the time the BASF Riverview project was planned anticipated that the Riverview project would accomplish a portion of the cleanup goals for the larger Upper Trenton Channel project area.

The site lies within the Detroit River International Wildlife Refuge, the first international refuge designated in North America (USEPA 2010). The river provides approximately 25 industries with process or cooling water and is a source of drinking water for more than 5 million people. The river is also used for recreational purposes, including fishing, boating, swimming, and hunting. Numerous private marinas, restaurants, apartment complexes, homes, and a public golf course are situated along the shoreline of the Upper Trenton Channel Site (Computer Sciences Corporation [CSC], 2010).

1.3 Project Background

The Trenton Channel has been impacted by historical contamination from industries, municipal discharges, sewer overflows, and urban runoff from surrounding communities located along the channel. The Trenton Channel has experienced extensive urban and industrial impacts over the past century or more as the receiving water of one of the greatest manufacturing centers of the United States. Many diverse point sources and diffuse industrial and municipal non-point sources throughout the watershed have contributed to environmental degradation. In the early 20th Century, the channel was used to transport materials and goods supporting industries such as steel mills, chemical facilities, coal-generated power plants, and others (USEPA, 2010). Ongoing upstream pollution sources include municipal and industrial discharges in the Detroit River watershed.

Eleven beneficial use impairments (BUIs) have been identified in the Detroit River AOC and exist in the Upper Trenton Channel (Michigan Department of Environmental Quality [MDEQ], 2008). They are:

1. Restrictions on fish and wildlife consumption
2. Tainting of fish and wildlife flavor
3. Restrictions on drinking water consumption, or taste and odor
4. Degradation of fish and wildlife populations
5. Beach closings
6. Fish tumors or other deformities
7. Degradation of aesthetics
8. Bird or animal deformities or reproduction problems
9. Degradation of benthos
10. Restriction on dredging activities
11. Loss of fish and wildlife habitat

The causes of impairments in the Detroit River AOC are primarily combined sewer overflows, municipal and industrial discharges, and nonpoint sources such as stormwater runoff (MDEQ 2008).

1.4 Report Organization

This document consists of the following nine sections:

- Section 1 provides an introduction and summarizes background information, such as site physical description and BUIs.
- Section 2 summarizes the investigations in support of this FFS, available physical and chemical data, and the extent of contamination.

- Section 3 summarizes the control of ongoing sources of contamination.
- Section 4 summarizes the applicable regulations and permit requirements.
- Section 5 describes the development of remedial objectives (ROs) and cleanup goals (CUGs).
- Section 6 identifies potential remedial technologies and screens the technology types and process options. Remedial technologies are screened to focus the detailed analysis on only those technologies most applicable to the site.
- Section 7 provides a description for each of the four alternatives.
- Section 8 presents the evaluation of the alternatives against the evaluation criteria.
- Section 9 contains references cited in this FFS.

2. Summary of Data Developed to Support the FFS

The following sections briefly describe the RIs performed at the site to support the FFS. USEPA performed an investigation during 2006 and 2007 to support preparation of the Upper Trenton Channel RI Report (CSC, 2010). A subsequent investigation was performed in 2011 by CH2M HILL to fill data needs in order to prepare an FFS. ARCADIS, on behalf of the current non-federal partners, has conducted several actions in support of the FFS, including compiling a database of historical data, performing bathymetry, magnetometer, side-scan sonar, and shoreline condition surveys; conducting a sediment thickness investigation; and updating the United States Army Corps of Engineers (USACE) hydrodynamic model for the Detroit River. The activities are summarized in this section. The reports and findings are contained in the appendices of this report.

2.1 Remedial Investigations

The following sections summarize the various RIs conducted by different entities to characterize the sediment conditions at the Upper Trenton Channel Site.

2.1.1 USEPA/MDEQ Remedial Investigation and Supplemental Sampling

From 2006 to 2007, USEPA, in conjunction with MDEQ, conducted a two-phased RI, funded under the GLLA. The Phase I investigation was conducted in 2006 and included the collection of surface and subsurface samples from 32 locations at the site. The Phase II investigation was conducted in 2007 and included the collection of sediment samples from 20 additional locations to further delineate the nature and extent of contamination in the sediment. Samples were analyzed for semivolatile organic compounds/polynuclear aromatic hydrocarbons (SVOCs/PAHs), polychlorinated biphenyls (PCBs) (Aroclors and congeners), total metals, toxicity characteristic leaching procedure metals, volatile organic compounds (VOCs), extractable petroleum hydrocarbons, bulk properties, simultaneously extracted metals/acid volatile sulfide, oil and grease, pH, and toxicity. The results of the sampling efforts were presented in the Trenton Channel Remedial Investigation Report (CSC, 2010).

USEPA conducted a supplemental sediment investigation in the Upper Trenton Channel in April and June 2011 with the goal of further defining the nature and extent of contamination in site sediments. The April sampling event discovered the presence of nonaqueous phase liquid (NAPL) in sediment samples. The June sampling event was conducted in an attempt to delineate the NAPL and collect samples that were not collected as planned during the April 2011 sampling event. Sediment samples were analyzed for PAHs, total petroleum hydrocarbons (TPH) (petroleum-range organics/diesel-range organics), PCB Aroclors, PCB congeners, metals (including mercury), pH, PAHs in pore water by solid-phase microextraction, total organic carbon, and particle size. The analytical results of the 2011 supplemental sampling events were combined with the data collected for the RI in 2006 and 2007 and summarized in a Data Evaluation Summary Technical Memorandum (CH2M HILL 2011; Appendix A). The following were the major findings:

- NAPL was observed in sediments in the vicinity of RM 2.9 (as shown in Figure 2b). The NAPL observed in this area was a dark brown to black oil-like substance, exhibiting a brown sheen, and was associated with a naphtha-type odor.
- Near RM 2.3 (see Figure 2b), a clear NAPL, sweet-smelling liquid was observed that caused an elevated photoionization detector reading. The clear NAPL appeared to have different physical properties from the NAPL observed at RM 2.9.

- Detectable levels of PCBs were observed in most areas of the project. The highest PCB concentrations were observed in the vicinity of RM 2.9, both in surface and subsurface sediments. Concentrations above 50 milligrams per kilogram (mg/kg), which is a threshold for the Toxic Substances Control Act (TSCA), were observed in the vicinity of RM 2.9 and between RM 3.4 and RM 3.6 (see river miles on Figure 2b).
- The highest mercury concentrations in surface and subsurface sediment were detected in the downstream reach of the project area, starting at approximately RM 2.9 through the southern extent of the project area. The highest surface concentrations were observed in the vicinity of RM 2.9. The areas near RM 2.9 and between RM 3.4 and 3.6 exhibited the highest median mercury concentrations in surface sediment.
- Elevated total polynuclear aromatic hydrocarbons (TPAH) concentrations were detected throughout the project area. The highest TPAH concentrations were found in the vicinity of RM 2.9, and were generally from sampling locations where NAPL or NAPL impacts were observed.
- A subset of samples from the 2006 to 2007 investigations and 2011 investigation events was analyzed for VOCs (Appendix A). The most frequently detected VOCs were benzene, chlorinated benzenes, cis-1,2-dichloroethylene, ethylbenzene, isopropylbenzene, xylenes, toluene, tetrachloroethylene, and trichloroethylene. The highest concentrations of VOCs were observed in the samples collected from a location in the vicinity of RM 2.9.
- Elevated sediment pH values were detected between RMs 0.6 to 1.1, 1.4 to 1.7, 2.1 to 2.8, and between RMs 2.8 and 3.0. Multiple sediment samples collected offshore of the RM 0.6 to 1.1 area showed bulk sediment pH values above 10. Similarly elevated pH levels were present in sediment behind the fishing pier at Bishop Park, and in the southern one third of the RM 2.1 to 2.9 area. Near the Wye St. former sewer at RM 2.9, samples with the highest pH typically also contained visible NAPL. Sediment pH values up to 12.5 are present in areas between RM 2.1 and 3.0.
- TPH and metals were also identified; however, based on the nature and extent of these contaminants, they are generally encompassed by the areas affected by the COCs for the project (See Section 5 for a description of the project COCs).

2.1.2 Non-Federal Partners Investigations

Investigations by ARCADIS on behalf of the current non-federal partners supported development of the FFS. These included bathymetric surveys, a sediment thickness investigation, a survey of shoreline conditions at the site, a hydrographic survey, and an update of an existing hydrodynamic model for the Detroit River. ARCADIS also developed a database of available historical and new FFS analytical data. The following subsections summarize those activities and investigations. The sediment thickness data, along with the bathymetry data, was used in the model to estimate the sediment removal volumes.

In 2005 and 2006, Arkema investigated sediment chemistry and thickness offshore of its facility and found metals, SVOCs, chloronaphthalenes, and chlorinated benzenes. This data set will be utilized into the project remedial boundaries during the remedial design phase.

BASF investigated sediment conditions offshore of its North Works facility in 2007, 2008, and 2009. Investigations included sediment chemistry, benthic community, and sediment thickness analyses and found elevated levels of metals, SVOCs, and pH. This data set was used in the FFS and will be utilized during the remedial design phase.

2.1.2.1 Upper Trenton Channel Sediment Database, Version 2.0, Compilation

The Upper Trenton Channel Sediment Database Compilation task involved the collection of electronic data from various Detroit River studies into one master database. The data summary in Appendix B includes a description of the Upper Trenton Channel sediment database. Compilation of the Upper Trenton Channel Sediment Database, Version 2.0, consisted of the following steps:

- Identification and acquisition of all existing Upper Trenton Channel sediment analytical data readily available in electronic format. A list of studies included in the Upper Trenton Channel Sediment Database is provided in Table 1 of Appendix B.
- Compilation of available electronic sediment data into one database.
- Addition of data generated during the 2011 supplemental sampling to database.
- Release of the final Upper Trenton Channel Sediment Database as part of this submittal.

The Upper Trenton Channel Sediment Database is in Microsoft Access format and is consistent with the GLLA Reporting Standard (USEPA, 2010). The database structure is outlined in Figure 1 of Appendix B. Details of the database contents are provided in the database compilation text of Appendix B.

2.1.2.2 Sediment Thickness

Table A-3 (Appendix C) presents a summary of the recovered sediment thickness at each coring location collected by USEPA/MDEQ and CH2M HILL in the project area. This includes data from the 2006–2007 USEPA/MDEQ sediment investigation and 2011 data gap sediment investigation. Recovered core lengths ranged from 0.5 to 18.6 feet. The longest cores collected in 2011 were from the area shoreward of the fishing pier at Bishop Park, approximately RM 1.5. Sediment recoveries in this area ranged from 9.0 to 18.6 feet. A detailed description of the sediment thickness in each area is presented in the Data Evaluation Summary Technical Memorandum (Appendix A). Also, the current non-federal partners have performed several investigations in the project area and have collected sediment thickness data that will be used to supplement the USEPA data during the remedial design.

The Sediment Thickness Assessment task performed by the current non-federal partners included the collection of supplemental sediment thickness data and mapping of sediment thickness. Measurement of sediment thickness was performed using a combination of probing with a rod and collection of core samples at a subset of probing locations within the project extent of the Upper Trenton Channel. Core sampling was done to accurately determine the sediment/clay interface due to the tendency of probing to overestimate the sediment thickness above clay since the underlying clay is soft and probe-able. Subsequent mapping of estimated sediment thickness using all available data was performed, with the end goal of understanding physical characteristics of the sediment bed in the Upper Trenton Channel project area and obtaining an estimate of the total volume of sediments present. The data summary package in Appendix C includes the raw field data and details of the sediment thickness evaluation.

Sediment thickness field activities completed in June 2011 included the following:

- Probing using manual force with a metal rod at 87 locations and recording of location coordinates, water depth, probe depth, and sediment texture at each location. Probing was completed to characterize the location and extent of soft sediments (sediments above clay). These locations were selected to provide appropriate spatial coverage when combined with previous sampling work. Probed locations are shown in Figures 1a through f

(Appendix C), and location coordinates recorded using Real-Time Kinetic (RTK) Differential Global Positioning System (DGPS) are provided in Table 1 (Appendix C).

- Collection of sediment cores using ARCADIS vibracore equipment at approximately 30 percent of the probed locations and recording of location coordinates, core recovery, and water depth at each location. Cores were collected for inspection to document additional stratigraphy and to confirm sediment thickness. Core locations were selected based on probing results to target sediment depositional areas and were distributed to provide appropriate spatial coverage. The locations where sediment cores were collected are shown in Figures 1a through 1f (Appendix C), and location coordinates recorded using RTK DGPS are provided in Table 1 (Appendix C).
- Opening and inspection of every collected sediment core with collection of photographs, stratigraphy descriptions, and sediment thickness measured above native clay. Core processing field notes are provided in Attachment 1 (Appendix C), and photographs with stratigraphy descriptions are provided in Attachment 2 (Appendix C).

Field measurements of probe-able sediment thickness in the project area ranged from 0.2 to 11.9 feet with an average probe depth of 3.3 feet. Sediment materials described during the field probing event were primarily sand over hard bottom or clay. Sediment cores collected in the project area had an average total recovery of 6.3 feet with a range of 0.7 to 16.0 feet of sediment recovered. Generally, sediment cores consisted of gray-brown or dark-gray sand and silt layers over brown native clay, with some instances of gravel, slag, and other material observed.

The primary objective of the sediment thickness data analysis was to evaluate the presence or absence of soft sediments (referred to in this report as “soft material”) and to evaluate the thickness and stratigraphy of sediment above the underlying clay or bedrock at select vibracore locations. Data used for sediment thickness analysis included prior sediment coring investigations (detailed in Appendix C) and 2011 sediment coring and probing investigations (Tables 1, 3, and 7 of Appendix C). Since differences exist between sediment probe depth and sediment core recovery above clay (Figure 2 of Appendix C), soft material thickness and a sediment thickness were defined as the following:

- Soft material thickness (Figure 3a-g of Appendix C): The total core recovery (or probe depth when coring was not performed) for samples with data reports available or the deepest sample depth as recorded in the Upper Trenton Channel Sediment Database.
- Sediment thickness (Figure 4a-g of Appendix C): The depth from the top of the sediment to the top of the native clay as recorded in available boring logs.

A detailed description of the sediment thickness data analysis is provided in Appendix C. In summary, based on the findings of the data analysis of sediment thickness and soft material thickness, there was a distinct layer of native clay material observed at an average depth of 2.0 feet. The sediment thickness above native clay ranged from 0 to 10.9 feet. The average thickness of soft material is approximately 4.5 feet and ranges from 0 to 19.6 feet. The total volume of soft material was estimated by subarea (Table 8 of Appendix C) by interpolating soft material thickness from the available data presented in Figures 8a-h in Appendix C, which show soft material thickness for each sample location. Based on the analysis presented in these maps, the total soft material volume in the Upper Trenton Channel project area is approximately 366,000 cy. A summary of soft material volume by subarea is provided in Table 8 of Appendix C.

Sediment thickness measurement deliverables contained in the data summary package include the following:

- Field logs and a summary of visual observations of samples
- Photographs of collected cores
- Summary tables of measured sediment thickness
- Plots of sediment bed elevation and thickness along transects
- Geographic information system (GIS) maps depicting the sediment thickness measured during the sampling event, interpolated sediment thickness maps, and an estimate of sediment volume by subarea estimated from the interpolated thicknesses

2.1.2.3 Shoreline Survey

The shoreline conditions and in-river structures survey task included the visual evaluation and survey of shoreline conditions and in-river structures along the Michigan shoreline of the Upper Trenton Channel from RM 1.1 downstream to RM 4.2 (see Figure 2b). The shoreline conditions from RM 0.0 to RM 1.1 were evaluated in earlier efforts, summarized in Section 2.1.2. Activities performed as part of this task included field observations and documentation of a field survey of shoreline types, conditions and structures, and review of available hydrographic survey and local government utility maps to identify the location and size of in-river structures to be documented on a project area map. Observations and information gathered as part of these activities are documented in the data summary package, Appendix D. A map with appropriate representation and labeling of shoreline areas and shoreline or in-river structures is provided in Figures 1 through 8 of Appendix D.

The following data and information were reviewed for shoreline conditions and in-river structure locations and descriptions:

- Utility location documentation gathered prior to sediment thickness sampling work in May 2011, including contact with the local one-call utility notification organization, MISS DIG, and review of The National Oceanic and Atmospheric Administration navigational charts for the Detroit River.
- ARCADIS field survey, as previously described (shoreline types, global positioning system [GPS] locations of pipes and features, and photographs).
- Aqua Survey, Inc., magnetometer, side-scan sonar, and bathymetric survey images and report. Survey performed April 12 to 14, 2011 (Aqua Survey 2011).
- City of Wyandotte outfall maps from a Freedom of Information Act request.
- City of Riverview outfall maps from a Freedom of Information Act request.
- Trenton Channel Remedial Investigation Report (USEPA/MDEQ 2010) supporting documents provided by Rosanne Ellison (USEPA 2011).

Detailed descriptions of observed shoreline types and above-water structures observed during the ARCADIS survey are provided in Table 1 of Appendix D. Suspected features observed in the side-scan sonar, magnetometer, or bathymetric surveys are described in Table 2 of Appendix D. General summaries of features observed in each sub-area of the Upper Trenton Channel are provided in the text of Appendix D.

2.1.2.4 Hydrodynamic Evaluation

The Hydrodynamic Model Update task included completion of a hydrographic survey of the project area and an update of the existing 2-dimensional hydrodynamic model (RMA2) of the St. Clair–Detroit River Waterway.
A hydrographic survey was completed by Aqua Survey, Inc., in the Upper Trenton Channel in April 2011. It included multibeam bathymetric, side-scan sonar, and magnetometer surveys along with Acoustic Doppler Current Profiler velocity profiles. Bathymetry and Acoustic Doppler Current Profiler data gathered during this hydrographic survey were used to support an update of the existing RMA2 model of the site (Figure 1 in Appendix E). The model was originally developed by the United States Geological Survey (Hotlschlag and Koschick, 2002). The data summary package in Appendix E details the refinement and bathymetric updates of the RMA2 model, as well as the results of hydrodynamic analysis using the updated and calibrated model for an average flow event, a high-flow event, and a Lake Erie seiche event.

The revised RMA2 hydrodynamic model was run under a variety of conditions to evaluate river depths, flow velocities, and near-bed shear stresses for the following scenarios: an average flow event, a high-flow event, and a Lake Erie seiche event. The RMA2 model was run under steady state conditions during the average flow and high-flow scenarios and under unsteady-state conditions during the Lake Erie seiche event simulation. The list of the applied boundary conditions in all the scenarios is presented in Table 1 and Figure 5 of Appendix E. Simulated spatial patterns of flow velocity, depth, and near-bed shear stresses across the site under average flow conditions (Figure 6), high-flow conditions (Figure 7), and a Lake Erie seiche event during time step 27 (Figure 8) are included in Appendix E.

3. Control of Ongoing Sources

The Detroit River and Trenton Channel have experienced extensive urban and industrial impacts over the past century or more as the receiving water of one of the greatest manufacturing centers of the United States. Many diverse point sources and diffuse industrial and municipal non-point sources throughout the history of the watershed contributed to environmental degradation. Fortunately, dramatic improvements have occurred since the historical era of industrial development. Aesthetic improvement; restoration of habitat; improved species diversity; and cleaner water, sediments, and fish tissue have all been observed in recent decades. The Detroit River has benefited from extensive source control and environmental initiatives by federal, state, provincial, and local municipal governmental agencies and sewer authorities, as well as actions taken by land owners and industrial entities. Further improvements under the GLLA to address contaminated sediments can further restore the quality of the Detroit River. To assess whether the potential improvements would be sustainable, an assessment of the sediment recontamination potential of the Upper Trenton Channel project area was conducted.

The assessment considered upstream sources such as combined sewer overflows (CSOs); wastewater treatment plant (WWTP) outfalls; regional sources such as storm sewers and local watershed tributaries, spills, and unpermitted discharges. Local sources were also considered (such as CSO outfalls within the Upper Trenton Channel project area and source areas along shorelines of the Upper Trenton Channel project area). This assessment is subject to review and concurrence by the State of Michigan separate from the FFS process. Coordination with the State of Michigan and finalization of this assessment will occur outside of the FFS process.

3.1 Assessment of Upstream Sources of Recontamination

There are numerous CSOs and industrial outfalls upstream of the Upper Trenton Channel that have served as the most significant source of contaminants to the Detroit River (USEPA/MDEQ, 2010). The western shoreline of the Detroit River has historically been developed to support industries such as several steel mills, chemical facilities, a coal-generated power plant, and landfill/disposal sites; however, many of the facilities that once operated with discharges to the river have either ceased operations or have been demolished. Today, much of the land in this area serves recreational uses with public walkways, fishing piers, parks, and boat-launching facilities—in particular along the Upper Trenton Channel (USEPA/MDEQ, 2010). Major reductions in source activity have been accomplished with the advent of the Clean Water Act (CWA) and the subsequent regulation and permitting of all outfalls. Further source control actions are continuing under the permitting programs. Many of the upstream facilities have also participated in cleanup activities of both adjacent uplands and sediments in the Detroit River. Recontamination potential from upstream industrial sources is low, especially relative to historical sources and in comparison to existing levels of sediment contamination.

While concentrations of contaminants continue to be detectable in waters of the Detroit River, evidence of low recontamination potential was provided by a suspended sediment monitoring study conducted in the Detroit River by Environment Canada beginning in 2009 (Painter, 2003, via MACTEC, 2004). Suspended sediments were collected in sediment traps and analyzed for their contaminant concentrations. One of the stations monitored during the study was Station 1159, located within the Trenton Channel, and downstream of the project area. The data from the study supported a finding of low recontamination potential for the USEPA GLLA project conducted at the Black Lagoon (MACTEC, 2004), which is located downstream of the Upper Trenton Channel project area. Monitoring results from Station 1159, taken from MACTEC, 2004, are presented in Table 1 and excerpted pages from the MACTEC report provided in Appendix F, along with average surface concentrations measured in the Upper Trenton Channel project area. Detected concentrations from Station 1159 are lower than average surface sediment concentrations of these contaminants within the Upper Trenton Channel project area. The monitoring data from the study are indicative of low recontamination potential within the Upper Trenton Channel project area as well.

A number of CSOs are located along the Detroit River, including upstream of, within, and downstream of the Upper Trenton Channel project area. The city of Detroit WWTP effluent discharges upstream of the Upper Trenton Channel, near the mouth of the Rouge River and Zug Island (National Pollutant Discharge Elimination System [NPDES] Permit #MI0022802). The influence of these sources is reflected, along with other upstream sources, within the sediment trap monitoring results reported by the Environment Canada study (Appendix F), as described previously. Continued regulation of active CSO discharges under the NPDES program would ensure that recontamination potential from the outfalls is low.

Regional watershed sources of potential recontamination are runoff, erosion of bank soils, and atmospheric deposition of airborne contaminants. The recontamination potential for each of the sources is low, and further reductions are subject to natural processes and continued air quality regulation of emission sources. Many of the banks along the Detroit River, the Trenton Channel, and associated tributaries have been stabilized with riprap or sheet piling. In addition, shoreline restoration improvements that involve erosion control and other improvements are continually being made throughout the region. Regional sources are believed to present a low potential for recontamination.

The potential for unpermitted discharges or spills always exists in urban industrialized waterfronts, especially those that are also transportation hubs like the Detroit River and those that are receiving waters for watersheds wherein significant waste hauling and management activities occur. Oil and fuel spills frequently occur, as documented by USEPA's Detroit River–Western Lake Erie Basin Indicator Project[1], presented in Appendix F. While the spills represent a potential for petroleum hydrocarbon recontamination, response and cleanup actions to address them are typically taken under existing enforcement programs.

3.2 Assessment of Sources Adjacent to the Upper Trenton Channel Project Area

Within the Upper Trenton Channel project area, known CSO outfalls are present. The specific CSOs within the project area include the active CSOs from the Southgate/Wyandotte Retention/Treatment Facility permitted under NPDES Permit #MI0036072. According to available information, the WWTP CSOs are located along the shoreline and at Pine Street (RM 2.3; shown as Wyandotte CSO 002 Current and Wayne County Downriver WWTP Discharge Current on the Shoreline Condition and In-River Structures Survey figures, Appendix F). An abandoned CSO is located in Riverview, and since a 2005 City of Riverview sanitary sewer map shows the outflow pipe for the Riverview CSO as abandoned, discharges from this outfall are assumed to have been eliminated. Continued regulation of the Southgate/Wyandotte CSOs under the NPDES program will ensure that recontamination potential from those outfalls remains low.

The Wyandotte Electric Power Plant and Water Filtration Plant also have permitted outfalls located within the project area. Plant effluent and local stormwater is discharged to the Detroit River through outfalls located on the Wyandotte Power and Water Filtration Plant property under NPDES permit #MI0038105.

[1] http://www.epa.gov/med/grosseile_site/indicators/oiltable.html

Bank and soil erosion sources adjacent to the Upper Trenton Channel project area are minimal due to the armored nature of the shoreline (sheetpile, concrete bulkhead, or riprap present along nearly the entire project area shoreline), and soil cover and maintenance of green space over many historical industrial parcels. Several public parks and shoreline access points have been established in formerly industrial properties. Any redevelopment of the areas would be under applicable stormwater and erosion control requirements.

Industrial parcels adjacent to the Upper Trenton Channel project area have been the focus of a series of remediation measures under Federal and State cleanup programs. Where continuing operations are present, modernized operations and monitoring and control of water quality in outfalls ensures any further discharges from those operations will be low and will not contribute to environmental degradation. Groundwater represents an additional potential source mechanism from these properties; however, its significance is minimal in comparison to upstream sources. Groundwater flow contributions are dwarfed by the flow of the Detroit River through the Trenton Channel. Loading of contaminants associated with river transport is many orders of magnitude larger than that associated with groundwater. Furthermore, a review of current conditions at industrial properties adjacent to the Upper Trenton Channel project area identified no potentially significant ongoing sources of sediment contamination by groundwater flow. For example, active groundwater containment systems are in place under Federal and/or State programs at the Arkema East Plant, BASF North Works, and BASF South Works, and BASF Riverview properties.

Within the Upper Trenton Channel project area, comparison of surface sediment and buried sediment concentrations of contaminants reflects the reductions on source activity from historical periods. With the exception of a single core, the maximum concentration of contaminants is typically found below the surface sample depth interval, usually at depths greater than one foot below the sediment surface. The single notable exception to this pattern was found in a core collected near RM 2.8. It was observed in the results of hydrodynamic modeling that the area is not likely to be a current depositional area since local discharges of sediments from outfalls have been curtailed, supporting the conjecture that the anomalous concentration profile is likely a result of reexposure of historical sediments associated with sediment erosion and/or lack of deposition (see Appendix F).

3.3 Conclusions

Based on review of available information, the assessment of recontamination potential supports a finding that recontamination potential following dredging relative to existing levels of contaminants in surface sediments and relative to historical levels of contamination is low. Furthermore, so long as unpermitted spills, which are subject to regulatory enforcement, do not directly impact the project area, recontamination is unlikely to substantially diminish benefits of further cleanup of sediments in the Upper Trenton Channel project area.

4. Applicable Regulations and Permit Requirements

The applicable regulatory requirements were identified based on the recent site data and the anticipated remedial action alternatives being considered in this FFS. The requirements that have unique aspects affecting the implementation of the remedial alternatives at the Upper Trenton Channel Site are based on the specific components of the project and are discussed in this section. Applicable regulatory requirements and necessary regulatory approvals were identified to address these considerations and were grouped by federal and state or local regulatory requirements. Upon selection of a remedial alternative, a comprehensive list will be developed describing regulatory requirements and design measures to support compliance with regulatory requirements.

4.1 Federal

4.1.1 Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was passed in 1976 and amended by the Solid Waste Disposal Act by including provisions for hazardous waste management, under 42 United States Code (USC) 321 et seq. The act controls the management of hazardous waste from inception to ultimate disposal. MDEQ was delegated authority from USEPA to implement the RCRA (Refer to Section 4.2, State Requirements).

4.1.2 Toxic Substances Control Act

The TSCA regulates cleanup and disposal of PCB remediation waste under 40 *Code of Federal Regulations* (CFR) 761.61(a), Self-implementing Onsite Cleanup and Disposal of PCB Remediation Waste. However, it specifically excludes remediation of sediment from the self-implementing rules. As a result, river sediment remediation can be accomplished under either 40 CFR 761.61(b), Performance-Based Disposal, or 761.61(c), Risk-Based Disposal. Per instruction from the USEPA GLNPO, this project will be performed under 40 CFR 761.61(c), and risk evaluation documentation has been prepared separately in coordination with USEPA Region 5 Land and Chemicals Division and GLNPO risk assessment personnel. A draft Memorandum of Understanding (MOU) between the GLNPO and the TSCA program identifies the process that must be employed (Appendix G). It is anticipated that this project would fall under the MOU as all TSCA sediments would be removed and placed in a TSCA-regulated landfill. The requirements for developing cleanup goals as outlined in the MOU will be completed outside of the FFS process but will be a key consideration in design and eventual remediation to ensure compliance with the MOU and TSCA regulations. The documentation will be submitted by the GLNPO with the final cleanup plan to satisfy the risk-based disposal notification provisions of the TSCA. TSCA requirements for treatment, storage, decontamination, and disposal apply to this project.

Regardless of the selected sediment removal method, the design will comply with TSCA requirements. The watertight scow barges, barge mooring facility, offloading apparatus, dewatering pad, hydraulic pipes, and operational procedures will be designed and operated to address the requirements in the regulations, or as excepted under the Risk-Based Disposal Approval.

The TSCA also requires sediment contaminated with PCBs at concentrations of 50 mg/kg or greater to be disposed of at either a hazardous waste landfill permitted under the RCRA that is specifically authorized to accept materials with this level of PCBs, or a chemical waste landfill permitted under TSCA. The chemical waste landfill requirements under 40 CFR 761.75 will be met for excavated sediment with an in situ total PCB concentration at 50 mg/kg or above. Sediment with an in situ total PCB concentration below 50 mg/kg will be disposed of at an approved Subtitle D landfill.

The TSCA states that soil contaminated with PCBs at concentrations of 50 mg/kg or greater in bulk may be stored onsite for up to 180 days (40 CFR 761.65[c][9]), provided that controls are in place for prevention of dispersal by wind or generation of leachate. The storage site requirements include a foundation below the liner, a liner, a cover, and a run-on control system. The project will be constructed to meet the requirements for storage of sediment with concentrations of 50 mg/kg or greater. Storage of the sediment will include controls to prevent dispersal by wind and minimize generation of leachate.

4.1.3 Clean Water Act

The CWA, 33 USC §1251 to 1376 and 33 CFR, Part 323, provides regulations for the discharge of pollutants into the waters of the United States. It requires USEPA to set water quality standards for all contaminants in surface waters and requires that permits be obtained for discharge of pollutants from a point source into navigable waters. The CWA also regulates dredged and fill discharges to waters or jurisdictional wetlands. Although actual discharge of the dredged material back into the channel is not anticipated, excavation within the channel constitutes discharge of dredged material.

Regulations promulgated under the authority of the CWA require a permit to dredge sediments from or place fill in navigable waters. The project proponent must obtain a Section 404 permit from USACE prior to dredging or capping. Typically, Section 404 permitting requires a Section 401 Water Quality Certification from the state; however, the State of Michigan does not issue Section 401 certifications. Rather, Michigan issues permits pursuant to the State of Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended. The NREPA permit meets the Section 404 CWA requirements for state water quality certification. Because Upper Trenton Channel is designated as a navigable waterway, the requirements and conditions of the Section 404 permit and NREPA will be met. The permit is obtained by submitting a Joint Permit Application to the State of Michigan and USACE. Each agency assesses a project against federal and state regulatory requirements. If all state and federal requirements are met, each agency will issue a permit for the project. Permits typically require unavoidable impacts to be minimized to the extent practicable. Unavoidable impacts that cannot be minimized may require mitigation.

The NPDES is a federal program that originated in the CWA but has since been delegated to the states. Michigan is authorized to administer the NPDES permit program, which requires permits for the discharge of treated municipal effluent, treated industrial effluent, and stormwater. Additional information regarding state and local NPDES stormwater and wastewater discharge requirements is discussed further below.

4.1.4 Clean Air Act

The Clean Air Act (CAA), 40 CFR, Parts 50 through 99, is intended to protect the quality of air and promote public health. Title I of the Act directs USEPA to publish national ambient air quality standards for “criteria pollutants.” The National Ambient Air Quality Standards, Section 109, provides specific requirements for air emissions, including, but not limited to, particulates, volatile organic compounds, and hazardous air pollutants. USEPA also has provided national emission standards for hazardous air pollutants under Title III of the CAA. Hazardous air pollutants are designated hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act. The CAA amendments of 1990 greatly expanded the national emission standards for hazardous air pollutants by designating 179 new hazardous air pollutants and directing USEPA to require maximum achievable control technology standards for emission sources. Such emission standards are potential requirements for remedial actions producing air emissions of regulated hazardous air pollutants.

The CAA is considered applicable for activities that have the potential of causing particulate emissions such as fugitive dust during sediment transfer and transportation, as well as solidification and stabilization activities. The CAA is administered by MDEQ. The best available practices will be outlined in a plan to measure and mitigate air emissions.

4.1.5 Section 10 Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899, 33 USC §401 et seq. and 33 CFR, Parts 403 and 322, prohibit the creation of obstructions to the capacity of (that is, the excavation or fill within the limits of) the navigable waters of the United States. Dredging may occur in waters subject to the Act, and dredging equipment would travel through and be positioned near the navigation channel. Consequently, the work would be coordinated with USACE regarding project requirements and notifications for work that could affect the navigation channel. USACE has authority under Section 10 to grant a Nationwide Permit 38, which typically requires measures to minimize resuspension of sediments and erosion of sediments and streambanks during excavation. The project will meet the permit requirements of Section 10 of the Rivers and Harbors Act.

4.1.6 Endangered Species Act

The Endangered Species Act of 1973, 16 USC § 1531 et seq. and 15 CFR, Part 930, require that federal agencies ensure that any action authorized, funded, or carried out by an agency is not likely to jeopardize the continued existence of any threatened or endangered species and will not destroy or adversely modify critical habitat. CH2M HILL reviewed the United States Fish and Wildlife Service (USFWS) technical assistance website for federally listed threatened and endangered species, as well as the Michigan Natural Features Inventory. The USFWS lists five endangered, threatened, and candidate species known to occur within Wayne County.

Three federally endangered species known to exist within Wayne County are the Indiana bat (*Myotis sodalis*), northern riffleshell mussel (*Dysnomia torulosa rangiana*), and rayed bean clam (*Villosa fabalis*). One federally threatened species known to occur is the eastern prairie fringed orchid (*Plantathera leucophaea*), and one federal candidate species known to occur is the eastern massasauga rattlesnake (*Sistrurus catenatus)* (USFWS, 2012). Other Michigan Department of Natural Resources (MDNR) species of concern or threatened species (such as the Eastern fox snake) may also be present in the project area.

Based on the industrialized location of dredging activities that would be conducted, and projecting that dredging dewatering and water treatment would occur on disturbed shoreline within the project area, it is not anticipated that any of the previously mentioned species would be affected. However, coordination would occur during the remedial design with the USFWS and the MDNR regarding potential impacts to federal and state-listed species and unique natural features in the vicinity of the project area. Biological evaluations or assessments may be necessary to assess potential impacts to protected species.

4.1.7 Migratory Bird Treaty Act

The Migratory Bird Treaty Act, 16 USC §703, protects almost all species of native birds in the United States from unlawful taking, possession, or sale of any bird in whole or part, as well as the nest, egg, or any product manufactured therefrom. Measures will be taken to evaluate whether migratory birds are present; and the project activities will be scheduled to not disturb migratory birds, or depredation permits will be obtained if necessary.

4.1.8 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act, 16 USC §661 et. seq., Executive Order 11988, and 40 CFR, Part 6, require that activities avoid adverse effect and minimize potential harm, preserve natural and beneficial values, and/or compensate for impacts to fish, wildlife, and their habitats through restoration. To comply with the requirements, the USFWS and the MDNR would be consulted regarding the impacts on fish and wildlife resources and measures to avoid, minimize, and mitigate the impacts**.**

4.1.9 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. The Detroit River AOC provides extensive areas of habitat that can support bald eagles. Coordination with the USFWS regarding potential impacts to bald eagles would be conducted prior to project implementation.

4.1.10 National Wildlife Refuge System

The site is located within the Detroit River International Wildlife Refuge. The National Wildlife Refuge System, 16 USC §668dd et. seq. and 50 CFR 27, require that activities avoid, minimize, or compensate for impacts to fish and wildlife and their habitats within areas designated as part of National Wildlife Refuge System. To comply with these requirements, coordination with the USFWS regarding potential impacts to fish and wildlife and their habitats would be conducted prior to project implementation.

4.1.11 Section 106—Historic Preservation Act

The National Historic Preservation Act, 16 USC §469 to 470 and 36 CFR, Part 65 and 800, establish procedures for preserving and avoiding impacts to scientific, historical, and archaeological resources that might be impacted through alteration of terrain as a result of a construction project or licensed activity or program. Actions would be taken to avoid and mitigate impacts to cultural resources through the design and permitting process. It is expected that a low potential for unanticipated discovery of scientific, historical, or archaeological artifacts during remedial action exists due to the developed nature of the site. However, if scientific, historical, or archaeological artifacts are discovered at the site, work that could impact discovered artifacts would be halted pending the completion of data recovery and preservation activities required pursuant to the Act. Coordination efforts would be initiated between USEPA and USACE and the Michigan State Historic Preservation Office regarding the National Historic Preservation Act prior to project implementation.

4.1.12 Notice to Mariners

A Notice to Mariners would be issued through the United States Coast Guard once the final remedial action schedule is determined. The remedial action contractor would coordinate efforts with the United States Coast Guard.

4.2 State and Local Requirements and Approvals

4.2.1 Michigan Hazardous and Liquid Industrial Waste Management Program

The Hazardous and Liquid Industrial Waste Management Program regulates companies and businesses that generate, store, treat, and dispose of hazardous waste in Michigan, with the intent of protecting human health and the environment in Michigan by ensuring the proper handling, tracking, storage, treatment, and disposal of hazardous waste and liquid industrial waste. MDEQ administers the hazardous waste management requirements of Part 111, Hazardous Waste Management, of the NREPA, 1994 PA 451, as amended (Act 451). The program also has delegated authority from USEPA to administer the federal RCRA hazardous waste requirements.

A hazardous waste is either a “listed” waste or a “characteristic” waste. Based on the toxicity characteristic leaching procedure (TCLP) results for sediment to date, the sediment is not characteristically hazardous. However, based on the total results for sediment to date, several areas may be considered to be characteristically hazardous based on the “rule of 20.” The “rule of 20” compares regulatory levels for TCLP multiplied by 20 against the total results as a potential indicator of characteristically hazardous waste. The FFS assumes nonhazardous or TSCA-regulated waste based on the TCLP data collected to date. For the remedial design and remedial action, the following is the decision tree for Upper Trenton Channel sediment disposal:

- Collect additional sediment from representative locations and conduct analyses to support waste profiling.
- For alternatives that include removal, the sediment will be managed as RCRA “characteristic” hazardous waste if sample results analyzed per TCLP for regulated constituents exceed the regulatory levels.
- RCRA hazardous waste will be evaluated per the land disposal restrictions found at Michigan Administrative Code (MAC) r. 299.11003(1)(u), MAC r. 299.11003(2), MAC r. 299.9311, and MAC r. 299.9627. The treatment standards require that contaminated soils that will be land disposed be treated to reduce concentrations of hazardous constituents by 90 percent or meet hazardous constituent concentrations that are 10 times the universal treatment standards (UTSs), whichever is greater. (This is typically referred to as 90 percent capped by 10 × UTS.) For contaminated sediment that exhibits a characteristic of ignitable, reactive, or corrosive hazardous waste, treatment must also eliminate the hazardous characteristic.
- If the results for one or more underlying hazardous constituents exceed 10 times the UTS, then the disposal facility will require that the sediment be treated before it can be disposed of in a landfill.
- The sediment will be evaluated to determine if it passes the paint filter test, which is a requirement for both Subtitle D (solid waste) and Subtitle C (hazardous waste) landfill disposal. If it does not, it will be stabilized or rendered so that it passes the paint filter test.
- If TCLP sample results do not exceed RCRA regulatory levels, then the sediment may be disposed of in an RCRA Subtitle D or Subtitle C landfill. Subtitle D landfill disposal will depend on the individual permit and state requirements for a particular Subtitle D landfill.

4.2.2 Joint Permit Application

As discussed in Section 4.1.3, CWA, implementation of the selected remedy will require a MDEQ/USACE Joint Permit Application because of remedial activities occurring within a navigable waterway. The Joint Permit Application package covers permit requirements pursuant to state and federal regulations for construction activities where land interfaces water and covers activities within wetlands, floodplains, inland lakes, and streams.

4.2.3 Soil Erosion and Sediment Control Permit

The Soil Erosion and Sediment Control (SESC) permit as specified in Section 91 of the NREPA, PA 451 would be obtained for the land disturbance supporting dredging activities. In addition, a Notice of Coverage for Part 91 SESC for the temporary infrastructure construction would be required to be submitted to MDEQ and also to Wayne County.

Disturbance of areas greater than 5 acres requires a Notice of Coverage be submitted to MDEQ, including a copy of the SESC permit, a location map, a copy of the approved SESC plan for the project, the name and certification of the certified construction stormwater operator, and the filing fee. Disturbance areas between 1 and 5 acres are deemed to have automatic construction stormwater coverage once the SESC permit coverage is obtained. The SESC permits would require implementation and maintenance of soil erosion and sedimentation control measures, which would be included in the design.

4.2.4 State of Michigan Natural Resources and Environmental Protection Act

The State of Michigan regulates dredge and fill activities in navigable waters pursuant to various parts of NREPA. As discussed in Section 4.1.3, the State of Michigan issues permits for projects that are subject to NREPA regulations, if the project can be shown to meet all NREPA requirements, including those protecting floodplains, threatened and endangered species, submerged lands, inland lakes and streams, cultural resources, and other resources regulated by NREPA. Implementation of the selected remedy would require submittal of a Joint Permit Application because of remedial activities occurring within a navigable waterway. State issuance of the permit meets the federal Section 404 permit requirement that the State issue a water quality certification prior to Section 404 permit issuance.

4.2.5 County Requirements

Requirements of the CWA are also met through the Wayne County Industrial Pretreatment Program wastewater discharge permit.

4.2.6 Local Ordinances

Local ordinances would address local city and county permitting requirements for heavy equipment operation, construction of facilities, traffic, noise, operational hours, and other environmental controls during performance of remedial operations. The remedial design will specify that necessary permit applications or approvals (that is, temporary building permit, 24-hour work variance, easement requirements, etc.) be prepared and submitted by the remedial action contractor.

5. Remedial Objectives and Cleanup Goals

GLNPO applies the following general ROs to all remedial actions taken as part of the GLLA:

- Reduction of exposure to contaminants of concern in sediments and pore water
- Reduction of concentrations of contaminants in biota
- Reduction of sediment related toxicity
- Improvement of biota and biological communities
- Improvement in habitat quality
- Remediation of sediment contamination based on volume, area, and/or mass basis

In general, ROs are translated to clean-up goals (CUGs) for COCs that provide more quantitative measures to assess remedial alternatives and remedy effectiveness. The CUGs can span from mass and volume goals to risk-based CUGs calculated to protect a specific receptor or receptors.

The following subsections identify site-specific ROs, identify COCs, and present preliminary CUGs.

5.1 Site-specific Remedial Objectives

The site-specific ROs that were developed for the Upper Trenton Channel were designed to ensure that the remedial alternatives provide protection of human health and the environment, make improvements to the AOC where the project is located, and support removing BUIs and delisting the AOC, while also meeting regulatory requirements and complying with permits. The following site-specific ROs were established for assessing remedial alternatives and remedy effectiveness:

1. Support restoration of beneficial uses within the Detroit River AOC by reducing the mass, volumes, and concentrations of COCs in the Upper Trenton Channel sediment. Specifically, the remediation of contaminated sediment in the Trenton channel project area will make progress towards eliminating the following beneficial use impairments:
   - Fish and wildlife consumption advisories
   - Degradation of benthos
   - Degradation of fish and wildlife habitat
   - Fish tumors
2. Short- and long-term reductions in risks to human health and the environment. This will largely be affected by RO 1, but short and long-term targets were developed for certain COCs so that removal of the most mass and volume of sediment (including those areas that meet TSCA definitions of contamination for PCBs) and greatest environmental gains are achieved and risks and exposures are minimized during the remediation itself. The specific targets to achieve these ROs are described in the CUG section below. In addition, the alternatives evaluation in Section 7 provide additional analysis of short and long term effectiveness in protecting human health and the environment.
3. Improved habitat of the site through targeted restoration efforts.

5.2 Contaminants of Concern

The Trenton Channel Remedial Investigation Report (CSC 2010) and the Data Evaluation Summary Technical Memorandum (CH2M HILL 2011; Appendix A) presented data on the nature and extent of sediment contamination at the site. The Trenton Channel has experienced extensive urban and industrial impacts over the past century or more as the receiving water of one of the greatest manufacturing centers of the United States. Many diverse point sources and diffuse industrial and municipal non-point sources throughout the watershed contributed to environmental degradation. The sediment chemistry data reflect these numerous sources and the depositional nature of shoreline areas along the Upper Trenton Channel as demonstrated by multiple detections of a wide range of COCs. The following project COCs were selected as the basis for remedial planning due to the general co-occurrence with most other contaminants in sediment depositional areas, as noted during inspection of sediment chemistry data maps. The COCs identified for the project are:

- PCBs
- Mercury
- TPAH
- Chlorinated naphthalenes
- pH level*
- NAPL (non-aqueous phase liquid)*

*The above list includes both chemical COCs as well as pH which is better described as a sediment condition; NAPL are free phase hydrocarbons which is a combination of constituents or indicator of contamination.

As noted above, these project COCs were selected as the basis for remedial planning in this document due to the general co-occurrence with most other contaminants in sediment depositional areas. It should be noted that a complete screening to identify all potential COCs that may be present at levels of concern for threats to human health or the environment was not completed.

In general, the majority of sediment samples that were analyzed for PCBs, mercury, and TPAH had detectable quantities for these COCs. Field measurements of sediment pH and visual observation of presence of NAPL were also conducted. For chlorinated naphthalenes, field observations of NAPL or Halowax during the 2011 sampling events and historic data were used to develop appropriate remedial alternatives. Chlorinated naphthalenes, the primary constituent of Halowax, have been identified in the project subarea located between RM 2.9 and 3.4. NAPL has been observed primarily near RM 2.9. Pre-design sample collection in the development of the preferred alternative may refine the spatial extent of the project sub areas in which chlorinated naphthalenes or NAPL are found.

Elevated sediment pH values were detected between RMs 0.6 to 1.1, 1.4 to 1.7, 2.1 to 2.8, and between RMs 2.8 and 3.0. While elevated sediment pH is not a “constituent” per se, it is an indicator of the potential presence of reactive materials in sediment and elevated pH may present sediment toxicity to benthic organisms. Other contaminants that have been detected include 45 SVOCs, metals, and TPH. A number of these contaminants are present at levels that could warrant inclusion as COCs. However, the non-COC contaminants were generally co-located with project COCs for which CUGs were defined and thus are expected to be addressed as the COCs are remediated. Therefore, COC-specific CUGs for the other potential COCs have not been developed. The SVOCs detected are described in Appendix C of the July 2010 Trenton Channel Remedial Investigation Report and include but are not limited to 1,2,4-

trichlorobenzene, hexachlorobenzene, and phenol. Oil range organics (“ORO”) and diesel range organics (“DRO”) were detected in all samples. DRO results ranged between 27 parts per billion (ppb) and 26,000 ppb. ORO results ranged between 52 ppb and 25,000 ppb. Ten different metals were analyzed in samples including arsenic, barium, cadmium, chromium, copper, iron, lead, managanese, mercury, nickel, selenium, silver, and zinc. Among the ten metals, only cadmium, mercury, selenium, and silver were not detected in all samples. Cadmium was detected in 91% of the samples, while mercury, selenium, and silver were each detected in approximately 75% of the samples. For most metals, the concentrations within a particular sediment core tended to be highest at the surface and at the 1-3 foot depth interval.

5.3 Preliminary Cleanup Goals

Overall, preliminary CUGs were developed based on the following considerations:

- The distribution of contamination so that at least 80 percent of the mass of mercury and PCBs are removed/remediated
- Reduce surficial concentrations of PCB and Hg in the sediment
- Reduce trophic transfer of bioaccumulative contaminants
- Removal of TSCA-regulated sediments (concentrations ≥ 50 parts per million [ppm] PCBs)
- Toxicity to benthos is reduced
- Consistency with other legacy sediment site CUGs

PCBs and Mercury The primary exposure pathway for both PCBs and mercury for both human and ecological receptors is through uptake and bioaccumulation through the food chain. By reducing surface concentrations of sediment, less of these bioaccumulative contaminants will enter the food chain and thus positively impact the restrictions on fish consumption BUI. Toward achievement of the long-term goal of fish consumption BUI removal, a CUG of 1 mg/kg was applied for both PCB and mercury and used in the evaluation of remedial alternatives.

TPAHs For Upper Trenton Channel, a CUG for TPAH was developed using a methodology applied at other Legacy Act sites. Site-specific data were used to develop a preliminary CUG for TPAH using the equilibrium-partitioning sediment benchmark approach (USEPA 2003). The Equilibrium Partitioning Sediment Benchmark Toxic Unit approach or ESBTU models concentrations of PAHs in pore water and estimates toxicity to benthos.

Unlike PCBs and mercury, the primary risk associated with TPAH is through direct contact with the sediment by benthic organisms. Therefore, the preliminary CUG for TPAH is a not-to-exceed concentration applied on a point-by-point basis. While estimates based on both acute and chronic toxicity were developed, the chronic toxicity values were used for the development of a CUG as they represent acceptable levels to leave behind in the long term. The acute toxicity values were only used in helping to define remedial alternatives. A detailed description of the chronic toxicity estimates used to develop the TPAH CUG is presented in the table below. In the table, the term ESB34 refers to the equilibrium sediment benchmark to 34 TPAHs (includes the aklyated PAHs), and the 8 guideline units refers to the number of toxic units being used as a benchmark and represent a conservative yet not unrealistic basis for the CUG. The 8 TUs corresponds to roughly an EC50 for a 28-d amphipod (Hyalella azteca) test. The last column shows the range of potential CUGs based on the average, minimum or maximum values.

	ESB34 (µg PAH/g OC)	TOC (µg/g)	µg/g dry wgt	ESB34 (µg PAH/g OC) @ 8 guideline units	µg/g dry wgt
AVERAGE	770.56	51648	3.97	6164.51	31.75
MAXIMUM	813.60	123000	9.94	6508.81	79.53
MINIMUM	664.97	17900	1.42	5319.74	11.37

For the TPAH CUG, the maximum and chronic estimate was chosen: 80 ppm (dry weight).

Chlorinated naphthalenes and NAPL There is currently no consensus-based effects level or other sediment guideline values to use as a CUG. A CUG for chlorinated napthalenes and the extent to which it will be applied in the project area will be developed during the remedial design phase. A qualitative CUG to address the presence of NAPL will also be developed during the remedial design phase.

RM 0.6 to 1.1 In the northern-most subarea a CUG of pH 9.0 in sediment pore water will be applied. The CUG will be achieved by a performance objective of removal of all soft sediments that can be practicably dredged and will include subsequent placement of a residuals management layer where needed. The post-remediation sampling approach will be defined during design. The design phase will include collaboration between the Partners and all relevant programs at USEPA.

For Upper Trenton Channel, a CUG for TPAH was developed using a methodology applied at other legacy sites. Site-specific data were used to develop a preliminary CUG for TPAH using the equilibrium-partitioning sediment benchmark approach (USEPA 2003).

Unlike PCBs and mercury, the primary risk associated with TPAH is through direct contact with the sediment by benthic organisms. Therefore, the preliminary CUG for TPAH is a not-to-exceed concentration applied on a point-by-point basis.

6. Identification and Screening of Technologies

Section 6 describes the identification and screening of available remedial technologies and process options based on the ROs for the Upper Trenton Channel Site. The first step in the process is to identify general remedial actions that can meet the ROs. Remedial actions are broad categories that can be used alone or in conjunction with other actions to meet the site ROs. Within each remedial action, technologies and their associated process options were identified. For each remedial action, several remedial technologies may exist, each of which may be subdivided according to process options for screening purposes. The technologies and process options identified for screening are presented in Table 2. For each remedial action (except no action), remedial technologies and associated process options considered to be potentially appropriate and effective for the contaminated sediment within the Upper Trenton Channel Site were identified based on professional experience, published sources, computer databases, and other documentation and resources. The process options were combined into complete alternatives in Section 7.

General remedial actions that may be applicable to the project include the following:

- No action
- Institutional controls
- Monitored natural recovery (MNR)
- Sediment containment
- In situ treatment
- Sediment removal
- Offsite disposal

The remedial action screening step may eliminate a general remedial action from the FFS process if no feasible technologies are identified. The objective, however, is to retain the best technology types and process options within each general remedial action and to use them to develop remedial alternatives. Each technology type and process option that passes the screening is either a demonstrated or proven process, or a process that has undergone laboratory trials or bench-scale testing, and is likely feasible to conduct at the Upper Trenton Channel Site. Technologies and process options that are screened out based on the defined criteria listed below are highlighted in Table 2.

The screening process of remedial actions is based on the following criteria:

- Technical and logistical feasibility (implementability)
- Environmental risk (effectiveness)
- Relative cost

Specific considerations for each of the criteria consist of the following:

- **Effectiveness**: Key considerations include the following: (1) the extent the remedial option would be protective of human health and the environment and in meeting ROs and CUGs, (2) the level of treatment/removal that could be achieved, and (3) the extent to which the remedial option has been demonstrated at other similar sites. Protection of human health and the environment refers to both the construction and implementation (short-term) and operation and maintenance (long-term) considerations for reducing toxicity and mobility or meeting ROs and CUGs. Level of treatment/removal refers to the degree to which the technology reduces contaminant mass.

- **Implementability**: Implementability refers to the feasibility and/or availability of a given process remedial option for the site. Feasibility is further delineated based on technical and/or administrative considerations. Technical feasibility refers to the ability of the remedial option to adequately treat/remove the COC given site-specific conditions. Certain options may be able to address the constituents but cannot be implemented because of such factors as space limitations and unacceptable subsurface conditions. Administrative feasibility refers to the ability of the remedial option to meet such factors as local and state permitting requirements and regulatory reviews for approval. Availability refers to such factors as the geographic location of the site and the extent to which the remedial option is commercially available.
- **Relative Costs**: For comparative purposes, the initial screening table presents relative differentials in cost magnitude (low, moderate, and high), taking into consideration anticipated capital and operation and maintenance costs for each technology. As such, cost considerations are provided for general assessment and were not used as a screening tool unless substantial cost differentials were identified that would immediately preclude the technology from further consideration.

6.1 No Action

Under a no-action alternative, no remedial response is performed. The alternative is typically used as a baseline with which other remedial options are compared. A no-action alternative may be appropriate where current site conditions present little or no human health or environmental risk.

The no-action alternative is retained for the purpose of comparison with other remedial options.

6.2 Institutional Controls

Institutional controls are administrative and/or legal restrictions placed on uses of a property or waterway (for example, deed restrictions and access restrictions). Institutional controls also can take the form of issuance of public health advisories (for example, fish consumption advisories).

Deed and access restrictions can be established for a contaminated property to limit its future use. Similarly, public waterways can be regulated by establishing recreational use limitations, such as swimming bans and “no wake” zones to minimize the potential for sediment disturbance. However, implementing these restrictions could create a negative public perception and furthermore do not assist in removing BUIs or meeting ROs and CUGs; hence, they are not retained for further evaluation.

Fish consumption advisories are intended to provide guidelines to members of the public who may eat fish with elevated contamination levels. Since the advisories currently are in use and reductions in fish tissue PCB concentrations post-remediation would be expected to be a long-term process, this option would be kept for incorporation into alternatives.

TABLE 2
Remedial Action Screening Summary
Upper Trenton Channel Site, Wayne County, Michigan

Remedial Action	Process Option	Description	Screening Criteria: Effectiveness	Screening Criteria: Implementability	Screening Criteria: Relative Cost	Screening Comment
No Action						
	None	No further actions to address contaminated sediment.	Some natural attenuation will occur as contaminants slowly biodegrade over time. COCs in sediment will be redistributed through erosion and deposition and/or covered by clean sediment. Does not meet the ROs for the project.	Not applicable.	None	Retained for comparison.
Institutional Controls						
	Fish Consumption Advisories	Fish Consumption Advisories are currently in place.	Can be effective. Some citizens may ignore advisories. Not effective in isolating the COCs from ecological receptors. Does not meet the ROs for the project when used as the only process option.	Implementable. Advisories are currently in place.	Low	Retained for further evaluation in conjunction with other technologies.
Monitored Natural Recovery						
	Monitored Natural Recovery	Allow naturally occurring physical, chemical, and biological processes to reduce the bioavailability and/or toxicity of COCs to acceptable levels.	Some natural recovery will occur through deposition of cleaner sediments, mixing, sediment/water exchange, and other processes. Does not support removal of BUIs when used as the only process option.	Implementable. Requires periodic sediment sampling and coordination. May also require institutional controls.	Low	Retained for further evaluation in conjunction with other technologies and process options.
Containment	Thin Layer Cap	Thin-layer capping is the placement of a thin layer of clean material over contaminated sediment to provide an immediate reduction of sediment concentrations in the biologically active zone and to accelerate natural recovery. Placement of a lesser volume of materials typically creates fewer short-term environmental impacts allowing the benthic population, which is inevitably disturbed during material placement, to reestablish more rapidly; allows for minimal impact to navigation traffic; induces minimal sediment consolidation; and requires no monitoring or maintenance activities. Thin layer capping is sometimes referred to as enhanced natural recovery because the addition of clean material to the surface accelerates the rate of natural recovery.	Effective. Placement would provide immediate reduction of surface concentrations and enhance the natural recovery process within surface sediments. Achievement of project ROs and long-term effectiveness is reliant upon hydrodynamic forces. Potential for erosive forces to impact cap without additional controls or armoring measures. May be suitable within portions of river with lower flow rates and adequate navigation depth activities, where erosion is less likely to occur. Ultimately, effectiveness is reliant upon magnitude of erosive forces within the water body, cap thickness, and natural organic content of the backfill material(s).	Implementable. Materials and equipment would likely be readily available. Placement techniques and equipment would be dependent upon site characteristics (that is, water depths, hydraulics, etc.), proximity of a remedial area to the shoreline, and cap material properties. Site constraints, such as debris within remedial areas and existing bank structures, could pose implementability concerns. Minimal upland staging and support areas would be required. Requires no maintenance. Implementation effects on water quality are minimal. Short-term effects on benthic community expected during placement; however, placement of a lesser volume of material typically creates fewer short-term environmental impacts than during construction of thicker caps, allowing the benthic population to reestablish faster. Damage or loss of sensitive habitats may occur where capping would impact shoreline areas or where disruptions to the water body and local site vicinity due to vehicular traffic and equipment activity occurred. Would need to comply with applicable permits and regulations. Has been demonstrated at other project sites and is a relatively well established technology for short-term effectiveness.	Low to Moderate	Retained for further evaluation.

TABLE 2
Remedial Action Screening Summary
Upper Trenton Channel Site, Wayne County, Michigan

Remedial Action	Process Option	Description	Screening Criteria: Effectiveness	Screening Criteria: Implementability	Screening Criteria: Relative Cost	Screening Comment
	Engineered Isolation Cap	An isolation cap consists of sand, soil, or a mixture thereof, placed on the sediment surface, typically without any prior removal of sediments, to provide for immediate, long-term isolation of the underlying contaminated sediment. The cap material(s) selected are designed to provide stability and chemical transport retardation with the potential for natural chemical degradation (attenuation) beneath the cap. Depending on the site-specific conditions, the isolation cap may consist of other layers such as geotextiles in addition to that specifically designed for chemical isolation. In higher energy environments, an armor layer may be installed to protect the isolation layer from erosive forces.	Effective. Placement would provide immediate reduction in bioavailability and isolation to impacted sediments. Provides long-term isolation and containment of constituents within underlying sediments. Long-term effectiveness in the isolation of chemical migration would be reliant upon cap thickness, material selection, and maintenance. Armoring ensures long-term cap stability for protection against erosive forces (that is, ice-scour, vessel draft). Placement of cap decreases water depth; therefore, long-term effects on navigation and flood storage capacity will be dependent on cap thickness, the final cap elevation, and the extent of capping activities. Reduced drafts would be a concern, specifically within the navigation channel and adjacent marina. Damage or loss of sensitive habitats may occur where capping would impact shoreline areas or where disruptions to the water body and local site vicinity due to vehicular traffic and equipment activity occurred. Short-term effects of transporting large volumes of cap materials to site would need to be considered. Ultimately effectiveness is reliant upon erosive forces within the water body and cap thickness.	Implementable. Most materials and equipment would likely be readily available. Placement techniques and equipment would be dependent upon site characteristics (that is, water depths, hydraulics, etc.), proximity of a remedial area to the shoreline, and cap material properties. However, mechanical equipment is required for placement of certain cap components (that is, geotextile). Filter component (that is, geotextile) placement may increase complexity of cap construction. Site constraints, such as debris within remedial areas and existing bank structures, could pose implementability concerns. May require long-term monitoring of cap integrity. Degree of maintenance is dependent on observations and results of monitoring events. Would need to comply with applicable permits and regulations. Prior to implementation, would require access agreements from any private property owners within the extent of remedial activities. Containment can require long-term coordination with state and local regulators due to potential need for long-term controls on waterway use and fish consumption advisories if constituent is bioaccumulative. Has been demonstrated at other project sites and is a relatively well established technology for sediment management and capping. Most readily implementable and effective in deeper, lower energy water bodies.	Moderate to High. Long-term costs include periodic monitoring of the cap and cap maintenance, as required.	Retained for further evaluation.

TABLE 2
Remedial Action Screening Summary
Upper Trenton Channel Site, Wayne County, Michigan

Remedial Action	Process Option	Description	Screening Criteria: Effectiveness	Screening Criteria: Implementability	Screening Criteria: Relative Cost	Screening Criteria: Screening Comment
	Impermeable Cap	Impermeable/semi-impermeable caps are similar to the engineered isolation caps from a base approach where similar materials are utilized in the design and construction. The difference between the two caps is the addition of an inert impermeable/semi-permeable material such as a geomembrane, a geosynthetic clay liner (GCL), or Aquablok™. The impermeable/semi-impermeable material reduces or prevents contaminant flux via advection and diffusion processes. Long-term monitoring and maintenance activities are required to ensure the long-term effectiveness of this remedial technology.	Effective. Placement would provide immediate reduction in bioavailability and isolation to impacted sediments. Provides long-term isolation and containment of constituents within underlying sediments. Long-term effectiveness in the isolation of chemical migration would be reliant upon cap thickness, material selection, and maintenance. Armoring ensures long-term cap stability for protection against erosive forces (that is, ice-scour, vessel draft). Placement of cap decreases water depth; therefore, long-term effects on navigation and flood storage capacity will be dependent on cap thickness, the final cap elevation, and the extent of capping activities. Reduced drafts would be a concern, specifically within the navigation channel and adjacent marina. Damage or loss of sensitive habitats may occur where capping would impact shoreline areas or where disruptions to the water body and local site vicinity due to vehicular traffic and equipment activity occurred. Groundwater fluxes within the water body could significantly impair long-term effectiveness. Short-term effects of transporting large volumes of cap materials to site would need to be considered. Ultimately effectiveness is reliant upon erosive forces within the water body and cap thickness.	Implementable. Most materials and equipment would likely be readily available. Placement techniques and equipment would be dependent upon site characteristics (that is, water depths, hydraulics, etc.), proximity of a remedial area to the shoreline, and cap material properties. However, mechanical equipment is required for placement of certain cap components (that is, geotextile and amendment materials). The use of inert materials can cause installation concerns such as tearing, placement inaccuracies, rolling (geomembranes), or inability to properly overlap (GCLs), causing a decrease in cap effectiveness. Site constraints, such as debris within remedial areas and existing bank structures, could pose implementability concerns. May require long-term monitoring of cap integrity. Degree of maintenance is dependent on observations and results of monitoring events. Would need to comply with applicable permits and regulations. Prior to implementation, would require access agreements from any private property owners within the extent of remedial activities. Containment can require long-term coordination with state and local regulators due to potential need for long-term controls on waterway use and fish consumption advisories if constituent is bioaccumulative. Has been demonstrated at other project sites and is a relatively well established technology for sediment management and capping. Most readily implementable and effective in deeper, lower energy water bodies.	Moderate to High. Long-term costs include periodic monitoring of the cap and cap maintenance, as required.	Retained for further evaluation.

TABLE 2
Remedial Action Screening Summary
Upper Trenton Channel Site, Wayne County, Michigan

			Screening Criteria			
Remedial Action	**Process Option**	**Description**	**Effectiveness**	**Implementability**	**Relative Cost**	**Screening Comment**
	Active Cap (also In Situ Treatment)	Active caps use various products and installation techniques to encourage fate and transport processes such as sequestration or degradation of contaminants beneath the cap and discourage recontamination of the cap. Performance goals for active caps can include permeability control to discourage upwelling through contaminated sediment by diverting groundwater flow, contaminant migration control through sorption-related retardation and as contaminant degradation aids. Long-term monitoring and maintenance activities are required to ensure the long-term effectiveness of this remedial technology. Additionally, institutional controls may be employed.	Effective. Placement would provide immediate reduction in bioavailability and isolation to impacted sediments. Provides long-term isolation and containment of constituents within underlying sediments and reduces constituent mass/concentration by increasing sorptive capacity and/or by encouraging chemical reactions and degradation. Long-term effectiveness in isolating and reducing constituent mass/concentration would be reliant upon cap thickness, material selection, and maintenance. Armoring ensures long-term cap stability for protection against erosive forces (that is, ice-scour, vessel draft). Placement of cap decreases water depth; therefore, long-term effects on navigation and flood storage capacity will be dependent on cap thickness, the final cap elevation, and the extent of capping activities. Reduced drafts would be a concern, specifically within the navigation channel and adjacent marina. Damage or loss of sensitive habitats may occur where capping would impact shoreline areas or where disruptions to the water body and local site vicinity due to vehicular traffic and equipment activity occurred. Implementation effects on water quality would be minimal. Short-term effects of transporting large volumes of cap materials to site would need to be considered. Ultimately effectiveness is reliant upon erosive forces within the water body, cap thickness, and reactive material selection based on site-specific constituents.	Implementable. Slower construction may be necessary to reduce placement variability of layers containing reactive materials. Most materials and equipment would likely be readily available. Placement techniques and equipment would be dependent upon site characteristics (that is, water depths, hydraulics, etc.), proximity of a remedial area to the shoreline, and cap material properties. However, mechanical equipment is required for placement of certain cap components (that is, geotextile and active mats). Filter component (that is, geotextile) placement may increase complexity of cap construction. Site constraints, such as debris within remedial areas and existing bank structures, could pose implementability concerns. Requires long-term monitoring of cap integrity. Degree of maintenance dependent on observations and results of monitoring events. Maintenance and material replacement could be required if reactions cause exhaustion of the active cap material component. Would need to comply with applicable permits and regulations. Prior to implementation, would require access agreements from any private property owners within the extent of remedial activities. Containment can require long-term coordination with state and local regulators due to potential need for long-term controls on waterway use and fish consumption advisories if constituent is bioaccumulative. Has been demonstrated at other project sites and is a relatively well established technology for sediment management and capping. Most readily implementable and effective in deeper, lower energy water bodies.	Moderate to High. Reactive materials could be costly. Long-term costs include periodic monitoring of the cap and cap maintenance, as required.	Retained for further evaluation.
Sediment Removal	Mechanical Dredging	An environmental clamshell bucket or excavator is used to remove the sediment from the river bottom. The removal could occur from shore or from a floating barge. The mechanically dredged sediment is either directly unloaded to a dewatering pad or loaded into water-tight scow barges and transported to the docking platform and offloaded onto the dewatering pad. Excess water from sediment on the dewatering pad is collected, treated, and disposed of. The dewatered sediment is typically stabilized and/or solidified with a suitable amendment before offsite disposal.	Effective. Contaminated sediment is removed from the river, eliminating the direct contact human exposure and the fish/benthic community exposure. Suspended solids that are released during the dredging activities can be minimized using engineering controls. Controls provide long-term effectiveness in minimizing spread of suspended solids in the water column. May disrupt the fish/benthic community initially, but provides long-term improvements to substrate.	Implementable but would require permits. Limitations may include transportation of dredged sediment by barges, affecting the waterway traffic and requiring coordination with the waterway users. Debris has relatively small impact to production rate using this technology. Typically requires pilot testing for selecting the suitable stabilization/solidification amendment. After dewatering and stabilization/solidification, sediment can be readily loaded into trucks for offsite disposal. Generates relatively small volume of water to be treated.	Moderate	Retained for further evaluation.

TABLE 2
Remedial Action Screening Summary
Upper Trenton Channel Site, Wayne County, Michigan

Remedial Action	Process Option	Description	Screening Criteria: Effectiveness	Implementability	Relative Cost	Screening Comment
	Hydraulic Dredging	Hydraulic dredge is used to remove the sediment from the river bottom. The hydraulically dredged sediment is conveyed/pumped through a dredge pipeline with or without the help of a booster pump into geotextile tubes on the dewatering pad for gravity dewatering. Excess water from sediment is collected, treated, and disposed of. The dewatered sediment is typically stabilized and/or solidified with a suitable amendment before offsite disposal.	Effective. Contaminated sediment is removed from the river eliminating the direct contact human exposure and the fish/benthic community exposure. May release suspended solids during the dredging activities, but can be minimized using engineering controls. Controls provide long term effectiveness in minimizing spread of suspended solids in the water column. May disrupt the fish/benthic community initially, but provides long term improvements to substrate.	Implementable but would require permits. Requires large staging areas and extended dewatering durations. Dredged sediment can be readily transported through a pipeline to the dewatering pad with limited effects to waterway traffic. Limitations may include availability of staging areas, monitoring the pipeline for leaks and management of the excess water from the dredged sediment. Presence of debris can severely reduce production rate. Typically requires pilot testing for selecting the suitable stabilization/solidification amendment. After extended period of dewatering and stabilization/solidification, sediment is loaded into trucks for offsite disposal. Generates relatively large volume of water to be treated.	Moderate to High	Not retained for further evaluation. Hydraulic dredging is unlikely to be feasible because the dredge area expected to have moderate to high occurrence of debris from historical shoreline activities. BASF Riverview dredging project encountered high debris occurrence; however, if information becomes available that indicates debris is not as widespread as anticipated, the viability of hydraulic dredging will be reconsidered.
	Dry Excavation	Install temporary barriers, allow sediment to dry, and excavate sediment using conventional earthmoving equipment.	Effective. Contaminated sediment is removed from the river eliminating the direct contact human exposure and the fish/benthic community exposure. Sediment within vertical range of excavation equipment, but longer reach required. Minimal release of suspended solids during installation of temporary barriers. Disrupts the fish/benthic community initially, but provides long-term improvements to substrate.	Implementable but requires substantial length of temporary barrier or moving/removing barriers during process. Significant effort to dewater isolated areas. Limitations may include availability of staging areas, ability to install temporary barriers because of underground conflicts, and transportation of dredged sediment by barges, affecting the waterway traffic and requiring coordination with the waterway users. Handles debris with relatively small impact to production rate. Sediment typically still requires dewatering after excavation. Requires pilot testing for selecting the suitable stabilization/solidification amendment. After dewatering and stabilization/solidification, sediment can be easily loaded into trucks for offsite disposal. Generates relatively small volume of water to be treated, assuming most dewatering from isolation cells pumped directly to river without treatment.	High	Not retained for further evaluation. Although direct excavation can accommodate debris and minimize resuspension of solids to the water column, installation of temporary barriers to dewater sediments is not feasible due to excessive costs that would be incurred to install barriers in the large project area and potential engineering feasibility of installing barriers in deep water.
Offsite Disposal						
	Subtitle D Solid Waste Landfill	Dewatered non-hazardous sediment with PCB concentration less than 50 mg/kg and other constituents at levels below the RCRA hazardous waste toxicity levels is permanently disposed in a non-TSCA, non-hazardous landfill.	Effective. The engineering controls implemented in the landfill eliminate the long term risk of direct exposure of contaminated sediment. May result in low short-term exposure risk to the operators.	Local landfills are approved for waste disposal of non-TSCA, and non-hazardous contaminated sediment.	Moderate	Retained for further evaluation.
	TSCA Landfill	Dewatered sediment with PCB concentrations greater than 50 mg/kg is permanently disposed of in a licensed TSCA-approved facility.	Effective. The engineering controls implemented in the landfill eliminate the long term risk of direct exposure of contaminated sediment. May result in low short-term exposure risk to the operators.	Local landfills are approved for disposal of greater than 50 mg/kg PCB-contaminated sediment. TSCA approved landfill is located near the site.	Moderate	Retained for further evaluation.

TABLE 2
Remedial Action Screening Summary
Upper Trenton Channel Site, Wayne County, Michigan

Remedial Action	Process Option	Description	Screening Criteria: Effectiveness	Screening Criteria: Implementability	Screening Criteria: Relative Cost	Screening Comment
	Confined Disposal Facility	Sediment slurry or dewatered sediment is placed directly into the Pointe Mouillee Confined Disposal Facility.	Effective. The engineering controls implemented in the CDF may not typically include clean cover over sediment, increasing potential risk for direct contact or inhalation.	Implementable, but requires negotiation and approvals from USACE. Confined Disposal Facility (CDF) constraints on chemical composition of acceptable sediments may preclude the disposal of large volumes of site sediments. May require removal of equivalent sediment volume from CDF to maintain capacity.	Low to Moderate	At this time, preliminary information provided by USACE is not sufficient to develop cost estimates for this option; in addition, there is substantial uncertainty as to whether this disposal option is viable and the volume of sediment that can be disposed here is unknown. Therefore, disposal of dredge material at the CDF is removed from further evaluation in this FFS. However, coordination will continue with the USACE during the design phase, and it is anticipated that further information will be supplied that will allow a more complete evaluation, at which time the CDF may again be considered as a disposal option.

Gray shading indicates that the technology has been screened from further evaluation in this FFS. These technologies may be evaluated further following completion of the FFS.

CDF = confined disposal facility
COC = contaminant of concern
GPS = global positioning system
GCL = geosynthetic clay liner
mg/kg = milligram per kilogram
PAH = polynuclear aromatic hydrocarbon
PCB = polychlorinated biphenyl
SWAC = surface weighted average concentration
TSCA = Toxic Substances Control Act

6.3 Monitored Natural Recovery

A MNR remedy relies on naturally occurring physical, chemical, and biological processes to reduce the bioavailability and/or toxicity of contaminants to acceptable levels. For example, exposure levels are reduced by a decrease in contaminant concentration levels in the near-surface sediment zone through burial or mixing-in-place with cleaner sediment and other processes. Contaminated sediment located in depositional areas can gradually be buried by cleaner sediment. This alternative can be implemented only after all significant continuing sources of contaminants to the system have been eliminated.

Typically, MNR is required to occur within a reasonable amount of time. A remedial alternative that involves MNR would require a comprehensive long-term monitoring program to verify such processes are taking place and that anticipated human health and environmental risk reductions are being achieved. MNR is appropriate at sediment sites with the following conditions:

- Sources are controlled.
- Short-term human health and environmental risks are low and/or declining.
- Natural recovery processes have a high degree of certainty to continue.
- Institutional controls effectively restrict human exposure.
- The sediment bed is stable and likely to remain stable.
- Sediment excavation could cause significant resuspension and recontamination downstream.
- Space limitations preclude ex situ remedial options and are not considered cost-effective relative to the risk reduction achieved.
- MNR is used in combination with other technologies where in situ access is limited.
- Space limitations generally do not preclude ex situ remedial options, and MNR alone would not achieve the ROs for the site. However, MNR is retained for further evaluation in combination with other technologies, such as dredging and institutional controls because MNR may be applicable to areas of the site inaccessible to dredging or containment.

6.4 Containment

In situ containment measures are intended to reduce dispersion and leaching of contaminated sediments to other areas of a water body and to reduce direct human and ecological exposure to contaminants. The in situ sediment containment measures detailed herein are considered representative technology options and include in situ subaqueous capping technology.

In situ subaqueous cap technology (hereafter referred to as capping) is a USEPA-accepted and -approved technology for the effective remediation and management of risk posed by contaminated sediments (USEPA, 1996; 2005). Capping involves the placement of clean material over an area of impacted sediment to sequester those sediments from the biological active zone within the sediment bed and isolate those sediments from resuspending into the overlying water column. Caps may be constructed of clean sediment, sand, gravel, and/or amended material, or may, if necessary, involve a more complex design using geotextiles, liners, reactive materials, or sorbent materials.

Capping has been applied in a variety of settings similar to the Trenton Channel of the Detroit River, including rivers, nearshore areas, and estuaries. There are several advantages and disadvantages as detailed in the Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (USEPA, 2005). Advantages of this technology include the following:

- Immediately provides a clean sediment surface and it quickly reduces exposure to chemicals in surface sediments
- Reduces the potential for exposure to contaminants without material handling, treatment, and disposal
- Cap material often provides a clean substrate for the recolonization of benthic organisms
- Implementation is typically quicker and less expensive than sediment removal

Disadvantages include the following:

- Contamination remains in the aquatic environment
- May result in limitations/restrictions on future site use
- May require routine repair or periodic replenishment if damaged
- May alter water depths, reducing available habitat, navigation depths, and floodway conveyance capacity

Conventional marine construction equipment and techniques can be used for capping projects, or conventional equipment may be modified for specific applications (as in the case of low-impact placement to avoid sediment compaction or resuspension).

While caps have been effectively used as a stand-alone remedy, providing both physical and chemical isolation of the impacted sediments, in recent years they have also been incorporated into multicomponent approaches (that is, hybrid remedies) used in areas of less toxicity that do not warrant the extent of remediation provided by dredging. Such instances are site-specific and may include division of the site into smaller areas, or specific management units, and the combination of dredging or institutional or engineering controls such as navigational restrictions, physical access restrictions, and future dredging restrictions, among others. Such controls minimize the potential for cap disturbance and subsequent exposure to sediment contamination by human or ecological receptors.

Several available documents provide technical guidance for using capping as a remediation technique for impacted sediment and include detailed guidance on site and sediment characterization, cap design, equipment and placement techniques, and monitoring and management considerations. As capping is a technology that is proven, but also continues to develop, new findings or approaches based on continuing research and case histories must also be considered, as appropriate. As stated in Palermo et al. (1998) and further supported in USEPA's Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (USEPA, 2005), "capping can remedy adverse effects (for example, bioaccumulation by benthic organisms and fish) of sediments containing chemical constituents through the following three primary functions:

- Physical isolation of the affected sediment from the benthic environment and potential human exposure.
- Physical isolation of the affected sediment, preventing resuspension and transport to other sites.
- Reduction of the flux of dissolved constituents into the water column."

The physical barrier provided by capping immediately sequesters the nonnative sediment layer, preventing contact with the overlying water column and reducing or eliminating benthic and/or human exposure. The physical barrier also reduces the potential mobilization of these sediments. Commonly (but not always), a cap requires an armor protection layer for stabilization purposes to mitigate potential site-specific scour by currents, waves, or mechanical disturbances such a vessel wakes or propeller wash.

A monitoring program is commonly required when capping is selected and constructed as a sediment remedy. Monitoring may include bathymetric surveying and visual observation to evaluate cap integrity. Biological monitoring may be conducted to evaluate biological recovery of the cap surface, and surface sediment sampling may be conducted to monitor surface sediment deposition and recontamination potential. Development of cap monitoring requirements and a cap monitoring plan would be completed during the remedial design.

A properly designed cap can provide a stable and long-lasting physical barrier that would satisfy the project goal of isolation of nonnative sediments. In addition to the immediate utility of the cap as a physical barrier, the cap can also provide a chemical barrier to the advective or diffusive transport of dissolved compounds from the sediment bed to the overlying water column.

To achieve results, installation of a cap must be treated as an engineered project with carefully considered design, construction, and monitoring. The basic criterion for a successful capping project is simply that the cap required to perform some or all of these functions be successfully designed, placed, and maintained (Palermo et al., 1998).

The primary types (or process options) of caps applicable to the Trenton Channel of the Detroit River and considered during this evaluation include thin-layer caps, isolation caps, impermeable caps/semi-impermeable caps, and active caps. Each of the process options are described in the following subsections.

6.4.1 Thin-Layer Cap

Thin-layer capping is the placement of a thin layer of clean material over contaminated sediment to provide an immediate reduction of sediment concentrations in the biologically active zone and to accelerate natural recovery. A thin-layer cap can be considered an alternative to construction of a thicker cap over contaminated sediments. Application of thin-layer capping at other sites (for example, Pier 64 in Seattle, Washington [Polaris Applied Sciences, 2002]) indicates that even very thin layers of new clean material placed on the sediment bed can reduce the interaction of sediment-associated contaminants with the overlying water.

Thin-layer capping is different from isolation capping (described in Section 6.4.2) because it is not specifically designed to provide long-term isolation. While the thickness of an isolation cap can range up to several feet, a thin-layer cap can consist of as little as a few inches of clean material. Placement of a lesser volume of materials typically creates fewer short-term environmental impacts allowing the benthic population, which is inevitably disturbed during material placement, to reestablish more rapidly; allows for minimal impact to navigation traffic; induces minimal sediment consolidation; and requires no monitoring or maintenance activities.

Thin-layer capping is sometimes referred to as enhanced natural recovery because the addition of clean material to the surface accelerates the rate of natural recovery. Assuming even low rates of natural sedimentation in the future, thin-layer capping can provide a base for sustained long-term reduction in surficial contaminant concentrations. The thickness of the thin-layer cap is based on the degree of enhanced natural recovery desired, as well as the anticipated impacts of material mixing with the underlying sediments as a result of both placement and bioturbation. Material mixing would provide some stability to the thin-layer cap; however, the cap could be susceptible to resuspension and downstream transport if cap thicknesses are not protective of erosive forces.

6.4.2 Isolation Cap

An isolation cap consists of sand, soil, or a mixture thereof, placed on the sediment surface, typically without any prior removal of sediments, to provide for immediate, long-term isolation of the underlying contaminated sediment. However, removal can be conducted in the instance of a hybrid remedy prior to cap placement if a specific water depth is required to support navigation, preserve aquatic habitat, or address floodplain compensation concerns. The required thickness is typically evaluated by one-dimensional mass transport analytical models (USEPA, 1996; Palermo et al., 1998). This model and the selection of cap material(s) depend on site-specific characteristics identified within the conceptual site model. Bioturbation depth, constituent migration through the cap (advection and diffusion), consolidation of underlying sediments, effect of total placement volume on project duration, impacts to commercial/industrial/recreational navigation, and the precision of, and mixing induced by, the placement methods must also be considered when evaluating the applicability and in identifying the targeted thickness. The cap material selected is designed to provide stability and chemical transport retardation with the potential for natural chemical degradation (attenuation) beneath the cap. Depending on the site-specific conditions, the isolation cap may consist of other layers in addition to that specifically designed for chemical isolation. Additional layers (such as geotextile) may be incorporated to improve physical stability between the cap and the existing sediment while allowing advection processes to continue to occur through passage of pore water through the cap. In higher energy environments, an armor layer may be installed to protect the isolation layer from erosive forces. Habitat reconstruction opportunities may also be viable for implementation as a component of an isolation cap. Placement of the cap would inevitably result in the burial of macroinvertebrates; however, placement of a clean material layer alone (that is, sand) may promote ecological repopulation and recolonization without additional habitat restoration activities. There are situations where conventional isolation caps might not be sufficiently protective. For example, highly contaminated sediments may mix over time into the cap and then be released from the cap into the overlying water column. Implementation of an isolation cap may require long-term monitoring of cap integrity and its achievement of project objectives. The degree of maintenance that may be required is dependent on observations and results of the monitoring events.

6.4.3 Impermeable/Semi-Impermeable Cap

Impermeable/semi-impermeable caps are similar to isolation caps from a base approach where similar materials are used in the design and construction. Such caps consist of sand, soil, or a mixture thereof placed on the sediment surface to provide long-term isolation of the underlying constituents. The difference between the two caps is the addition of an inert impermeable/semi-permeable material such as a geomembrane, a geosynthetic clay liner (GCL), or AquablokTM.

A geomembrane is a polyethylene sheet usually manufactured using high-density polyethylene (HDPE), very low-density polyethylene, or polyvinyl chloride. Geomembranes have been extensively used in landfills as a low-permeability material to prevent the migration of leachate from the landfill into the groundwater. They have also been used to waterproof tunnels and as caps on hazardous waste sites. A GCL consists of a layer of bentonite clay sandwiched between two needle-punched geotextiles. The engineering function of GCLs is as a hydraulic barrier to water, leachate, or other liquids. Bentonite is manufactured in a dry powder form and, when exposed to water, hydrates and forms a low-permeability clay (1 x 10-7 centimeters per second). Recently, GCLs have been used in the cover of landfills as an alternative to clay, which is typically required. There has been limited experience with the placement of GCLs in a riverine environment. If it were possible to place a GCL in the river successfully, the GCL would act as a low-permeability barrier and would prevent the migration of the potentially contaminated pore water into the water column. AquaBlokTM is a capping system consisting of gravel particles to which bentonite clay is bonded through a special manufacturing process. Gravel or crushed stone is obtained from a local quarry and is initially coated with a polymer. The bentonite is then added, forming a dry, hard aggregate. The composite particles are spread from the surface of the water and sink quickly to the bottom of the river on top of the sediment. As the bentonite hydrates, a uniform, continuous, cohesive low-permeability cap (1 x 10-8 centimeters per second) is formed over the contaminated sediment.

The impermeable/semi-impermeable material reduces or prevents contaminant flux by advection and diffusion processes. However, the utility of the chemical isolation is limited by concerns regarding ebullition (gas production) and venting. Additionally, if groundwater venting is present in the location of the proposed cap, an increase in hydrostatic pressure can occur, which may reduce the efficiency of the cap. Alternatives to offset the disadvantages associated with impermeable caps include membranes containing vents.

Similar to isolation caps, impermeable caps can be designed to incorporate stability and separation components such as filter layers and armor control components. Careful consideration must be given to the characteristics of the existing sediment and the hydrodynamic conditions in the location of potential capping. Additionally, bioturbation layers for benthic repopulation can be considered but must take into account the location (within the cap) and elevation of the impermeable layer to allow sufficient depth for benthic migration. Impermeable caps have been implemented on several projects including the Sheboygan and Manistique Rivers project sites, CSX Transportation Gautier, Mississippi project site, and the Ottawa River project site.

Implementation of impermeable caps may require long-term monitoring and potential maintenance.

6.4.4 Active Cap

Over the past several years, cap design has become more focused on the potential for increasing the effectiveness of the cap by addition or amendments of other material(s) to create an "active cap." Active caps incorporate specific materials or layers to encourage fate processes such as increasing degradation of contaminants sequestered within the cap. As previously stated, caps that encourage degradation or sequestration of the contaminants may be more effective at sites characterized by highly contaminated sediments as they provide immediate, long-term contaminant containment and reduction as opposed to solely providing sediment isolation. USEPA (2005) describes the following potential cap amendments to encourage the fate processes:

- Coke breeze, activated carbon, or organoclay sorbents to increase sorption and sequestration, resulting in greater retardation of mass transport through the cap
- Apatite (or other phosphate minerals) to increase sorption and reaction of metals within the cap
- Zero-valent iron to increase dechlorination of organics and metals reduction
- Pyrite—use of iron sulfide to encourage alkalinity reduction
- Siderite—use of iron carbonate to reduce alkalinity

Cap amendment selection is specific to site characteristics, including COC and concentrations; however, if selected correctly, an active cap is effective at mitigating sediment impacts from contact with surface water and/or potential receptors. Active caps have become readily accepted as effective remediation designs for contaminated sediment sites and have been successfully implemented at sites such as the Anacostia River, Pine Street, and CSX Transportation Gautier.

Similar to isolation cap installation, the thickness for an active cap is dependent on bioturbation depth; constituent migration through the cap; consolidation of underlying sediments; effect of total placement volume and accuracy required during placement on project duration; impacts to commercial/industrial navigation; and the precision of, and mixing induced by, the placement methods. In addition, as installation of the cap would inevitably result in the burial of macroinvertebrates, placement of clean materials may promote ecological repopulation without additional habitat restoration activities. Implementation of an active cap requires long-term monitoring of cap integrity and its achievement of project objectives. The degree of maintenance required is dependent on observations and results of the monitoring events; however, continual maintenance and material replacement may be required if the active cap material components become exhausted.

6.4.5 Cap Technologies Assessment and Summary

Capping presents a viable remedial option to meet project goals and has been effectively implemented at other sites with contaminated sediments. Capping has the ability to physically and chemically limit interaction of site contaminants in sediments with the surrounding environment through isolation, sequestration, and chemical interactions while enhancing natural recovery processes via stabilization and containment of in situ sediment. Capping can reduce risk while minimizing construction hazards and implementation risks to the surrounding community, construction workers, and the environment.

While some impacts to the benthic community would be expected following placement of a cap, it is expected that the benthic community would recover quickly. There are design considerations that must be evaluated to fully assess the effectiveness of a remedy that includes capping, particularly water depths and flow velocities. Water depths are important to define the maximum allowable thickness of a cap and to identify the potential for cap erosion due to ice scour and wind-induced waves. Water depths are also important to define the recreational usability of an area following construction of the cap (since a cap could potentially be compromised by, for example, vessel wake or prop wash). In addition, channel flow velocities have the potential to induce cap erosion from bed shear stress, which is compounded by reduced water depths.

Capping may be considered where sediment removal is implemented but contamination is left in place, although it is not practicable for portions of the project area that may fall within the Trenton Federal Navigation Channel due to periodic maintenance dredging required to support large commercial vessel drafts. Areas suitable for capping have been identified in Figures 6, 7 and 12 and are limited to locations in Subarea E and F adjacent to Bishop Park near the shoreline west and north of the fishing pier and proposed marina.

Site conditions, more than any other factor, typically dictate the feasibility of cap process options and must be considered during design, material(s) selection, construction equipment selection, implementation, monitoring, and maintenance. Site conditions that must be considered include the physical channel environment, channel flow velocities, wind waves and vessel wakes, water depths for navigation, side slopes, bank stability, presence and types of debris, existing habitat, hydrodynamic conditions, sediment characteristics, available land for staging materials and equipment, maintenance dredging areas for navigation, permitting requirements, and existing or future potential uses of the waterway.

The cap process options previously discussed were evaluated for application and implementation as potentially viable process options as a component of a remedial alternative for the project site. Several important distinctions among the capping methods warrant consideration for applicability at the site and thus are presented in Table 2 for ease of review and comparison. Each process option was evaluated for effectiveness, implementability, and relative cost. Based on the evaluation presented in Table 2, all four process options under the capping technology have been retained as representative process options under in situ containment. Each process option can be effective in meeting the ROs.

A thin-layer cap would provide immediate reduction of surface concentrations while enhancing natural recovery processes, although it may not provide complete long-term isolation of impacted sediment. Achievement of ROs and long-term effectiveness with thin -layer capping is dependent on hydrodynamic forces that may impact the cap without armoring measures. Isolation cap, impermeable cap, and active cap would all provide immediate reduction in bioavailability and isolation of impacted sediments. Long-term effectiveness of these three process options is dependent on cap thickness, material selection, and maintenance.

Short-term (that is, during implementation) effects on water quality for all four process options would be minimal, and, while all four options would affect the benthic community during placement, thin-layer capping would have the least effect due to the reduced volume of cap material. Depending on cap thickness, final cap elevation, and the extent of capping activities, the four process options may affect navigation and flood storage capacity. Again, due to smaller volume of material, thin-layer capping would have the least impact. All four process options may result in damage or loss of sensitive habitats where capping occurs along shorelines or where disruptions related to construction activities occur. Short-term effects of transporting large volumes of cap materials to the site would also need to be considered for isolation cap, impermeable cap, and active cap. All four process options have been demonstrated to be effective at other sites.

All four process options are implementable with materials and equipment readily available. A thin-layer cap would be the easiest process option to implement due to the reduced thickness of the cap and the homogenous nature of cap materials. Placement techniques for the process options would be dependent on site characteristics and site constraints (for example, debris, shoreline structures) and may present implementability concerns. Construction of an active cap is more complex and may result in longer construction durations. All process options other than thin-layer capping may require long-term monitoring and maintenance and, in the case of active capping, may require continual maintenance if active cap materials are exhausted.

Each process option would need to meet requirements of applicable permits and regulations as well as access agreements with adjacent property owners, as necessary. With the exception of thin-layer capping, the process options may also require long-term coordination with state and local regulators if long-term controls on waterways are implemented. Additionally, each individual cap process option (with the exception of thin-layer capping) may require removal to maintain navigation depths in applicable areas. Such a requirement would be addressed in the alternative development process. Relative costs of thin-layer capping are low to moderate, and relative costs of the other process options are moderate to high and include long-term monitoring and maintenance costs.

Each of the process options may include habitat reconstruction as a viable component of the overall remedy. The material used for a cap may serve as the substrate for habitat reconstruction. Materials such as sand or similar granular material may provide suitable habitat for biota, whereas armoring materials may provide for fish spawning and benthic macroinvertebrate recolonization. Materials such as large woody debris, boulders, and/or subaquatic vegetation can also be added to the surface of the cap material to provide structure and habitat in the unconsolidated bottom environment. Furthermore, the reconstruction of habitat could rely on natural riverine processes (that is, deposition) to aid in the replacement and enhancement of the system following cap construction. Habitat delineation and assessment activities would be conducted during preliminary design activities, and, if identified as suitable, implementation of habitat reconstruction opportunities would be evaluated during the design phase.

6.5 Sediment Removal

Removing contaminated sediment offers the advantage of contaminant mass reduction in the aquatic environment and can reduce the bioaccumulation of contaminants in fish, benthos degradation, and toxicity. Furthermore, permanently removing contaminants from the aquatic system, even those deep within the sediment column, removes the possibility that those contaminants can contribute to BUIs or become exposed or mobile in the future due to natural or anthropologic causes such as severe weather, ice dams, or prop wash.

Sediment removal can be performed using several methods. Sediment can be mechanically dredged by an environmental clamshell bucket or excavator and transported to the staging area by barges. Sediment removal can also be achieved by using a hydraulic dredge, which conveys dredged sediment directly into the dewatering/staging area through piping. Sediment can also be removed mechanically “in the dry” by installing temporary barriers to create a cell that can be dewatered, allowing excavation using conventional earthmoving equipment.

Because dredging may not be entirely effective in all areas, a residual management plan will be developed for the preferred alternative in the remedial design phase – if dredging alone does not satisfactorily achieve the project goals for each removal area. For example, residual sediment in a particular removal area may contain COC concentrations at levels that exceed cleanup goals as the result of sediments that remain due to incomplete removal. Depending on the post-dredging COC concentrations, a cover layer of clean sand or other materials may be placed over the residual material in specific removal areas – and/or natural recovery processes may be allowed to reduce residual contamination over time to achieve the long-term remediation goals. Placement of a cover layer can effectively reduce the residual COC concentrations toward target levels.

6.5.1 Mechanical Dredging

Mechanical dredging can be performed using a variety of equipment including a clamshell bucket, dragline dredge, dipper dredge, backhoe dredge, or bucket ladder dredge. Most of these can either be land-based or placed on a barge. A mechanical dredge with a specially designed environmental clamshell bucket is most commonly used. The clamshell bucket is suspended from a derrick on a barge or platform. Another commonly used piece of equipment is the backhoe dredge, which can be a land-based excavator placed on a barge to remove sediment. A backhoe dredge is typically more applicable than a clamshell bucket in areas of sloped sediment removal, such as the shoreward edges of the Upper Trenton Channel Site. Other types of equipment, including amphibious vehicles, are less desirable for excavation of contaminated sediment because of limited availability and/or the greater potential for sediment resuspension. Typically, mechanical dredges used for environmental remediation have GPS equipment that tracks the locations and elevations that have been excavated.

Mechanical dredging is performed either from the shore adjacent to the area of contaminated sediment or from a barge that is moved throughout the dredging area. Excavated materials are either stockpiled on shore or placed in a barge and transported to an offloading area. Dredged sediment is transported to the dewatering pad, where it is dewatered and prepared for disposal. Unless the sediments are granular and drain readily, dewatering and/or stabilization is often required before final disposal. Excess water retained in the scow barges is directly pumped to the temporary onsite water treatment system. Water treatment depends on the destination for the treated water. Water can be treated and pumped back to the water body. Although free of disposal costs, discharge to surface waters typically requires permitting and several stages of treatment to meet discharge requirements. Water can also be treated and pumped to a municipal wastewater treatment plant. Municipal wastewater treatment plants typically charge for disposal, but requirements for permitting and pretreatment are typically less costly than treating water for surface water discharge.

Management of debris during mechanical dredging is easier when compared with hydraulic dredging because the tolerances of equipment operation are greater. Mechanical dredging equipment has a greater ability to remove or move debris from the dredge footprint with less impact to production when compared to hydraulic dredging.

Turbidity control, such as a silt or bubble curtain, may be required to prevent suspended sediment from migrating outside of the project site. Fugitive odor and dust emissions are not likely during the actual excavation activities, since the sediment is wet; however, these may occur as the sediment is processed (that is, dewatered and/or stabilized) for disposal.

Most of the project area is located outside of the navigational channel; therefore, most of the project area has not likely been historically dredged. Experience from other sites and the anticipated lack of dredging in the project area indicate that there is a high probability of encountering debris. For this reason, mechanical dredging is retained for further evaluation.

6.5.2 Hydraulic Dredging

Hydraulic dredging is typically conducted using a 10- or 12-inch cutter head hydraulic dredge, which is a mechanical device that has rotating blades or teeth to break up or loosen the bottom sediment material so that it can be sucked through the dredge pipeline. The hydraulic dredge's cutter head is connected to a leak-tight HDPE dredge pipeline, and the dredged sediment is conveyed directly to the dewatering area with or without the help of booster pumps, depending on the sediment characteristics and distance to the dewatering area. The dredge pipeline can be submerged in the water body and can surface at the shoreline of the dewatering pad to minimize navigational disruption in the water body. The hydraulic dredge cutter head is controlled by the operator using the GPS equipment with integrated software that allows the cutterhead position to be monitored in real time, tracking the locations and elevations of sediments that have been removed. As the cutterhead breaks up the sediments, some suspended sediment particles may be released into the water body creating turbidity. Turbidity control, such as a silt or bubble curtain, may be required to prevent suspended sediment from migrating outside of the project site.

A common method of dewatering hydraulically dredged sediment is using geotextile tubes, which retain the dredged material inside the tube but allow the entrained water to pass through the tube. Water released from the geotextile tubes is collected and pumped into a temporary water treatment system. Water is treated for disposal as described for mechanical dredging; however, the water generated and requiring treatment and disposal costs are often orders of magnitude greater for hydraulic dredging. For this reason, dewatering with geotextile tubes requires substantially more area than mechanical dredging and available dewatering/staging area space can affect the viability of hydraulic dredging at some sites. Potential laydown areas will be evaluated in remedial design.

Using hydraulic dredging to remove contaminated sediments from areas that contain debris is difficult and often inefficient. Large debris (greater than approximately 1.5 feet) can only be removed using mechanical means and smaller debris often clogs hydraulic pipelines and damages pumps (USEPA, 1994). Although the amount of debris in the Upper Trenton Channel Site has not been quantified, it is likely that debris is widespread due to historical waterfront uses and the urban setting.

Due to the anticipated widespread occurrence of debris at the Upper Trenton Channel Site and the inability of hydraulic dredging to accommodate debris during operations, hydraulic dredging may not be a viable dredging option and is not considered further in this FFS. If information becomes available that indicates debris is not as widespread as anticipated, the viability of hydraulic dredging would be reconsidered.

6.6 Offsite Disposal

If a remedial action involving sediment removal and dewatering is undertaken, sediment would need to be transported to the final disposal location by truck once it is removed. Three types of disposal facilities are presented in the following subsections.

6.6.1 Subtitle D Solid Waste Landfill

Contaminated materials from the Upper Trenton Channel Site could be hauled to an offsite Subtitle D landfill for disposal. Sediment sampling and analysis have shown that most of the sediments from the site are non-TSCA (below 50 mg/kg of PCBs) and nonhazardous and can be disposed of offsite at a Subtitle D solid waste landfill. Multiple landfills may be used to process the volume of dewatered sediment without causing issues with the landfill operations (that is, delivery of sediment at a pace in which the landfill can effectively mix the sediments into the municipal waste). Disposal of these sediments at a Subtitle D solid waste landfill(s) is a viable option and is retained for further evaluation.

6.6.2 TSCA Landfill

Based on prior sampling and analysis, it is estimated that approximately 9,000 cy of the sediment volume targeted for removal would be classified as TSCA material being above 50 mg/kg total PCB and require disposal at a TSCA landfill. A TSCA-approved landfill is located within 8 miles from the site area. Disposal of the sediments at a TSCA landfill is a viable option and is retained for further evaluation.

6.6.3 Confined Disposal Facility

The contaminated sediments from the Upper Trenton Channel could be disposed of into the confined disposal facility (CDF) located at Point Mouillee, Michigan. The CDF is approximately 11 miles south of the site on the western shore of Lake Erie. Pointe Mouillee CDF is operated by USACE. Preliminary coordination between USEPA and USACE resulted in USACE providing an evaluation of the potential use of the CDF for the project (Appendix H). The evaluation summarized the agreements and approvals required prior to construction that included approvals by the State of Michigan and USACE. The evaluation also described material acceptance criteria, which indicated that sediments classified as TSCA waste or hazardous waste cannot be placed in the CDF. At this time, the preliminary information provided by USACE is not sufficient to develop cost estimates for this disposal option. It is anticipated that further information will be supplied in the design phase and allow a more complete evaluation of this disposal alternative. Additional Coordination between USEPA and USACE will occur during the remedial design phase of the project to further assess the uncertainty, viability, and cost of disposing of dredged sediments in the CDF.

7. Alternative Descriptions

7.1 Introduction

Three remedial action alternatives and the no action alternative were assessed for their ability to meet the ROs. The remedial action technologies and process options that remained after screening were assembled into the three action alternatives. The remedial alternatives did not include RM 0.0 to 0.6 due to the lack of sediment present. The specific details of the remedial technologies presented in each alternative are intended to serve as representative examples for use in estimating project costs. Other viable options within the same remedial technology that achieve the same objectives may be evaluated during remedial design activities for the site. This section provides a detailed description of the proposed remedial alternatives. Some technologies are common to the alternatives, so they are only described once. Each of the technologies remaining after the technology screening was incorporated into at least one of the alternatives. Table 3 provides a summary of the developed remedial alternatives.

TABLE 3
Developed Remedial Alternatives Summary
Upper Trenton Channel Site, Wayne County, Michigan

Remedial Technologies	Process Options	Alternative 1 No Action	Alternative 2 Limited Mechanical Dredging and Residual Cover	Alternative 3 Combination of Mechanical Dredging and Cover and Capping	Alternative 4 Combination of Expanded Mechanical Dredging and Cover and Capping
No Action	None	X			
Natural Recovery	Monitored Natural Recovery		X	X	X
Institutional Controls	Fish Consumption Advisories		X	X	X
Sediment Removal	Mechanical Dredging		X	X	X
In Situ Treatment	Active Capping			X	X
Sediment Disposal	RCRA Subtitle D Landfill		X	X	X
	TSCA Landfill		X	X	X
Sediment Containment	Residual Management Cover		X	X	X
	Partial Cap or Cover			X	X
Habitat Restoration	Habitat Restoration		X	X	X

7.2 Alternative 1—No Action

A no action alternative is typically included in the assembly of alternatives for comparison purposes. Under Alternative 1, remedial actions would not be conducted in the Upper Trenton Channel Site to remove COCs or assist meeting ROs and CUGs. Alternative 1 does not provide specific response actions for environmental monitoring, controlling the migration of contaminants, or mitigating their concentrations. Fish consumption advisories would remain in place, as well as dredging restrictions.

7.3 Alternative 2—Limited Sediment Removal by Mechanical Dredging and Cover

Alternative 2 was developed to address regulatory concerns by meeting remedial objectives as defined by USEPA programs (including RCRA and TSCA) and not utilizing the quantitative CUGs for PCBs, mercury, and TPAH as described in Section 5. This alternative then only partially addresses the overall project remedial objectives. This approach was taken to allow a clear comparison to other alternatives (Alternatives 3 and 4). In this way, a preferred alternative that combines all project remedy objectives could best be developed.

Through coordination between USEPA programs, the key concerns for Alternative 2 are pH from RM 0.6 to RM 1.1 and chlorinated naphthalenes from RM 2.9 to RM 3.4, as well as those sediments with PCB concentrations above 50 ppm. The TSCA areas, or those sediments above 50 ppm PCBs, were readily defined and are located near RM 2.8 as well as from RM 3.4 to RM 3.6.

Alternative 2 targets all soft sediments from RM 0.6 to RM 1.1 and RM 2.9 to RM 3.4. It is recognized that estimates of soft sediment volumes are still being refined and that exact volumes that are present and can be removed will need further evaluation in the remedial design phase. The CUG for pH offshore from RM 0 to RM 1.1 is pH 9.0 in sediment pore water. The CUG will be achieved by a performance objective of removal of all soft sediments that can be practicably dredged and will include subsequent placement of a residuals management layer where needed. The post-remediation confirmatory sampling approach will be defined during design. The design phase will include collaboration between the Partners and all relevant programs at USEPA. Soft sediment thickness can be defined as the depth from the top of the sediment to the top of the native clay.

Alternative 2 includes mechanical dredging of approximately 171,000 cy of contaminated sediment as presented in Table 4 and shown in Figures 3 and 4. The estimated in situ volume of non-TSCA, non-hazardous sediment for removal and disposal is 162,000 cy. This alternative also includes removal of 9,000 cy of sediment with total PCB concentrations greater than 50 mg/kg (TSCA sediments) from areas between RM 2.9 and RM 3.4, and near RM 3.6.

The sediment removal volume from RM 0.6 to 1.1 was based on a total of 80,000 cy of soft sediment including allowances for side slopes. The sediment removal volume from RM 2.9 to 3.4 was based on removing all of the soft sediment present (88,000 cy), including allowances for side slopes. The sediment removal volume of approximately 3,000 cy near RM 3.6 is a targeted removal of sediments containing TSCA-level PCB concentrations. Further delineation of the TSCA sediments is required. The soft sediment removal areas would be further refined during the remedial design.

In order to avoid any potential conflicts with the shoreline structures, structural stability, right of way, and other access issues, a dredge offset of 10 feet from the shoreline is included. Based on the utility surveys conducted by ARCADIS (Appendix D), the dredging areas proposed in Alternative 2 do not appear to interfere with utilities. Volume calculations assume that the soft sediments would be dredged at a 4:1 (horizontal to vertical) side slope for long term slope stability and stability of cover placement. Overdredging assumptions varied by dredge location. Overdredging of 6 inches was assumed for locations containing TSCA sediments Overdredging was not assumed for non-TSCA sediments because the sediment would be removed down to the native clay. The volumes associated with the offsets and allowances would be refined during the remedial design process. A 6-inch residual sand cover would be placed over portions of each removal area as needed following dredging to manage residual COC concentrations (the dimensions of management units within each subarea to be used for evaluating residual management needs will be established in the design).

7.3.1 Estimation of Sediment Volume, SWAC, and Contaminant Mass

The computer application Mining/Environmental Visualization System (MVS/EVS) v9.22 by CTECH (www.ctech.com) was used to estimate the sediment volumes present in sediments between RM 0.6 and 1.1, between RM 2.9 and 3.4, and the area near RM 3.6. A 3-dimensional model was created for each area that included the upper soft sediment elevation using bathymetry information and the lower soft sediment elevation using data from the Sediment Thickness Survey Evaluation Summary (Appendix C). Based on the survey results of the soft material depth and thickness elevations and using GIS interpolation methods, a two-dimensional layer was created, resulting in an irregular bottom soft sediment surface for each of the project areas. Also, based on the bathymetry survey results as described in Section 2, a 2-dimensional surface was created for the project area using GIS interpolation methods. The bathymetry survey results and the two-dimensional soft material thickness layers were provided by the non-federal partners.

The 2-dimensional surfaces representing the soft material thickness and the bathymetry were then loaded into the 3-dimensional MVS/EVS model to estimate the volume of soft material present between the two layers, with the bathymetry layer acting as the top of container and the soft material thickness layer acting as the bottom of the container. The model was constructed as an elevation model based on bathymetric survey data to better represent the actual conditions in the site. Kriging methodology and adaptive gridding techniques were used to interpolate between the two surfaces and estimate the volume. At the completion of the Kriging process, the volume present between the sediment surface (represented by the bathymetry) and the bottom container (soft sediment thickness) was estimated.

The MVS/EVS software was also used to estimate the volume of sediment that exceeded 50 mg/kg of total PCBs between RM 2.9 and 3.4, which would be disposed of offsite as TSCA sediments. A similar 3-dimensional Kriging and adaptive gridding process was used to interpolate the PCB dataset and create an isosurface of the 50 -mg/kg total PCB concentration level without overburden. This isosurface was then used to estimate an associated extent and the volume. The resulting volume of TSCA sediments between RM 2.9 and 3.4 was then subtracted from the total soft material volume, thus separating TSCA and non-TSCA sediment volumes. No TSCA sediments were found between RM 0.6 and 1.1.

The TSCA sediment volume near RM 3.6 was estimated based on a single point concentration that exceeded 50 mg/kg of total PCBs. A Thiessen polygon was created for this point location. Thiessen polygons are generated from a set of sample points. Each Thiessen polygon defines an area of influence around its sample point so that any location inside the polygon is closer to that point than any of the other sample points. The sediments within the resulting Thiessen polygon were assumed as TSCA-level sediments. Once the boundary was determined, the volume in this area was estimated using the same Kriging and adaptive gridding process of MVS/EVS model as previously described.

For Alternative 2, post-removal SWACs were calculated for mercury, PCBs, and TPAH. Mass of COC removed was also calculated for mercury and PCBs. Values are provided in Table 5. The Theissen polygon networks created for the COCs were used to calculate both sets of values. Post-removal SWAC values were estimated on a polygon basis, using the concentration of COC present in the bottom-most core interval analyzed. This concentration was multiplied by the area of its polygon (or portion of the polygon located within the dredging boundary), then these numbers were summed, and that sum was divided by the total area over which the SWAC was calculated. In instances where the COC was non-detect, ½ the detection limit was used in the SWAC calculations for mercury and TPAH; PCB concentrations were conservatively assumed to be present at the lowest detected concentration. Outside of the dredging boundary, SWAC calculations did not include samples whose uppermost analytical interval was 0-2 feet, as these data are not believed to be representative of actual exposure concentrations in surface sediments. All other samples with a top depth of zero were used in the SWAC calculation. SWACs were calculated on a sub-area basis, remedial area basis, and project area basis. Following these calculations, the project area SWAC was recalculated as if sand backfill was placed over all the dredged areas (note that while this calculation represents conditions following sand cover, sand cover will be used only if needed and where needed) and that it reduced the residual concentration by 90 percent in those dredge areas.

Mass removal estimates for Alternative 2 were calculated using the Theissen polygon networks created for the COCs, assuming removal to the deepest core intervals analyzed. COC mass associated with each polygon was estimated as the weighted average COC concentration for that polygon multiplied by the sediment volume and the sediment bulk density (calculated using percent solids data). The boundaries of some polygons were modified so that they did not extend beyond the dredging boundary. Polygon-specific mass estimates were then summed for each sub-area. Mass removal calculations were based on the volume of impacted material specifically targeted for removal within the project footprint because of COC concentrations. The resulting mass number was then scaled up by the percent volume increase associated with over-dredging and achieving side slopes.

The PCB and mercury dataset used for the contaminant mass calculation included analytical results from sediment samples collected from USEPA/MDEQ sampling in 2006/2007, USEPA GLNPO Data Gap Sampling in 2010, and all of the available and applicable historical analytical data collected by the federal and non-federal partners since the 1990s, as described in Section 2. It is estimated that most of the contamination was present in the soft sediment portion of the sediment deposits. Thus, by removing the entire soft sediment volume, most of the contamination would be eliminated. Table 4 presents the estimated volume of soft material and the chemical masses of total PCBs and mercury that would be removed along with the soft material and other COCs present in the sediments.

7.3.2 Mechanical Dredging

Dredging would be completed using mechanical methods. A pre-dredge survey would be completed prior to dredging to establish a baseline for measuring removal quantities. The dredge unit would be positioned using GPS. The dredge buckets would provide a smooth, level cut during the closing cycle and would contain escape valves or vents so that when the bucket is withdrawn from the water, the excess water is released but the dredged sediment is retained. Surveys would be conducted periodically during the work to verify that the target dredge elevations are being attained. The type of survey or method to confirm target elevations would be determined during the remedial design.

Containment of suspended particles within the project area during dredging would be necessary to prevent the downstream migration of sediment outside of the project area. This would be achieved by installing silt curtains or an alternative method around the active dredge areas to minimize migration of suspended sediment from the dredging locations. Dredging permits would likely require turbidity monitoring upstream and downstream from active dredge areas.

Dredged sediment would be loaded into watertight scow barges and transported to the temporary barge docking platform to be constructed. The location of the temporary barge docking platform has not yet been determined, although it is assumed that it would be located along the shoreline of the site. Upon reaching the docking platform, the free water on top of the sediment would be pumped directly from the barge to the temporary onsite water treatment system. The sediment would then either be offloaded onto the dewatering pad for dewatering and later mixing with an appropriate drying reagent or would be mixed with a suitable drying reagent within the scow barges, without offloading. Dewatering and water treatment is further discussed below.

Once the sediment is adequately dry to pass a paint filter test at the disposal facility, and will meet all applicable transportation and disposal requirements, it would be directly loaded into onsite trucks lined with plastic sheeting and would be transported to the offsite disposal facility.

Post-dredging sediment verification sampling would be performed to assess dredging success. Air monitoring would be performed during activities that have the potential to generate emissions or odor, such as during sediment handling and processing if reagents that may create dust are used (for example, calciment) or if the sediments have an objectionable odor while drying on the dewatering pad.

TABLE 4

Estimated Soft Sediment Volumes—Alternative 2

Upper Trenton Channel, Wayne County, Michigan

Alternative 2- Dredge Areas	Volume Estimate[a] (yd^3)	4:1 Side Slope Volume (yd^3)	6-inch Overdredge Allowance (yd^3)	Volume Estimate[b] with side slopes and 6-inch overdredge (yd^3)
Non-TSCA – RM 0.6 to 1.1[e]	76,500	3,500	-	80,000
Non-TSCA – RM 2.9 to 3.4[f]	79,000	3,000		82,000
TSCA - RM 2.9 to 3.4 [g]	5,500	200	800	6,500
TSCA - RM 3.6[h]	1,500	1,200	100	2,800
Total	***162,500***	***7,900***	***900***	***171,300***

NOTES:

kg = kilogram

yd^3 = cubic yard

TSCA = Toxic Substance Control Act

Polychlorinated biphenyls greater than 50 milligrams per kilogram.

[a]Volume estimate assumes sediment with overburden only. No side slope or overdredge allowance is assumed.

[b]Volume estimate assumes sediment with overburden, side slope (4:1) and a 6-inch overdredge allowance (as applicable).

[c]PCB chemical mass in Kilograms is calculated for the soft sediment volume estimated using the formula: Contaminant Mass = Average Concentration of Contaminant × Volume of soft sediment × Soil Density.

[d] Mercury chemical mass in Kilograms calculated for the soft sediment volume estimated using the formula: Contaminant Mass = Average Concentration of Contaminant × Volume of soft sediment × Soil Density.

All volumes are rounded to the nearest thousand value, except the TSCA volumes (nearest hundred).

[e] Soft sediment volume estimate by MVS/EVS model based on the soft sediment bottom surface provided by ARCADIS. The boundary outlines for the removal areas are provided by ARCADIS and modified in consultation with USEPA. No 6-inch overdredge is assumed as the entire soft sediment column (down to clay) will be removed.

[f] Based on the soft sediment column represented by the end of sample refusal depths present at RM 2.9 to 3.4. Calculated by MVS/EVS model in August 2012. This volume EXCLUDES the TSCA volume of 5,500 yd^3. No 6-inch overdredge allowance is assumed for this area as soft sediments up to clay will be removed. However, the overdredge of TSCA sediments (800 yd^3) is subtracted from the non-TSCA volume.

[g] TSCA volume present from RM 2.9 to 3.4 calculated by MVS/EVS. This volume is NOT included in the sediment total for RM 2.9 to 3.4.

[h] TSCA volume in the RM 3.6 area is based on one single point and the entire volume is assumed to be TSCA until further delineation. Further delineation is required to estimate the actual TSCA volume in this area.

TABLE 5

Alternative 2 – Estimated Mass Removal and Post-Removal Surface Weighted Average Concentrations

Upper Trenton Channel, Wayne County, Michigan

Sub-Area ID[a]	Remedial Action	Mercury Mass Removed[b]			PCB Mass Removed[b]			SWAC		
		Mass Removed in Impacted Material[b] (kg)	Mass in Overdredge and Side Slopes (kg)	Total Mass Removed (kg)	Mass Removed in Impacted Material[b] (kg)	Mass in Overdredge and Side Slopes (kg)	Total Mass Removed (kg)	Mercury Post-Removal SWAC (mg/kg)	PCB Post-Removal SWAC (mg/kg)	TPAH Post-Removal SWAC (mg/kg)
A	Dredge	1.0	0.05	1.0	4.5	0.21	4.7	0.23	1.25	60
B	Dredge	24	0.9	25	32	1.2	34	0.43	0.58	91
C	Dredge	107	20	127	56	10	66	2.3	0.058	149
D	Dredge	13	12	25	10	9.1	20	10	5.01	97
Total Mass Removed		145	8	**150**	103	5.6	**110**	-	-	-
Remedial Area Post-Removal SWAC		-	-	-	-	-	-	1.7	0.34	123
Project Area Wide Post-Removal SWAC		**-**	**-**	**-**	**-**	**-**	**-**	**1.8**	**2.0**	**76**
Project Area Wide Post Backfill SWAC[c]		**-**	**-**	**-**	**-**	**-**	**-**	**1.4**	**1.9**	**44**

NOTES:

a - Sub-area IDs assigned to removal areas from north (A) to south (D).

b - Mass removal estimates were calculated by first estimating COC mass in the volume of impacted material targeted for removal within the project footprint, assuming removal to the deepest core intervals analyzed. The resulting mass number was then scaled up by the percent volume increase associated with overdredging and achieving side slopes

c - Project Area Wide Post Backfill SWAC assumes a 90% reduction in SWAC within dredge boundaries following placement of sand backfill.

Mercury and TPAH calculations assumed a value of one-half the detection limit for any samples with non-detect results. For PCBs, non-detect samples conservatively assumed to have a concentration equal to the lowest detected PCB result.

SWAC - Surface Weighted Average Concentration

7.3.3 Dewatering/Drying and Water Treatment

Dredged sediment would require drying to meet transport and landfill requirements. The sediment would be mechanically mixed with a suitable drying agent on a dewatering pad or in the barge. The size and quantity of the dewatering/staging areas would depend on several factors that include the rate of removal versus rate of loading and transport to offsite landfills, required frequency of waste confirmation sampling, ability to access shoreside sites from all areas of the channel requiring dredging, and overall project schedule. A temporary water treatment system to treat the wastewater from the dredging activities would be built in the dewatering pad area. It is expected the treated wastewater would be discharged directly to the river. This assumption is used to support development of the cost estimate for this alternative, but this would be further evaluated in the remedial design and may result in the treated wastewater discharged to a local wastewater treatment facility. Water that may require treatment would be generated from the following sources:

- Dewatering pad drainage from sediment
- Free water on top of sediment in the barge
- Backwash from the treatment system
- Decontamination water
- Precipitation on the dewatering pad

The components needed to treat the collected wastewater before discharge would be determined during the remedial design. However, to evaluate cost and comparison to other alternatives, it was assumed that the water treatment system would be sized for 150 gallons per minute and would include a geotextile tube in a dewatering box or an asphalt lined sump with sealed bottom, mixing frac tank, an oil/water separator, inclined plate clarifier, sand filters, bag filters, a granular activated carbon treatment system, an effluent holding tank, and a discharge pump. The effluent from the geotextile tube dewatering box or sump would be pumped to the mixing frac tank for storage and solids removal. Effluent from the frac tank would be pumped through the oil/water separator, inclined plate clarifier, sand filters, bag filters for additional solids removal, and granular activated carbon vessels for final treatment. An effluent holding tank for sampling before discharge would be included. Regular sampling would be conducted to verify that the requirements for discharge are met. After the construction activities have been completed, and wastewater has been discharged, decontamination activities would be performed. Sediment adhered to equipment, including the environmental bucket, scow barges, front-end loader, etc., would be washed off. Residual rinse water would be pumped to the water treatment system prior to discharge.

7.3.4 Offsite Disposal

Once the sediment is dewatered and solidified, it would be directly loaded into trucks and hauled offsite for disposal at an approved facility. Depending on the landfill requirements, a paint filter test would be performed on the sediments prior to loading into the trucks and after the trucks arrive at the landfill.

Haul trucks would be lined and covered with a retractable tarp. Trucks would be washed with a pressure washer to remove visible sediment and soil prior to leaving the dewatering/staging area. Trucks would then leave the site and haul the sediment to an approved offsite landfill. The sediment excavated under this alternative would be disposed of at facilities licensed to accept TSCA and non-TSCA waste. The TSCA landfill and the Subtitle D landfills are located within a 20-mile radius from the site.

7.3.5 Monitored Natural Recovery and Institutional Controls

MNR includes a long-term monitoring program in conjunction with the other components of the alternative. Long-term monitoring includes developing and implementing a sampling and analysis plan. The plan would involve periodic sampling, analysis and evaluation of surface water, sediment (chemical and physical characteristics), and fish tissue. Warnings and advisories would be required to address fish consumption until the contamination is reduced to an acceptable risk. Natural degradation is not likely to occur at a measurable rate or within a reasonable time period, so this technology is used in conjunction with other technologies in this alternative. MNR may be administered under programs other than the GLLA.

7.3.6 Costs

The estimated cost to implement Alternative 2 is $38,800,000 (Appendix I). This order-of-magnitude cost estimate is assumed to represent the actual installed cost within the range of -30 percent to +50 percent of the costs indicated.[2] The cost estimate has been prepared for guidance in project evaluation and implementation from the information available at the time of the estimate. The final costs of the project would depend on actual labor and material costs and competitive variable factors; therefore, project feasibility and funding needs must be carefully reviewed prior to making specific decisions to help ensure proper project evaluation and adequate funding.

7.4 Alternative 3—Combination of Sediment Removal and Cover and Capping

Alternative 3 consists of mechanical removal of sediments in hot spots and targeted removal and capping of sediment from RM 1.4 to RM 1.7, adjacent to Bishop Park. Alternative 3 dredging and capping area boundaries are shown on Figure 6 through Figure 13. The dredging and capping boundaries were identified using action levels for the three indicator COCs: PCBs, mercury, and TPAH, taking into consideration the co-location of other COCs within these sediments. The action levels were derived as follows. Past experience at other Great Lakes sites and a general understanding of site data suggested that an action level of 10 mg/kg for both PCBs and mercury would be sufficient to identify target remediation areas. For TPAH, an action level of 165 mg/kg was used. The TPAH action level is described in more detail in Appendix H. A Thiessen polygon network was developed for the mercury, PCB, and TPAH data sets. Sediment core sample data representing each polygon were then screened against the action levels. Consideration was also given to the presence of NAPL in the vicinity of RM 2.9. The presence of NAPL at sediment core or grab locations was determined through review of field notes and core logs provided by CH2M HILL for samples collected in 2011. Sample locations where the terms “NAPL” or “free product” were used to describe observations of the sediment collected in these locations were assumed to have NAPL present. Additional sampling and analysis will be performed during remedial design to further delineate the extent of NAPL.

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[2] Cost includes placement of a thin layer of residuals sand cover material. The volume of this material was provided by CH2MHILL and is based on an assumption that not all areas will require sand and that some loss will occur during placement.

Each polygon with a value exceeding the action level was shaded, and then the three polygon networks were overlaid to delineate contiguous areas exceeding the various action levels that would be considered as cleanup areas, or hot spots for potential remediation. This was done by inspecting the adjacent groupings of polygons that exceeded action levels and then establishing boundaries using practical considerations such as thickness of sediment, relative COC concentrations, and depth intervals of sediment exceeding COC action levels. In a limited number of cases, individual samples that were discontinuous from groups of other samples, bounded by cleaner samples or the project study area boundary, or that represented relative thin deposits of sediments (and hence limited mass inventory), were excluded. In establishing the boundaries based on the polygons, it was recognized that the Thiessen polygon network is not a spatial interpolation-based mapping of the data, but rather the associated polygon shape for each sample is solely dependent on the position and relative spacing of the adjacent samples. In some cases, the resulting polygons could not be assumed to provide an approximation of the sediment deposit associated with the sample. On that basis, the polygon boundaries were "smoothed" in several locations to provide a practical delineation for FFS and future remedial implementation purposes. The resulting area (acres) associated with each of the hot spots is presented in Table 6.

Within each polygon/sediment core, the vertical extent, or "depth-to-clean" was calculated by screening core chemistry data against the selected cleanup criteria, which are discussed in Section 5 of this report (total polychlorinated biphenyl = 1 mg/kg; Mercury = 1 mg/kg; TPAH = 80 mg/kg). For sample locations where NAPL was identified, the deepest interval where this descriptor was used in the field notes was used to determine the depth-to-clean. The depth-to-clean result was multiplied by the polygon area within each of the hot-spot boundaries and then summed to estimate the total volume of sediment within each hot spot and in total, as presented in Table 6. The depth-to-clean result represents clean material below contamination, with no contaminant layer containing detections above the selected cleanup criteria buried beneath the clean result. Note that the depth-to-clean based estimate does not necessarily include all soft sediment; in some cases an underlying soft clay layer is present that was penetrated by core sampling, but which appears minimally impacted by contamination (i.e. cleanup criteria exceedances were observed in the clay layer in 6 cores in the project area).

The hot spot located at RM 1.4 to RM 1.7 along Bishop Park (Figure 12) was selected for capping with minimal sediment removal due to several characteristics that make this area potentially well-suited for capping. These include its protected location in the downward lee of the shoreline feature of Bishop Park such that flow velocities in this area are low, and the presence of the existing fishing pier structure and a proposed new marina dock, which, once constructed, would limit accessibility for removal. Based on available information, it is anticipated that the new City marina dock would be installed prior to potential commencement of remediation work for the Upper Trenton Channel project. A portion of the Bishop Park hotspot would be used for navigation, specifically the area around the new City marina dock, and minimum depth requirements for navigation would need to be maintained, even if the area is subject to capping. This consideration may determine what areas are capped and which type of cap is appropriate, which could vary within the hot spot. This would be a design consideration in the event a capping approach is selected. Design and implementation of a sediment cap at Bishop Park would require coordination with the City of Wyandotte.

7.4.1 Hot -Spot Removal with Residuals Management

Sediment removal would be conducted in all hot spots, either across the entire hot spot—or in the case of the Bishop Park hot spot, across a portion of it—which would encompass a total area of approximately 24 acres with a total estimated removal volume of approximately 160,000 cy. This volume is based on an assumption that Alternative 3 includes a 10-foot minimum offset from the shoreline, a 15-foot offset from utilities, side slopes of 3 horizontal to 1 vertical (3:1), and a 6-inch overdredge allowance. Side slopes, as applied here, start at the edge of the footprint boundary. Individual hot -spot areas and volumes are detailed in Table 6. The average thickness of targeted material ranges from 1.4 feet to 9.1 feet below the sediment/water interface (not including overdredge) and the actual removal thicknesses and volumes would be established during design activities following identification of practical considerations and details based on site characteristics.

Post-removal SWACs were calculated for mercury, PCBs, and TPAH. Mass of COC removed was also calculated for mercury and PCBs. Values are provided in Table 7. Theissen polygon networks created for the COCs were used to calculate both sets of values. Post-removal SWAC values were estimated on a polygon basis, using the concentration of COC in the sample interval immediately above the depth-to-clean removal extent (bottom-most dredge concentration). This concentration was multiplied by the area of its polygon (or portion of the polygon located within the dredging boundary), then these numbers were summed, and that sum was divided by the total area over which the SWAC was calculated. In instances where the COC was non-detect, and for the cap area under Alternative 3, ½ the detection limit was used in the SWAC calculations for mercury and TPAH; PCB concentrations were conservatively assumed to be present at the lowest detected concentration. Outside of the dredging boundary, SWAC calculations did not include samples whose uppermost analytical interval was 0-2 feet, as these data are not believed to be representative of actual exposure concentrations in surface sediments. SWACs were calculated on a sub-area basis, remedial area basis, and project area basis. Following these calculations, the project area SWAC was recalculated assuming that sand backfill was placed over the dredged areas and that it reduced the residual concentration by 90 percent in those dredge areas.

Mass removal estimates for Alternative 3 were calculated using the depth-to-clean value generated from screening core data against clean up criteria and the Theissen polygon networks. COC mass associated with each polygon was estimated as the weighted average COC concentration for that polygon multiplied by the sediment volume and the sediment bulk density (calculated using percent solids data). The boundaries of some polygons were modified so that they did not extend beyond the dredging boundary. Polygon-specific mass estimates were then summed for each sub-area. Mass removal calculations were based on the volume of impacted material specifically targeted for removal because of COC concentrations. The resulting mass number was then scaled up by the percent volume increase associated with overdredging and achieving side slopes. An estimated sediment removal depth of 1 foot was applied to the entire capping sub-area to estimate mass removal for Alternative 3. Actual required removal depths prior to cap placement will be determined in consultation with the City of Wyandotte in the design phase.

Similar to activities required for Alternative 2, there are several ancillary activities that would be required to support removal of hot spots under Alternative 3, including site preparation, resuspension control (subject to any permit requirements), debris removal (where debris would limit dredging production), removed sediment dewatering and handling, and post-removal sampling. Sediment transport and disposal are further discussed in Section 7.4.3. The individual components would be implemented in a sequential manner as discussed below, and work would be performed from upstream to downstream to minimize potential impacts to areas in which work has been completed (that is, to reduce potential for recontamination). Prior to implementation of intrusive work, site preparation activities would be conducted, including the construction of access roads and material and equipment staging/handling areas (staging areas). Alternative 3 assumes that only one staging area would be required. Possible locations for a staging area would be evaluated during design. Preparation of upland areas in establishing the staging area may be required, as well as installation of appropriate erosion and sedimentation controls.

Resuspension control systems (if required by applicable permits) would be installed prior to any disruptive sediment work to minimize potential for turbidity migration out of work areas. Design of the resuspension control system would be addressed during the design phase of the project after further evaluation of site characteristics; however, for purposes of evaluation, silt curtains are assumed to be used in at least some of the hot-spot areas.

Sediment removal activities for Alternative 3 are envisioned to be similar to Alternative 2 and would be conducted in-the-wet via mechanical dredging techniques. Mechanical dredging is assumed based on the expected and observed presence of debris along the historical docks and waterfronts that were active shipping and industrial areas. These areas tend to have many types of debris present in sediments, and large debris objects were observed in several locations during hydrographic survey activities. Sediment removal may be conducted from shoreline in some areas and/or from barge-mounted operations, depending on the location of hot spots. It is anticipated that debris removal activities would be conducted concurrently with removal operations. The removal equipment would use RTK DGPS to monitor removal progress and achievement of cut lines. Additional survey techniques would be used to verify that design removal depths are achieved. It is anticipated that a single dredge pass would be performed. Depending on results of post-removal survey and/or any verification sampling performed, a residual dredging pass (not currently included in costs) or a thin layer of material may be placed to manage residual impacted sediment as a contingency. These details would be developed during the design phase. It is anticipated that this layer would be placed using the same equipment used for removal of sediments following appropriate decontamination procedures. For evaluation purposes, this layer is assumed to be 6 inches of sand (up to approximately 9,700 cy of material assuming placement in all hot spots).

TABLE 6
Alternative 3—Hot Spot Removal Volume Estimates
Upper Trenton Channel Site, Detroit River AOC

Hot Spot ID	Average Sediment Thickness [a] (feet)	Removal Area [b] (acres)	Volume of Impacted Material [c] (yd^3)	Volume of 6-inch Over-Dredge [d] (yd^3)	Estimated Removal Volume for 3:1 Side Slopes [e] (yd^3)	Total Removal Volume [f] (yd^3)
A (RM 0.62 - 0.70)	1.4	0.9	2,200	800	100	3,100
B (RM 0.73 -_1.1)	3.3	5.9	31,000	4,800	2,600	38,400
C (RM 1.1 - 1.2)	8.0	0.4	5,200	300	3,000	8,500
D (RM 1.2 - 1.4)	1.5	1.9	4,700	1,600	200	6,500
E (RM 1.5 - 1.6)	4.2	0.8	5,400	600	1,800	7,800
G (RM 1.6 - 1.7)	3.0	0.4	1,900	300	400	2,600
H (RM 2.2 - 2.3)	4.0	0.9	6,000	800	1,000	7,800
I (RM_2.57 – 2.63)	4.3	0.6	4,300	500	800	5,600
J (RM 2.9 – 3.1)	2.0	4.3	14,000	3,400	1,100	18,500
K (RM 3.2 – 3.4)	7.1	2.4	27,000	1,900	5,200	34,100
L (RM 3.4 – 3.7)	3.1	4.3	21,600	3,500	1,600	26,700
Total		22.8	123,300	18,500	17,800	160,000

NOTES:
yd^3 = cubic yard
[a] Average sediment thickness based on average depth to material with concentrations less than established cleanup values for all polygons within hot spot.
[b] Removal area values include assumptions of 10-foot setbacks from shoreline and 15-foot setbacks from all sides of utility lines.
[c] Volume of impacted material is the total volume targeted for removal to clean material within the hot-spot boundaries.
[d] Volume assumes 6 inches of material removed over the entire hot-spot area. The inclusion of 6-inch overdredge would be evaluated in the design process in conjunction with the approach used to develop target removal elevations and post-removal sampling (if conducted).
[e] Volume assumes removal of clean material outside the hot-spot boundaries to be removed to create 3:1 side slopes around all sides of each hot spot.
[f] Total removal volume is the sum of the volume of impacted material, volume of 6-inch overdredge, and the estimated removal volume required for the creation of 3:1 side slopes.
Hot spot F is not included in this table because it would be capped under Alternative 3.

TABLE 7

Alternative 3 – Estimated Mass Removal and Post-Removal Surface Weighted Average Concentrations

Upper Trenton Channel, Wayne County, Michigan

Sub-Area ID	Remedial Action	Mercury Mass Removed[a]: Mass Removed in Impacted Material (kg)	Mercury Mass Removed[a]: Mass in Overdredge and Side Slopes (kg)	Mercury Mass Removed[a]: Total Mass Removed (kg)	PCB Mass Removed[a]: Mass Removed in Impacted Material (kg)	PCB Mass Removed[a]: Mass in Overdredge and Side Slopes (kg)	PCB Mass Removed[a]: Total Mass Removed (kg)	SWAC: Mercury Post-Removal SWAC (mg/kg)	SWAC: PCB Post-Removal SWAC (mg/kg)	SWAC: TPAH Post-Removal SWAC (mg/kg)
A (RM 0.62 - 0.70)	Dredge	0.89	0.36	1.2	3.9	1.6	5.5	0.34	1.5	635
B (RM 0.73 - 1.1)	Dredge	16	3.7	19	46	11	57	0.69	1.1	252
C (RM 1.1 - 1.2)	Dredge	4.8	3.1	7.9	7.2	4.6	12	0.88	0.13	121
D (RM 1.2 - 1.4)	Dredge	4.4	1.7	6.1	14	5.3	19	0.62	0.77	60
E (RM 1.5 - 1.6)	Dredge	3.4	1.5	4.9	0.49	0.22	0.71	0.55	0.086	155
F (RM 1.5 - 1.6)	Cap	2.3 (19)[b, c]	n/a	2.3 (19)[b, c]	4.7 (69)[b, c]	n/a	4.7 (69)[b, c]	0.007[d]	0.027[d]	1.6[d]
G (RM 1.6 - 1.7)	Dredge	0.26	0.10	0.36	0.03	0.01	0.04	0.16	0.027	4.7
H (RM 2.2 - 2.3)	Dredge	4.2	1.3	5.5	0.16	0.05	0.21	0.43	0.027	38
I (RM 2.57 - 2.63)	Dredge	59	18	76	0.08	0.02	0.11	5.2	0.027	0.86
J (RM 2.9 - 3.1)	Dredge	91	29	120	102	33	135	4.2	0.048	207
K (RM 3.2 - 3.4)	Dredge	41	11	52	3.0	0.79	3.8	1.2	0.068	328
L (RM 3.4 - 3.7)	Dredge	44	10	54	80	19	99	3.9	4.9	147
Total Mass Removed		270	80	**350**	262	78	**340**	-	-	-
Remedial Area Post-Removal SWAC		-	-	-	-	-	-	1.9	1.2	188
Project Area Wide Post-Removal SWAC		**-**	**-**	**-**	**-**	**-**	**-**	**1.4**	**1.2**	**103**
Project Area Wide Post Backfill SWAC[c]		**-**	**-**	**-**	**-**	**-**	**-**	**0.73**	**0.74**	**34**

NOTES:

a - Mass removal estimates were calculated by first estimating COC mass in the volume of impacted material targeted for removal within the project footprint. The resulting mass number was then scaled up by the percent volume increase associated with overdredging and achieving side slopes.

b - Mass sequestered by cap provided in parenthesis.

c - Mass removed calculated assuming 1 foot removal depth across the cap area. Mass sequestered by cap calculated for the remaining sediment depth.

d - Cap SWAC for mercury and TPAH calculated using a concentration of one-half the detection limit. Cap SWAC for PCBs conservatively calculated using minimum detected concentration.

e - Project Area Wide Post Backfill SWAC assumes a 90% reduction in SWAC within dredge boundaries following placement of sand backfill.

f - Mercury and TPAH calculations assumed a value of one-half the detection limit for any samples with non-detect results. For PCBs, non-detect samples conservatively assumed to have a concentration equal to the lowest detected PCB result.

SWAC - Surface Weighted Average Concentration

n/a - not applicable

Removed sediment would be direct loaded into barges and transported to an offloading facility and then to the sediment staging area for appropriate dewatering. Sediment dewatering operations would be performed to meet appropriate disposal requirements (that is, the Paint Filter test). It is assumed that removed sediments would be dewatered through a combination of gravity dewatering and the addition of a solidification agent such as Portland cement. The necessary precautions would be implemented to verify that loss of material during sediment transport and unloading is minimized, such as the use of spill plates as well as lined and covered dump trucks, and truck tire washing prior to departure from the staging area.

Decant water resulting from dewatering, as well as potentially impacted stormwater collected during remedial activities, may require treatment prior to sewer disposal. An onsite water treatment system would be constructed to treat the water, and effluent would be discharged to the river when relevant discharge requirements have been achieved. As discussed for Alternative 2, the wastewater treatment and discharge would be further evaluated during remedial design. It is anticipated that water-column turbidity monitoring would be performed during removal activities to monitor potential impacts associated with construction. Real-time turbidity data would be collected from fixed locations upstream and downstream of the active work area. The exact number and location would be identified during design activities. Ambient air monitoring for dust around the perimeter of the work zone would likely be necessary during construction and when the staging areas and access roads are in use. Dust control measures would be implemented as required and would include wetting roads, stockpiles, and staging areas.

7.4.2 Capping with Targeted Removal

Alternative 3 also includes a component of capping in the Bishop Park area. The capping location can be divided into two areas, the northern and southern cap areas, as depicted in Figure 13. The actual cap configuration would be established during the design phase following the collection of site-specific pre-design data (for example, groundwater, pore water); however, for evaluation purposes, the following cap components are assumed: a 6-inch-thick sand isolation layer, a Reactive Core Mat, a 12-inch bioturbation layer, and a 6-inch armor control component (for a total cap thickness of approximately 2 feet). The Reactive Core Mat cap construction is assumed for purposes of evaluation of Alternative 3. Other methods could potentially be selected in the design phase, depending on navigational depth requirements, a more detailed bathymetric survey of the proposed capping area, and other considerations. In addition, depending on the particle sizes of the soil/sediment and armor control layers, a filter layer composed of intermediate-sized granular material or geosynthetic material may be required to stabilize the cap. Requirements for a filter component would be determined during design activities. The potential impacts to navigation or other uses of the Bishop Park area would be evaluated during the design phase. Flood stage impacts associated with cap placement are assumed to be minimal due to the flow characteristics of the Detroit River and channel geometry within the project area. The cap would not restrict the river cross section that conveys the Trenton Channel flow due to its location.

For the purposes of this analysis, it is assumed that cap construction activities would occur from land using conventional earth-moving equipment or using barge mounted methods. It is assumed that equipment similar to that used for sediment removal would also be used for placement of the cap. A variety of support areas (access road, staging area, bank stabilization/improvement, as necessary) would likely be required to safely and effectively conduct capping operations. During design, it would be verified whether all operations could be conducted from land or if some work would need to be carried out from the water via barge and tug.

The total cap area is estimated at approximately 1.5 acres and material volumes targeted for placement under this alternative are approximately 3,800 cy of sand for the sand isolation layer and 1,880 tons of armor stone. The total areas and volumes can be divided between the individual cap areas and are as follows; 1,350 cy of sand for sand isolation and 650 tons of stone for armor control for the northern cap area, and 2,450 cy of sand for sand isolation and 1,230 tons of stone for armor control for the southern cap area. The southern cap area would include a removal component of approximately 1,800 cy to accommodate navigation draft requirements and the thickness of the cap resulting in no net change in bathymetry (from the required draft elevation of 562.7 feet IGLD 85). Additionally, the northern capping area is assumed to require targeted sediment removal to provide a uniform bathymetry for capping activities. The total removal volume is assumed at approximately 300 cy (15 percent of total removal volume for southern capping area). Final cap configuration and materials specifications would be selected following additional geotechnical evaluations conducted during remedy design.

Similar to the removal component of this alternative, the placement of a cap over the northern and southern capping areas would incorporate ancillary activities including: site preparation, resuspension control, debris removal, cap material handling, staging and delivery, and post-placement verification. Similar to removal activities, it is anticipated that water-column sampling, turbidity monitoring, and air monitoring would be performed during installation of the cap. In the capping areas, periodic monitoring and potentially institutional controls such that the cap is not inadvertently damaged or removed may be required to document that the caps remain in place.

The overall capping methodology and approach would include an evaluation of project objectives, requirements, and individual capping components in association with the key project elements and site characteristics previously discussed. The design would address all other activities that would affect this specific component of Alternative 3.

7.4.3 Offsite Disposal

Once the sediment is dewatered and solidified, it would be directly loaded into trucks and hauled offsite for disposal at an approved facility. Sediments will meet all appropriate transportation and disposal requirements prior to the start of hauling activities. Depending on the landfill requirements, a paint filter test would be performed on the sediments prior to loading into the trucks and after the trucks arrive at the landfill.

Haul trucks would be lined and covered with a retractable tarp. Trucks would be washed with a pressure washer to remove visible sediment and soil prior to leaving the dewatering/staging area. Trucks would then leave the site and haul the sediment to an approved offsite landfill. The sediment excavated under this alternative would be disposed of at facilities licensed to accept TSCA and non-TSCA waste. The TSCA landfill and the Subtitle D landfills are located within a 20-mile radius from the site.

7.4.4 Costs

The estimated cost to implement Alternative 3 is $37,900,000 (Appendix I). This order-of-magnitude cost estimate is assumed to represent the actual installed cost within the range of -30 percent to +50 percent of the costs indicated.[3]

[3] Cost includes placement of a thin layer of residuals sand cover material. The volume of this material was provided by CH2MHILL and is based on an assumption that not all areas will require sand and that some loss will occur during placement.

The cost estimate has been prepared for guidance in project evaluation and implementation from the information available at the time of the estimate. The final costs of the project will depend on actual labor and material costs and competitive variable factors; therefore, project feasibility and funding needs must be carefully reviewed prior to making specific decisions to help ensure proper project evaluation and adequate funding.

7.5 Alternative 4 – Combination of Expanded Sediment Removal and Cover and Capping

Alternative 4 was developed through collaboration between USEPA and the current non-federal partners and is based on a combination of Alternatives 2 and 3 to create a larger combined remedial area. Its elements are inclusive of the individual elements of both Alternatives 2 and 3. Alternative 4 consists of mechanical removal of soft sediments from RM 0.6 to 1.1, along with mechanical removal of sediments in targeted areas from RM 1.1 to 3.6, and targeted removal and capping of sediment adjacent to Bishop Park. Alternative 4 dredging and capping area boundaries are shown on Figures 13 through 18.

The dredging boundaries were established by combining the removal footprints from Alternatives 2 and 3 (basis as described previously) and using the outermost boundary as the limit of sediment removal. In some cases the footprint resulting from this approach was irregularly shaped; in this case, the footprint boundaries were adjusted to provide a practical delineation for FFS and future remedial implementation purposes. The resulting area (acres) is presented in Table 8. The final boundaries will be determined in the design phase, utilizing all existing data sets.

7.5.1 Sediment Removal with Residuals Management

In Alternative 4, sediment removal would be conducted in the areas shown in Figures 13 through 18 (boundaries will be refined in design). This includes a total removal area of approximately 37 acres with a total estimated removal volume of between approximately 242,000 and 249,000 cy. The estimate of 242,000 to 249,000 cy is based on an assumption that Alternative 4 includes a 10-foot minimum offset from the shoreline, a 15-foot offset from utilities or pipelines, side slopes of 3 horizontal to 1 vertical (3:1), and a 6-inch over-dredge allowance (with the exception of no over-dredge allowance from RM 0.6 to 1.1). Side slopes may be either 3:1 or 4:1 depending on design considerations for each subarea – note that Alternative 2 used a side slope assumption of 4:1 under an assumption that sand cover may be applied on the side slopes; however, in the subsequent development of Alternative 4 it is recognized that it is likely that not all areas will require side slopes and a 3:1 slope was used for volume estimate purposes. Side slopes, as applied here, start at the edge of the footprint boundary. Individual subarea size and removal volumes are presented in Table 8.

In the northern-most subarea a CUG of pH 9.0 in sediment pore water will be applied. The CUG will be achieved by a performance objective of removal of all soft sediments that can be practicably dredged and will include subsequent placement of a residuals management layer where needed as defined by the post-remediation sampling approach that will be defined during design. The design phase will include collaboration between the Partners and all relevant programs at USEPA. Soft sediment thickness can be defined as the depth from the top of the sediment to the top of the native clay. There is some uncertainty in the corresponding soft sediment volume due to the actual location of the interface with the underlying clay (see Section 2.1.2.2 and Appendix C for details regarding sediment thickness and soft material thicknesses). Additional sediment probing and coring will be performed during remedial design to further delineate the volume of soft sediment. In all other areas of the project, contamination extent will be further delineated in remedial design and used to refine boundaries. Pre-design sampling and existing data will support the determination of the vertical and horizontal extent and total of sediment removal volumes based on a comparison to the established project cleanup goals (see Section 5). Any modification to proposed sediment volumes based on the data and established CUGs will be subject to review by USEPA before removal elevations are established in the remedial design. In any areas where residuals cover material is not placed, an appropriate post-removal monitoring plan will be established.

Post-removal SWACs were calculated for mercury, PCBs, and TPAH. Mass of COCs removed was also calculated for mercury and PCBs. Values are provided in Table 9. Thiessen polygon networks created for these COCs were used to calculate both sets of values following the procedures described previously for Alternatives 2 and 3.

Similar to activities required for Alternatives 2 and 3, there are several ancillary activities that would be required to support removal activities under Alternative 4, including site preparation, resuspension control (subject to any permit requirements), debris removal (where debris would limit dredging production), removed sediment dewatering and handling, and post-remedial sampling. A post-remedial verification sampling plan will be developed in remedial design. Sediment transport and disposal are further discussed in Section 7.5.3. The individual components would be implemented in a sequential manner as discussed below, and work would be performed from upstream to downstream to minimize potential impacts to areas in which work has been completed (that is, to reduce potential for recontamination). Prior to implementation of intrusive work, site preparation activities would be conducted, including the construction of equipment staging/handling areas (staging areas). Alternative 4 assumes that only one staging area would be required. Possible locations for staging areas, and whether a single or multiple staging area would be used, would be evaluated during design.

Resuspension control systems (if required by applicable permits) would be installed prior to any disruptive sediment work to minimize potential for turbidity migration out of work areas. Design of the resuspension control system would be addressed during the design phase of the project after further evaluation of site characteristics. For purposes of cost estimates and evaluation of this alternative, it is assumed that silt curtains would be used for turbidity control during removal operations. Silt curtains were successfully used during the BASF Riverview Site dredging project in conjunction with a sheetpile deflection wall and pin pilings.

Sediment removal activities for Alternative 4 are envisioned to be similar to Alternatives 2 and 3 and would be conducted “in-the-wet” via mechanical dredging techniques. Mechanical dredging is assumed based on the expected and observed presence of debris along the historical docks and waterfronts that were active shipping and industrial areas. These areas tend to have many types of debris present in sediments, and large debris objects were observed in several locations during hydrographic survey activities. Sediment removal may be conducted from shoreline in some areas, but most likely removal would be primarily from barge-mounted operations. It is anticipated that debris removal activities would be conducted concurrently with removal operations. A pilot study may be conducted if determined necessary during the design phase to evaluate various aspects including debris removal, dredged material dewatering, and potential for complications associated with NAPLs, where present. It is anticipated that the removal equipment would use RTK DGPS to monitor removal progress and achievement of cut lines according to the design dredge prism. Additional survey techniques would be used to verify that design removal depths are achieved. It is anticipated that a single dredge pass would be performed. Depending on results of any post-removal survey and/or post-removal sampling performed, a residual dredging pass or a thin-layer of residuals cover material may be placed to manage residual impacted sediment as a contingency. These details will be developed during the design phase. For evaluation purposes, this layer is assumed to be 6 inches of sand (up to approximately 9,700 cubic yards [yd^3] of material assuming placement in all hot spots).

TABLE 8
Alternative 4—Expanded Sediment Removal Volume Estimates
Upper Trenton Channel Site, Detroit River AOC

Hot Spot ID	Average Sediment Thickness [a] (feet)	Removal Area [b] (acres)	Volume of Targeted removal area[c] (yd^3)	Volume of 6-inch Over-Dredge [e] (yd^3)	Estimated Removal Volume for 3:1 Side Slopes [f] (yd^3)	Total Removal Volume [g] (yd^3)
AB (RM 0.62 – 1.1)	3.2	10.7	76,000	0	3,000	79,000
C (RM 1.1 – 1.2)	8.0	0.4	5,200	300	3,000	8,500
D (RM 1.2 – 1.4)	1.5	1.9	4,700	1,600	200	6,500
E (RM 1.5 – 1.6)	4.2	0.8	5,400	600	1,800	7,800
F (RM 1.5 – 1.6)	2.0	1.5	3,800	n/a[7]	n/a[7]	3,800
G (RM 1.6 – 1.7)	3.0	0.4	1,900	300	400	2,600
H (RM 2.2 – 2.3)	4.0	0.9	6,000	800	1,000	7,800
I (RM 2.57 – 2.63)	4.3	0.6	4,300	500	800	5,600
JK (RM 2.9 – 3.4)	3.2 – 3.6	15.3	79,000[d]	10,000	3,500	92,500
L (RM 3.4 – 3.7)	3.1	4.4	22,000	3,500	2,800	28,300
Total		36.9	208,300	17,600	16,500	242,400

NOTES:
yd^3 = cubic yard
[a] Average sediment thickness based on average depth to material with concentrations less than established clean-up values for all polygons within targeted areas.
[b] Removal area values include assumptions of 10-foot setbacks from shoreline and 15-foot setbacks from all sides of utility lines.
[c] Volume of material is the total volume targeted for removal, based on depth to clean material.
[d] No samples available for an approximate 3 acre area within Removal Area JK, volume within this area based on depth of soft material of nearest neighbor samples.
[e] Volume assumes 6 inches of material removed over the entire removal area. The inclusion of 6-inch overdredge will be evaluated in the design process in conjunction with the approach used to develop target removal elevations and post-removal sampling (if conducted).
[f] Volume assumes removal of clean material outside the removal boundaries to be removed to create 3:1 side slopes around all sides of each removal area.
[g] Total removal volume is the sum of the volume of impacted material, volume of 6-inch overdredge and the estimated removal volume required for the creation of 3:1 side slopes. Actual removal volumes may vary from these estimates due to certain inherent uncertainties (e.g., uncertainty in soft sediment volume due to the actual location of the interface with underlying clay).
Hot spot F is not included in this table because it would be capped under Alternative 4.

TABLE 9

Alternative 4 – Estimated Mass Removal and Post-Removal Surface Weighted Average Concentrations

Upper Trenton Channel, Wayne County, Michigan

		Mercury Mass Removed[a]			PCB Mass Removed[a]			SWAC		
Sub-Area ID	**Remedial Action**	**Mass Removed in Impacted Material (kg)**	**Mass in Overdredge and Side Slopes (kg)**	**Total Mass Removed (kg)**	**Mass Removed in Impacted Material (kg)**	**Mass in Overdredge and Side Slopes (kg)**	**Total Mass Removed (kg)**	**Mercury Post-Removal SWAC (mg/kg)**	**PCB Post-Removal SWAC (mg/kg)**	**TPAH Post-Removal SWAC (mg/kg)**
AB (RM 0.62 - 1.1)	Dredge	33	6.9	40	66	14	80	0.40	0.73	10
C (RM 1.1 – 1.2)	Dredge	4.8	3.1	7.9	7.2	4.6	12	0.88	0.13	121
D (RM 1.2 – 1.4)	Dredge	4.4	1.7	6.1	12	4.7	17	0.62	0.77	60
E (RM 1.5 – 1.6)	Dredge	3.4	1.5	4.9	0.31	0.14	0.45	0.55	0.086	155
F (RM 1.5 – 1.6)	Cap	2.3 (19)[b, c]	n/a	2.3 (19)[b, c]	4.7 (69)[b,c]	n/a	4.7 (69)[b,c]	0.0007[d]	0.027[d]	1.6[d]
G (RM 1.6 – 1.7)	Dredge	0.26	0.10	0.36	0.02	0.01	0.02	0.16	0.027	4.7
H (RM 2.2 – 2.3)	Dredge	4.2	1.3	5.5	0.13	0.04	0.17	0.43	0.027	38
I (RM 2.6 – 2.6)	Dredge	59	18	76	0.05	0.02	0.07	5.2	0.027	0.86
JK (RM 2.9 – 3.4)	Dredge	167	39	206	108	25	133	2.6	0.065	164
L (RM 3.4 – 3.7)	Dredge	56	16	72	86	25	111	2.6	4.6	150
Total Mass Removed		333	86	**420**	285	74	**360**	-	-	-
Remedial Area Post-Removal SWAC		-	-	-	-	-	-	1.5	0.88	90
Project Area Wide Post-Removal SWAC		**-**	**-**	**-**	**-**	**-**	**-**	**1.2**	**1.1**	**80**
Project Area Wide Post Backfill SWAC[c]		**-**	**-**	**-**	**-**	**-**	**-**	**0.49**	**0.65**	**24**

NOTES:

a - Mass removal estimates were calculated by first estimating COC mass in the volume of impacted material targeted for removal within the project footprint. The resulting mass number was then scaled up by the percent volume increase associated with overdredging and achieving side slopes.

b - Mass sequestered by cap provided in parenthesis.

c - Mass removed calculated assuming 1 foot removal depth across the cap area. Mass sequestered by cap calculated for the remaining sediment depth.

d - Cap SWAC for mercury and TPAHs calculated using a concentration of one-half the detection limit. Cap SWAC for PCBs conservatively calculated using minimum detected concentration.

e - Project Area Wide Post Backfill SWAC assumes a 90% reduction in SWAC within dredge boundaries following placement of sand backfill.

f - Mercury and TPAH calculations assumed a value of one-half the detection limit for any samples with non-detect results. For PCBs, non-detect samples conservatively assumed to have a concentration equal to the lowest detected PCB result.

SWAC - Surface Weighted Average Concentration

n/a - not applicable

Removed sediment would be direct loaded into barges and transported to an offloading facility and then to the sediment staging area for appropriate dewatering. Partial dewatering may occur in transport barges (where used), depending on specifics of material handling to be determined during design. Sediment dewatering operations would be performed to meet appropriate disposal requirements (that is, the Paint Filter test). It is assumed that, once removed, sediments would be dewatered through a combination of gravity dewatering and the addition of a solidification agent such as Portland cement. The necessary precautions would be implemented to verify that loss of material during sediment transport and unloading is minimized, such as the use of spill plates as well as lined and covered dump trucks, and truck tire washing prior to departure from the staging area. The design activities will include an evaluation of potential for malodorous off gassing of sediments following removal, and potential for unacceptable air quality impacts so that appropriate measures can be utilized to minimize these effects during dewatering and management of dredged material.

Decant water resulting from dewatering, as well as potentially impacted stormwater collected during remedial activities, may require treatment prior to sewer disposal. An onsite water treatment system would be constructed to treat the water, and effluent would be discharged to the river when relevant discharge requirements have been achieved. As discussed for Alternative 2, the wastewater treatment and discharge will be further evaluated during remedial design. It is anticipated that water-column turbidity monitoring would be performed during removal activities to monitor potential impacts associated with construction. Real-time turbidity data would be collected from fixed locations upstream and downstream of the active work area. The exact number and location would be identified during design activities and established in the dredging permit to be obtained from the MDEQ. Ambient air monitoring around the perimeter of the work zone would likely be necessary during construction and when the staging areas and any access roads are in use. Dust control measures would be implemented as required, and would likely include wetting roads, stockpiles, and staging areas.

7.5.2 Capping with Targeted Removal

Alternative 4 also includes a component of capping in the Bishop Park subarea, similar to Alternative 3. The capping location can be divided into two areas, as depicted in Figure 12; the northern and southern cap areas. The actual cap configuration would be established during the design phase following the collection of site-specific pre-design data as appropriate; however, for evaluation purposes, the following cap components are assumed: a 6-inch-thick sand isolation layer, a Reactive Core Mat, 12-inch bioturbation layer, and a 6-inch armor control component (for a total cap thickness of approximately 2 feet). The Reactive Core Mat cap construction is assumed for purposes of evaluation of Alternative 4. Other methods could potentially be selected in the design phase, depending on navigational depth requirements and a more detailed bathymetric survey of the proposed capping area, and other considerations. In addition, depending on the particle sizes of the soil/sediment and armor control layers, a filter layer composed of intermediate sized granular material or geosynthetic material may be required to stabilize the cap. Requirements for a filter component would be determined during design activities. The potential impacts to navigation or other uses of the Bishop Park area would be evaluated in collaboration with the City of Wyandotte during the design phase. Flood stage impacts associated with cap placement are assumed to be minimal due to the flow characteristics of the Detroit River and channel geometry within the project area, and any quantitative demonstrations would be performed as needed to obtain necessary permits. Due to its location, the cap would have a negligible influence on the Trenton Channel flow conveyance capacity.

For the purposes of this analysis, it is assumed that cap construction activities would occur from land or barge using conventional earth-moving equipment and cap placement equipment.

The total cap area is estimated at approximately 1.5 acres and material volumes targeted for placement under this alternative are approximately 3,800 yd^3 of sand for the sand isolation layer and 1,880 tons of armor stone. The total areas and volumes can be divided between the individual cap areas and are as follows; 1,350 $yd^3$of sand for sand isolation and 650 ton of stone for armor control for the northern cap area, and 2,450 $yd^3$of sand for sand isolation and 1,230 ton of stone for armor control for the southern cap area. The southern cap area would include a removal component of approximately 1,800 cy to accommodate navigation draft requirements and the thickness of the cap resulting in no net change in bathymetry (from the required draft elevation of 562.7 feet IGLD 85). Additionally, the northern capping area is assumed to require targeted sediment removal to provide a uniform bathymetry for capping activities. The total removal volume is assumed at approximately 300 yd^3 (15 percent of total removal volume for southern capping area). Final cap configuration and materials specifications would be selected following additional geotechnical evaluations conducted during remedy design.

Similar to the removal component of this alternative, the placement of a cap over the northern and southern capping areas would incorporate ancillary activities including: site preparation, resuspension control, debris removal, cap material handling, staging and delivery, and post placement verification. Similar to removal activities, it is anticipated that water-column sampling, turbidity monitoring, and air monitoring would be performed during installation of the cap. In the capping areas, periodic monitoring and potentially institutional controls such that the cap is not inadvertently damaged or removed may be required to document that the caps remain in place.

7.5.3 Offsite Disposal

Once the sediment is dewatered and solidified, it will be directly loaded into trucks and hauled offsite for disposal at an approved facility. Sediments will meet all appropriate transportation and disposal requirements prior to the start of hauling activities. Depending on the landfill or CDF requirements, a paint filter test will be performed on the sediments prior to loading into the trucks and after the trucks arrive at the landfill.

Haul trucks will be lined and covered with a retractable tarp. Trucks would be washed with a pressure washer to remove visible sediment and soil prior to leaving the dewatering/staging area. Trucks will then leave the site and haul the sediment to an approved offsite landfill. The sediment excavated under this alternative will be disposed of at facilities licensed to accept TSCA and non-TSCA waste. The TSCA landfill and the Subtitle D landfills are located within a 20 mile radius from the site.

7.5.4 Costs

The estimated cost to implement Alternative 4 is $52,700,000.This cost estimate is assumed to represent the total implementation cost within the typical feasibility study cost accuracy suitable for comparison of alternatives.[4] The cost

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[4] Cost includes placement of a thin layer of residuals sand cover material. The volume of this material was provided by CH2MHILL and is based on an assumption that not all areas will require sand and that some loss will occur during placement.

estimate has been prepared for guidance in project evaluation and implementation from the information available at the time of the estimate. Detailed construction cost estimates for the project would be prepared during design and will depend on actual labor and material costs, construction details, and competitive variable factors; therefore, project feasibility and funding needs must be carefully reviewed prior to making specific decisions to help ensure proper project evaluation and adequate funding.

7.6 Habitat and Site Restoration

Habitat restoration efforts may take place after implementation of Alternative 2, 3, or 4, although restoration efforts may vary between alternatives. The goal of the habitat restoration is to restore the terrestrial impacts of the project to pre-project conditions and to improve fish habitat in the river. Habitat and site restoration will be evaluated during the remedial design process.

8. Evaluation of Alternatives

8.1 Introduction

The detailed analysis provides the relevant information required for comparing the remedial alternatives for the site. The detailed analysis of alternatives evaluates each individual alternative against seven evaluation criteria. The detailed evaluation is presented in table format in Table 10 and follows the alternatives as structured in the text. A comparative analysis then evaluates the relative ranking of each alternative with respect to the criteria. This analysis is provided in Table 11.

8.2 Evaluation Criteria

Each alternative was evaluated against seven criteria. These criteria were established to provide grounds for comparison of the relative performance of the alternatives and to identify their relative advantages and disadvantages. This approach is intended to provide sufficient information to adequately compare the alternatives and select the most appropriate alternative for implementation at the site as a remedial action. The evaluation criteria include the following:

- Evaluation and identification of permits and permit needs for the remedial alternatives and administrative feasibility
- Short- and long-term effectiveness in protecting human health and the environment
- Engineering implementability, reliability, constructability, and cost
- Ability to meet Great Lakes Legacy Act ROs and achieve CUGs
- Ability to contribute to removal of BUIs
- State and local acceptance
- Public acceptance

While some of the criteria above have been grouped or categorized to facilitate alternative evaluation, the evaluation follows the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) requirements for remedy evaluation in the feasibility study process (40 CFR 300.430).

8.2.1.1 Evaluation and Identification of Permits and Permit Needs

Compliance with applicable federal, state, and local regulations is one of the statutory requirements of remedy selection. Applicable federal, state, and local regulations are cleanup standards, standards of control, and other substantive environmental statutes or regulations. Applicable requirements address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstances at a site. Each alternative would comply with regulations, so the assessment with respect to this criterion describes the relative effort in complying with applicable federal, state, and local regulations.

8.2.1.2 Short- and Long-Term Effectiveness in Protecting Human Health and the Environment

This criterion reflects the emphasis on implementing remedies that would ensure protection of human health and the environment in the long term as well as in the short term. A remedy is protective if it adequately eliminates, reduces, or controls current and potential risks posed by the site through each exposure pathway. The assessment of alternatives with respect to this criterion includes the evaluation of the risks at a site during the construction and implementation of a remedy (short-term) and after completing a remedial action or enacting a no action alternative (long-term). Short-term criteria include protection of workers during the remedial action, protection of community during the remedial action, and environmental impacts of the remedial action, and the duration of implementation. Long-term criteria include time until ROs/CUGs are achieved, magnitude of residual risks, adequacy and reliability of controls, and minimization of transport of contaminated sediment downstream.

8.2.1.3 Engineering Implementability, Reliability, Constructability, and Cost

This criterion addresses the availability of the goods and services needed for alternative implementation, the reliability of the action, the ease of constructing the remedial action, and the ability to monitor the effectiveness of the remedy.

Cost encompasses engineering and construction costs incurred during remedial action. The assessment, with respect to this criterion, is based on the estimated present worth of the costs for each alternative. The cost estimates presented for each alternative have been developed strictly for comparing the alternatives. The final costs of the project and the resulting feasibility would depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, the implementation schedule, and other variables; therefore, final project costs would vary from the cost estimates. Because of these factors, project feasibility and funding needs must be reviewed carefully before specific financial decisions are made or project budgets are established to help ensure proper project evaluation and adequate funding.

The cost estimates are order-of-magnitude estimates with an intended accuracy range of +50 to -30 percent. The range applies only to the alternatives as they are described and does not account for changes in the scope of the alternatives. Selection of specific technologies or processes to configure remedial alternatives is intended not to limit flexibility during remedial design but to provide a basis for preparing cost estimates. The specific details of remedial actions and cost estimates will be refined during the remedial design. The cost estimates for each alternative are included in Appendix I.

8.2.1.4 Ability to Meet Great Lakes Legacy Act Remedial Action Objectives

This criterion will evaluate the alternatives against the following remedial action objectives:

- Reduction of exposure to COCs in sediments and pore water
- Reduction of concentrations of contaminants in biota
- Reduction of sediment-related toxicity
- Improvement of biota in biological communities
- Improvement in habitat quality
- Remediation of sediment contamination on volume, area, and/or mass basis

8.2.1.5 Ability to Contribute to Removal of BUIs

This criterion will evaluate the alternatives for their potential to support removal of restrictions on fish and wildlife consumption, degradation of benthos, degradation of fish and wildlife habitat, and fish tumors.

8.2.1.6 State Acceptance

This criterion will evaluate the alternatives for their acceptance by the MDEQ. State acceptance will be coordinated with MDEQ by GLNPO.

8.2.1.7 Public Acceptance

This criterion will evaluate the alternatives for their acceptance from the local community. The public involvement process will be conducted following completion of the feasibility phase of the project.

8.3 Detailed Analysis of Alternatives

The following alternatives were developed and described in Section 7:

- Alternative 1—No Action
- Alternative 2—Limited Sediment Removal by Mechanical Dredging and Residual Cover
- Alternative 3—Combination of Sediment Removal and Cover and Cap
- Alternative 4 – Combination of Expanded Sediment Removal and Cover and Cap

These alternatives were evaluated in detail using the seven evaluation criteria previously described. The detailed evaluations for these alternatives are summarized in Table 10. The comparative analysis is provided in Section 8.4 and in Table 11.

TABLE 10
Detailed Evaluation of Remedial Alternatives
Upper Trenton Channel Site, Detroit River AOC

Criterion	Alternative 1 No Action	Alternative 2 Limited Sediment Removal via Mechanical Dredging	Alternative 3 Combination of Sediment Removal and Cover and Cap	Alternative 4 Combination of Expanded Sediment Removal and Cover and Cap
1. Evaluation and Identification of Permits and Permit Needs	No remedial action; therefore, not applicable.	Multiple permits would be required. Compliance would be met without significant exceptions. Administratively feasible.	Multiple permits would be required. Compliance would be met without significant exceptions. Administratively feasible.	Multiple permits would be required. Compliance would be met without significant exceptions. Administratively feasible.
2. Short- and Long-term Effectiveness in Protecting Human Health and the Environment				
(a) Overall protection of human health and the environment	ROs to reduce the potential ingestion of PCBs through fish tissue and potential for dermal contact or ingestion of contaminated sediment not likely to be met within a reasonable timeframe. Also, the toxicity of mercury is not expected to reduce within a reasonable timeframe.	Removal of contaminated sediments reduces the PCBs and mercury that bioaccumulate in fish, reduces the potential of direct toxicity of TPAH and mercury to benthos, and reduces potential for dermal contact or ingestion of PCB, mercury, TPAH, and otherwise contaminated sediment. Offsite disposal of contaminated sediment is protective of human health and the environment.	Removal of contaminated sediments and sediment capping reduces the PCBs and mercury that bioaccumulate in fish, reduces the potential of direct toxicity of TPAH and mercury to benthos, and reduces potential for dermal contact or ingestion of PCB, mercury, TPAH, and otherwise contaminated sediment. Offsite disposal of contaminated sediment is protective of human health and the environment.	Removal of contaminated sediments and sediment capping reduces the PCBs and mercury that bioaccumulate in fish, reduces the potential of direct toxicity of TPAH and mercury to benthos, and reduces potential for dermal contact or ingestion of PCB, mercury, TPAH, and otherwise contaminated sediment. Offsite disposal of contaminated sediment is protective of human health and the environment.
(b) Time to implement	No remedial action; therefore, not applicable.	Dredging duration would be five to six months, depending on allowed dredging windows, with additional time to complete overall remedy.	Dredging duration would be five to six months, depending on allowed dredging windows, with additional time to finish capping and complete overall remedy.	Dredging duration would be seven to eight months (or longer depending on specific sequencing of work), depending on allowed dredging windows, with additional time to finish capping and complete overall remedy and would likely require two construction seasons.

TABLE 10
Detailed Evaluation of Remedial Alternatives
Upper Trenton Channel Site, Detroit River AOC

Criterion	Alternative 1 No Action	Alternative 2 Limited Sediment Removal via Mechanical Dredging	Alternative 3 Combination of Sediment Removal and Cover and Cap	Alternative 4 Combination of Expanded Sediment Removal and Cover and Cap
(c) Protection of workers during remedial action	No remedial action; therefore, not applicable.	Sediment dredging may result in potential exposure of workers via direct contact. Proper health and safety procedures such as use of appropriate PPE, truck decontamination, and air monitoring procedures can reduce impacts to workers.	Placement of cover to follow appropriate construction procedures for safety. Sediment dredging may result in potential exposure of workers via direct contact. Proper health and safety procedures such as use of appropriate PPE, truck decontamination, and air monitoring procedures can reduce impacts to workers.	Placement of cover to follow appropriate construction procedures for safety. Sediment dredging may result in potential exposure of workers via direct contact. Proper health and safety procedures such as use of appropriate PPE, truck decontamination, and air monitoring procedures can reduce impacts to workers.
(d) Protection of community during remedial action	No remedial action; therefore, not applicable.	Dust emissions can be controlled with air monitoring and engineering methods to protect the community. Decontamination of trucks used to transport contaminated materials prevents the spread of contamination along haul routes. Noise control plans and odor control plans would protect the community from these disturbances.	Dust emissions can be controlled with air monitoring and engineering methods to protect the community. Decontamination of trucks used to transport contaminated materials prevents the spread of contamination along haul routes. Noise control plans and odor control plans would protect the community from these disturbances.	Dust emissions can be controlled with air monitoring and engineering methods to protect the community. Decontamination of trucks used to transport contaminated materials prevents the spread of contamination along haul routes. Noise control plans and odor control plans would protect the community from these disturbances.
(e) Environmental impacts of remedial action	No remedial action; therefore, not applicable.	Environmental impacts from excavation are possible because of disturbance to the habitat and its surroundings.	Environmental impacts from excavation and cap placement are possible because of disturbance to the habitat and its surroundings.	Environmental impacts from excavation and cap placement are possible because of disturbance to the habitat and its surroundings.
(f) Magnitude of residual risks	Unchanged from existing conditions.	Low residual risks except in areas where dredging extents expose contamination that cannot be removed due to shoreline stability and presence of utilities (does not change magnitude of contaminated sediment at depth).	Low residual risks except in areas where dredging extents expose contamination that cannot be removed or capped due to shoreline stability and presence of utilities (does not change magnitude of contaminated sediment at depth).	Low residual risks except in areas where dredging extents expose contamination that cannot be removed or capped due to shoreline stability and presence of utilities (does not change magnitude of contaminated sediment at depth).

TABLE 10
Detailed Evaluation of Remedial Alternatives
Upper Trenton Channel Site, Detroit River AOC

Criterion	Alternative 1 No Action	Alternative 2 Limited Sediment Removal via Mechanical Dredging	Alternative 3 Combination of Sediment Removal and Cover and Cap	Alternative 4 Combination of Expanded Sediment Removal and Cover and Cap
(g) Adequacy and reliability of controls	Fish consumption advisories will continue but not eliminate risks.	Fish consumption advisories may continue in short-term and in long-term may reduce advisories. Dredging results in residuals which will be addressed with post-removal cover.	Fish consumption advisories may continue in short term and in long term will likely reduce advisories. Dredging results in residuals which will be addressed with post-removal cover. The sediment caps may need to be replenished or repaired following large storm events, though the cap can be designed to withstand such events, and cap breakthroughs would be relatively low-risk. Sediment caps have been shown to be reliable at other sites.	Fish consumption advisories may continue in short term and in long term will likely reduce advisories. Dredging results in residuals which will be addressed with post-removal cover. The sediment caps may need to be replenished or repaired following large storm events, though the cap can be designed to withstand such events, and cap breakthroughs would be relatively low-risk. Sediment caps have been shown to be reliable at other sites.
(h) Minimization of transport of contaminated sediments downstream	Unchanged from existing conditions.	Usage of silt curtains during dredging would minimize the transportation of contaminated sediments downstream. However, the contamination that is left behind (not dredged) due to the shoreline offsets and utility offsets are potentially available for transport.	Usage of silt curtains during dredging would minimize the transportation of contaminated sediments downstream. However, the contamination that is left behind (not dredged due to the shoreline offsets and utility offsets and/or capped) are potentially available for transport. A cap would typically require long term maintenance.	Usage of silt curtains during dredging would minimize the transportation of contaminated sediments downstream. However, the contamination that is left behind (not dredged due to the shoreline offsets and utility offsets and/or capped) are potentially available for transport. A cap would typically require long term maintenance.
(i) Ability to achieve preliminary CUGs	Unchanged from existing conditions.	Supportive of achieving preliminary CUGs over the short term and long term.	Supportive of achieving preliminary CUGs in the short term and long term, with proper cap maintenance.	Supportive of achieving preliminary CUGs in the short term and long term, with proper cap maintenance.
3. Engineering Implementability, Reliability, Constructability, and Cost				
(a) Availability of services and materials	No impediments.	No impediments. All materials and services are available and have been implemented in several other projects.	No impediments. All materials and services are available and have been implemented in several other projects.	No impediments. All materials and services are available and have been implemented in several other projects.

TABLE 10
Detailed Evaluation of Remedial Alternatives
Upper Trenton Channel Site, Detroit River AOC

Criterion	Alternative 1 No Action	Alternative 2 Limited Sediment Removal via Mechanical Dredging	Alternative 3 Combination of Sediment Removal and Cover and Cap	Alternative 4 Combination of Expanded Sediment Removal and Cover and Cap
(b) Reliability	No impediments.	No impediments. This remedial alternative has been practiced at several other sites and has been proven reliable.	No impediments. This remedial alternative has been practiced at several other sites and has been proven reliable.	No impediments. This remedial alternative has been practiced at several other sites and has been proven reliable.
(c) Constructability	No impediments.	No impediments. This remedial alternative has been practiced at several other sites and has been proven to be constructible. A constructability review of this alternative would be performed as a part of the remedial design.	No impediments. This remedial alternative has been practiced at several other sites and has been proven to be constructible. A constructability review of this alternative would be performed as a part of the remedial design.	No impediments. This remedial alternative has been practiced at several other sites and has been proven to be constructible. A constructability review of this alternative would be performed as a part of the remedial design.
(d) Cost	No Cost Alternative	$38,800,000	$37,900,000	$52,700,000
(e) Ability to monitor effectiveness	No remedial action; therefore, not applicable	Remedy effectiveness can be documented through post-implementation surface sample collection, composited across sub-areas, to demonstrate reduction in exposure concentrations.	Remedy effectiveness can be documented through post-implementation surface sample collection, composited across sub-areas, to demonstrate reduction in exposure concentrations. Cap effectiveness can be monitored during regular cap monitoring and maintenance activities.	Remedy effectiveness can be documented through post-implementation surface sample collection, composited across sub-areas, to demonstrate reduction in exposure concentrations. Cap effectiveness can be monitored during regular cap monitoring and maintenance activities.
4. General Ability to Meet Great Lakes Legacy Act Remedial Action Objectives				

TABLE 10
Detailed Evaluation of Remedial Alternatives
Upper Trenton Channel Site, Detroit River AOC

Criterion	Alternative 1 No Action	Alternative 2 Limited Sediment Removal via Mechanical Dredging	Alternative 3 Combination of Sediment Removal and Cover and Cap	Alternative 4 Combination of Expanded Sediment Removal and Cover and Cap
(a)Reduction of exposure to contaminants of concern in sediments and pore water	Unchanged from existing conditions.	Eliminates exposure in areas where sediment removed. Short-term exposure may increase in areas where residual contamination remains due to site conditions restricting dredging. Improvement in long-term exposure with expected natural sedimentation.	Eliminates exposure in areas where sediment removed. Short-term exposure may increase in areas where residual contamination remains due to site conditions restricting dredging and cap not placed. Improvement in long-term exposure with expected natural sedimentation and with proper cap maintenance.	Eliminates exposure in areas where sediment removed. Short-term exposure may increase in areas where residual contamination remains due to site conditions restricting dredging and cap not placed. Improvement in long-term exposure with expected natural sedimentation and with proper cap maintenance.
(b) Reduction of concentrations of contaminants in biota	Unchanged from existing conditions.	Temporary impact from dredging but long-term positive impact.	Temporary impact from dredging but long-term positive impact.	Temporary impact from dredging but long-term positive impact.
(c) Reduction in sediment-related toxicity	Unchanged from existing conditions.	Supportive of remedial objectives because the contaminated sediment would be removed from the channel.	Supportive of remedial objective because the contaminated sediment would be removed from the channel or capped.	Supportive of remedial objective because the contaminated sediment would be removed from the channel or capped.
(d) Improvement of biota in biological communities	Unchanged from existing conditions.	Temporary impact from dredging but long-term positive impact.	Temporary impact from dredging and cap placement but long-term positive impact.	Temporary impact from dredging and cap placement but long-term positive impact.
(e) Improvement in habitat quality	Unchanged from existing conditions.	Temporary impact from dredging but long-term positive impact.	Temporary impact from dredging and cap placement but long-term positive impact.	Temporary impact from dredging and cap placement but long-term positive impact.
(f) Remediation of sediment contamination on volume, area, and/or mass basis	Unchanged from existing conditions.	Supportive of remedial objective. Relies primarily on mass removal to meet objectives.	Supportive of remedial objective. Uses combination of mass removal and capping to meet objectives.	Supportive of remedial objective. Uses combination of mass removal and capping to meet objectives.
5. Ability to Contribute to Removal of BUIs				

TABLE 10
Detailed Evaluation of Remedial Alternatives
Upper Trenton Channel Site, Detroit River AOC

Criterion	Alternative 1 No Action	Alternative 2 Limited Sediment Removal via Mechanical Dredging	Alternative 3 Combination of Sediment Removal and Cover and Cap	Alternative 4 Combination of Expanded Sediment Removal and Cover and Cap
(a) Restrictions on fish and wildlife consumption	Unchanged from existing conditions.	Supportive of addressing BUI.	Supportive of addressing BUI.	Supportive of addressing BUI.
(b) Degradation of benthos	Unchanged from existing conditions.	Temporary degradation of benthos due to dredging, but long-term positive impact.	Temporary degradation of benthos due to dredging and cap placement, but long-term positive impact.	Temporary degradation of benthos due to dredging and cap placement, but long-term positive impact.
(c) Fish tumors and deformities	Unchanged from existing conditions.	Supportive of addressing BUI.	Supportive of addressing BUI.	Supportive of addressing BUI.
(d) Bird and animal deformities and reproductive problems	Unchanged from existing conditions.	Supportive of addressing BUI.	Supportive of addressing BUI.	Supportive of addressing BUI.
(e) Loss of fish and wildlife habitat	Unchanged from existing conditions.	Temporary loss of fish habitat due to dredging, but long-term positive impact.	Temporary loss of fish habitat due to dredging and capping, but long-term positive impact.	Temporary loss of fish habitat due to dredging and capping, but long-term positive impact.
6. State Acceptance				
	To be obtained through GLNPO coordination with MDEQ			
7. Public Acceptance				
	To be conducted following completion of the feasibility phase of the project			

NOTES:
BUI = beneficial use impairment
CUG = cleanup goal
TPAH = total polynuclear aromatic hydrocarbon
PCB = polychlorinated biphenyl
PPE = personal protective equipment

8.4 Comparative Analysis and Identification of the Preferred Alternative

A comparative analysis of the alternatives has been completed to evaluate the relative ranking of each alternative with respect to the criteria described in Section 8. The comparative analysis is presented in Table 11. A ranking system of high, medium, and low was used for each criterion, where “high” indicates that the alternative is well-suited to meet the objectives of the criterion, and “low” indicates that the alternative does not satisfy the criterion objectives well. The rankings are not absolute rankings (for instance, a ranking of low does not mean the alternative does not satisfy the criterion,) but are relative rankings as compared to the other alternatives (for instance, a high ranking means that the alternative does a better job of satisfying the criterion than the other alternatives.)

Alternative 4 has been selected as the preferred alternative based on the comparative analysis of alternatives, and will be developed through the remedial design phase. Alternative 4 was selected from among the alternatives evaluated in consideration of all of the evaluation criteria and in particular based on:

- Its effectiveness over Alternatives 1, 2, and 3 in achieving the site –specific ROs and overall protection of human health and the environment. Alternatives 1, 2, and 3 would leave areas of the site unremediated, with less contamination being removed and higher overall surface contaminant concentrations remaining as compared to Alternative 4.
- Alternative 4’s higher degree of exposure reduction as indicated by the lowest post-removal SWAC of PCB, Hg and TPAH of the three alternatives.
- The degree of contaminant mass removal under Alternative 4 of not only the indicator COCs, but of all contaminants present in the sediment which affords the greatest reduction of the potential for contaminant redistribution to downstream areas in the future.
- The relative cost efficiency of the additional (incrementally greater) area and volume removed under Alternative 4 as compared to the other alternatives – which realizes significant economies of scale compared to the potential for future cleanup requirements should sediment remaining within the project area become redistributed.
- The degree of long-term regulatory acceptability of Alternative 4 based on the fact that the remaining sediment will contain less residual contamination and will therefore have a lower potential to become redistributed and reduce the environmental benefits gained by remediation.
- The greater contribution to removal of BUIs for the Detroit River AOC as compared to the other alternatives due to the larger area of contamination that is addressed and the larger reduction of the surface sediment exposure concentrations.

The completed project will satisfy regulatory requirements and ensure that the specified remediation goals are achieved, short- and long-term risks to human health and the environment are addressed, and progress is made toward removal of BUIs in the Detroit River AOC.

TABLE 11
Comparative Analysis of Remedial Alternatives
Upper Trenton Channel Site, Detroit River AOC

Criterion	**Alternative 1 No Action**	**Alternative 2 Limited Sediment Removal via Mechanical Dredging**	**Alternative 3 Combination of Sediment Removal and Cover and Cap**	Alternative 4 **Combination of Expanded Sediment Removal and Cover and Cap**
1. Administrative Feasibility (Evaluation and Identification of Permits and Permit Needs)	N/A	High	Medium	Medium
2. Short- and Long-term Effectiveness in Protecting Human Health and the Environment				
(a) Overall protection of human health and the environment	Low	Medium	Medium	High
(b) Speed of implementation	High	Medium	Medium	Low
(c) Protection of workers during remedial action	N/A	Medium	High	Medium
(d) Protection of community during remedial action	N/A	Medium	High	Medium
(e) Minimization of environmental impacts during remedial action	N/A	High	Medium	Medium
(f) Minimization of residual risks	Low	Medium	High	High
(g) Adequacy and reliability of controls	Low	Medium	High	High
(h) Minimization of transport of contaminated sediments downstream	Low	Medium	High	High
(i) Ability to achieve preliminary CUGs	Low	Low	High	High

Criterion	**Alternative 1 No Action**	**Alternative 2 Limited Sediment Removal via Mechanical Dredging**	**Alternative 3 Combination of Sediment Removal and Cover and Cap**	Alternative 4 **Combination of Expanded Sediment Removal and Cover and Cap**
3. Engineering Implementability, Reliability, Constructability, and Cost				
(a) Availability of services and materials	High	High	High	High
(b) Reliability	High	High	High	High
(c) Constructability	High	High	Medium	Medium
(d) Cost Ranking	High	Medium	Medium	Low
(e) Ability to monitor effectiveness	N/A	High	High	High
4. General Ability to Meet Great Lakes Legacy Act Remedial Action Objectives				
(a)Reduction of exposure to contaminants of concern in sediments and pore water	Low	Medium	Medium	High
(b) Reduction of concentrations of contaminants in biota	Low	Medium	Medium	High
(c) Reduction in sediment-related toxicity	Low	Medium	Medium	High
(d) Improvement of biota in biological communities	Low	Medium	Medium	High
(e) Improvement in habitat quality	Low	Medium	Medium	High
(f) Remediation of sediment contamination on volume, area, and/or mass basis	Low	Medium	Medium	High
5. Ability to Contribute to Removal of BUIs				

Criterion	Alternative 1 No Action	Alternative 2 Limited Sediment Removal via Mechanical Dredging	Alternative 3 Combination of Sediment Removal and Cover and Cap	Alternative 4 Combination of Expanded Sediment Removal and Cover and Cap
(a) Potential for removal of BUI: restrictions on fish and wildlife consumption	Low	Medium	Medium	High
(b) Potential for removal of BUI: degradation of benthos	Low	Medium	Medium	High
(c) Potential for removal of BUI: fish tumors and deformities	Low	Medium	Medium	High
(d) Potential for removal of BUI: bird and animal deformities and reproductive problems	Low	Medium	Medium	High
(e) Potential for removal of BUI: loss of fish and wildlife habitat	Low	Medium	Medium	High

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Figures

Figure 1
Site Map
Great Lakes Legacy Act
Focused Feasibility Study
Upper Trenton Channel, Detroit River, Michigan

CH2MHILL

E:\EPA\419593_UTC_RA_EVAL_FS_STUDY\MAPFILES\SEDIMENTREMEDIATION_FS\REVISIONS_081012\FIGURE 01 - SITE MAP.MXD JHANSEN1 8/14/2012 10:00:27 AM

LEGEND:
RIVER MILE MARKER
NAVIGATION CHANNEL (APPROXIMATE)
USED OR PLANNED FOR NAVIGATIONAL USE

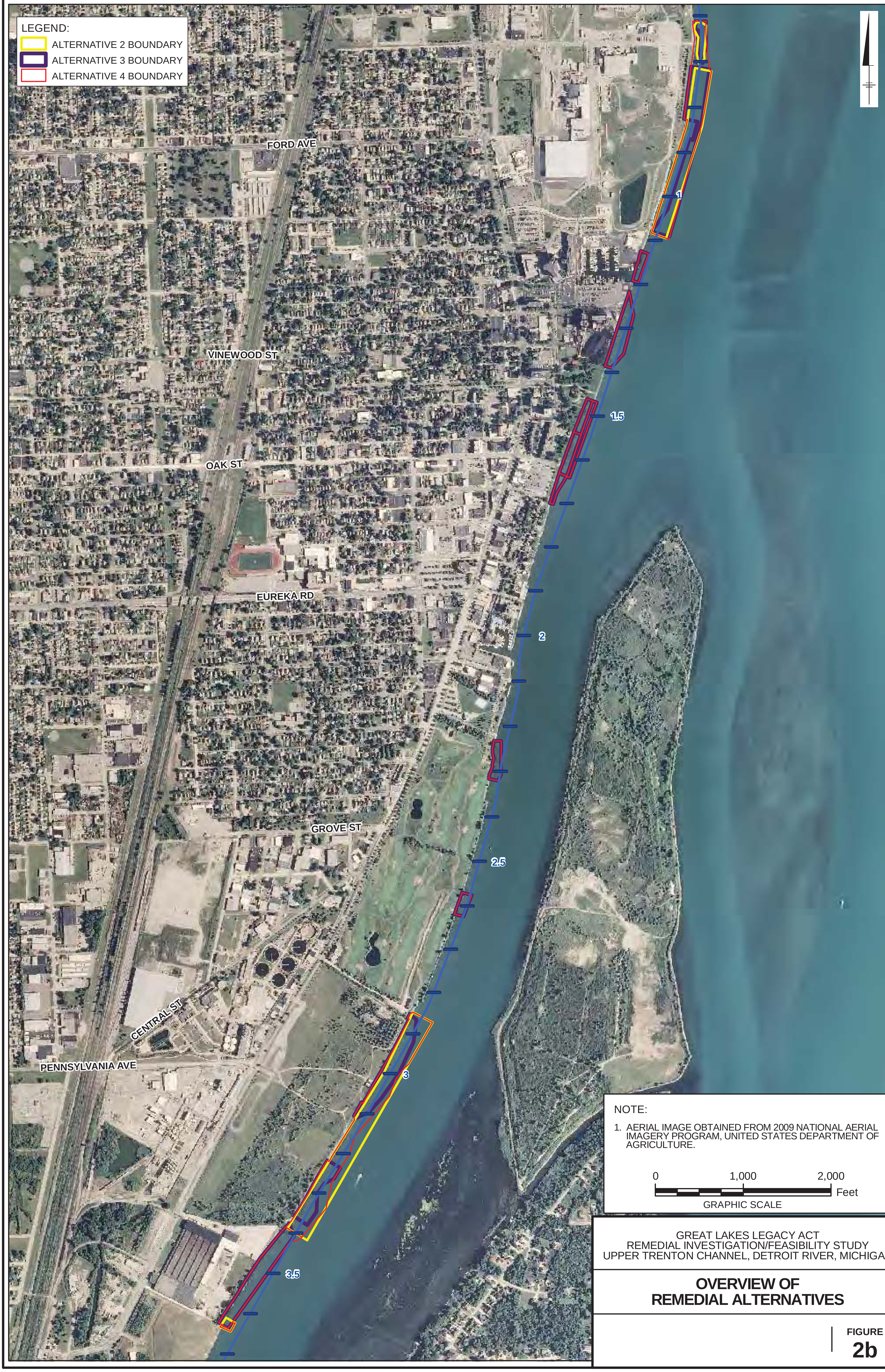
NOTE:
1. AERIAL IMAGE OBTAINED FROM 2009 NATIONAL AERIAL IMAGERY PROGRAM, UNITED STATES DEPARTMENT OF AGRICULTURE.

0 1,000 2,000 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

UPPER TRENTON CHANNEL NAVIGATIONAL AREAS

FIGURE
2a



NOTE:

1. AERIAL IMAGE OBTAINED FROM 2009 NATIONAL AERIAL IMAGERY PROGRAM, UNITED STATES DEPARTMENT OF AGRICULTURE.

0 1,000 2,000 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

OVERVIEW OF REMEDIAL ALTERNATIVES

FIGURE **2b**

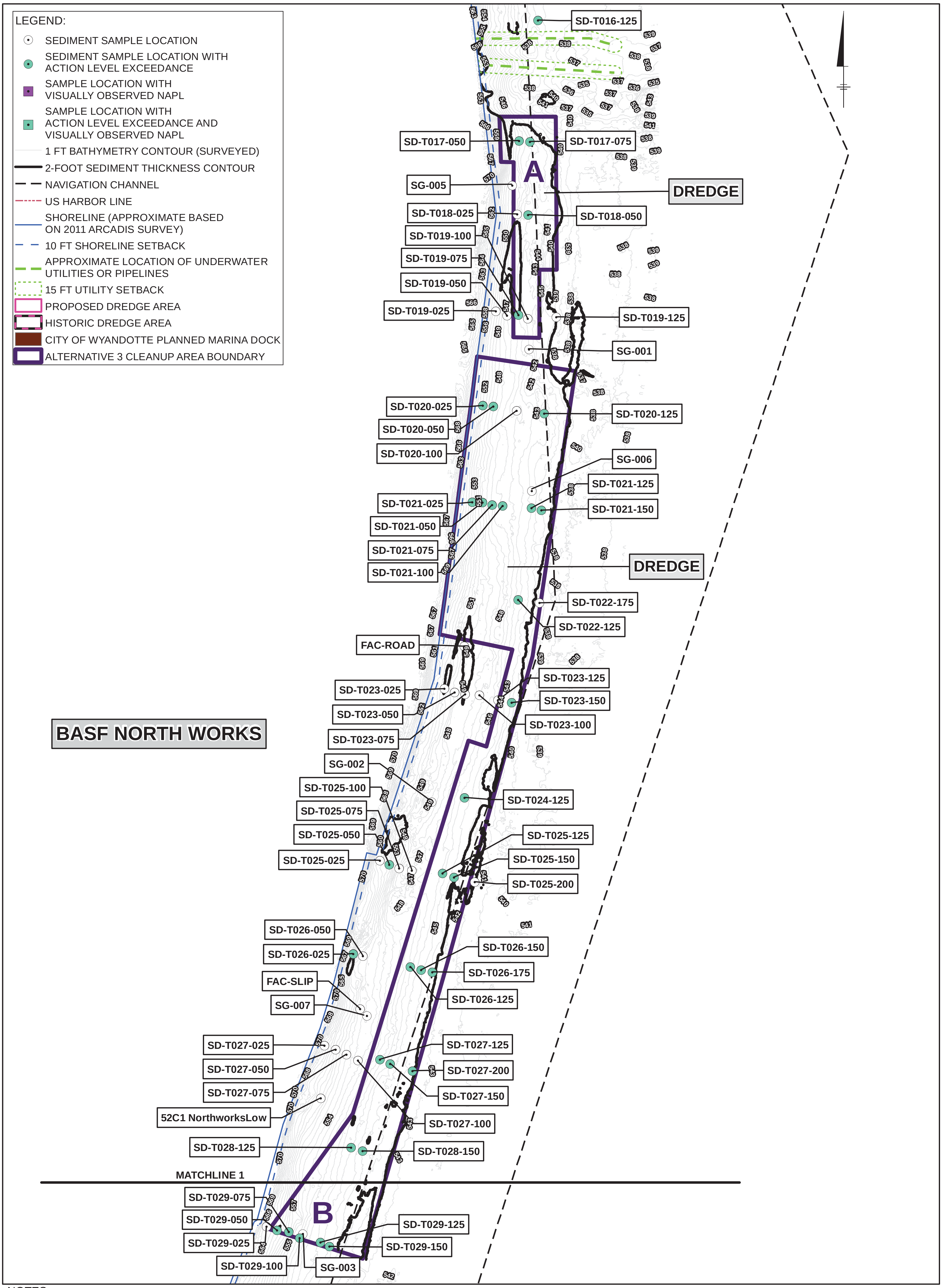
Figure 3
Alternative 2 Dredge Areas - North Works
Great Lakes Legacy Act
Focused Feasibility Study
Upper Trenton Channel, Detroit River, Michigan

CH2MHILL

Figure 4
Alternative 2 Dredge Areas - Arkema and Firestone
Great Lakes Legacy Act
Focused Feasibility Study
Upper Trenton Channel, Detroit River, Michigan

CH2MHILL

City: SYR Div/Group: 90 Created By: jrapp Last Saved By: jrapp
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\BishopPark_DredgingAndCappingRemedy\mxd\BishopPark_ProposedDredgeandSelectCap_mapbook_v3.mxd 7/25/2013 2:49:38 PM (Page 1 of 7)



NOTES:

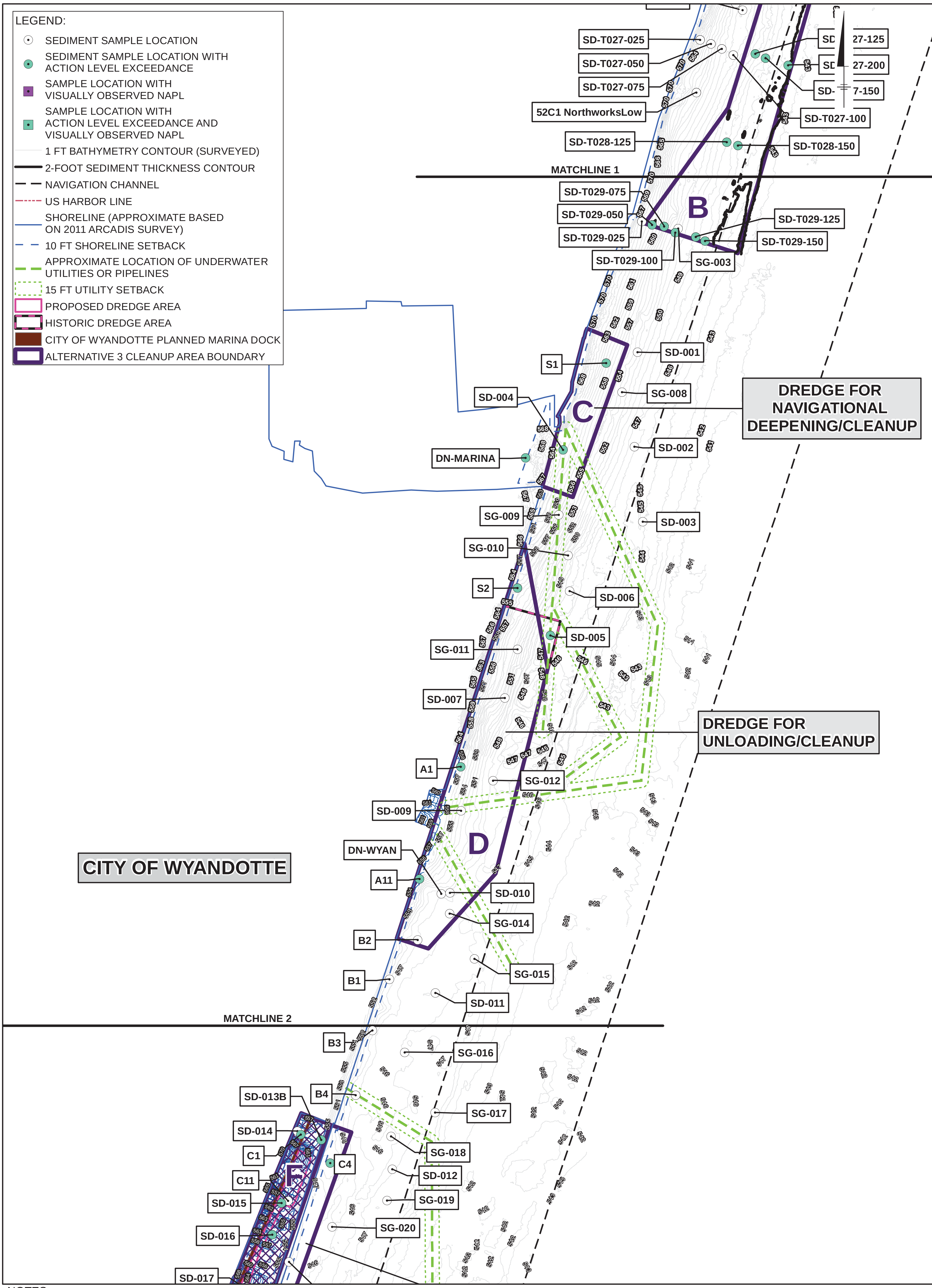
1. PROPOSED PIER STRUCTURE AND PROPOSED DREDGE AREA ESTIMATED FROM WYANDOTTE TRANSIENT MARINA STUDY CONCEPT PLAN B1 BY JJR DATED FEBRUARY 12, 2009.
2. NAPL OBSERVATIONS TAKEN FROM CH2MHILL CORE PROCESSING FIELD NOTES FOR THE 2011 GLNPO GLLA SEDIMENT SAMPLING EVENT.
3. HISTORIC DREDGE AREA ESTIMATED FROM CTI ASSOCIATES FIGURE DATED MARCH 2, 2007.
4. SUB AREA BOUNDARIES ARE NOT YET ADJUSTED FOR ACCESS LIMITATIONS THAT ARE LIKELY PRESENT IN SOME AREAS DUE TO SUBMARINE UTILITY OR PIPELINE CROSSINGS.

0 200 400 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 3
CLEAN UP AREA BOUNDARIES

FIGURE
5



NOTES:

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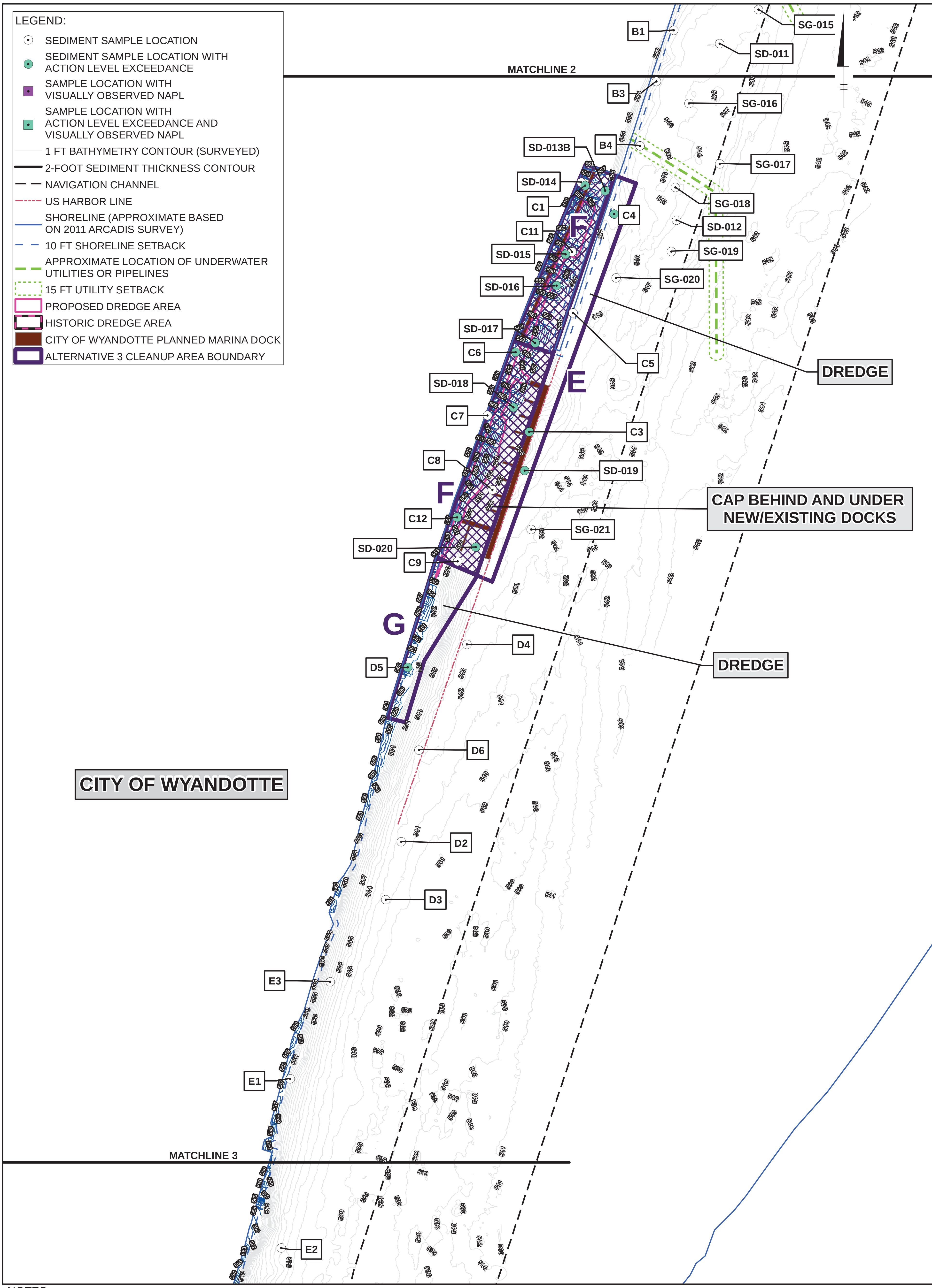
2. NAPL OBSERVATIONS TAKEN FROM CH2MHILL CORE PROCESSING FIELD NOTES FOR THE 2011 GLNPO GLLA SEDIMENT SAMPLING EVENT.
3. HISTORIC DREDGE AREA ESTIMATED FROM CTI ASSOCIATES FIGURE DATED MARCH 2, 2007.
4. SUB AREA BOUNDARIES ARE NOT YET ADJUSTED FOR ACCESS LIMITATIONS THAT ARE LIKELY PRESENT IN SOME AREAS DUE TO SUBMARINE UTILITY OR PIPELINE CROSSINGS.

0 200 400 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 3
CLEAN UP AREA BOUNDARIES

FIGURE
6



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0 200 400 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 3
CLEAN UP AREA BOUNDARIES

FIGURE
7

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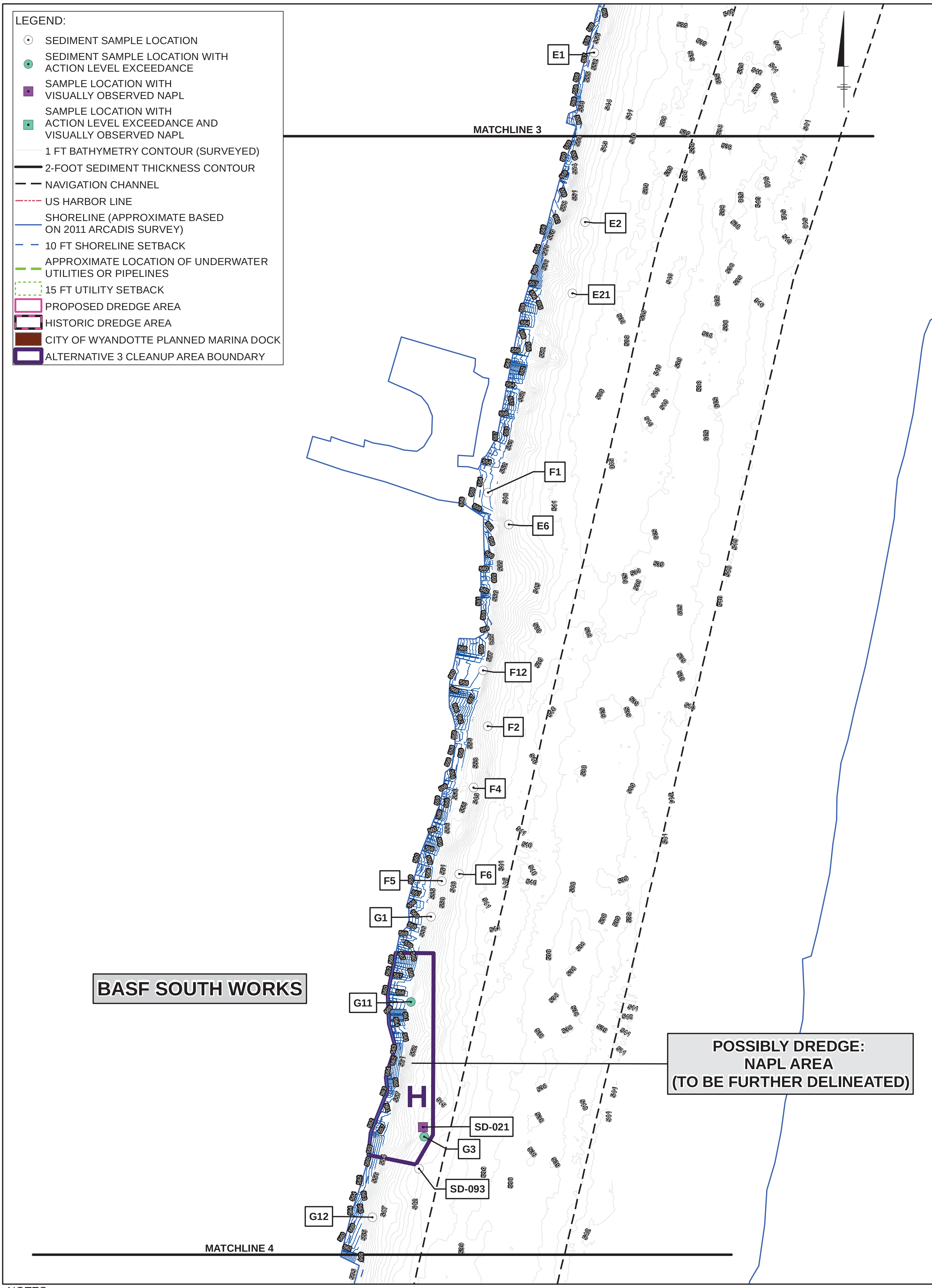

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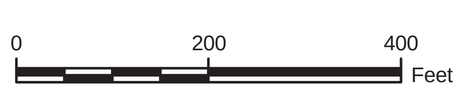
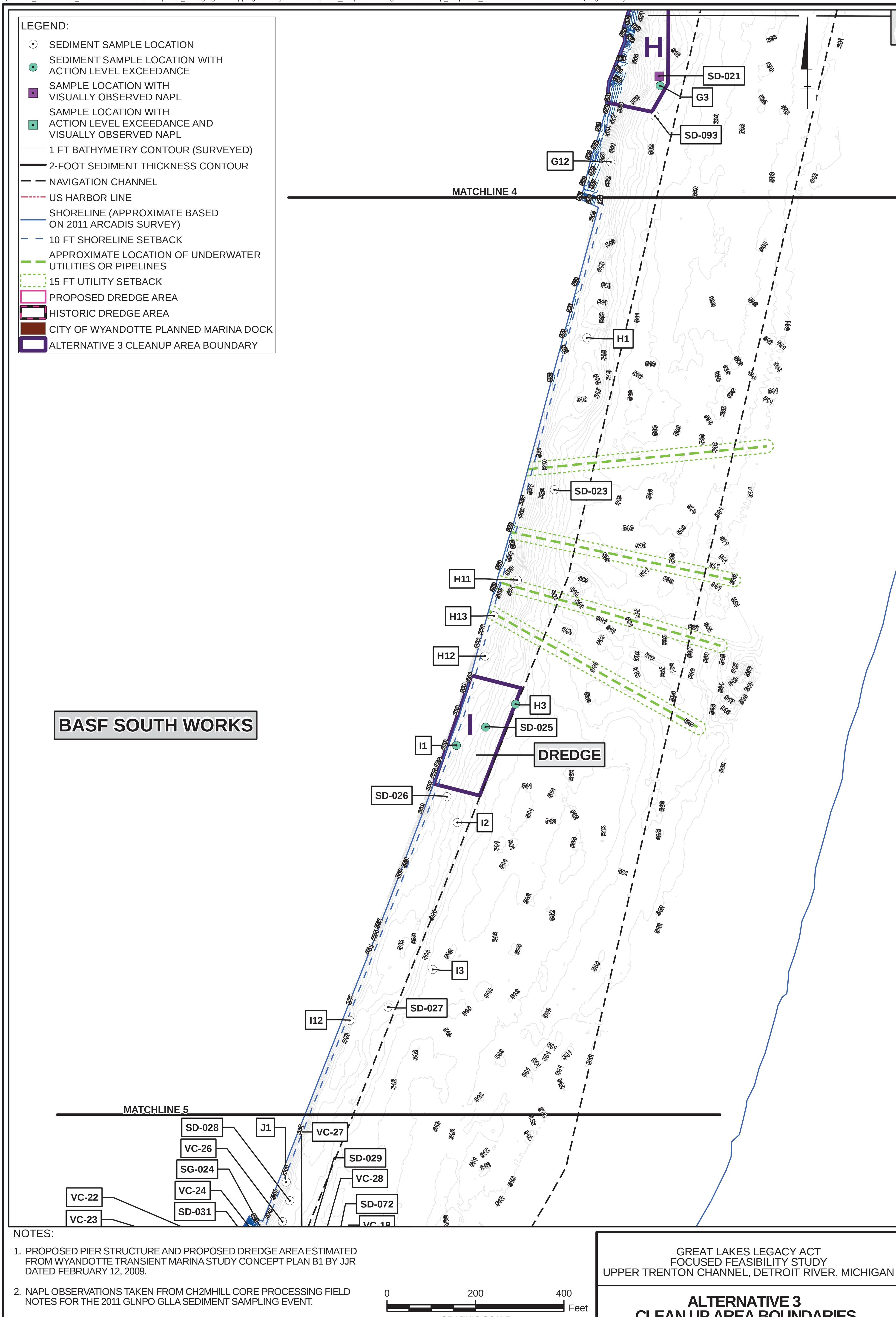


GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 3
CLEAN UP AREA BOUNDARIES

FIGURE
8



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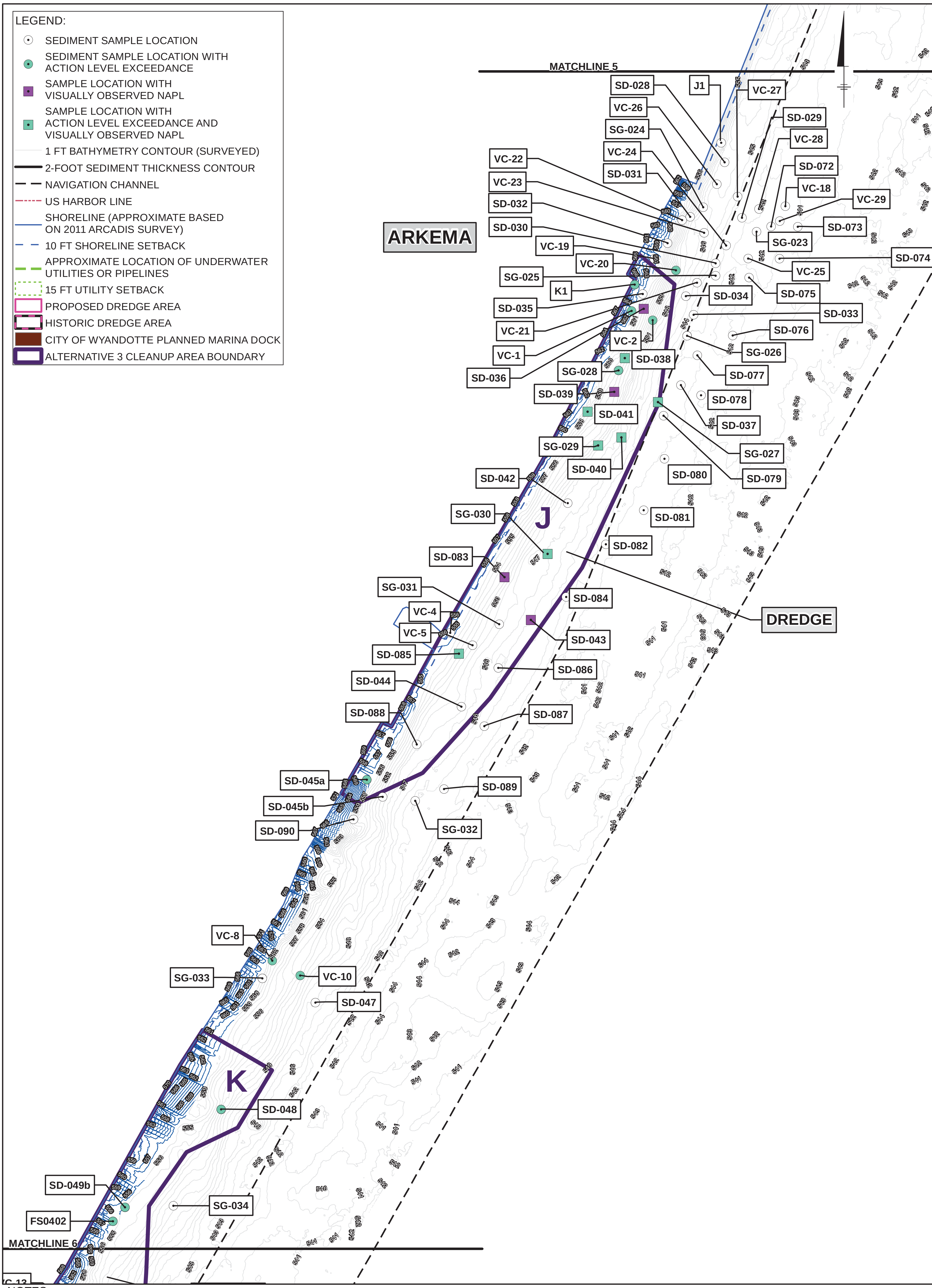
GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 3
CLEAN UP AREA BOUNDARIES

FIGURE
9



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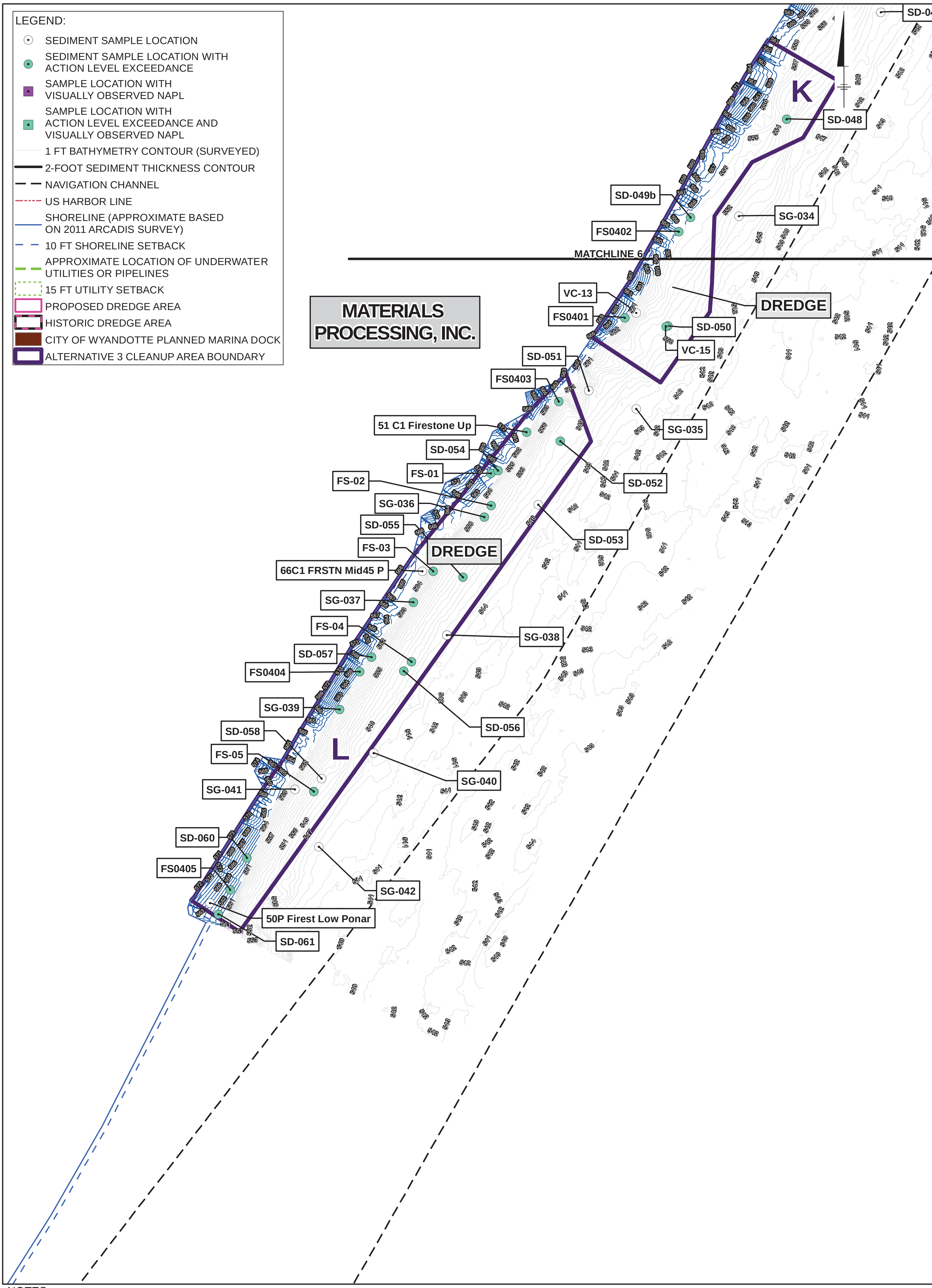
0 200 400 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 3
CLEAN UP AREA BOUNDARIES

FIGURE
10



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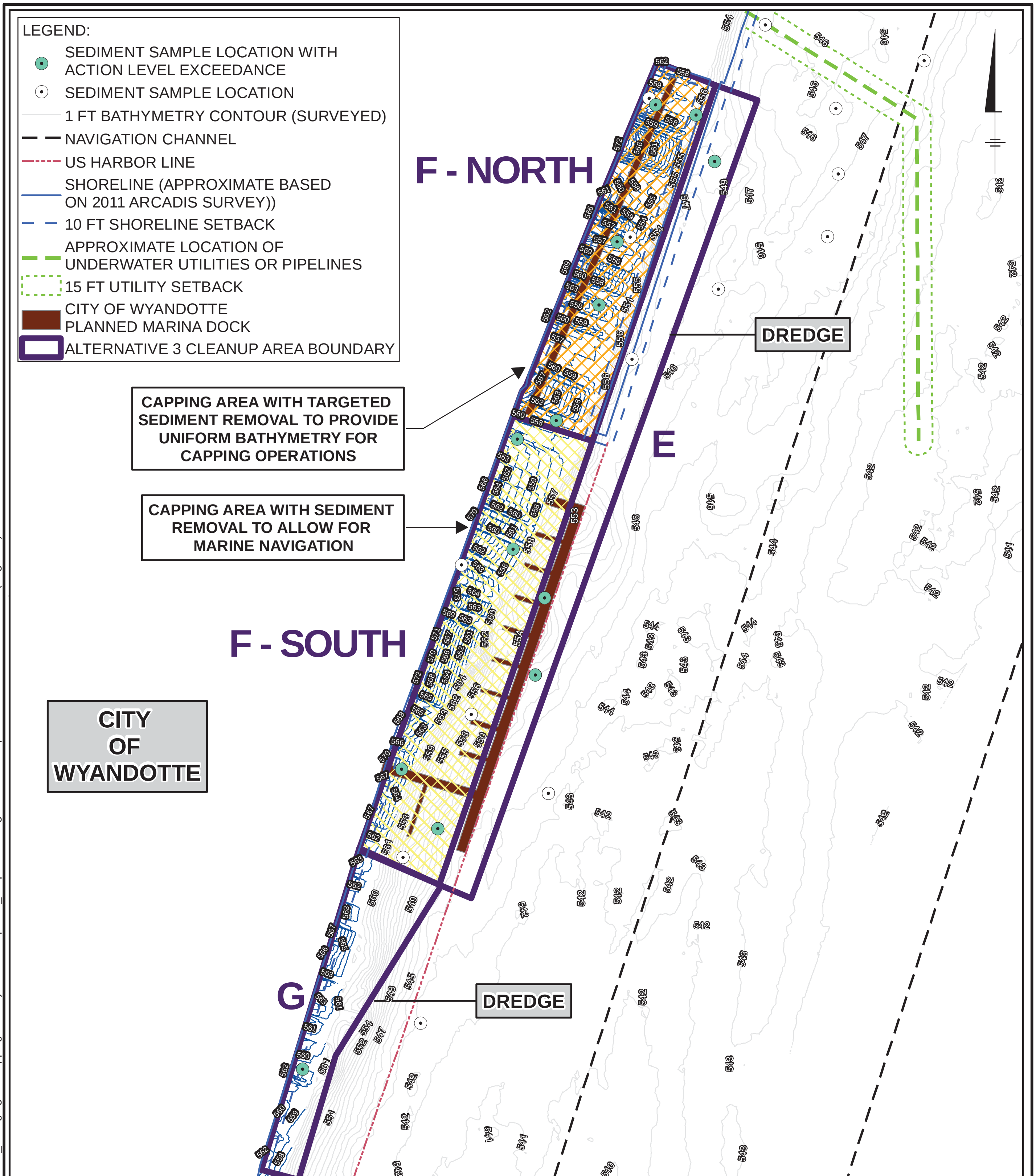
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 3
CLEAN UP AREA BOUNDARIES

FIGURE
11



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GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 3
CAPPING AREA DETAILS

FIGURE
12

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BASF - Trenton Channel (B0042929.0104.00002)
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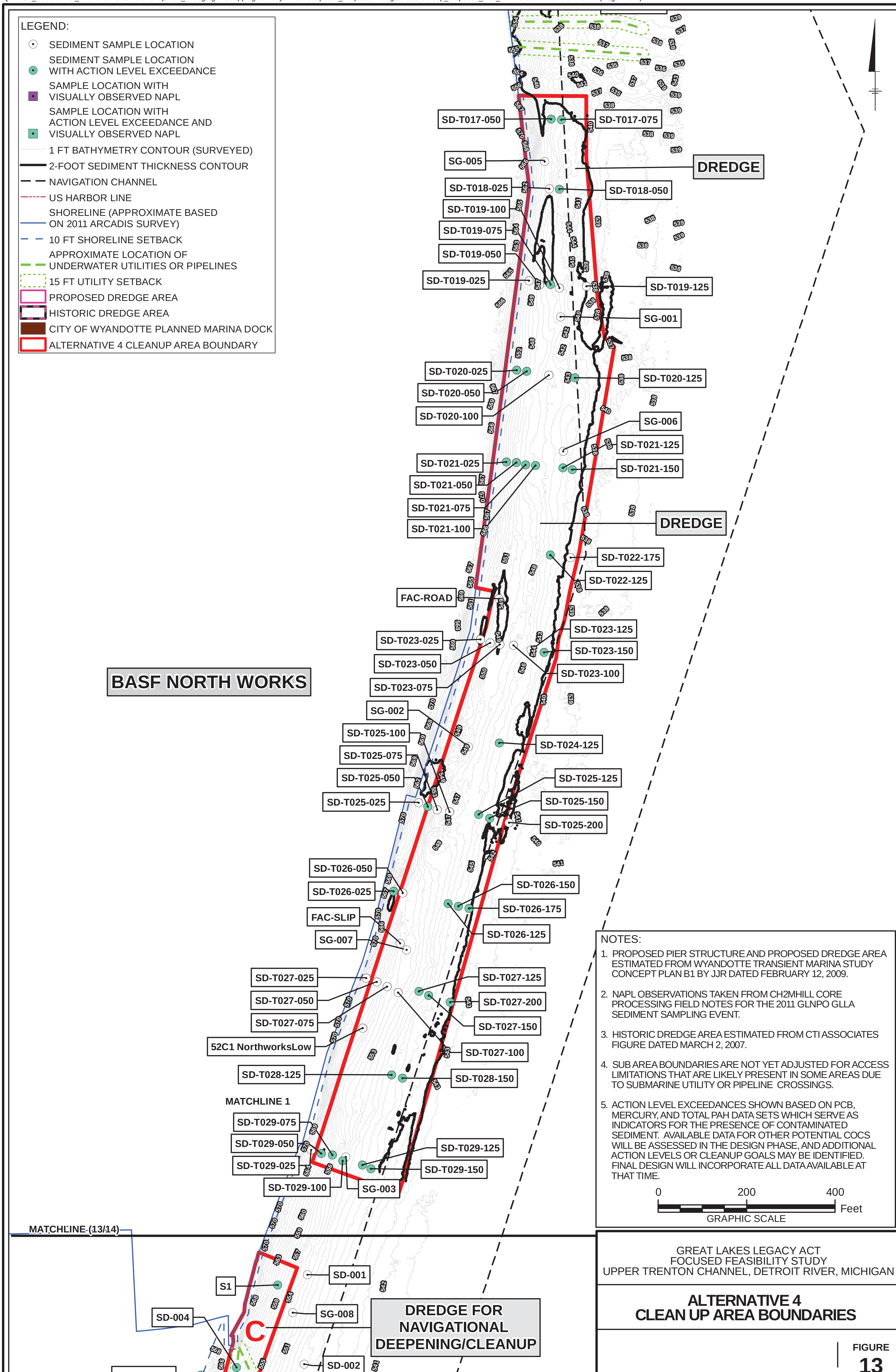

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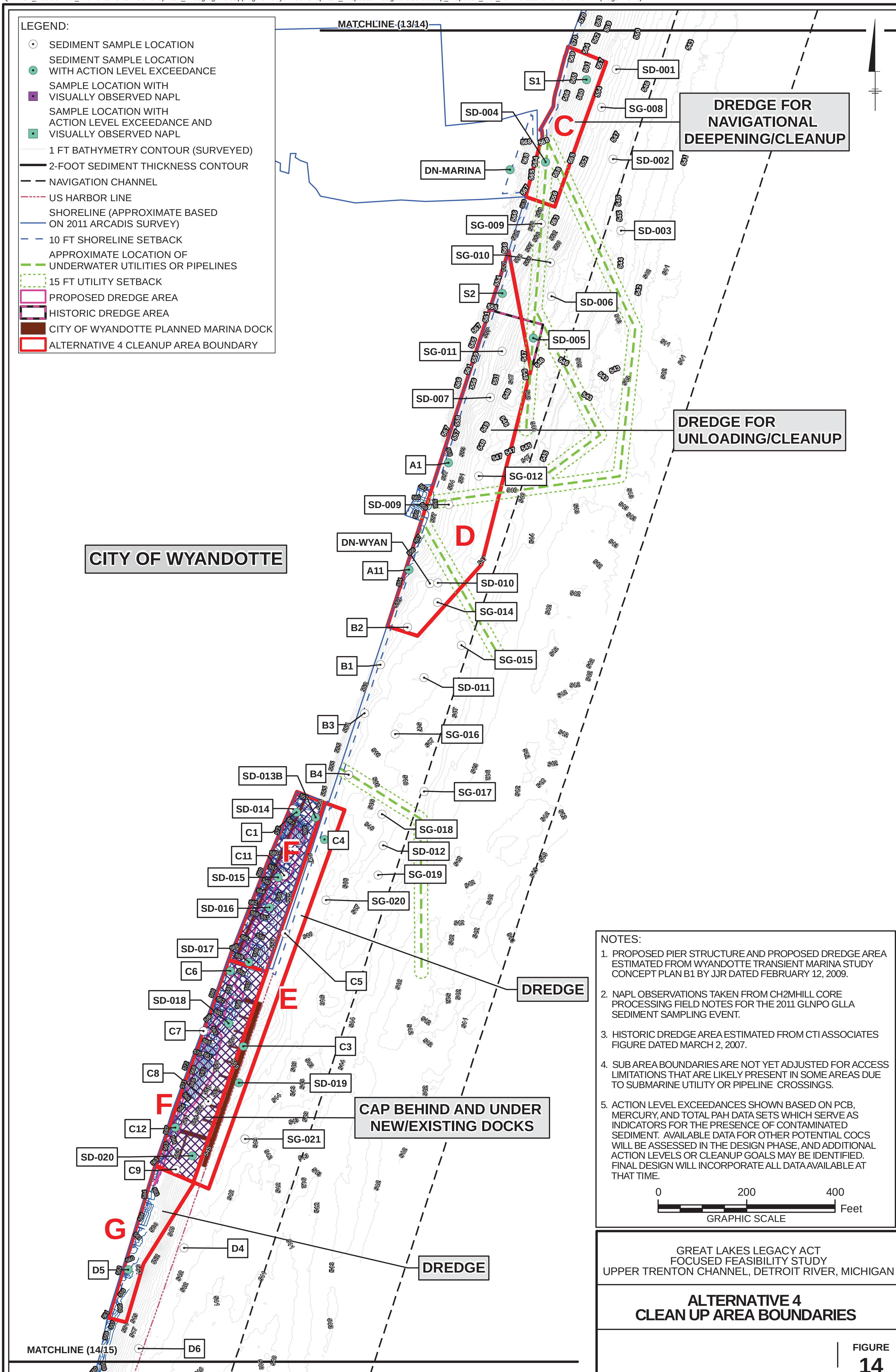
GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 4
CLEAN UP AREA BOUNDARIES

FIGURE
13



LEGEND:

- SEDIMENT SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION WITH ACTION LEVEL EXCEEDANCE
- SAMPLE LOCATION WITH VISUALLY OBSERVED NAPL
- SAMPLE LOCATION WITH ACTION LEVEL EXCEEDANCE AND VISUALLY OBSERVED NAPL
- 1 FT BATHYMETRY CONTOUR (SURVEYED)
- 2-FOOT SEDIMENT THICKNESS CONTOUR
- NAVIGATION CHANNEL
- US HARBOR LINE
- SHORELINE (APPROXIMATE BASED ON 2011 ARCADIS SURVEY)
- 10 FT SHORELINE SETBACK
- APPROXIMATE LOCATION OF UNDERWATER UTILITIES OR PIPELINES
- 15 FT UTILITY SETBACK
- PROPOSED DREDGE AREA
- HISTORIC DREDGE AREA
- CITY OF WYANDOTTE PLANNED MARINA DOCK
- ALTERNATIVE 4 CLEANUP AREA BOUNDARY

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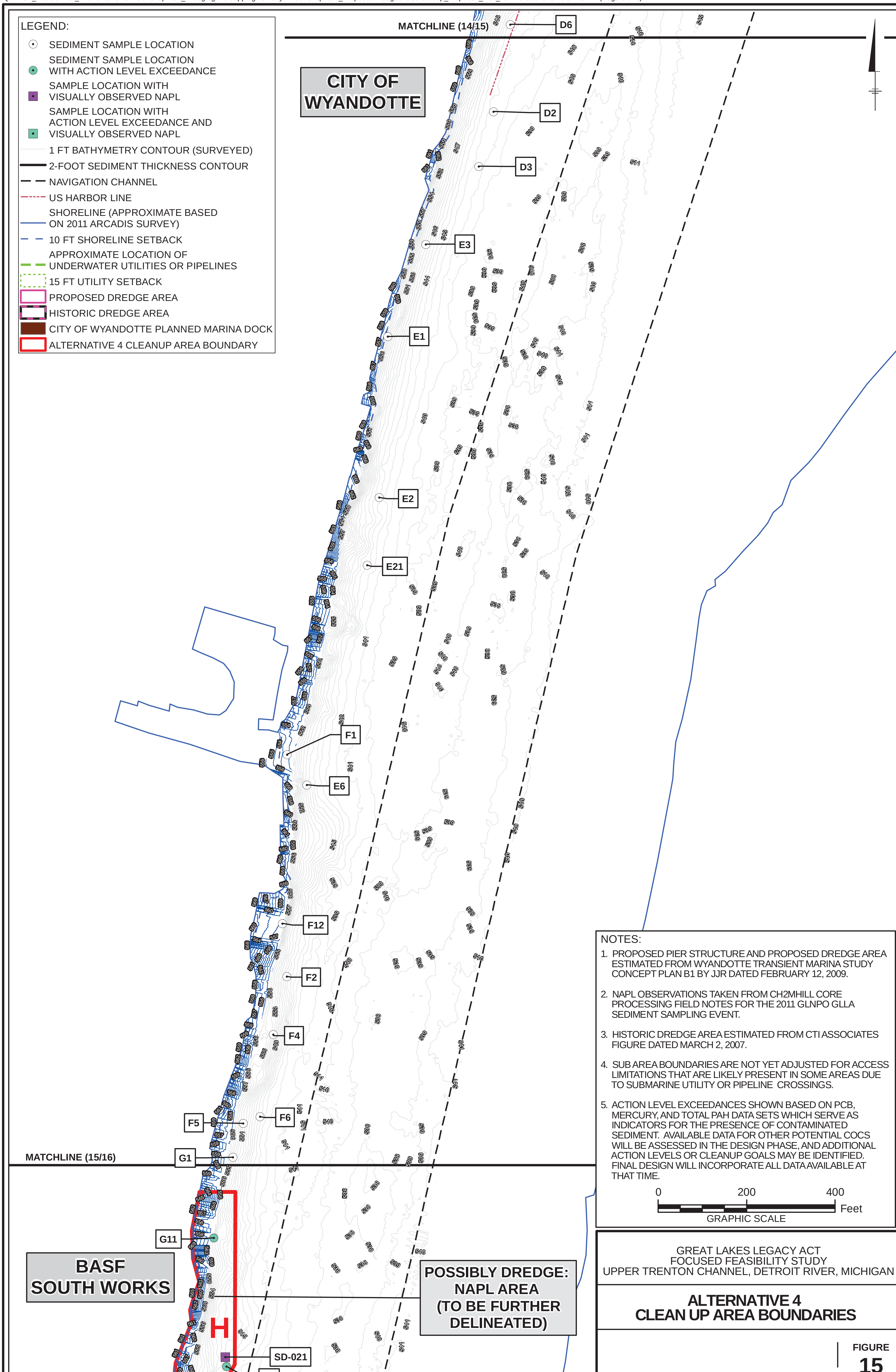
0 200 400 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 4
CLEAN UP AREA BOUNDARIES

FIGURE
14



LEGEND:
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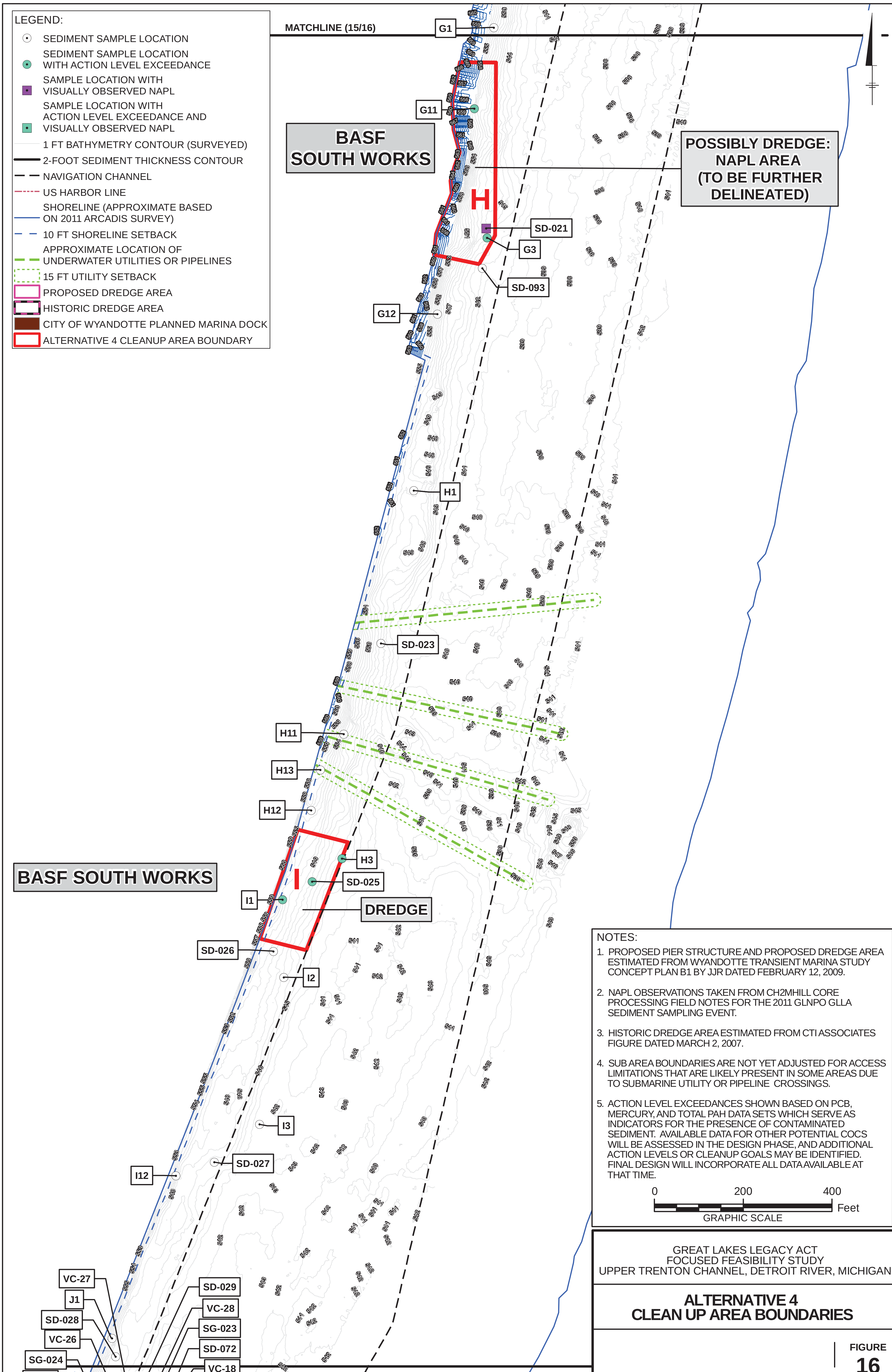
0 200 400 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 4 CLEAN UP AREA BOUNDARIES

FIGURE
15



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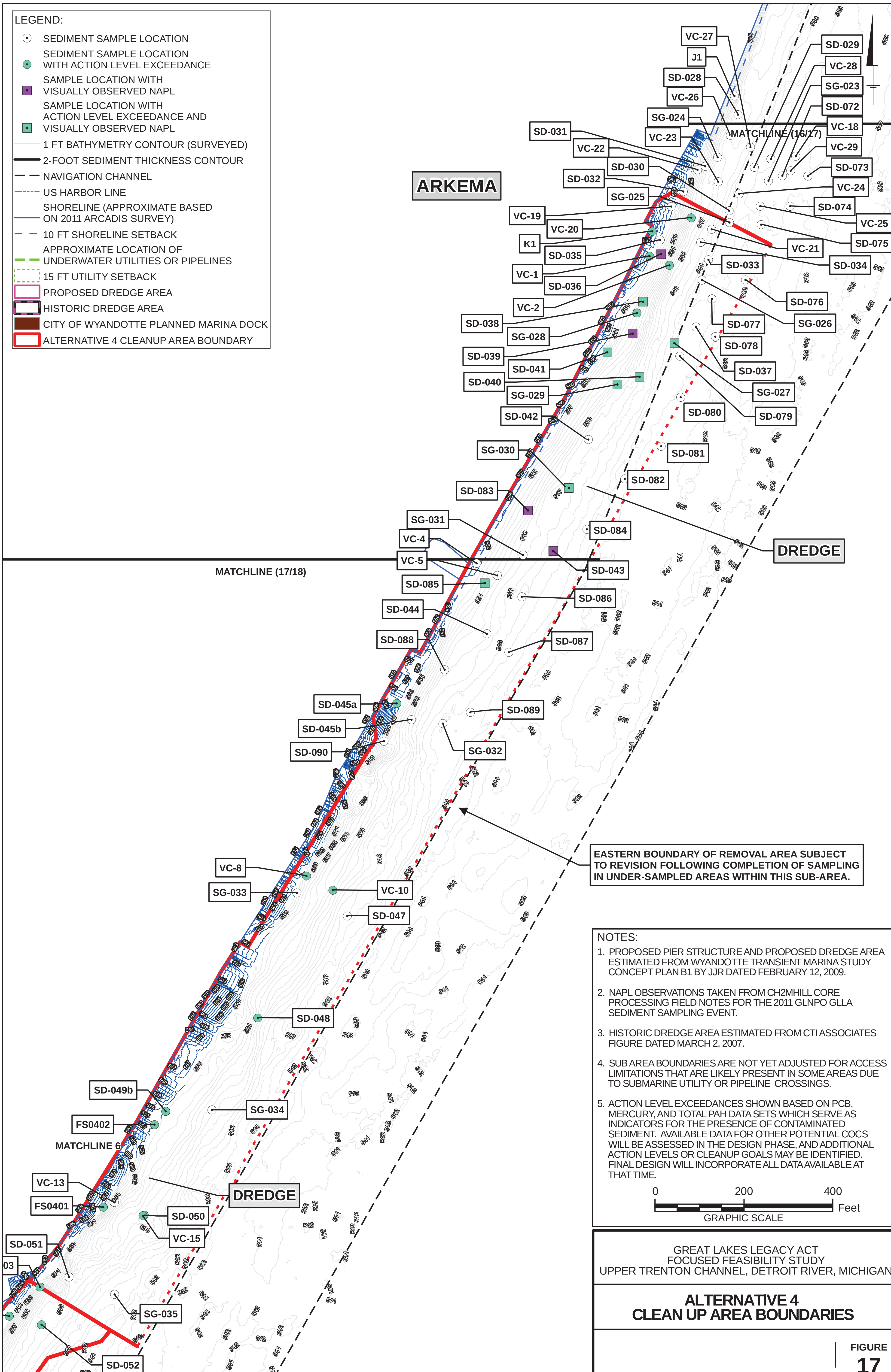
GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 4
CLEAN UP AREA BOUNDARIES

FIGURE **16**



LEGEND:

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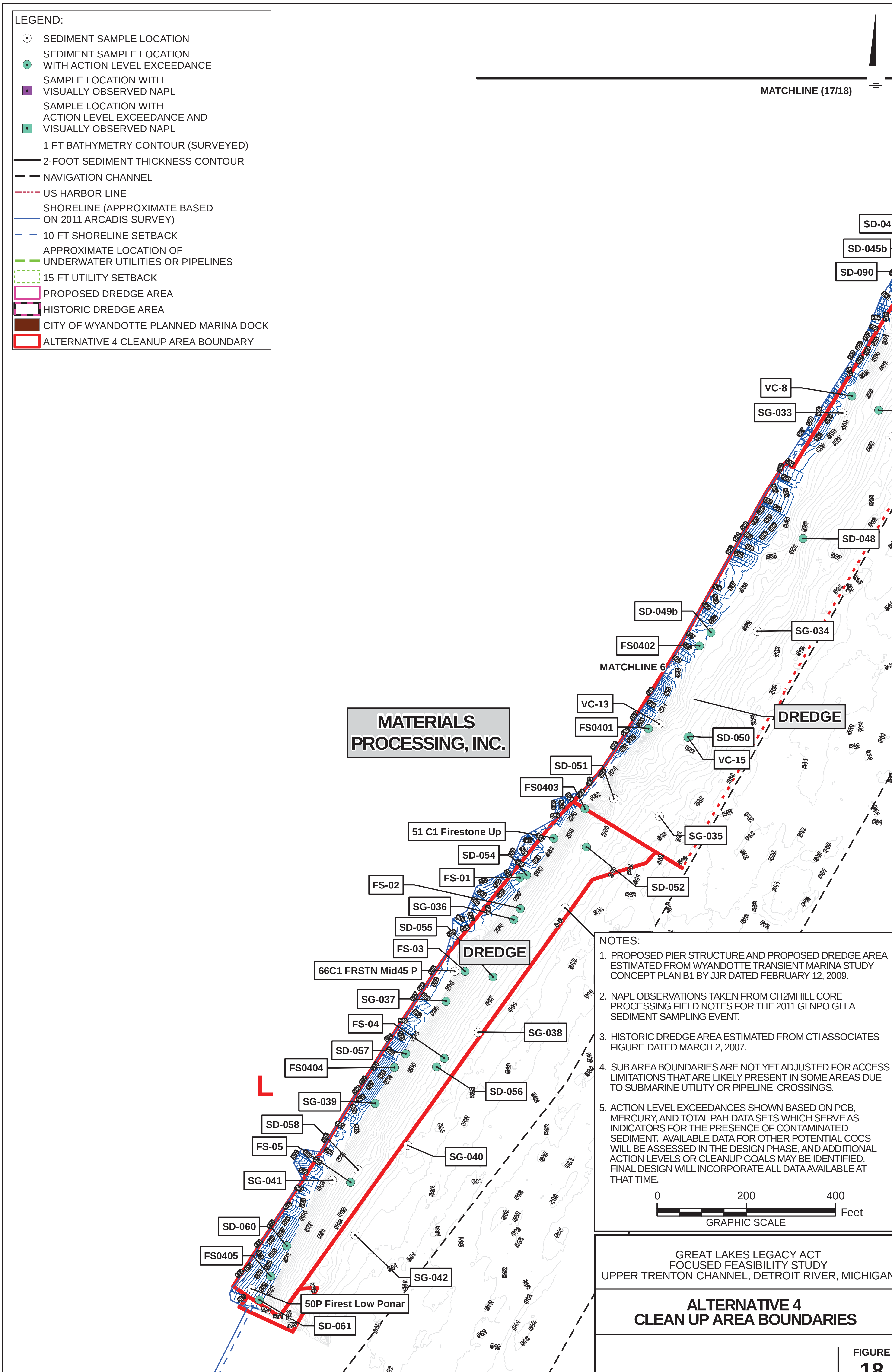
GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 4
CLEAN UP AREA BOUNDARIES

FIGURE
17



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0 200 400 Feet
GRAPHIC SCALE

GREAT LAKES LEGACY ACT
FOCUSED FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

ALTERNATIVE 4 CLEAN UP AREA BOUNDARIES

FIGURE
18

Appendix A
Data Evaluation Summary Technical Memorandum

Remedial Investigation Data Summary Report Upper Trenton Channel, Wyandotte, Michigan WA No. 121-RICO-3525

PREPARED FOR: USEPA

PREPARED BY: CH2M HILL

COPIES: Upper Trenton Channel Project File

DATE: October 25, 2011

PROJECT NUMBER: 419593

This technical memorandum presents a summary of the following physical and analytical data collected during two recent sediment investigations in the Upper Trenton Channel project area (Figure 1):

- 2006 to 2007 sample results as reported in the Trenton Channel Remedial Investigation [RI] Report (Computer Sciences Corporation [CSC] 2010)
- April/May and June 2011 sampling events conducted by CH2M HILL

This memorandum is organized into the following sections:

- Summary of Recent Investigations
- Data Evaluation Methods
- Results Summary

The Results Summary section includes data summaries for the main contaminants within the project area. Some analytical data for lesser-important contaminants were collected during the 2006 to 2007 investigations and are not presented herein; they are presented in the RI report (CSC 2010). This memorandum is not intended to identify the sources of contamination found in the Upper Trenton Channel or to assess the current status of historical sources. Further, this memorandum does not assess or investigate the change in contaminant levels or locations over time. The primary purpose of this memorandum is to document the results of the 2011 sampling events that were conducted to supplement the RI sample results. The results will, in part, form the basis for the Upper Trenton Channel Feasibility Study (FS).

1. Summary of Recent Investigations

The following sections briefly describe the investigations performed at Upper Trenton Channel to support the RI/FS. USEPA performed an investigation during 2006 and 2007 to support preparation of the Trenton Channel RI Report (CSC 2010). A subsequent investigation was performed in 2011 to fill data gaps in order to prepare an FS.

1.1 Summary of USEPA Remedial Investigation (2006 to 2007)

USEPA conducted a two-phased RI study, funded under the Great Lakes Legacy Act of 2002. Phase I sampling was conducted in 2006, and Phase II was conducted in 2007. At that time, the project area extended from just north of the Wyandotte Power plant to Wye Street, which is the approximate southern boundary of the BASF South Works property (Figure 1). During the Phase I investigation, surface and subsurface samples were collected from 32 locations. Surface and subsurface samples were collected from 18 additional locations during the Phase II investigation. Samples were analyzed for semivolatile organic compounds/polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) as Aroclors and congeners, total metals, toxicity characteristic leaching procedure metals, volatile organic compounds, extractable petroleum hydrocarbons, acid volatile sulfide/simultaneously extracted metals, oil and grease, pH, and whole-sediment toxicity. The results of the sampling efforts were presented in the Trenton Channel RI Report (CSC 2010).

1.2 Summary of 2011 Investigations

2011 investigations are summarized in the following subsections.

1.3 Sampling Design

The number and location of samples, and chemical analyses for the April/May 2011 sampling were based on the 2006 to 2007 sampling results and designed to fill data gaps. The 2011 sampling was conducted within the 2006 to 2007 sampling areas but was also conducted in areas upstream and downstream of the 2006 to 2007 project boundaries. During the April/May 2011 sampling event, nonaqueous-phase liquid (NAPL) was observed in sediment samples collected from the Wye Street, South Works, and Arkema areas. A second sampling event was conducted in June 2011 in an attempt to delineate the NAPL and collect samples that were planned but not collected in April/May 2011 because of weather conditions. The overall rationale for the April/May and June 2011 sampling events is summarized in the field sampling plan and field sampling plan addendum (CH2M HILL 2011a, 2011b). Table A-1 (Attachment A) provides a summary of the analyses performed on the 2011 samples. The sediment sampling locations are presented in Figures 2a through 2h. The sampling results are presented by area. The areas, from north to south are: North Works, Wyandotte Power, Bishop Park, South Works, Wye Street, Arkema, Firestone, and McLouth Steel. The Wye Street area consists of the southern part of the South Works area and northern part of the Arkema area. Increased sampling was performed in the area to delineate a hotspot of total PCBs, total PAHs, and mercury identified during the Phase I and II investigations.

1.3.1 Sample Collection and Analytical Methods

Sediment samples were collected and processed using the methods presented in the original field sampling plan and the associated addendum (CH2M HILL 2011a, 2011b). Sediment grab samples were collected with a Petersen grab sampler, and sediment cores were collected using a vibratory coring device fitted with a 4-inch-diameter rigid core liner. The sampling was performed using the USEPA platform *R/V Mudpuppy II*. In cases where the sampling devices were unable to acquire a sediment sample at the target location due to shallow refusal or obstructions (for example, debris and rocks) the location was offset several feet and re-attempted. Coordinates were recorded in the field notes for each sampling attempt.

Sediment samples were minimally processed aboard the sampling vessel. Grab samples were transferred to polyethylene bags for transfer to shore for characterization, homogenization, and sub-sampling. Sediment cores were cut to manageable length intervals (typically 4 or 4.5 feet), capped, securely taped, and retained upright until transfer to the shore-based sample processing crew.

Sediment cores were processed by placing them on decontaminated processing tables and splitting lengthwise. The sediment cores and/or grab samples were visually characterized for sediment type, color, moisture content, texture, grain size and shape, consistency, visible evidence of staining, photoionization detector readings, and any other observations. Once the sediment core characterization was completed, the cores were sectioned using the following scheme:

- 0 to 0.5 foot
- 0.5 to 2.5 feet
- 2-foot intervals thereafter until refusal

Sediment samples were analyzed for PAHs, total petroleum hydrocarbons (TPH, petroleum range organics/diesel range organics), PCB Aroclors, metals + mercury, and pH in bulk sediment by a Contract Laboratory Program (CLP) laboratory. PCB congeners, PAH analysis in pore water by solid phase microextraction, total organic carbon (TOC), and particle size analyses were performed by TestAmerica, Inc. The quality assurance project plan (QAPP, CH2M HILL 2011c) presents the analytical methods used. Table A-1 summarizes all analyses performed.

1.3.2 Data Management

Data generated during the activities described in the sampling and analysis plan were managed according to the Upper Trenton Channel Site QAPP and QAPP addendum (CH2M HILL 2011c; 2011d). Field and laboratory data were incorporated into USEPA's FORMS II Lite software and after sample collection and processing, information such as sample ID, date and time of collection, and other field data were entered into the project database, creating a record in the database for each sample.

Data verification and validation were performed to determine the usability of the data and to verify results were generated in accordance with the procedures defined in the sampling plan. The overall strategy employed for the data verification and validation is described in the QAPP (CH2M HILL 2011c).

To facilitate data verification and validation, sample analysis and batch quality control results were delivered to CH2M HILL in the Region 5 Electronic Data Deliverable for batch loading into the project database. Analytical results for all samples were provided in a full USEPA CLP-like data package in a Microsoft Excel spreadsheet. The Electronic Data Deliverable and CLP-like data package deliverables are defined in the QAPP. If either verification or validation identified deficiencies in data quality, the source of the deficiencies was investigated, and corrective action was taken. Qualification of data resulting from the electronic verification or validation processes was reflected by assigning the appropriate qualifier code to the sample result in the project database. The results of the data validation process, including any deficiencies noted and corrective actions taken, will be summarized and provided in a separate report.

1.4 Non-federal Partner Investigations

ARCADIS, on behalf of non-federal partners BASF and Legacy Site Services, has performed several activities to support the RI/FS effort. The activities included compiling a database of historical data; performing bathymetry, magnetometer, and side-scan sonar surveys; conducting a shoreline condition survey; conducting a sediment thickness investigation; and updating the USACE hydrodynamic model for the site. The results of the activities are not summarized here but will be incorporated into the FS report as appropriate.

2. Data Reduction Methods

The following subsections provide a brief summary of how analytical data were reduced.

2.1 Treatment of Nondetected and Rejected Results

Nondetected results were managed in the same manner as in the RI report (CSC 2010). One-half of the reporting limit was used when summary statistics for individual analytes were calculated. When calculating aggregate analyte totals (that is, total PAHs, total Aroclors, and total PCB congeners), the nondetect results for individual analytes were assigned a value of zero (that is, not included in the sum). When all of the individual analytes comprising a total were nondetect values, the value for the total was assigned as one-half of the highest individual sample-specific reporting limit. Rejected data points were not included in the sums or in statistical summaries.

2.2 Total PAH and Total PCB Determinations

Total PAH concentrations were calculated by summing detected results of the 16 priority pollutant PAHs and 2-methylnaphthalene. The 16 priority pollutant PAHs include acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, phenanthrene, and pyrene. Total PCB Aroclors were calculated as the sum of detected Aroclor concentrations. Total PCB concentrations reported as the sum of congeners was determined by summing detected congeners. In instances where co-eluting congener values were reported multiple times, the result was included only once in the sum. The calculations are consistent with the data evaluations presented in the RI report (CSC 2010).

2.3 Use of PCB Congener Data

The PCB congener data were used primarily to provide reliable total PCB concentrations in areas affected by matrix interference (that is, NAPL). Where available, PCB congener data were used for data evaluation and mapping purposes. If a location exhibited elevated detection limits for PCB Aroclors (that is, greater than 1,000 micrograms per kilogram [µg/kg] or 1 milligram per kilogram [mg/kg]) and was reported as nondetected, and congener data were not available, the sample point was not included in the data evaluations to avoid unnecessarily high bias. The PCB congener analyses did not exhibit the same type of matrix interference issues because of the types of cleanup methods performed on the sample extracts and because of the sensitivity of the mass-spectrometry analytical method.

2.4 Matrix Interferences Due to NAPL

NAPL or NAPL impacts such as sheen, odors, or staining were observed at 38 sampling locations, predominantly in the Wye Street and Arkema areas. The NAPL caused matrix interference and resulted in elevated reporting limits for semivolatile organic compounds, volatile organic compounds, and PCB Aroclors when present in a sampling interval. Where available, PCB congener data were used for data evaluations and mapping. At the NAPL-impacted locations, elevated, detected concentrations of naphthalene were reported, and naphthalene was frequently the only PAH compound reported as detected.

3. Results Summary

This section provides a summary of the data collected in 2006 to 2007 and in 2011. The narrative focuses on the constituents expected to drive the overall remedy design (for example, NAPL occurrence, total PCBs, mercury, and PAHs). A summary of the other parameters are included for completeness.

Table A-2 provides a summary of the constituents of interest, organized by area. The remaining tables in Attachment A include the results for each parameter class. Summary statistics for individual PAHs, PCBs, and VOCs were not calculated because the total PAH and total PCB values will be used in decision making. Volatile organic carbons were infrequently detected and also exhibited widely varying detection limits.

3.1 Physical Site Characteristics

The following section presents a summary of the physical parameters that were analyzed during the 2006 to 2007 and 2011 sampling events.

3.1.1 Sediment Thickness

Table A-3 presents a summary of the recovered sediment thickness at each coring location during the 2011 sampling. The 2006 to 2007 field data are not included in Table A-3 because those field logs were not readily available. The sediment core descriptions are included in the field characterization logs provided in Attachment B. Recovered core lengths ranged from 0.5 to 18.6 feet. The longest cores collected in 2011 were from the area shoreward of the fishing pier at Bishop Park. Sediment recoveries at Bishop Park (SD-15, SD-16, SD-17, and SD-18) ranged from 9.0 to 18.6 feet.

3.1.2 Total Organic Carbon

TOC data are presented in Tables A-2 and A-4 (Attachment A). The average TOC content of the sediment was generally similar throughout the project area (Table 1), typically averaging between 4 and 7 percent.

TABLE 1
Summary of TOC Results, by Area

Area	Depth	TOC (percent)			
		Min	Max	Mean	Median
North Works	Surface	--	--	--	--
	Subsurface	--	--	--	--
Wyandotte	Surface	2.9	11.1	6.5	6.7
	Subsurface	0.8	12.2	5.4	5.6
Bishop Park	Surface	1.1	10.3	5.5	5.1
	Subsurface	0.5	17.1	6.0	6.2
Residential	Surface	0.4	7.7	2.5	1.5
	Subsurface	0.5	8.8	3.3	1.9
South Works	Surface	1.4	15.5	6.2	5.4
	Subsurface	0.9	20.0	4.7	3.7
Wye Street	Surface	1.6	8.5	4.1	3.2
	Subsurface	1.1	16.6	5.2	3.0
Arkema	Surface	1.1	12.3	5.7	5.4
	Subsurface	1.8	9.6	4.9	4.4
Firestone	Surface	4.1	10.2	6.8	6.6
	Subsurface	1.5	9.3	5.2	4.7
McLouth	Surface	--	--	--	--
	Subsurface	0.8	8.2	4.1	3.8

3.1.3 Sediment Grain Size

Sediment grain size data are presented in Table A-5 (Attachment A). Sediment in the project area was typically sandy (fine) silt clay or silty-clayey fine sand; however, notable coarse sand and gravel-sized material was observed at the following locations:

- Bishop Park—The area north of the fishing pier and nearest to the navigation channel boundary (locations SG-15, SG-016, SG-017, and SG-019)
- Wye Street—Gravel and coarser sediment was noted throughout this area (most notably at locations SD-035, SD-036, SG-023, SG024, SG-025, SG-026, and SG-028)
- Arkema—Grabs collected in the southern portion of the Arkema area contained coarse sand and gravel (locations SG-032, SG-033, SG-034, and SG-035)
- McLouth Steel—The easternmost location sampled within this area (SD-063), nearest to the navigation channel boundary, was comprised of gravelly clay.

3.1.4 pH

The results of the pH analyses are presented in Tables A-2 and A-4 (Attachment A) and summarized in Table 2. The highest pH results were observed in the Bishop Park, South Works, and Wye Street areas. Samples from the North Works area were not analyzed for pH. Relatively high pH sediment was present behind the fishing pier at Bishop Park (SD-014, pH 10.2). The highest pH measured in the South Works area was in the southern one-third of this area (SD-025, pH 12.5). In the Wye Street area, the samples with highest pH were typically observed in samples containing NAPL or having NAPL impacts (Table A-2).

TABLE 2
Summary of pH Results, by Area

		pH			
Area	**Depth**	**Min**	**Max**	**Mean**	**Median**
North Works	Surface	--	--	--	--
	Subsurface	--	--	--	--
Wyandotte	Surface	6.7	8.8	7.6	7.5
	Subsurface	7.4	8.9	8.2	8.2
Bishop Park	Surface	6.9	10.0	7.8	7.6
	Subsurface	7.0	10.2	7.7	7.7
Residential	Surface	8.2	8.8	8.4	8.3
	Subsurface	8.0	8.3	8.1	8.1
South Works	Surface	7.1	12.2	9.7	9.4
	Subsurface	7.6	12.5	9.9	9.4
Wye Street	Surface	7.4	11.3	8.4	8.2
	Subsurface	7.6	10.3	8.6	8.5
Arkema	Surface	7.1	8.8	7.9	8.0
	Subsurface	7.9	8.6	8.2	8.2
Firestone	Surface	7.0	8.2	7.6	7.4
	Subsurface	7.2	8.3	7.7	7.8
McLouth	Surface	7.5	7.5	--	--
	Subsurface	7.4	8.5	7.8	7.7

3.2 Nature and Extent of Contamination

This section provides a brief description of the nature and extent of contamination observed in the Upper Trenton Channel project area. The summary is based on both the 2006 to 2007 and 2011 data. The discussion herein is focused on the constituents anticipated to be the most important with respect to developing remedial alternatives. The discussion below focuses on the occurrence of NAPL, total PCBs, mercury, and total PAHs. A brief discussion of the TPH and VOC results is also included. Table A-2 presents a summary of the key constituents. It should be noted all analytical results for chemical parameters in Table A-2 are presented in mg/kg (parts per million), which is consistent with the units used for the mapping and the modeling effort, the results of which will be discussed in the FS report. The data presented in Tables A-3 through A-15 in Attachment A are presented in the units that were originally reported, which are typically mg/kg (parts per million) for inorganic parameters and µg/kg (parts per billion) for organic parameters.

Due to the size of the project area, results mapping is provided by area, resulting in a series of eight figures for each parameter. Each series is presented from north to south, starting with the North Works area ("a") and ending with the McLouth area ("h").

3.2.1 Nonaqueous Phase Liquid

NAPL was observed mostly in the Wye Street and northern Arkema areas during the 2011 sampling events. Table A-2 provides a summary of the samples where NAPL was observed and a description of the effects noted during field processing. Figures 3a through 3h illustrate the spatial distribution of NAPL.

The NAPL observed in the Wye Street and Arkema areas was generally dark brown to black, exhibited a brown sheen, and was associated with a naphtha-type (that is, mothball-type) odor. The sediments in the Wye Street area were affected in varying degrees, by location, ranging from staining or coatings to NAPL saturation (Figures 3e and 3f).

The sediment from 0 to 0.8 foot at sample location SD-021, located in the northern portion of the South Works area, contained a clear, sweet-smelling liquid and elevated photoionization detector readings. The NAPL observed at SD-021 appeared to have different characteristics than the NAPL observed near Wye Street. The sampling location was the only instance where this type of NAPL was observed. A second core, SD-093, was collected south of location SD-021. NAPL was not observed in SD-093, but a strong odor was noted. Analytical testing of the NAPL was not conducted.

3.2.2 Polychlorinated Biphenyls

The PCB Aroclor results are presented in Tables A-6, and PCB congener results are presented in Table A-7 (Attachment A). Table A-8 provides a comparison of the total PCB Aroclor and total PCB congener results for the 2011 samples where both analyses were performed. As noted above, where PCB congener data were available, it was used preferentially over the Aroclor data for mapping and modeling efforts, and the Aroclor data was not used. The total PCB values and summary statistics presented in Table A-2 represent the combined data set (for example, for 2011 samples where congener data were available, these data were used). Figures 4a through 4h illustrate the total PCB concentrations measured in surface sediment, and Figures 5a through 5h depict the maximum concentration measured in subsurface sediment.

TABLE 3
Summary of PCB Results, by Area

Area	Depth	Total PCBs (mg/kg)			
		Min	Max	Mean	Median
North Works	Surface	--	--	--	--
	Subsurface	--	--	--	--
Wyandotte	Surface	0.02	16.2	3.91	0.67
	Subsurface	0.02	15.1	1.26	0.12
Bishop Park	Surface	0.02	21.3	1.66	0.35
	Subsurface	0.002	27.6	4.64	0.53
Residential	Surface	0.12	2.18	0.39	0.12
	Subsurface	0.12	21.6	3.14	0.13
South Works	Surface	0.02	1.21	0.23	0.13
	Subsurface	0.02	0.58	0.13	0.10
Wye Street	Surface	0.02	250	16.6	0.02
	Subsurface	0.001	1845	115	0.02
Arkema	Surface	0.02	33.8	3.84	0.63
	Subsurface	0.02	28.6	1.85	0.03
Firestone	Surface	0.009	23.8	2.28	0.03
	Subsurface	0.02	52.4	6.63	0.03
McLouth	Surface	0.02	25.0	4.72	0.13
	Subsurface	0.02	21.1	5.32	1.12

Table 3 provides a summary of the total PCB concentrations throughout the project area. Total PCB concentrations greater than 1 mg/kg were observed in all project areas. The highest PCB concentrations were observed in the central part of the Wye Street area, both in surface and subsurface sediments. Concentrations above 50 mg/kg, which is a threshold for the Toxic Substances Control Act, were observed in the Wye Street and Firestone areas.

3.2.3 Metals

Metals results and summary statistics are presented in Table A-9 (Attachment A). Mercury is the focus of the summary because it has been identified as a contaminant of concern within the Upper Trenton Channel project area. Mercury data are summarized in Table A-2. Figures 6a through 6h illustrate mercury concentrations in surface sediment. Figures 7a through 7h depict the maximum subsurface concentration and the depth interval exhibiting the highest concentration at each sampling location.
A summary of the mercury concentrations in surface and subsurface sediment is presented in Table 4. The highest mercury concentrations in both surface and subsurface sediment were observed in the downstream portions of the project area, from the South Works area to the McLouth Steel area. The highest surface concentrations were observed in the Wye Street area, at location K-1. The Arkema and Firestone areas exhibited the highest median mercury concentrations in surface sediment. The highest subsurface mercury concentration was observed in the southern half of the South Works area, at location I-1.

TABLE 4
Summary of Mercury Results, by Area

Area	Depth	Mercury (mg/kg)			
		Min	Max	Mean	Median
North Works	Surface	--	--	--	--
	Subsurface	--	--	--	--
Wyandotte	Surface	0.06	2.20	0.87	0.75
	Subsurface	0.01	1.90	0.78	0.90
Bishop Park	Surface	0.03	1.90	0.50	0.29
	Subsurface	0.03	3.30	1.02	0.98
Residential	Surface	0.03	0.77	0.16	0.06
	Subsurface	0.03	1.50	0.33	0.10
South Works	Surface	0.01	15.0	1.60	0.46
	Subsurface	0.03	85.0	3.03	0.50
Wye Street	Surface	0.01	67.0	5.33	0.54
	Subsurface	0.01	54.5	4.56	0.06
Arkema	Surface	0.01	14.1	2.50	1.30
	Subsurface	0.02	16.2	2.51	0.53
Firestone	Surface	0.12	18.4	3.70	1.60
	Subsurface	0.06	13.7	3.67	0.64
McLouth	Surface	0.06	18.7	4.89	0.76
	Subsurface	0.01	8.10	2.11	0.45

3.2.4 Total Polynuclear Aromatic Hydrocarbons

The semivolatile organic compound and PAH results are presented in Tables A-10 and A-11 (Attachment A). Table A-2 presents the total PAH results. Figures 8a through 8h depict the total PAH concentrations in surface sediment, and Figures 9a through 9h illustrate the maximum subsurface total PAH concentrations. Total PAH concentrations exceeding 50 mg/kg were observed throughout the project area. The highest total PAH concentrations were observed in the Wye Street area, specifically locations SD-36 and SD-38, and were generally from sampling locations where NAPL or NAPL impacts were observed. In some samples near the Wye Street and Arkema areas, naphthalene accounted for the majority of the total PAH concentration, often contributing from 60 to 100 percent of the total PAH concentration. The highest median total PAH concentrations in bulk sediment were observed in the following areas: North Works (surface sediment only), Wyandotte Power, Bishop Park, Arkema, and Firestone (Table 5).

TABLE 5
Summary of Total PAH Results, by Area

Area	Depth	Total PAH (mg/kg)			
		Min	Max	Mean	Median
North Works	Surface	14.8	164	73.8	48.5
	Subsurface	--	--	--	--
Wyandotte	Surface	0.63	294	40.4	17.0
	Subsurface	0.04	165	43.3	28.8
Bishop Park	Surface	0.08	312	37.0	14.5
	Subsurface	0.10	407	59.0	24.5
Residential	Surface	0.10	41.4	13.8	7.89
	Subsurface	0.09	18.8	6.05	4.66
South Works	Surface	0.07	66.0	17.4	9.32
	Subsurface	0.01	208	23.7	6.77
Wye Street	Surface	0.002	1,300	119	5.0
	Subsurface	0.002	6,400	456	5.0
Arkema	Surface	0.01	368	47.7	28.3
	Subsurface	0.01	169	49.8	20.9
Firestone	Surface	0.01	158	55.5	35.7
	Subsurface	0.09	189	40.8	19.5
McLouth	Surface	0.05	39.7	10.5	5.60
	Subsurface	0.03	21.0	6.79	4.79

The PAH results for the pore water analyses (solid phase microextraction analyses) are presented in Table A-12. Interpretation of the solid phase microextraction results will be provided separately.

3.2.5 Total Petroleum Hydrocarbons

TPH results are presented in Tables A-2 and A-13 (Attachment A). Since the range of compounds included in the analyses varied between the two field investigations, the data has not been combined. The highest observed concentrations in an individual sample were observed in the McLouth Steel area, from a subsurface sample collected at near the shoreline south of where the channel trends to the west (location SD-067). Elevated TPH concentrations were also observed in the Wyandotte Power, Bishop Park, and Firestone areas.

3.2.6 Volatile Organic Compounds

A subset of samples from the 2006 to 2007 investigations and 2011 investigation events was analyzed for VOCs (Tables A-14 and A-15, Attachment A). Samples analyzed in 2011 were selected based on the presence of NAPL or observed NAPL impacts, such as staining, sheens, or odors. The most frequently detected VOCs were benzene, chlorinated benzenes, cis-1,2-dichloroethylene, ethylbenzene, isopropylbenzene, xylenes, toluene, tetrachloroethylene, and trichloroethylene. The highest concentrations of VOCs were observed in the samples collected from location SD-038, in the Wye Street area, which was saturated with NAPL throughout the sampled sediment profile.

3.3 Summary

The data presented herein will be incorporated into the project database and will be used to develop remediation alternatives for the Upper Trenton Channel project area in the FS. The major findings include the following:

- NAPL was observed in the Wye Street and Arkema areas. The NAPL was dark brown to black, exhibited a brown sheen, and was associated with a naphtha-type odor. A clear, sweet-smelling liquid and elevated photoionization detector reading were observed at sample location SD-021, located in the northern portion of the South Works area. The NAPL observed at SD-021 appeared to have different physical properties from the NAPL observed near Wye Street and appears to be more limited in extent.
- Elevated total PCB concentrations were observed in all of areas of the project. The highest PCB concentrations were observed in the central part of the Wye Street area, both in surface and subsurface sediments. Concentrations above 50 mg/kg, which is a threshold for the Toxic Substances Control Act, were observed in the Wye Street and Firestone areas.
- The highest mercury concentrations in both surface and subsurface sediment were observed in the downstream reach of the project area, from the South Works area to the McLouth Steel area. The highest

surface concentrations were observed in the Wye Street area, at location K-1. The Arkema and Firestone areas exhibited the highest median mercury concentrations in surface sediment.

- Total PAH concentrations exceeding 50 mg/kg were observed throughout the project area. The highest total PAH concentrations were observed in the Wye Street area, specifically locations SD-36 and SD-38, and were generally from sampling locations where NAPL or NAPL impacts were observed. In some samples near the Wye Street and Arkema areas, naphthalene accounted for the majority of the total PAH concentrations, often contributing from 60 to 100 percent of the total PAH concentration.

4. References

Computer Sciences Corporation (CSC). 2010. *Interim Final Trenton Channel Remedial Investigation Report, Wayne County, Michigan*. July.

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CH2M HILL. 2011b. *Field Sampling Plan Addendum–Upper Trenton Channel, Detroit River AOC, Wayne County, Michigan.* WA No. 083-RICO-3525/Contract No. EP-S5-06-01.

CH2M HILL. 2011c. *Quality Assurance Project Plan–Upper Trenton Channel, Detroit River AOC, Wayne County, Michigan.* WA No. 083-RICO-3525/Contract No. EP-S5-06-01.

CH2M HILL. 2011d. *Quality Assurance Project Plan Addendum–Upper Trenton Channel, Detroit River AOC, Wayne County, Michigan.* WA No. 083-RICO-3525/Contract No. EP-S5-06-01.

Figures

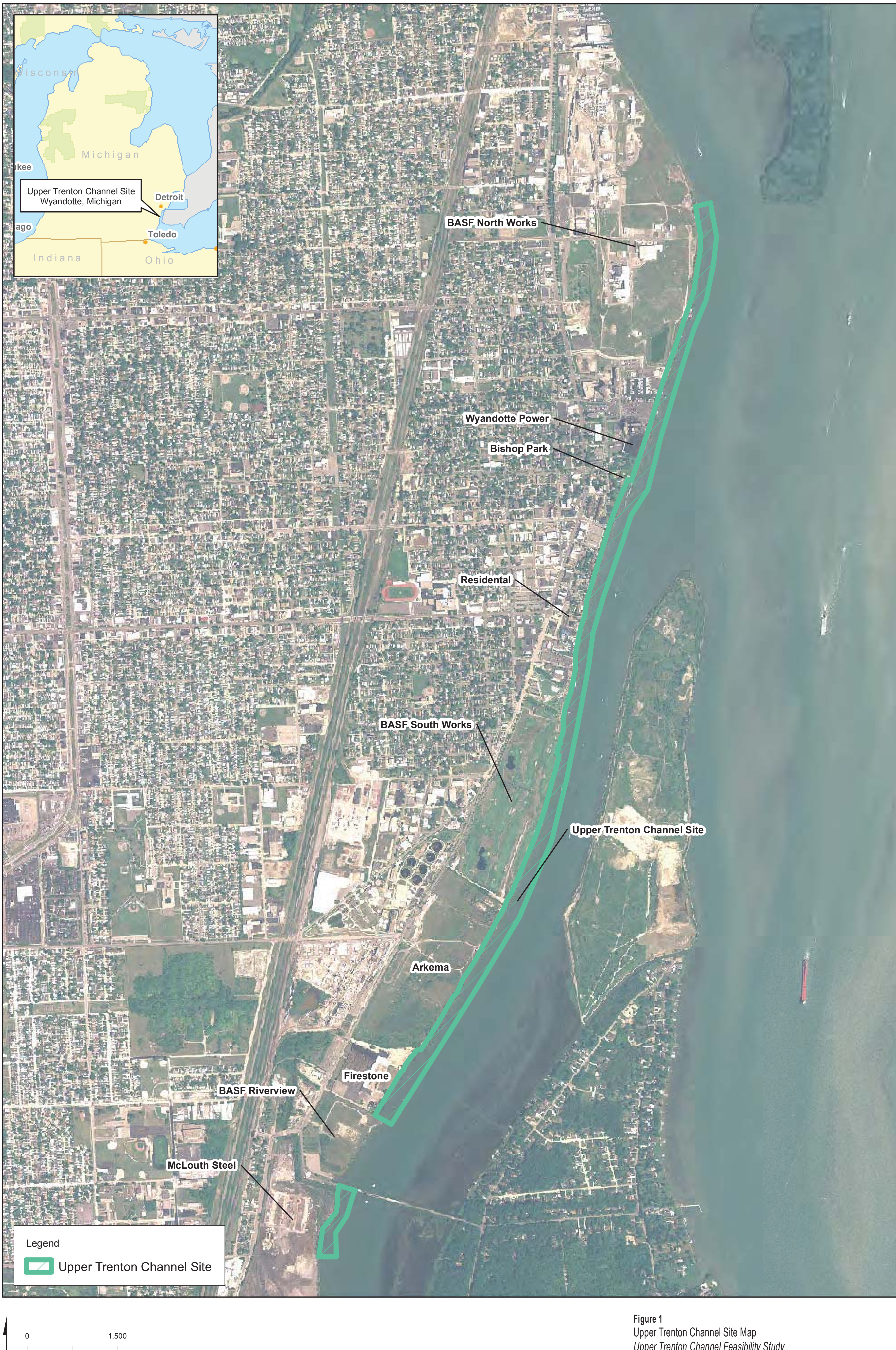

Figure 1
Upper Trenton Channel Site Map
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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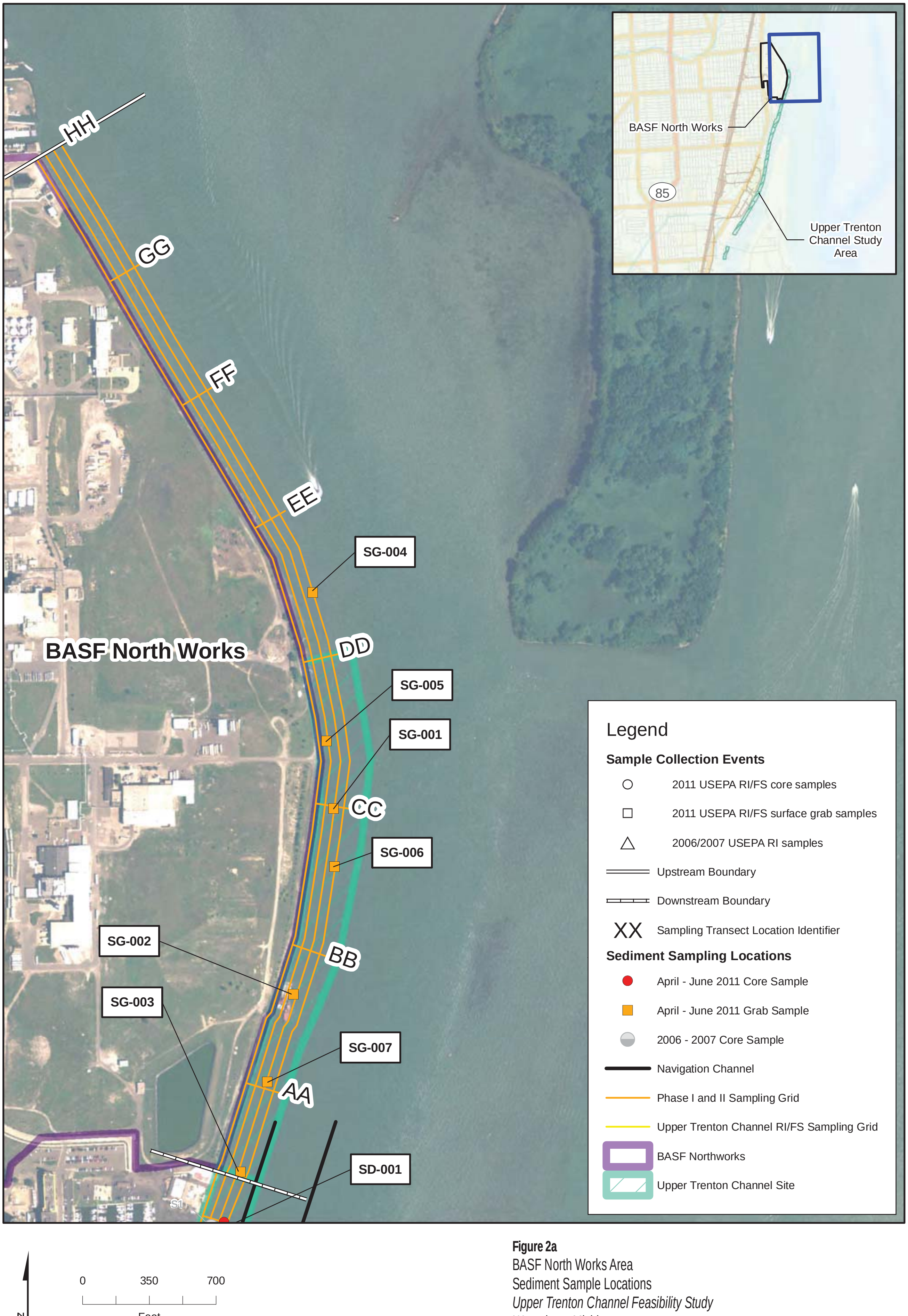

Figure 2a
BASF North Works Area
Sediment Sample Locations
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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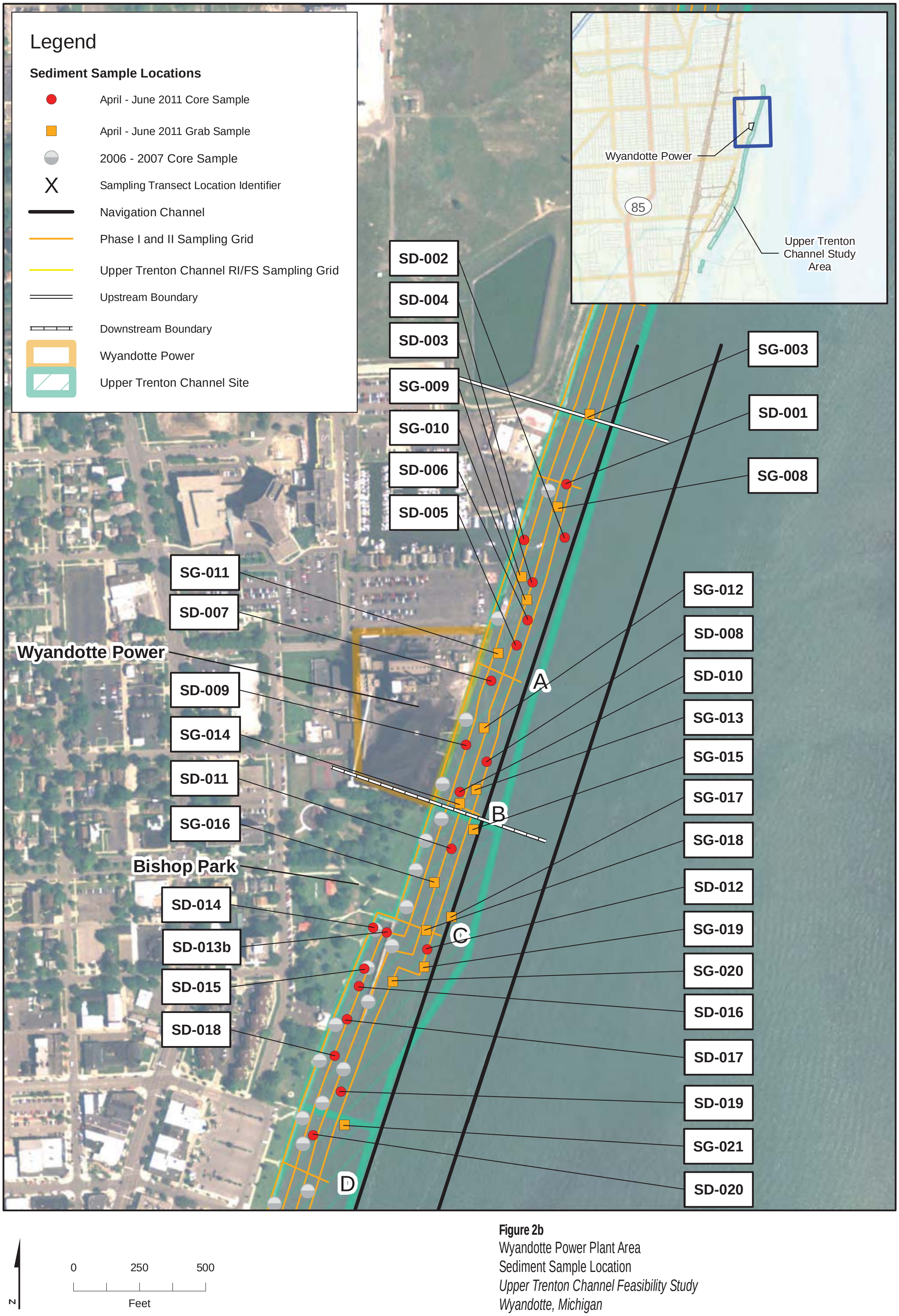

Figure 2b
Wyandotte Power Plant Area
Sediment Sample Location
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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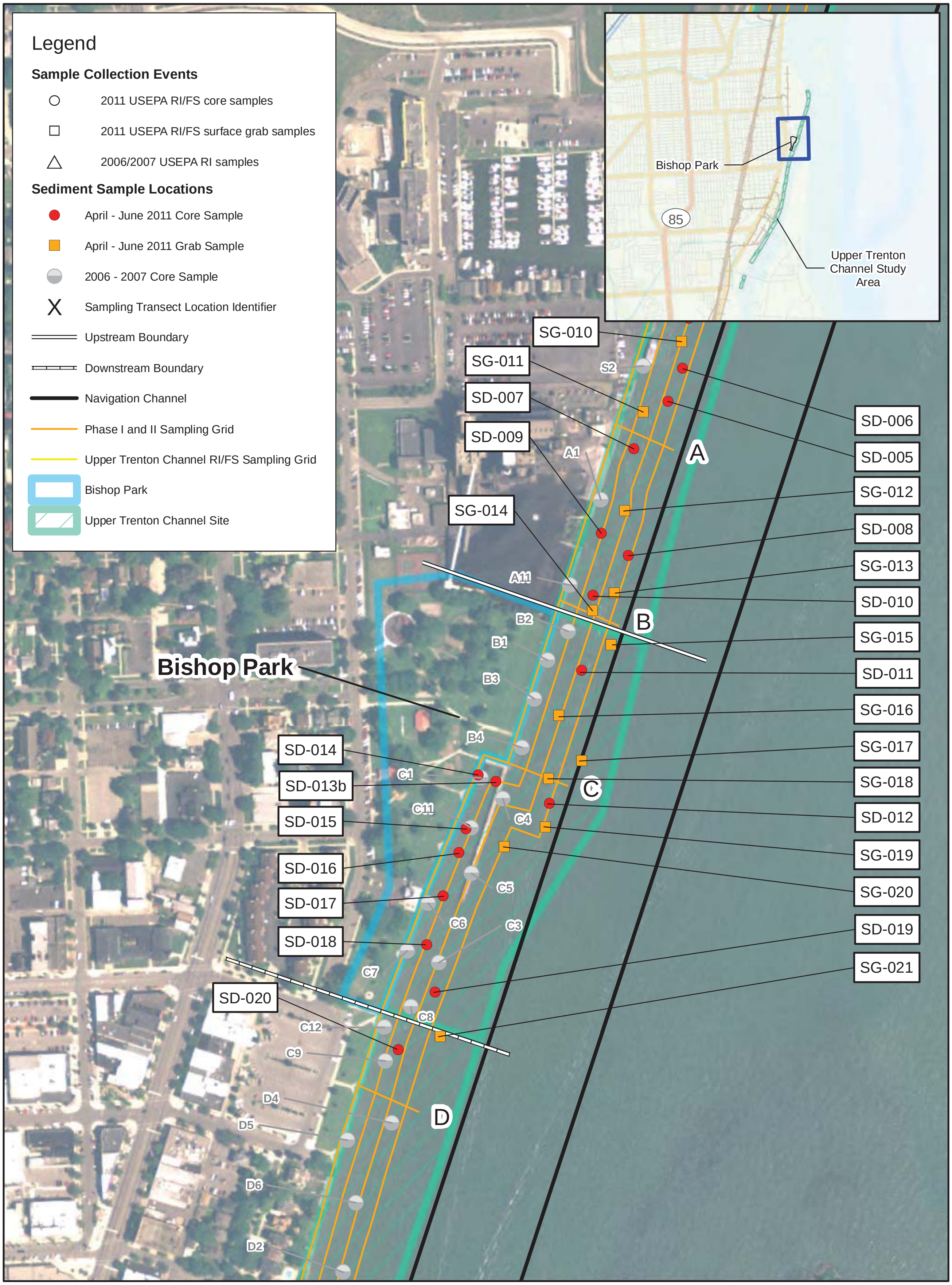

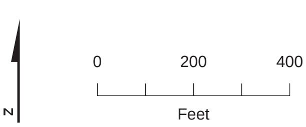

Figure 2c
Bishop Park Area
Sediment Sample Locations
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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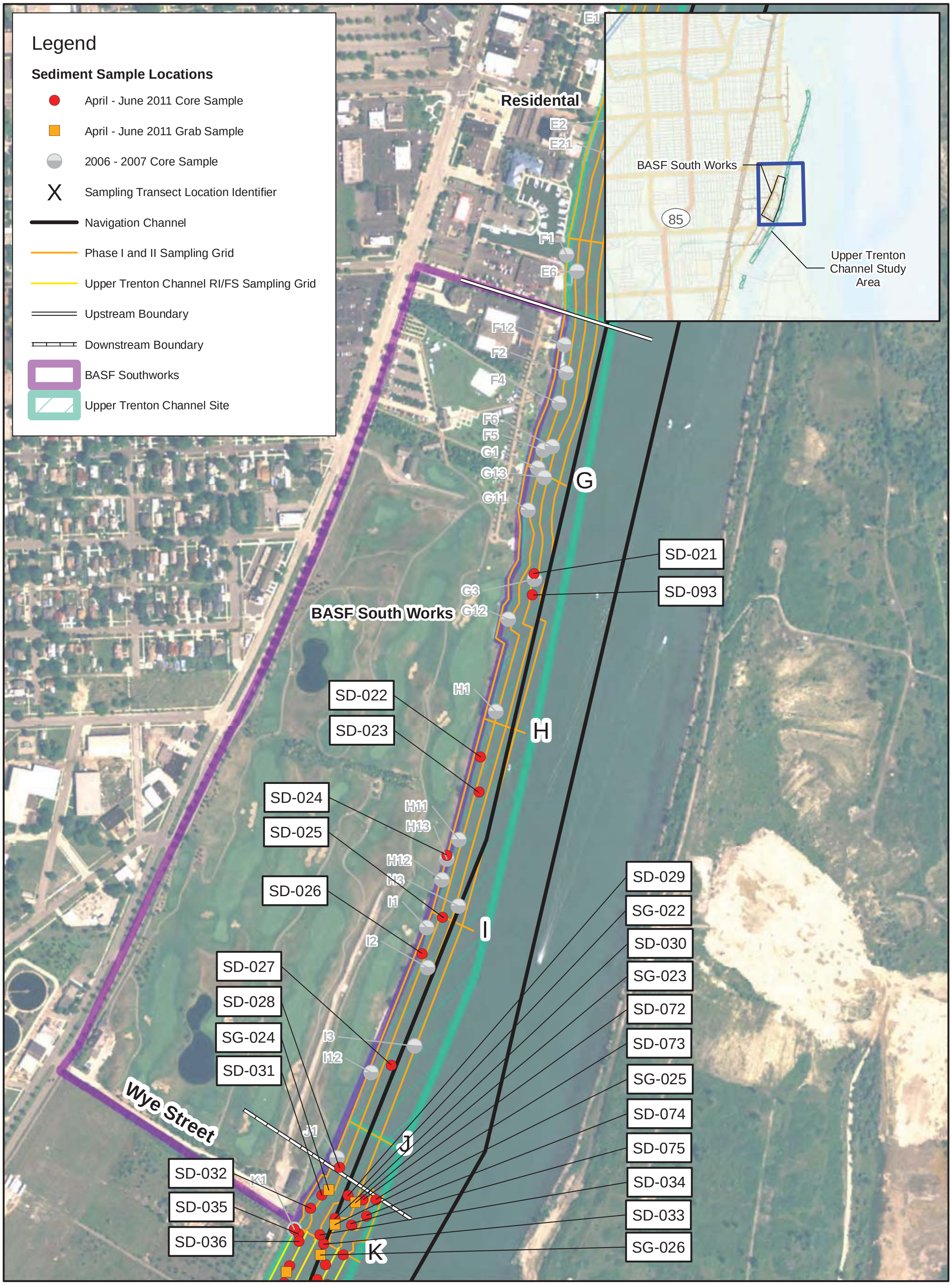

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0 300 600

Feet

Figure 2d

BASF South Works Area

Sediment Sample Locations

Upper Trenton Channel Feasibility Study

Wyandotte, Michigan

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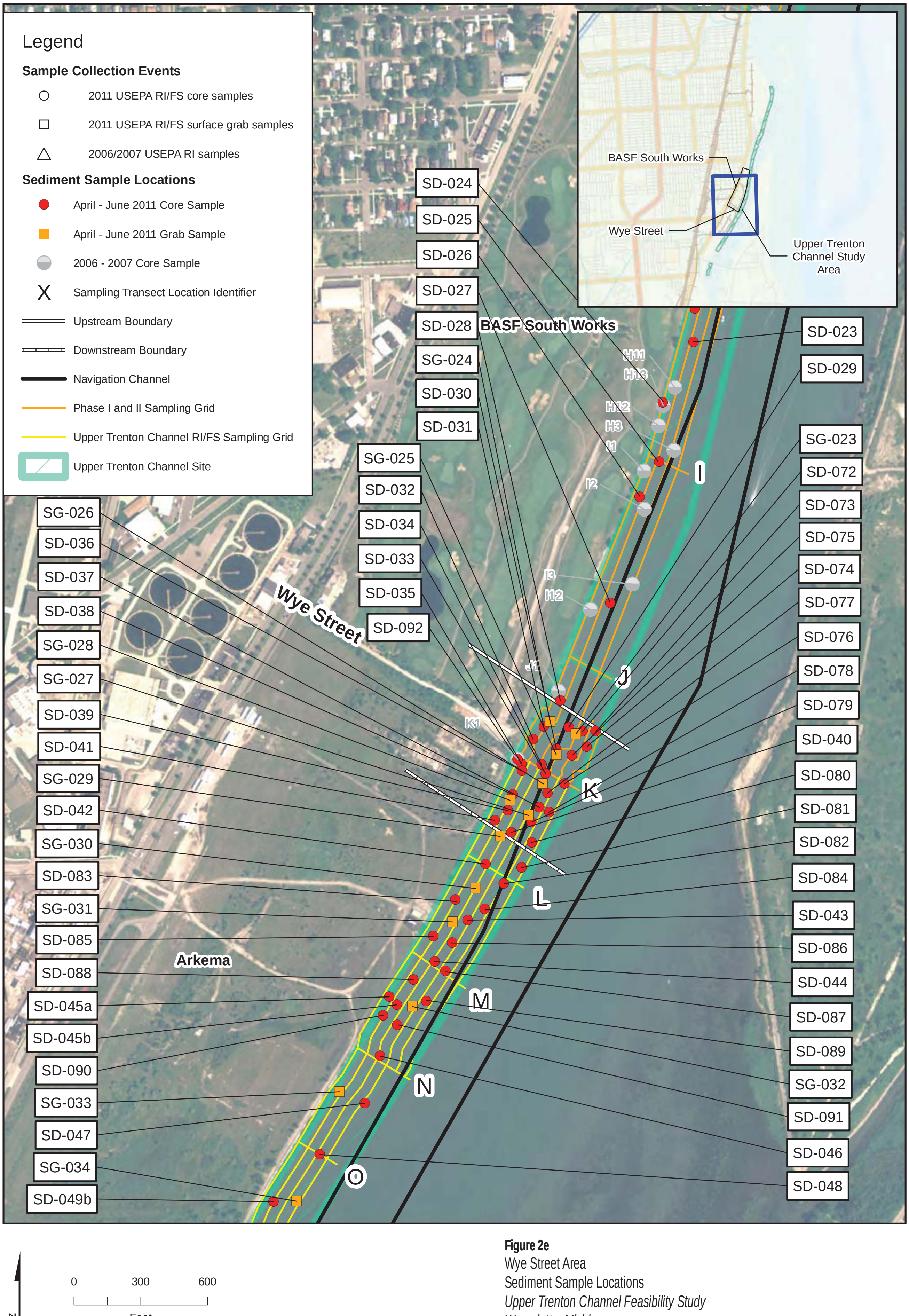

Figure 2e
Wye Street Area
Sediment Sample Locations
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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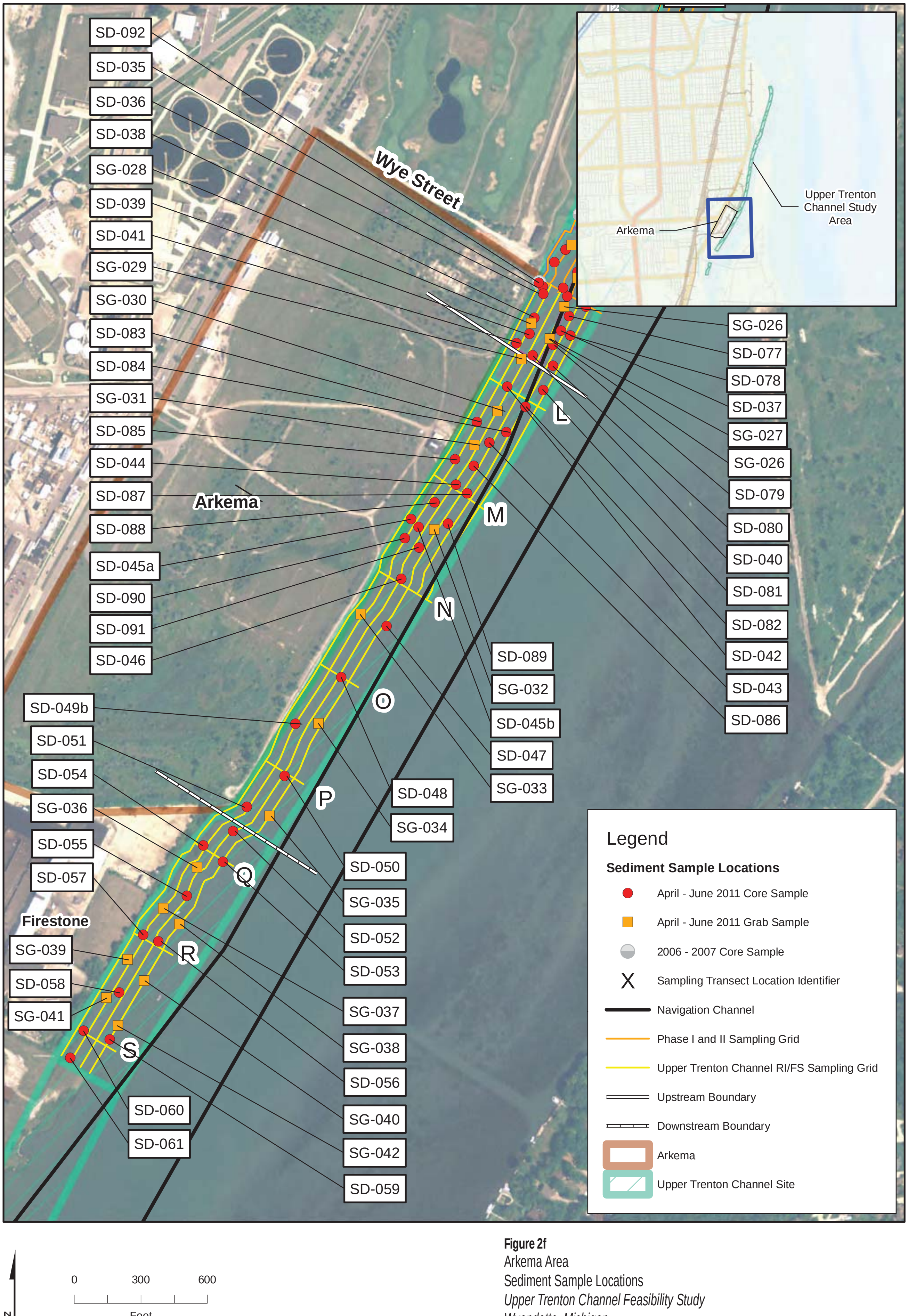


Figure 2f
Arkema Area
Sediment Sample Locations
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_2\9_3\FIGURE02F_UTC_ARKEMAAREA_9_3.MXD RRODRIG5 10/24/2011 15:57:07

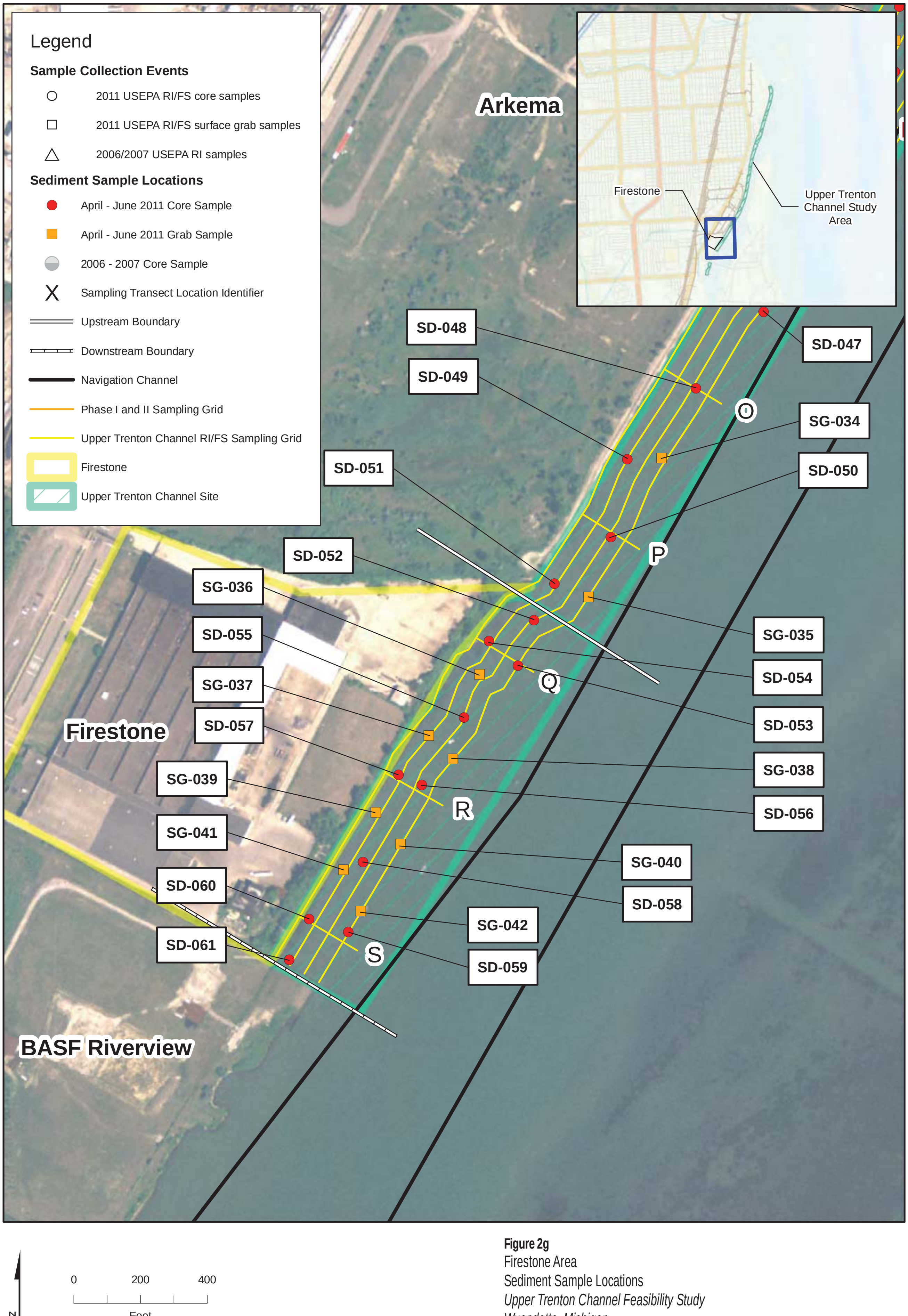


Figure 2g
Firestone Area
Sediment Sample Locations
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_2\9_3\FIGURE02G_UTC_FIRESTONEAREA1.MXD RRODRIG5 10/17/2011 12:36:25

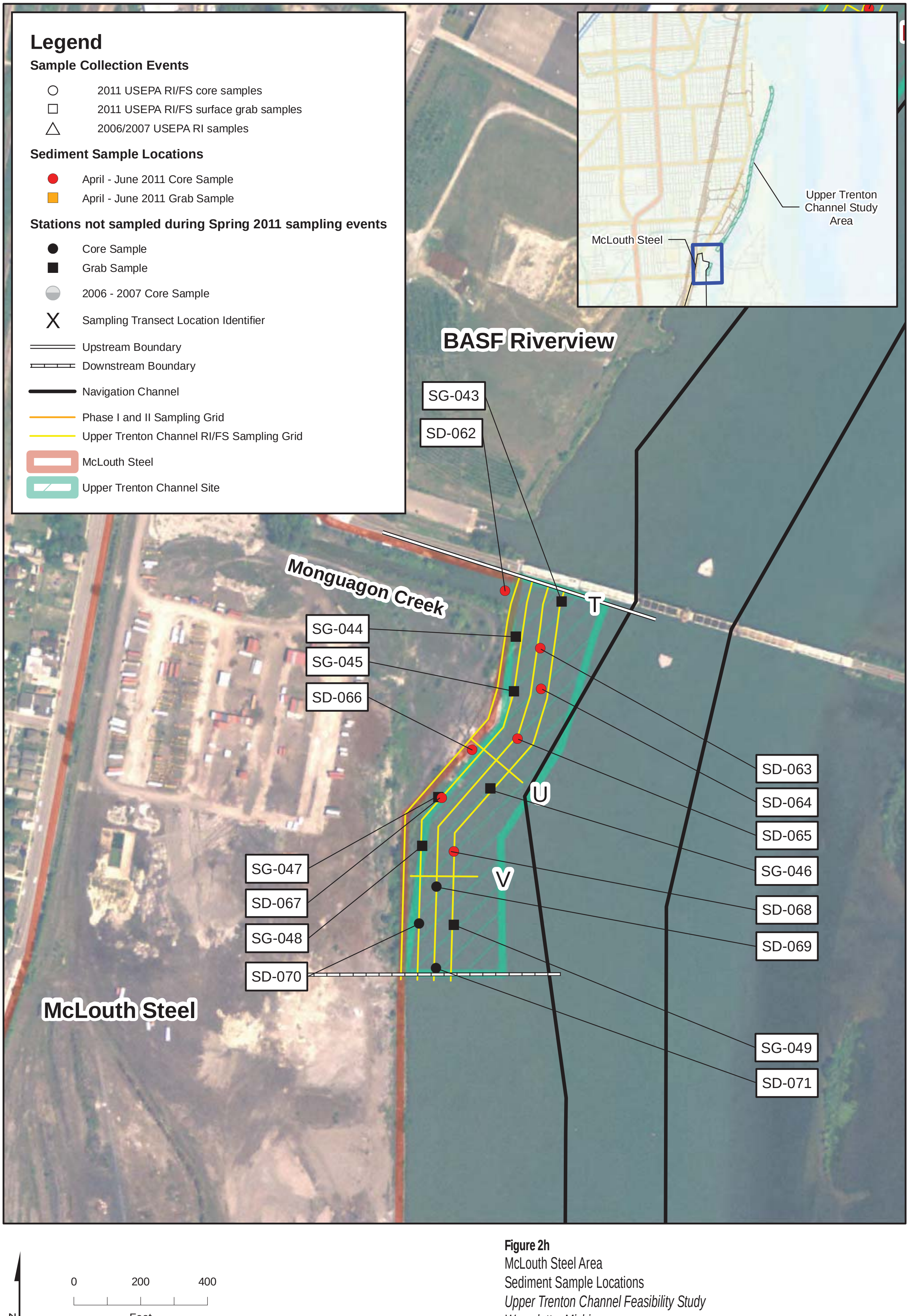


Figure 2h
McLouth Steel Area
Sediment Sample Locations
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_2\9_3\FIGURE02H_UTC_MCLOUTHSTEELAREA1.MXD RRODRIG5 10/17/2011 12:44:19

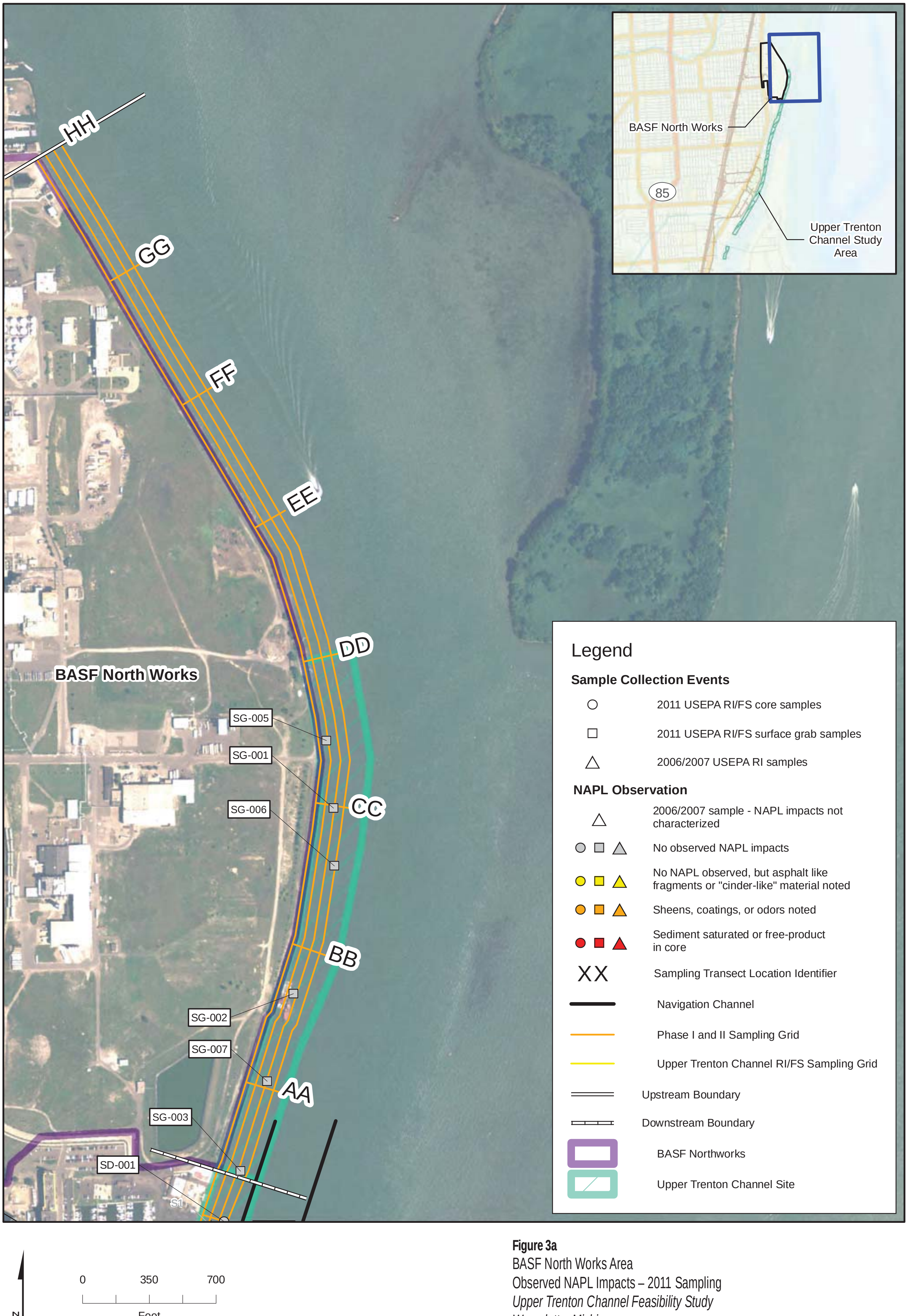


Figure 3a
BASF North Works Area
Observed NAPL Impacts – 2011 Sampling
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_3\9_3\FIGURE03A_UTC_BASFNORTHWORKS1.MXD RRODRIG5 10/21/2011 14:39:05

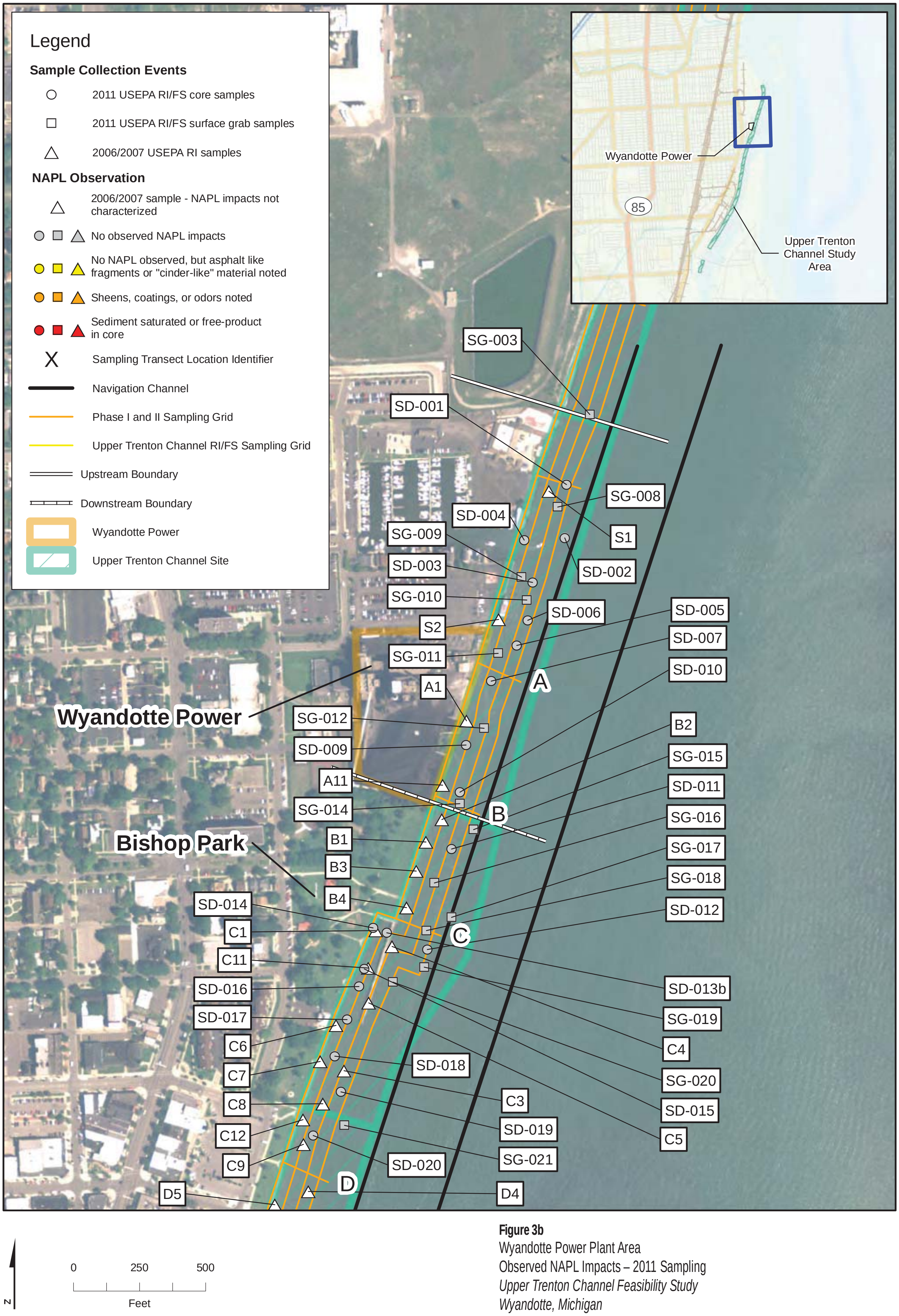
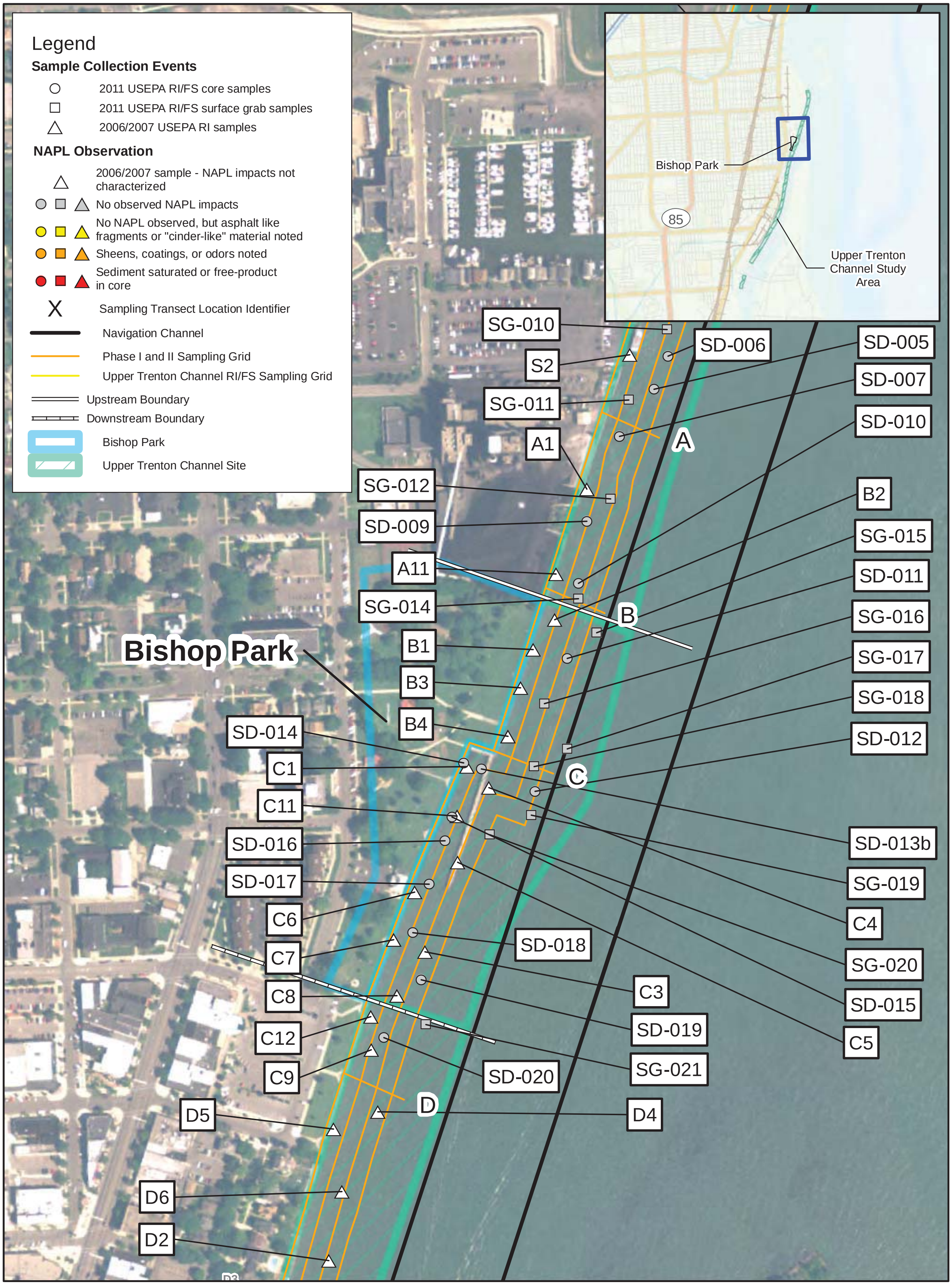


Figure 3b
Wyandotte Power Plant Area
Observed NAPL Impacts – 2011 Sampling
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_3\9_3\FIGURE03B_UTC_WYANDOTTEAREA1.MXD RRODRIG5 10/17/2011 14:49:04



N
0 200 400
Feet

Figure 3c
Bishop Park Area
Observed NAPL Impacts – 2011 Sampling
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_3\9_3\FIGURE03C_UTC_BISHOPPARKAREA1.MXD RRODRIG5 10/17/2011 14:52:29

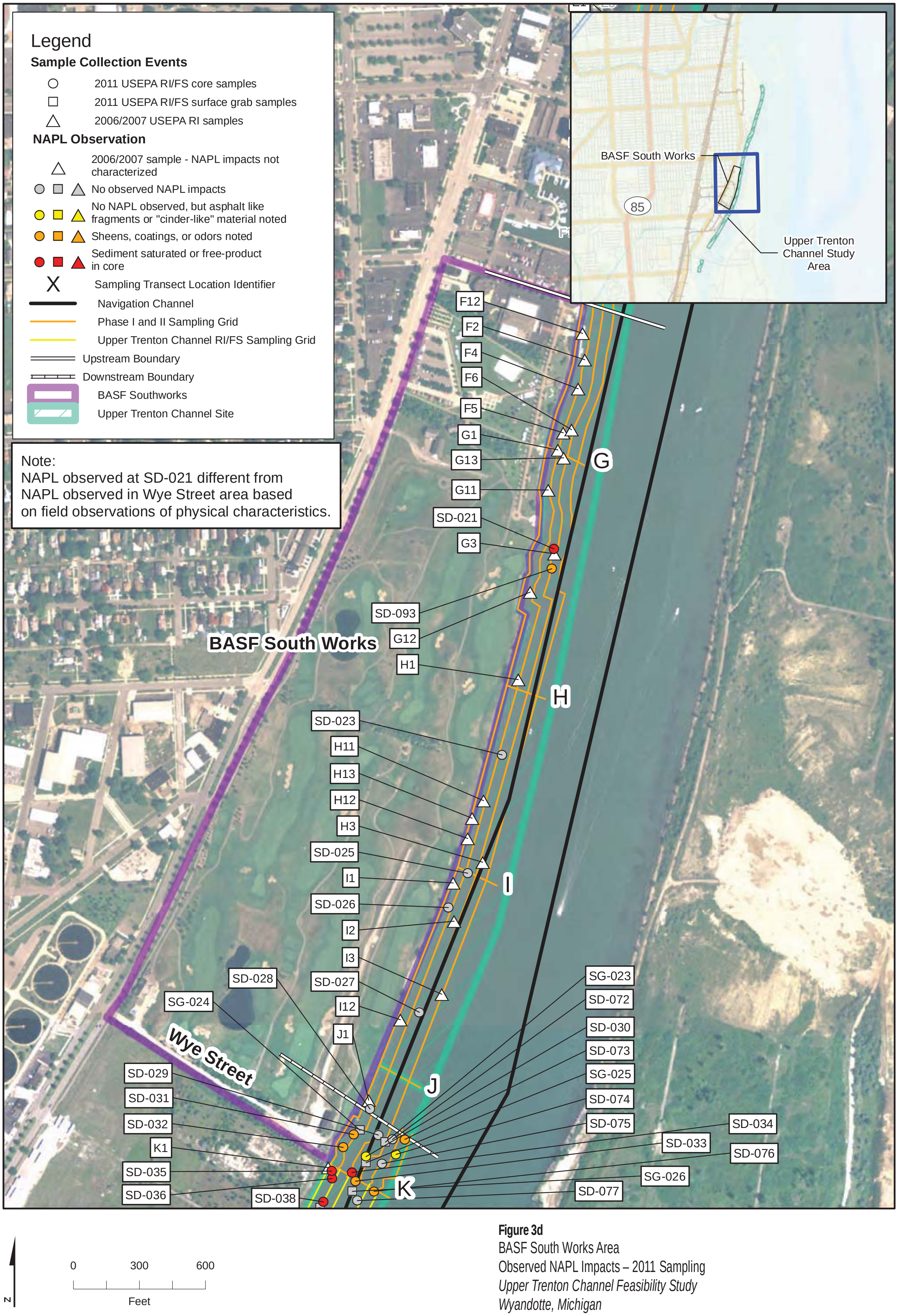
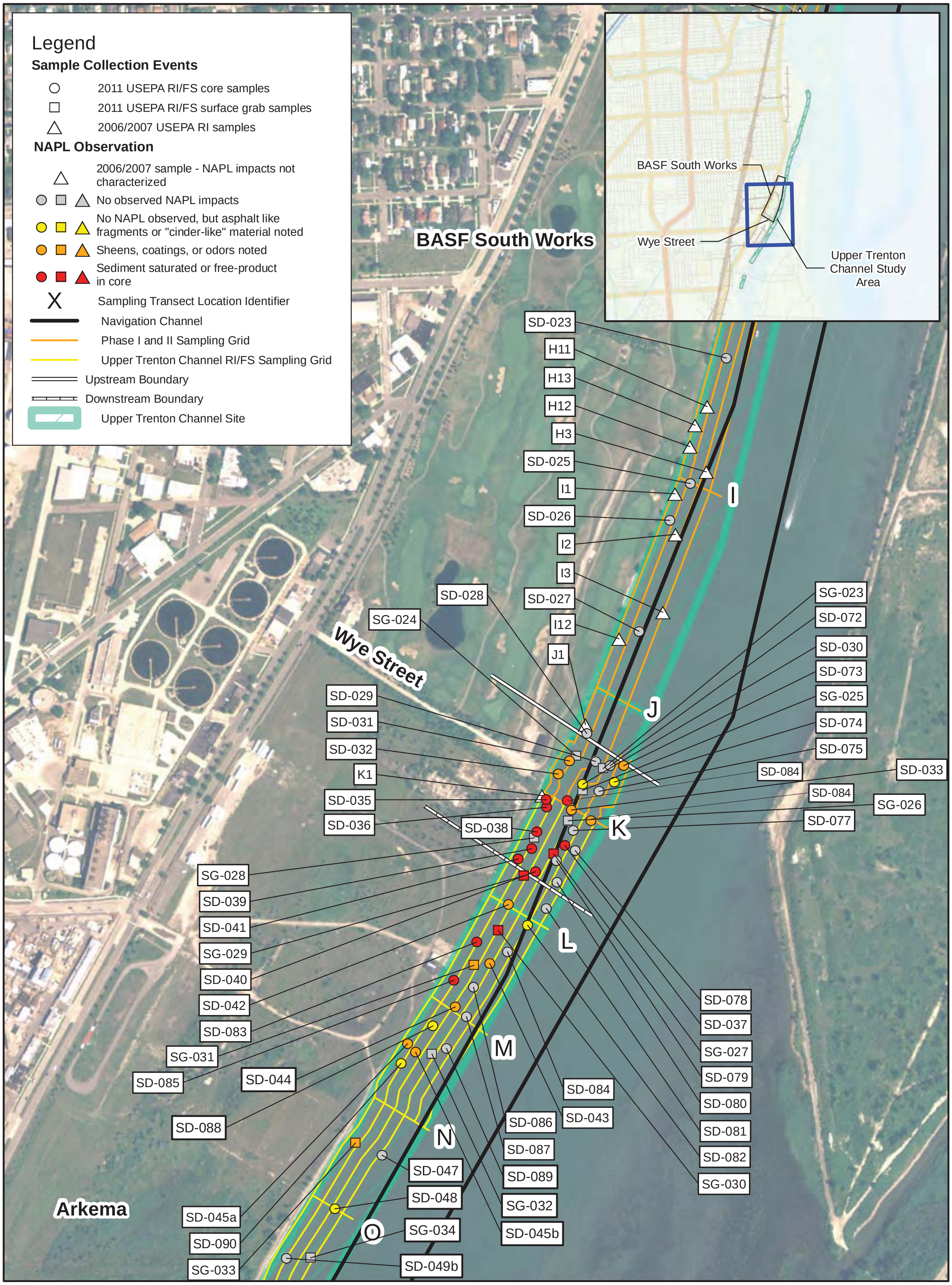


Figure 3d
BASF South Works Area
Observed NAPL Impacts – 2011 Sampling
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_3\9_3\FIGURE03D_UTC_BASF SOUTHWORKSAREA1.MXD RRODRIG5 10/17/2011 15:13:38



N

0 300 600

Feet

Figure 3e
Wye Street Area
Observed NAPL Impacts – 2011 Sampling
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_3\9_3\FIGURE03E_UTC_WYESTREETAREA1.MXD RRODRIG5 10/18/2011 11:51:50

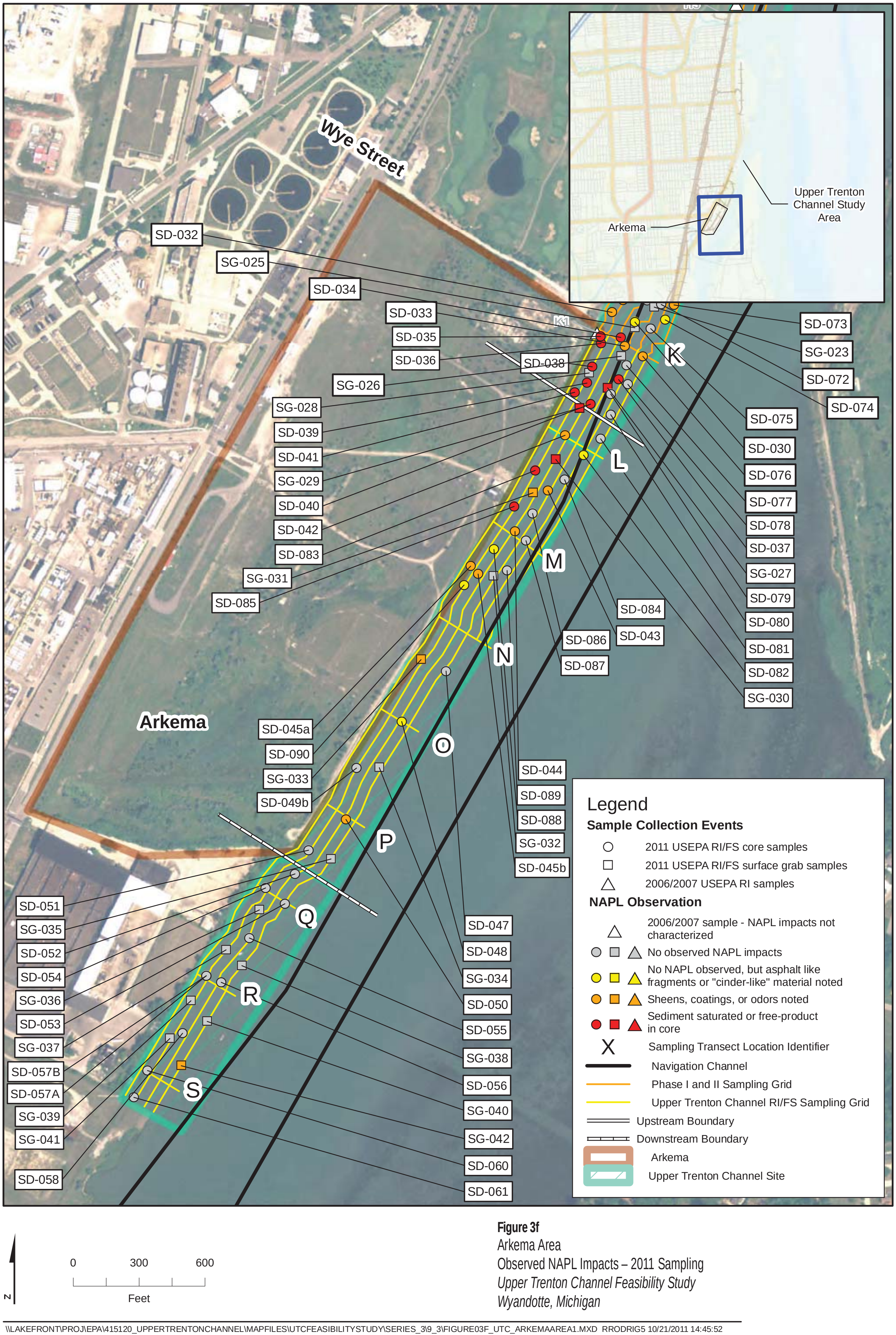


Figure 3f
Arkema Area
Observed NAPL Impacts – 2011 Sampling
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_3\9_3\FIGURE03F_UTC_ARKEMAAREA1.MXD RRODRIG5 10/21/2011 14:45:52

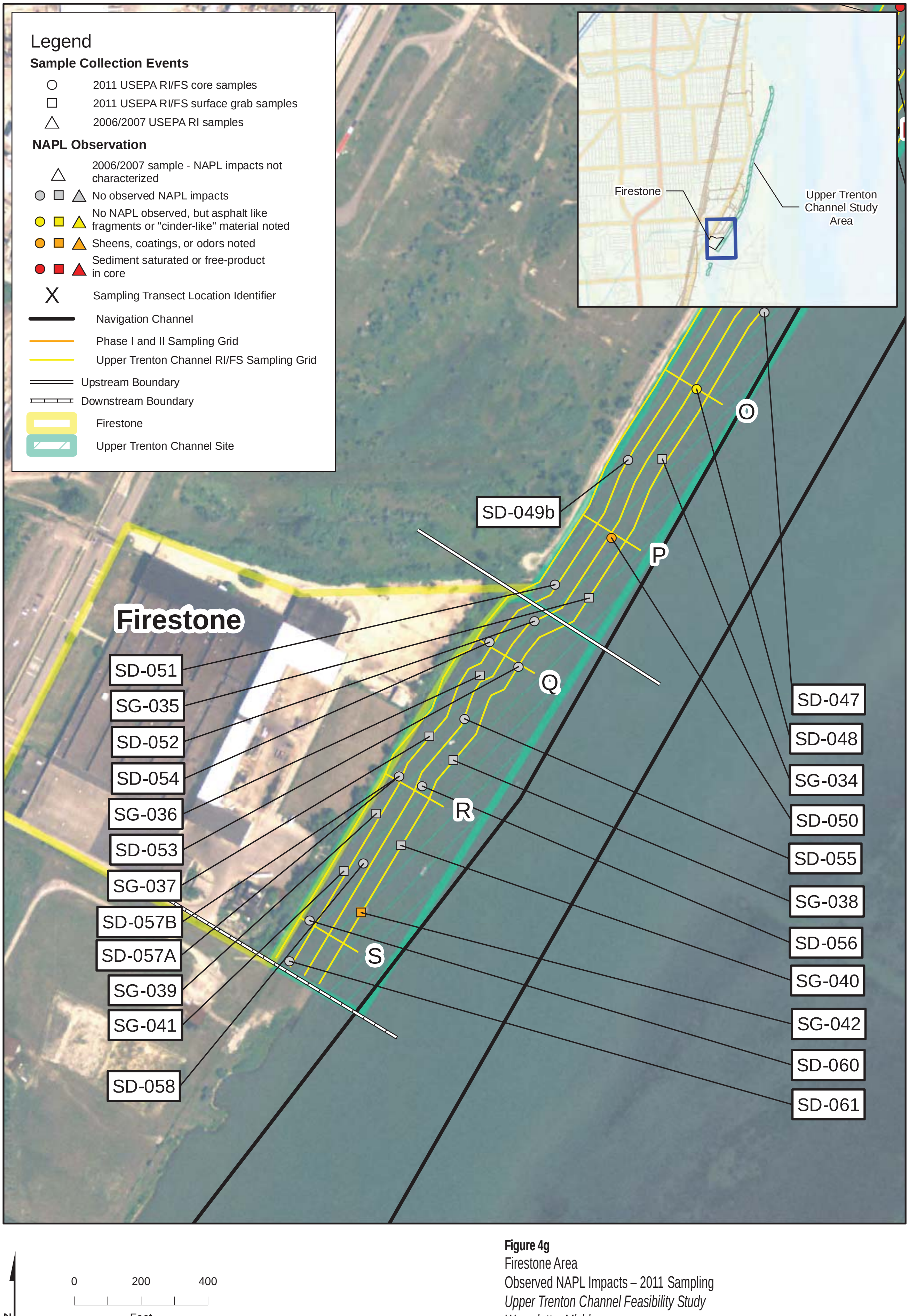


Figure 4g
Firestone Area
Observed NAPL Impacts – 2011 Sampling
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_3\9_3\FIGURE03G_UTC_FIRESTONEAREA1.MXD RRODRIG5 10/17/2011 15:03:16

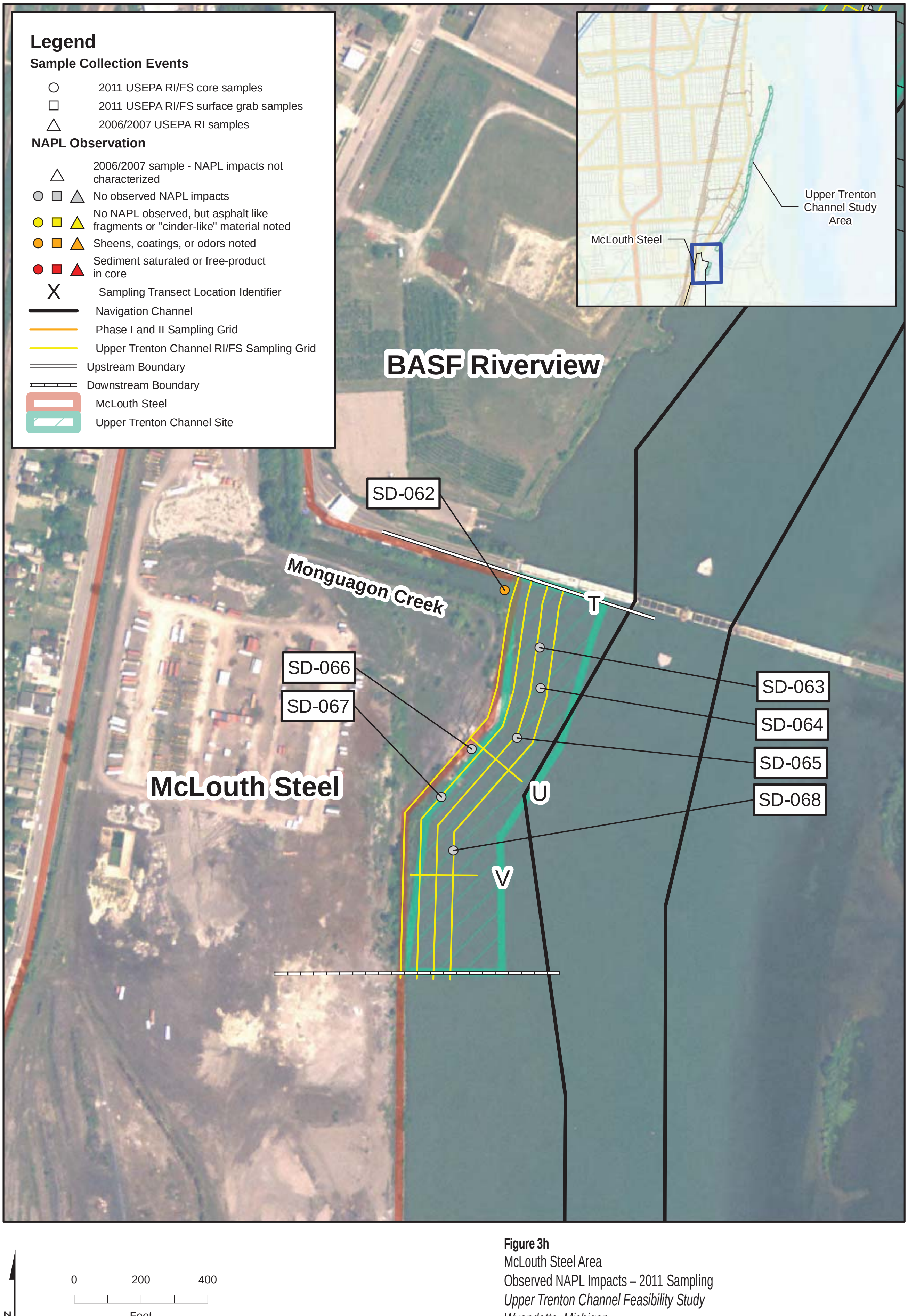


Figure 3h
McLouth Steel Area
Observed NAPL Impacts – 2011 Sampling
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

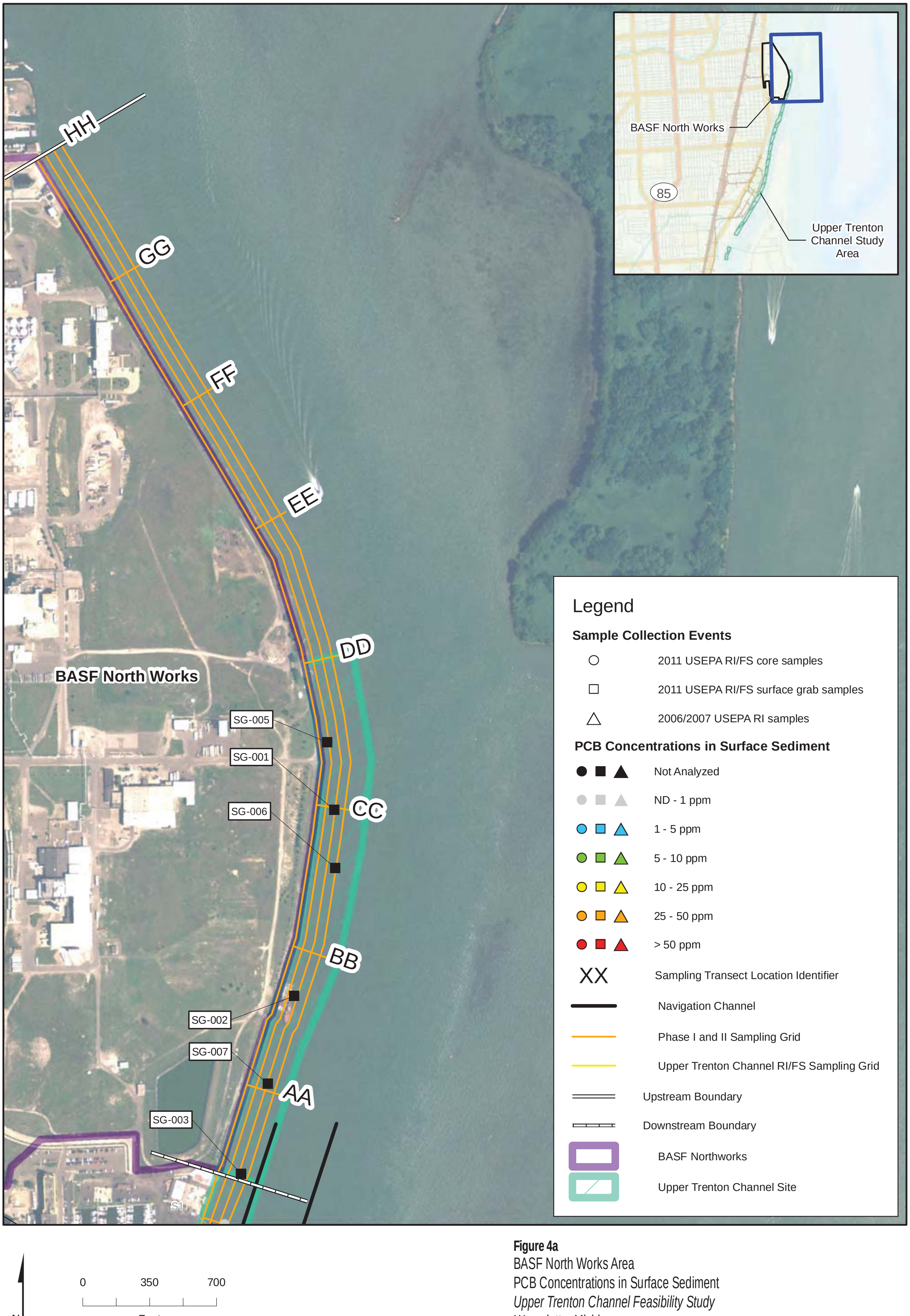


Figure 4a
BASF North Works Area
PCB Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_4\9_3\FIGURE04A_UTC_BASFNORTHWORKS_9_3.MXD RRODRIG5 10/18/2011 12:34:20

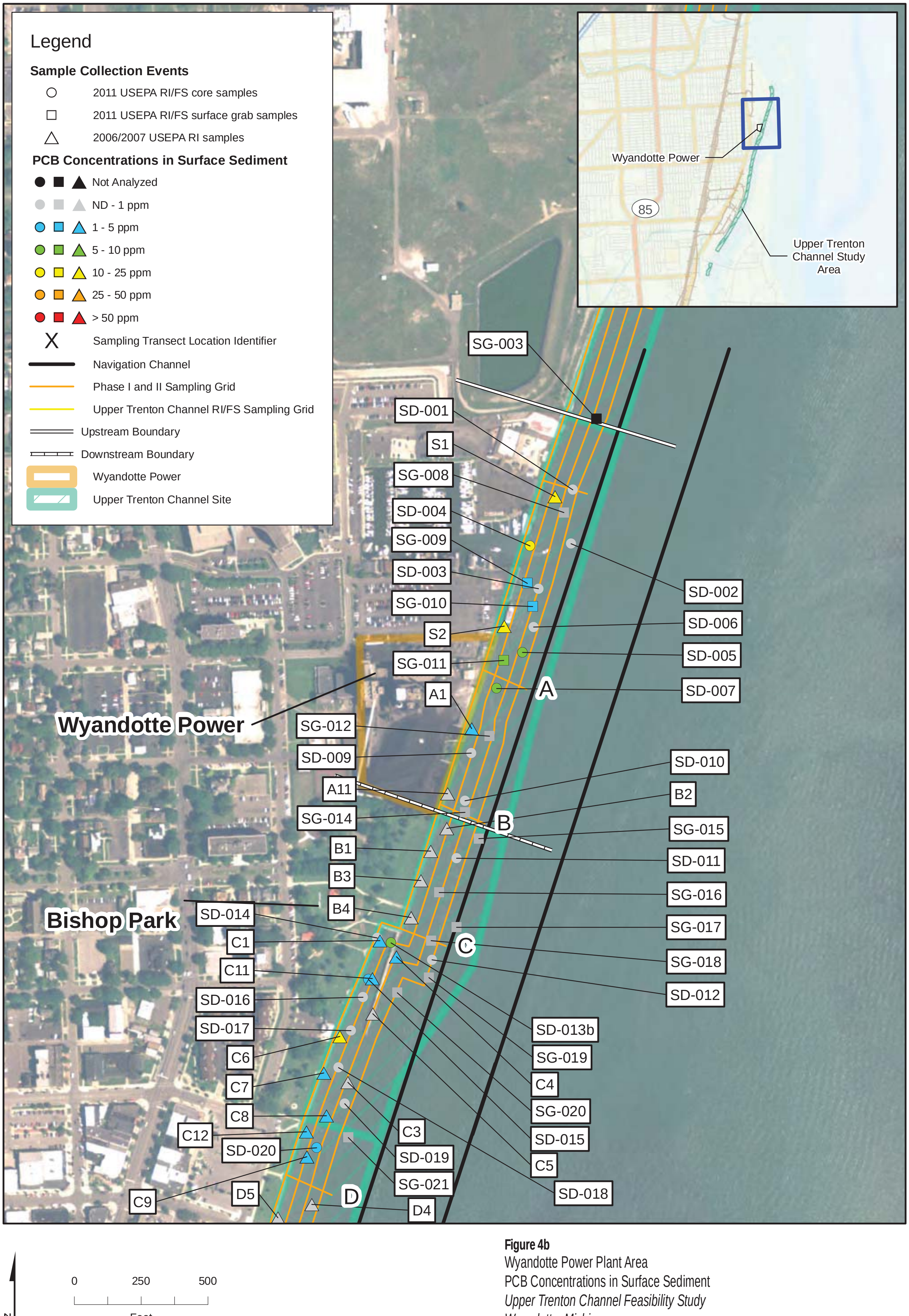


Figure 4b
Wyandotte Power Plant Area
PCB Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_4\9_3\FIGURE04B_UTC_WYANDOTTEAREA_9_3.MXD RRODRIG5 10/18/2011 13:30:29

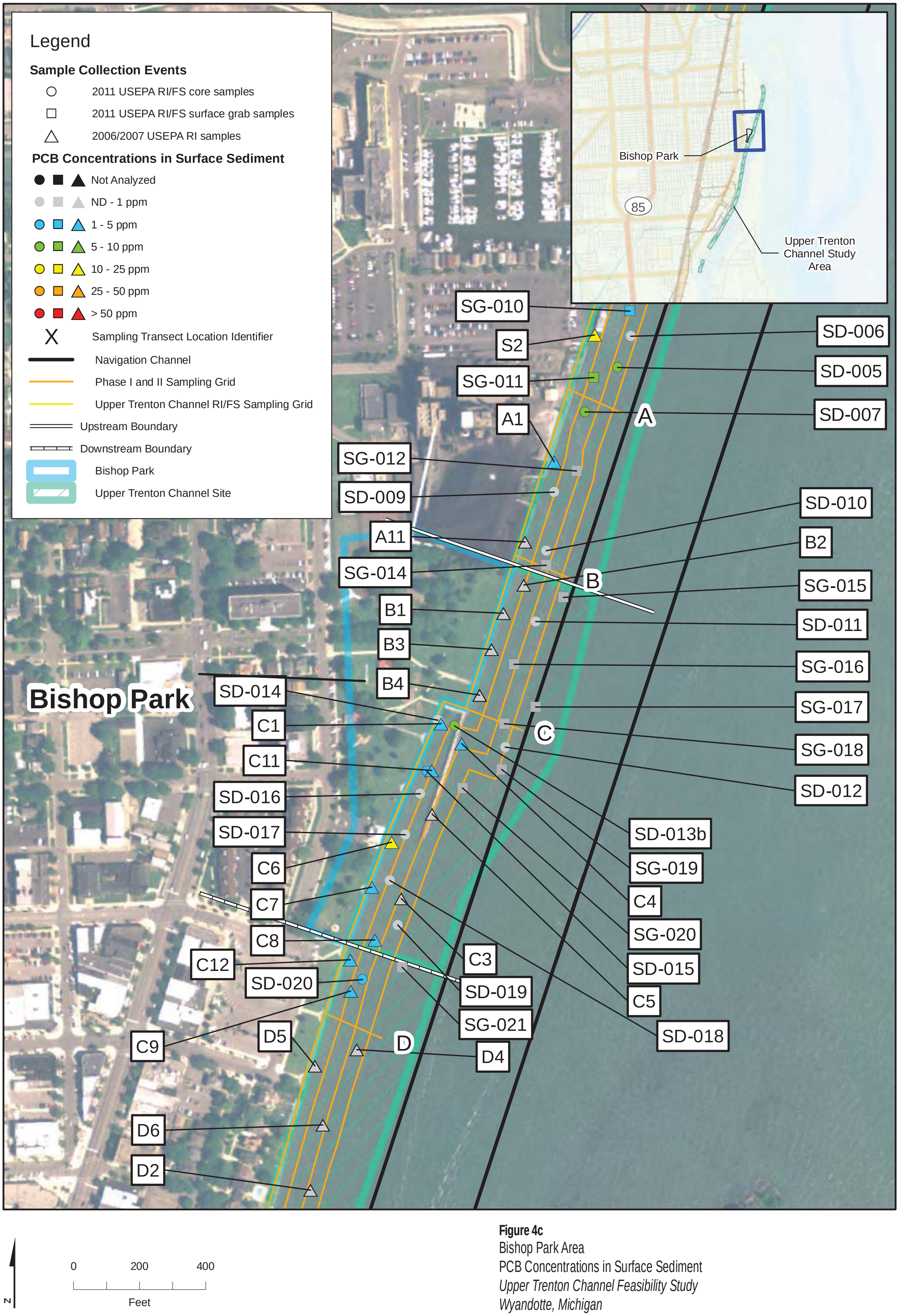
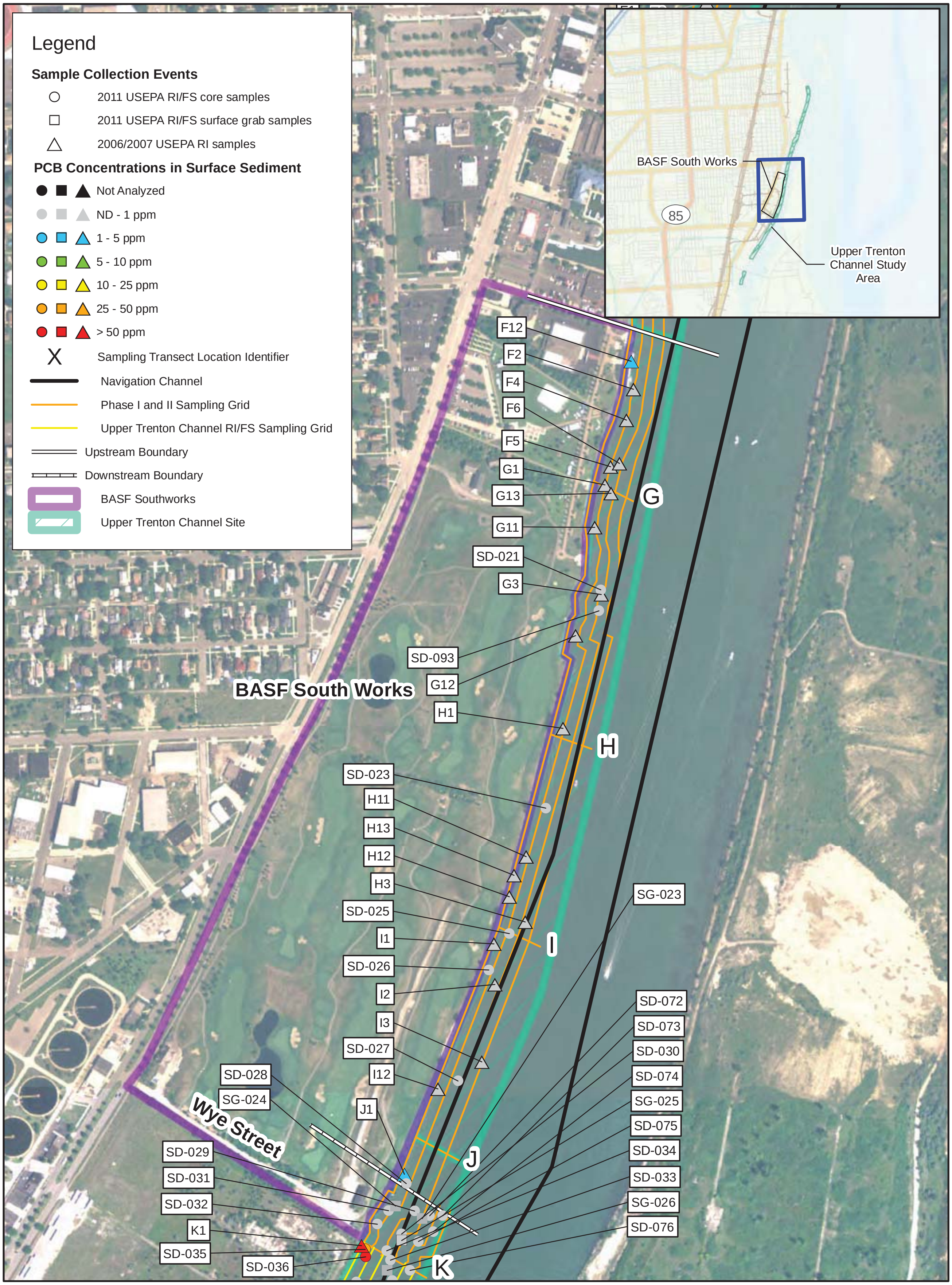


Figure 4c
Bishop Park Area
PCB Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_4\9_3\FIGURE04C_UTC_BISHOPPARKAREA_9_3.MXD RRODRIG5 10/18/2011 13:52:29



N

0 300 600

Feet

Figure 4d

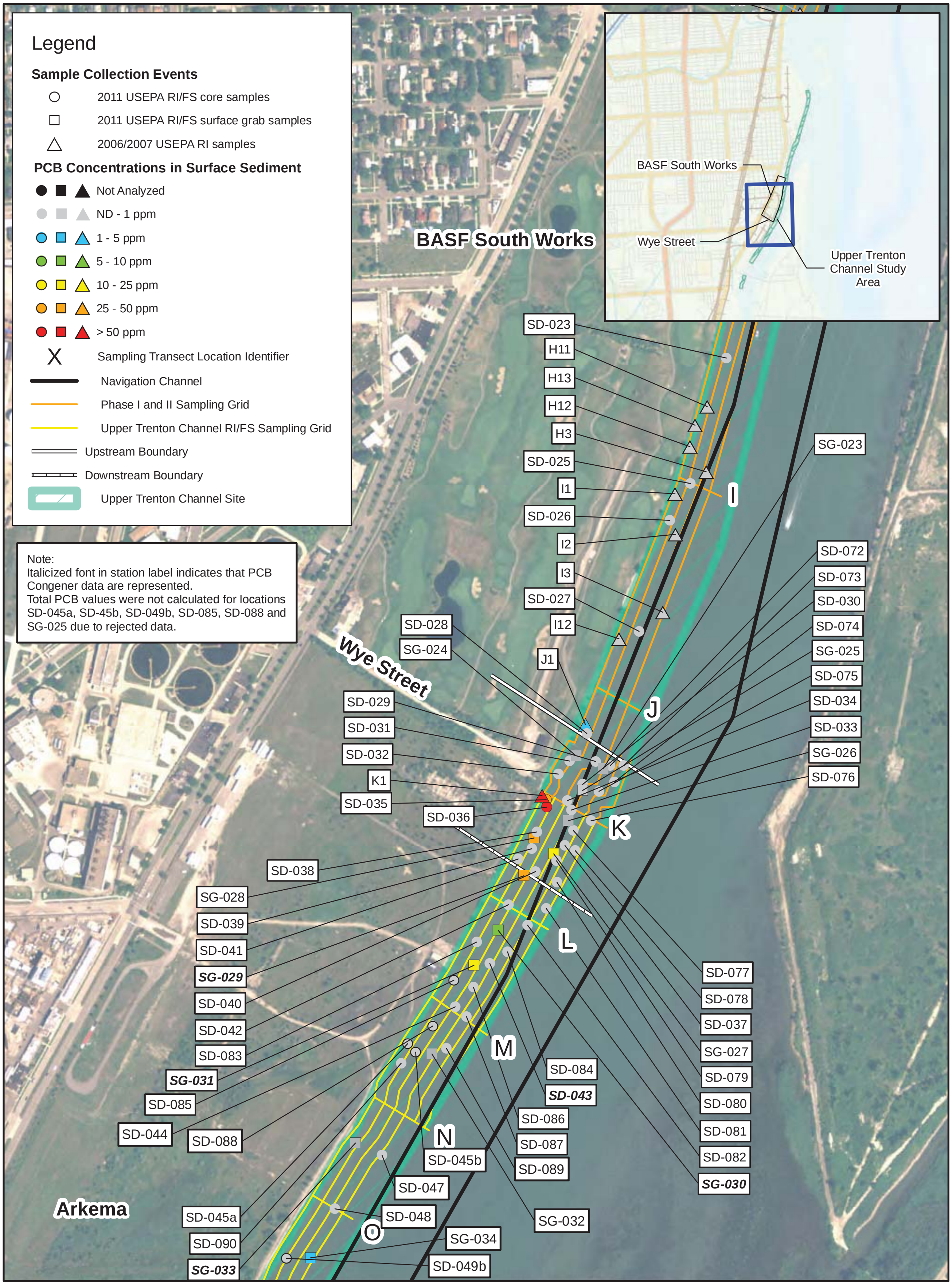
BASF South Works Area

PCB Concentrations in Surface Sediment

Upper Trenton Channel Feasibility Study

Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_4\9_3\FIGURE04D_UTC_BASF SOUTHWORKSAREA_9_3.MXD RRODRIG5 10/18/2011 14:20:02



N

0 300 600

Feet

Figure 4e
Wye Street Area
PCB Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

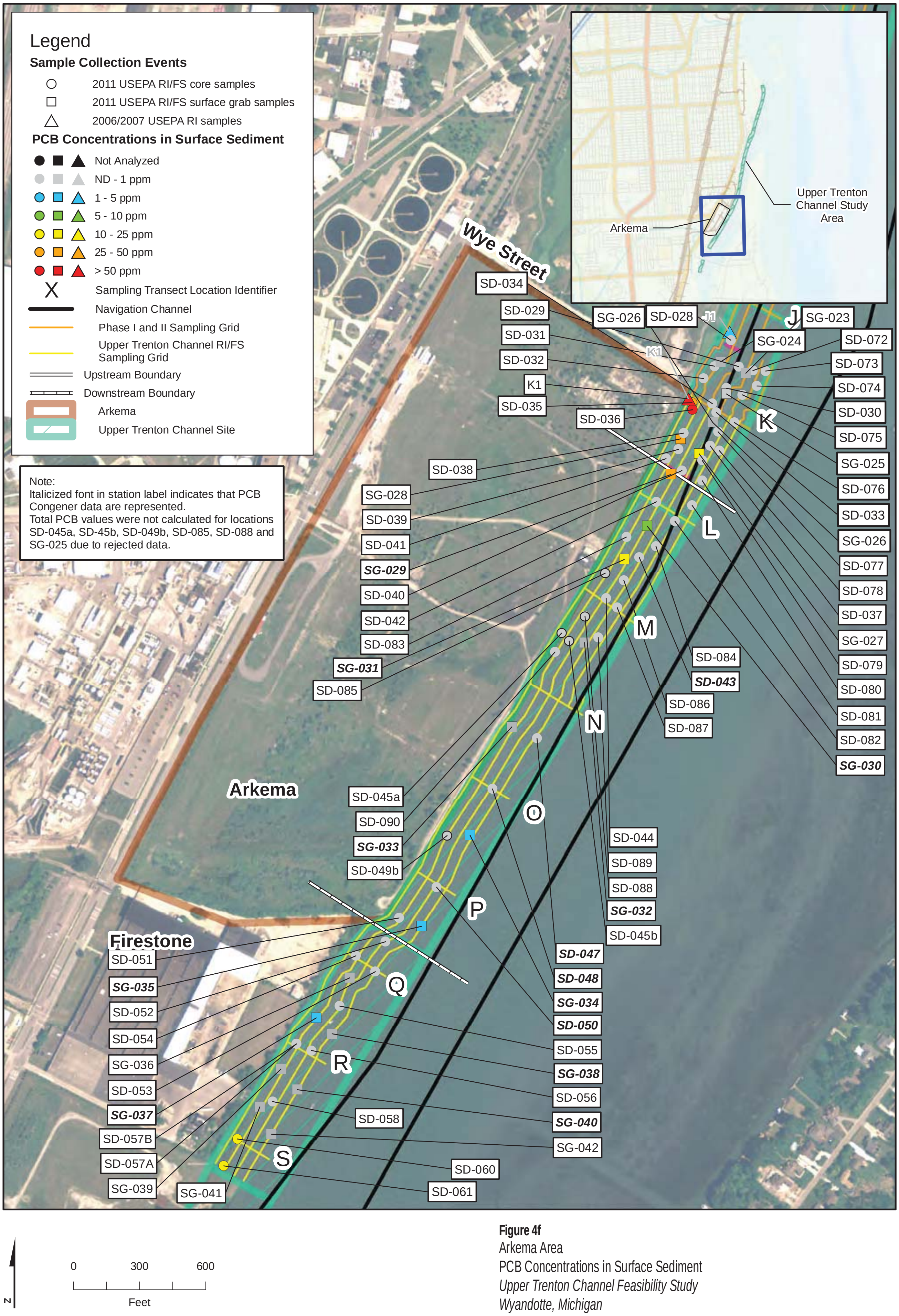


Figure 4f
Arkema Area
PCB Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_4\9_3\FIGURE04F_UTC_ARKEMAAREA_9_3.MXD RRODRIG5 10/18/2011 15:28:30

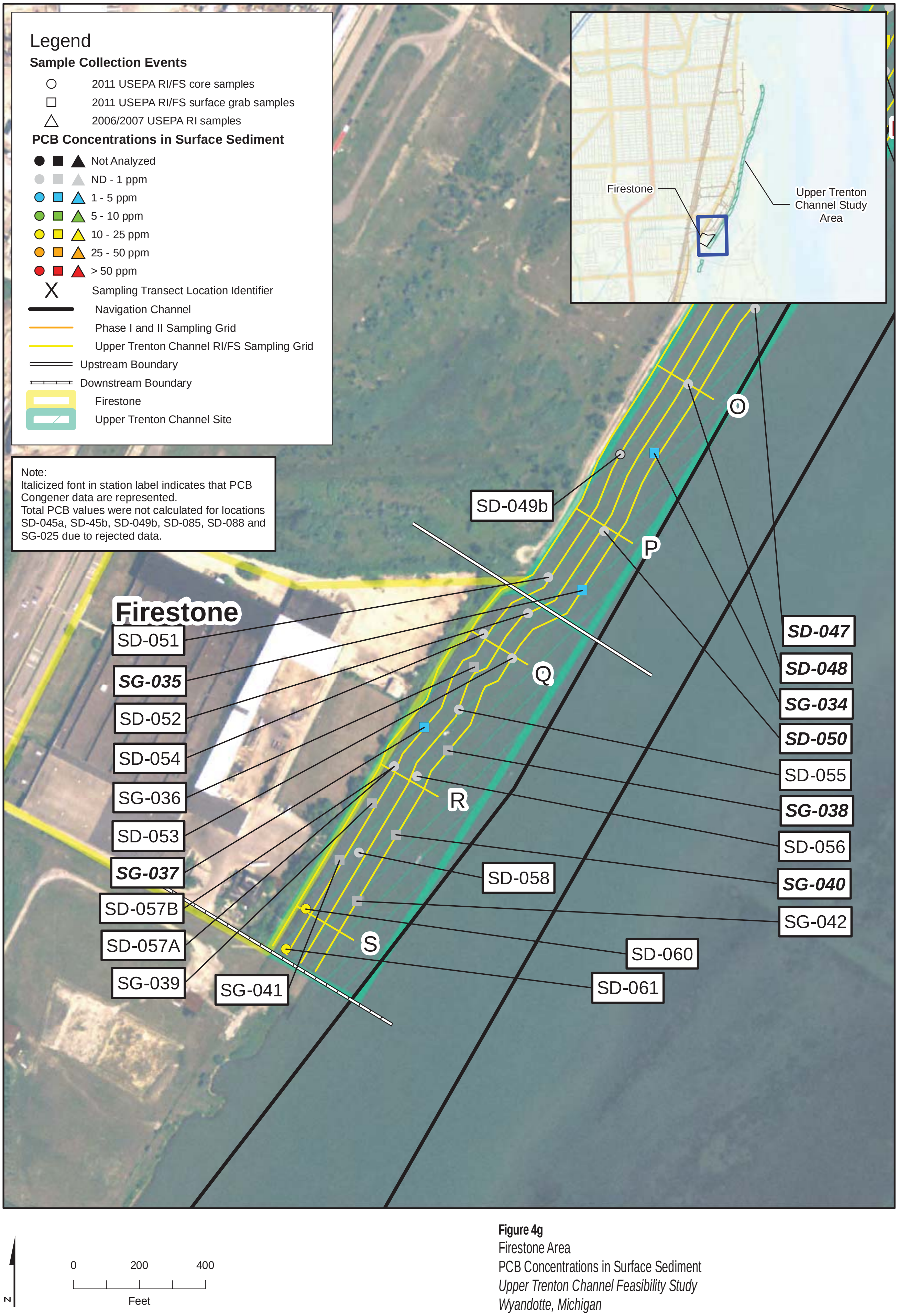


Figure 4g
Firestone Area
PCB Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_4\9_3\FIGURE04G_UTC_FIRESTONEAREA_9_3.MXD RRODRIG5 10/18/2011 15:43:20

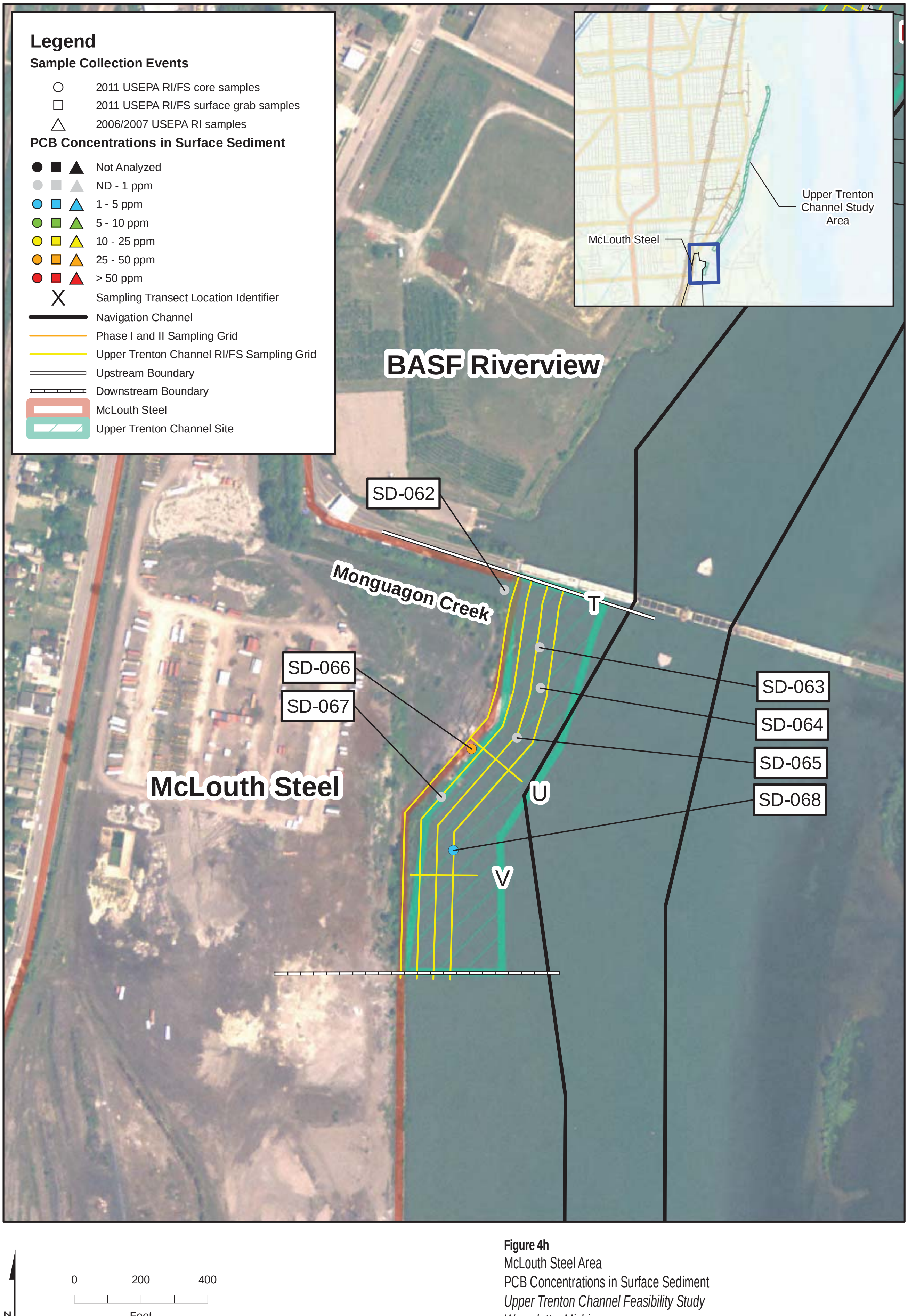
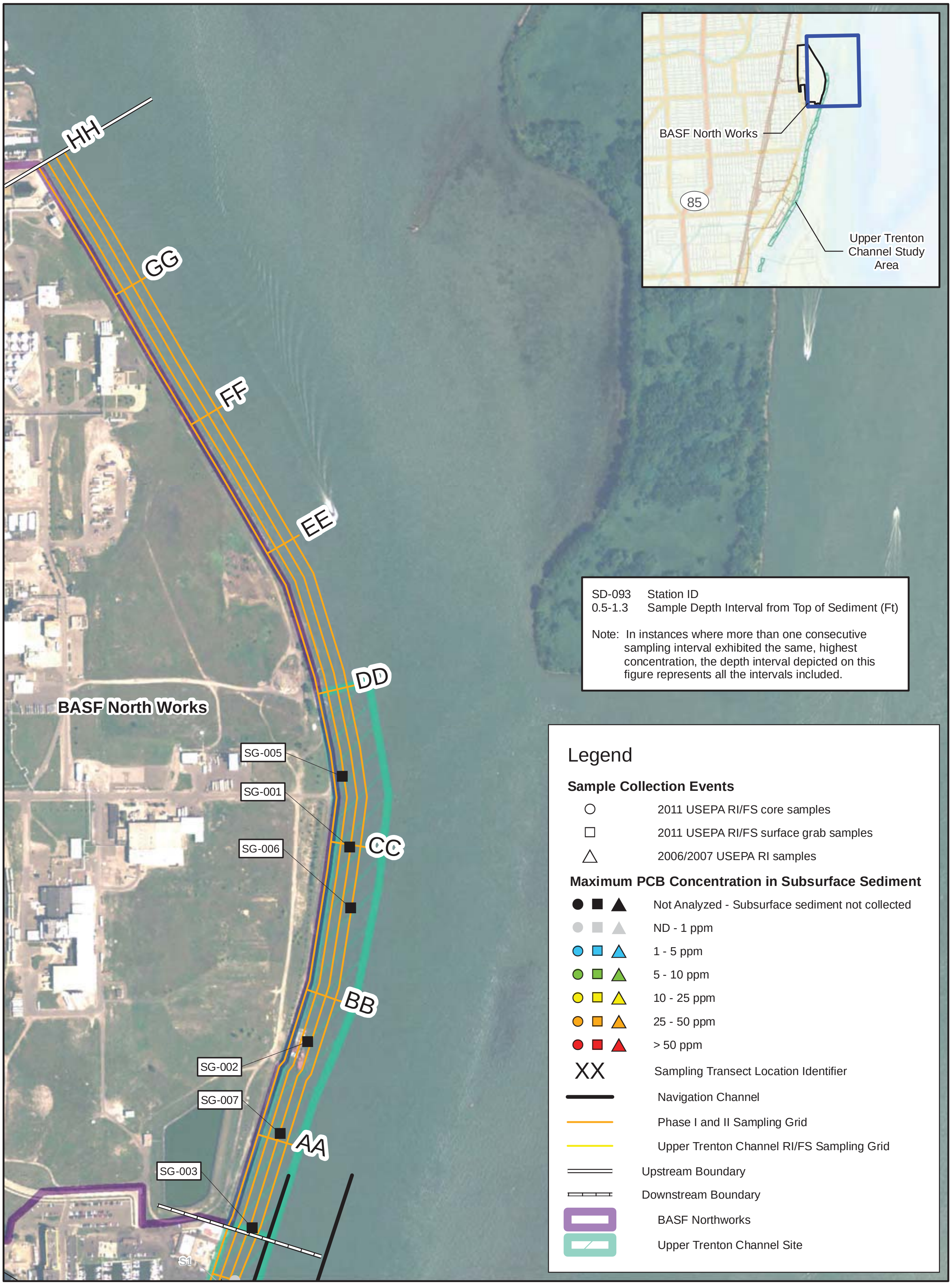


Figure 4h
McLouth Steel Area
PCB Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_4\9_3\FIGURE04H_UTC_MCLOUTHSTEELAREA_9_3.MXD RRODRIG5 10/18/2011 15:48:05



N

0 350 700

Feet

Figure 5a

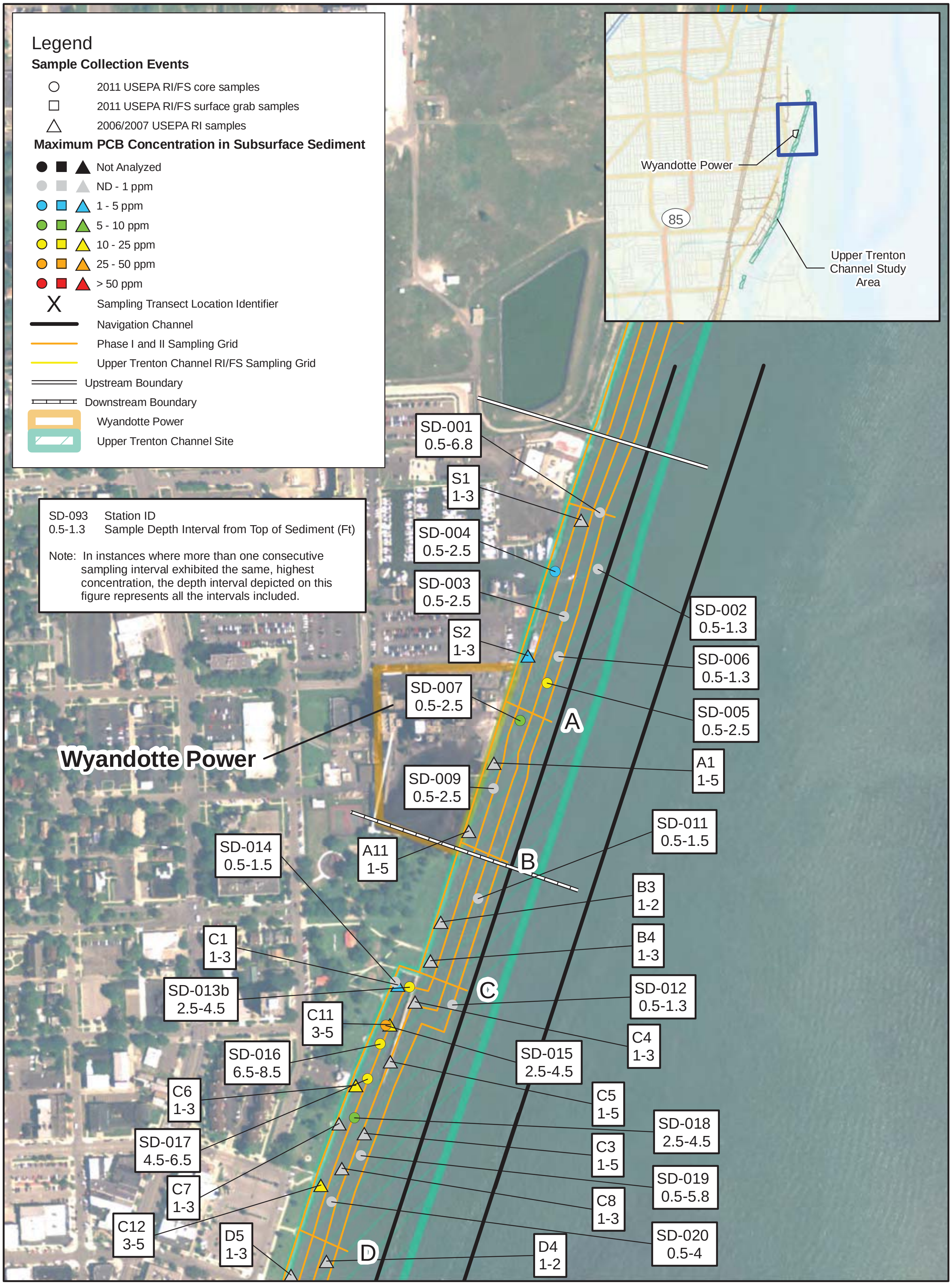
BASF North Works Area

Maximum PCB Concentration in Subsurface Sediment

Upper Trenton Channel Feasibility Study

Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_5\9_3\FIGURE05A_UTC_BASFNORTHWORKS_9_3.MXD RRODRIG5 10/19/2011 12:15:01



0 250 500
Feet
N

Figure 5b
Wyandotte Power Plant Area
Maximum PCB Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_5\9_3\FIGURE05B_UTC_WYANDOTTEAREA_9_3.MXD RRODRIG5 10/19/2011 12:57:11

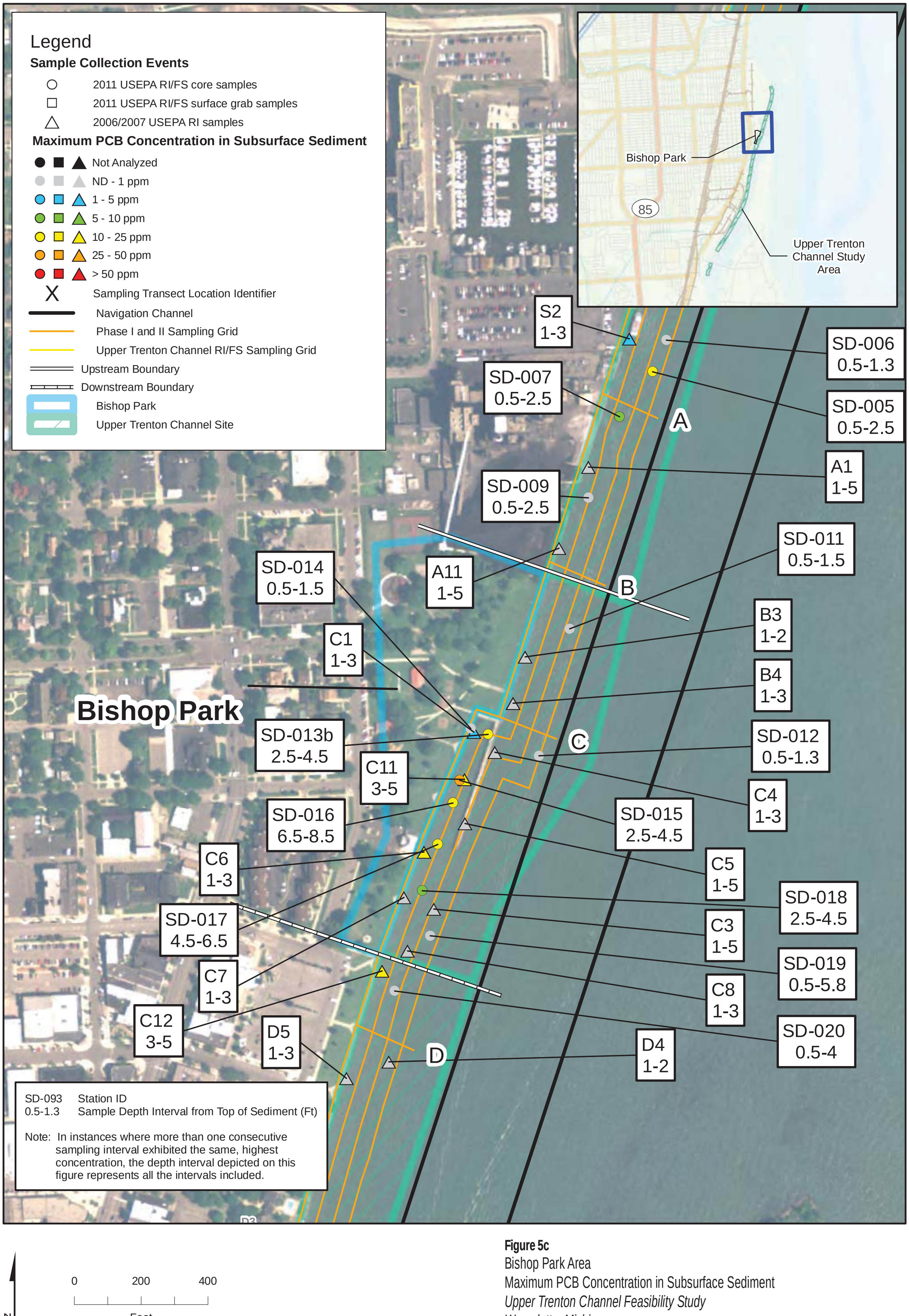


Figure 5c
Bishop Park Area
Maximum PCB Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_5\9_3\FIGURE05C_UTC_BISHOPPARKAREA_9_3.MXD RRODRIG5 10/19/2011 13:09:07

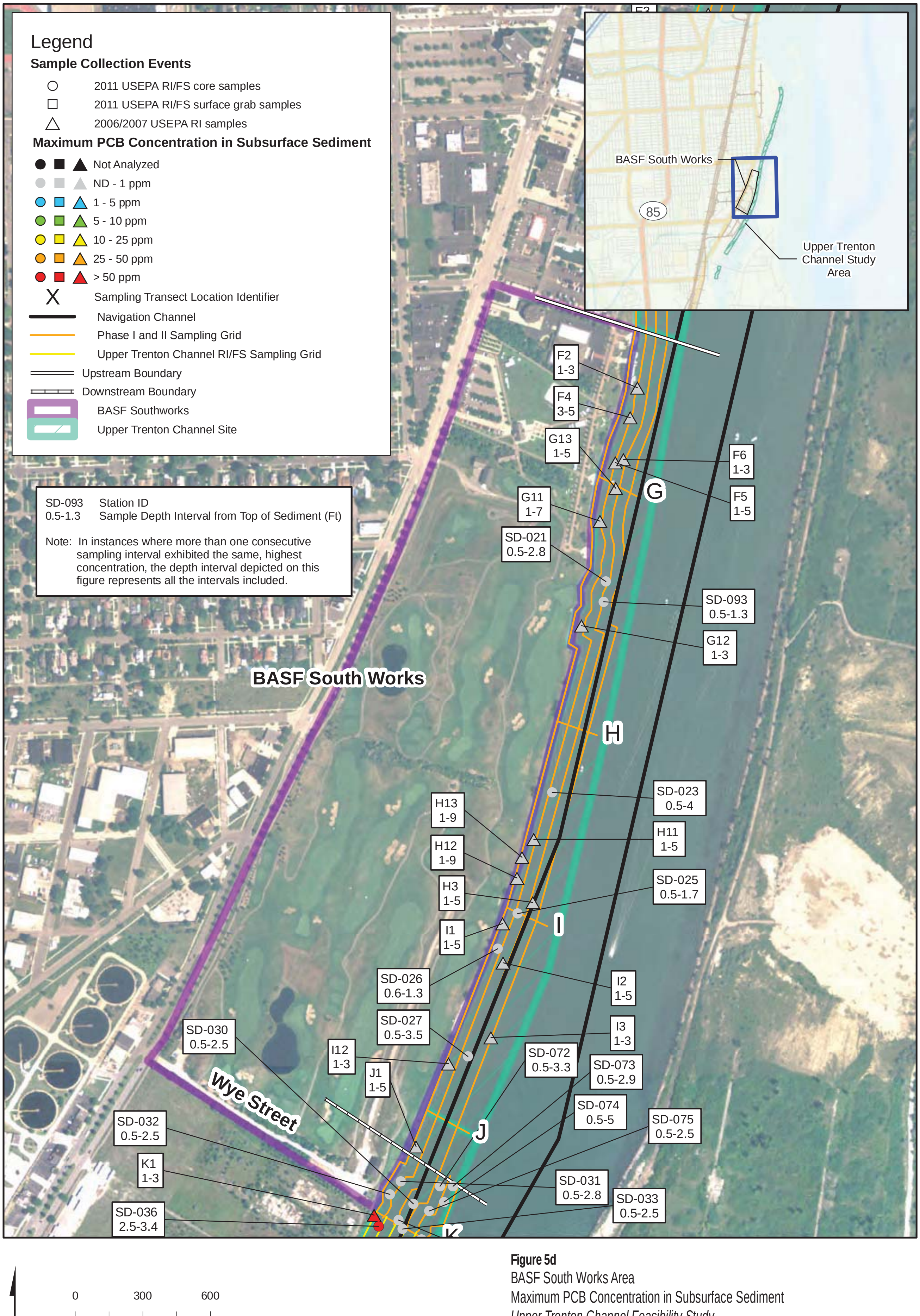


Figure 5d

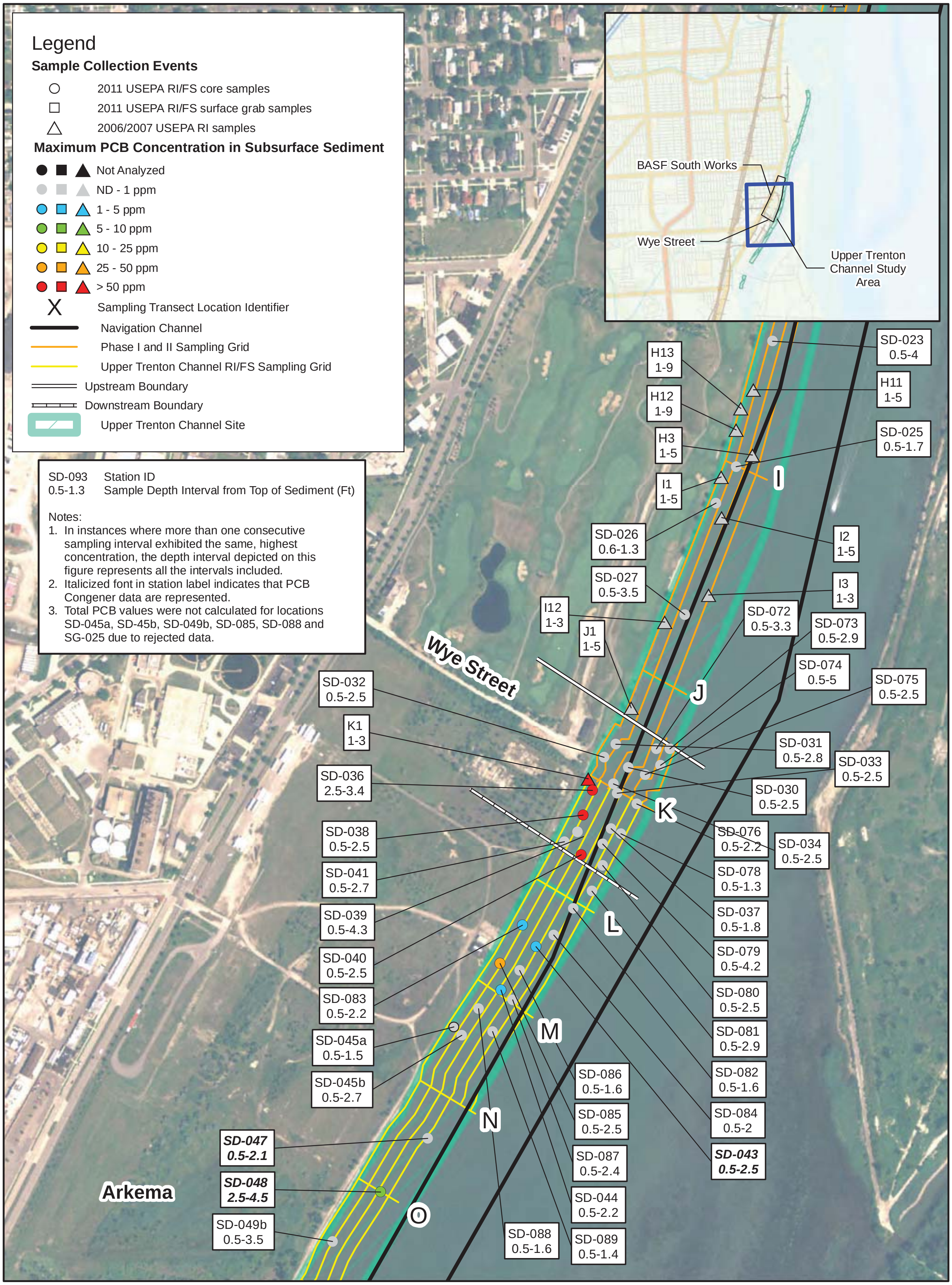
BASF South Works Area

Maximum PCB Concentration in Subsurface Sediment

Upper Trenton Channel Feasibility Study

Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_5\9_3\FIGURE05D_UTC_BASF SOUTHWORKSAREA_9_3.MXD RRODRIG5 10/19/2011 13:31:34



N

0 300 600

Feet

Figure 5e
Wye Street Area
Maximum PCB Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_5\9_3\FIGURE05E_UTC_WYESTREETAREA_9_3.MXD RRODRIG5 10/19/2011 14:09:36

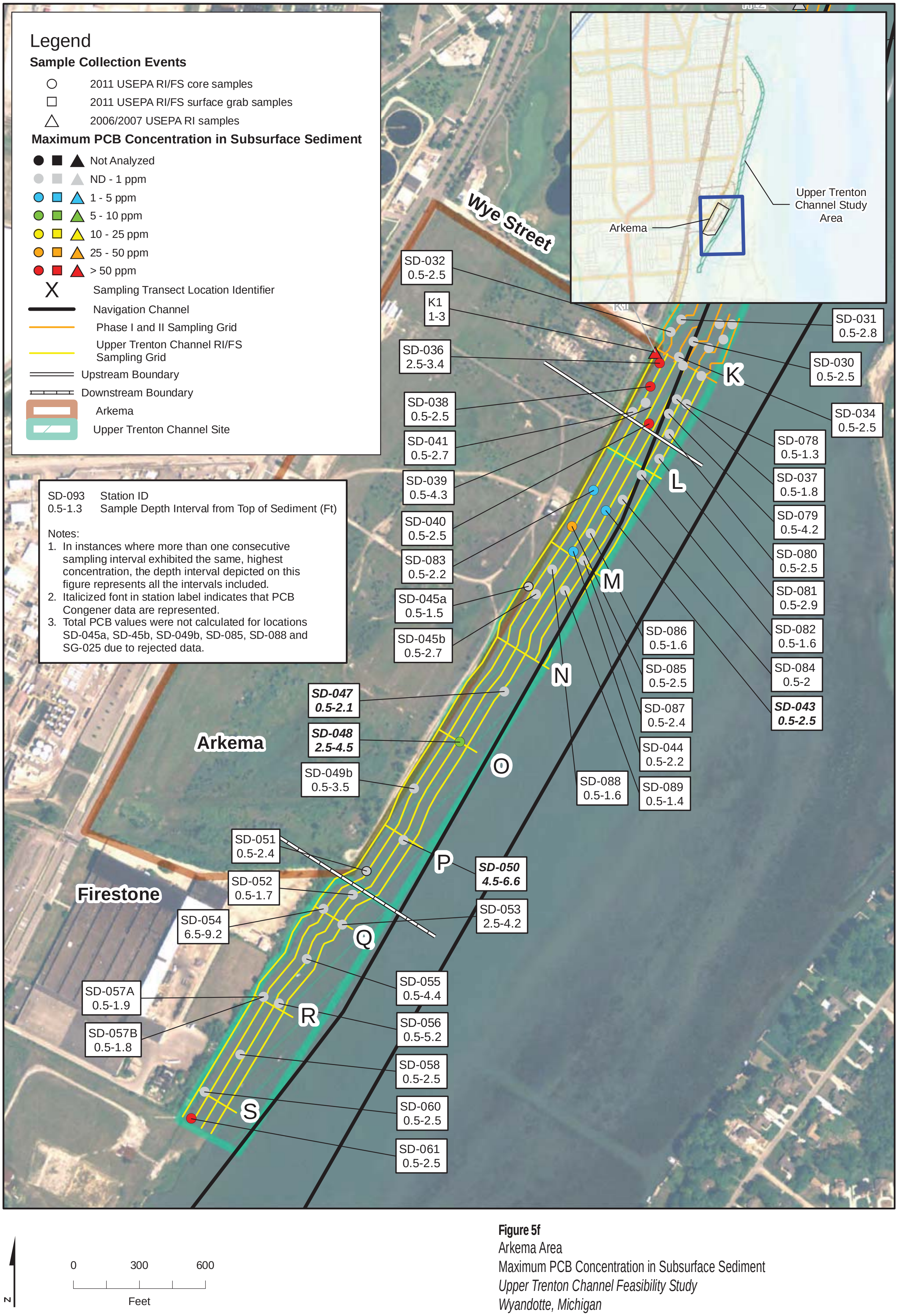
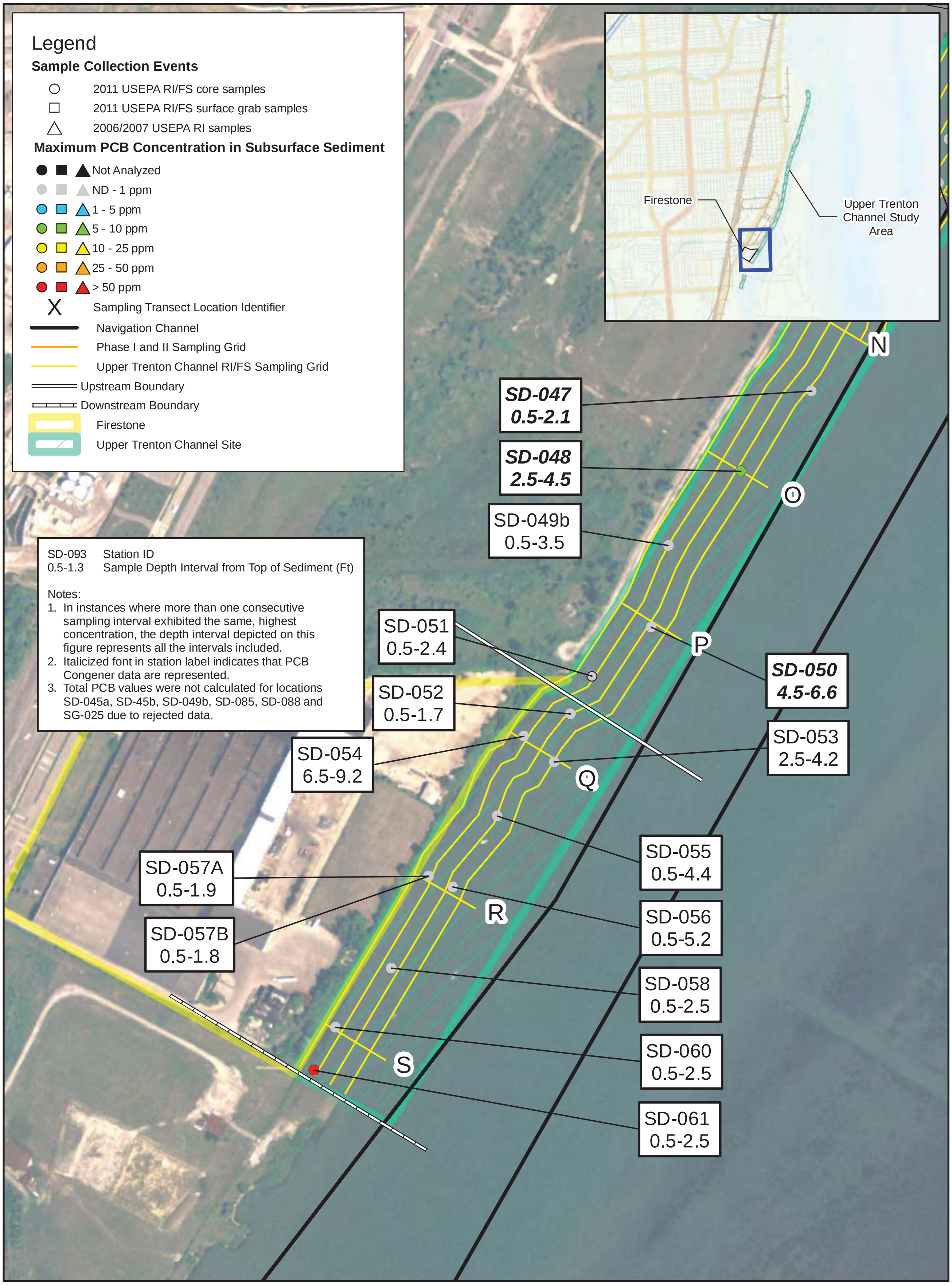


Figure 5f
Arkema Area
Maximum PCB Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_5\9_3\FIGURE05F_UTC_ARKEMAAREA_9_3.MXD RRODRIG5 10/19/2011 14:14:10



N

0 200 400
Feet

Figure 5g
Firestone Area
Maximum PCB Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_5\9_3\FIGURE05G_UTC_FIRESTONEAREA_9_3.MXD RRODRIG5 10/19/2011 15:04:35

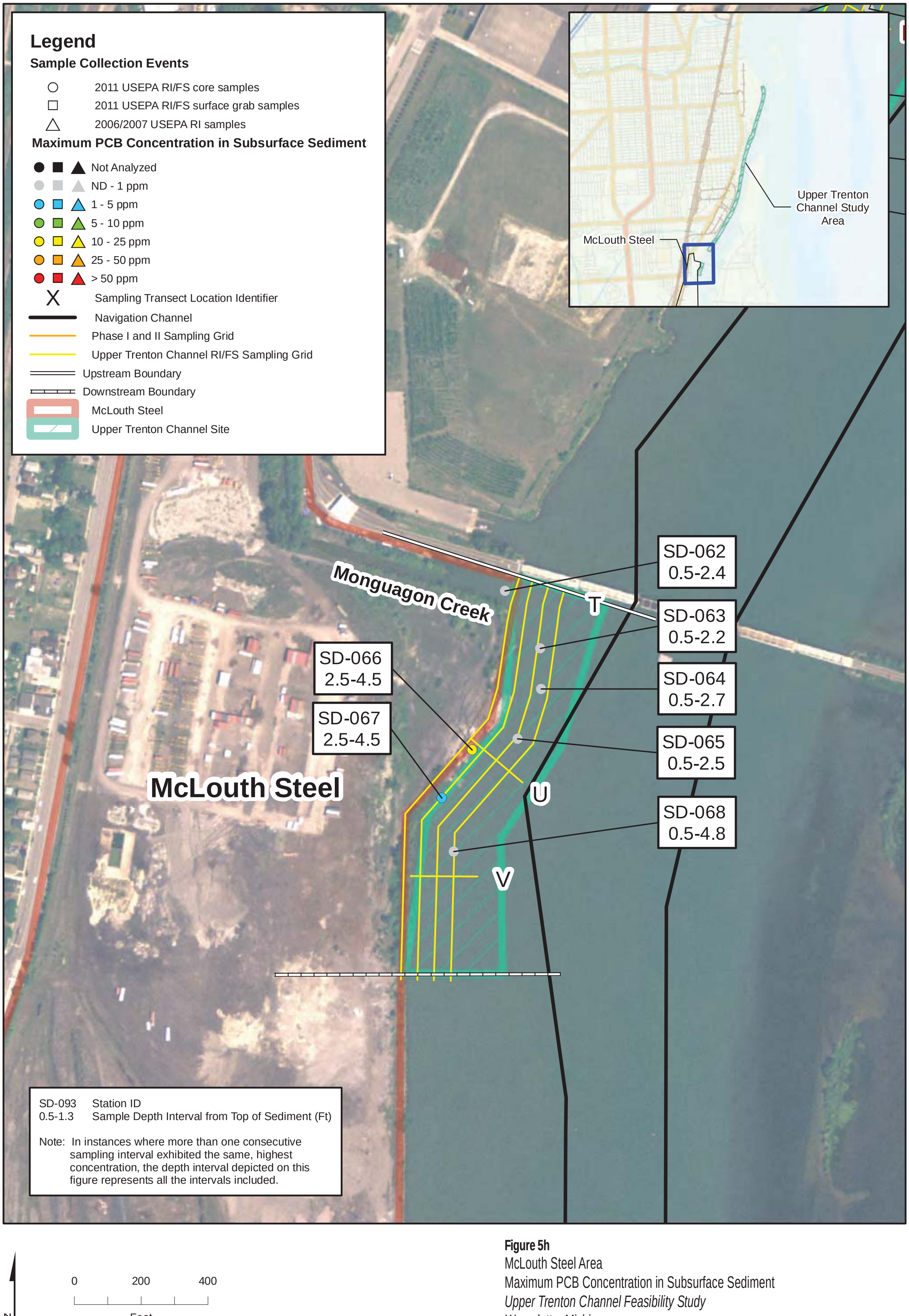


Figure 5h
McLouth Steel Area
Maximum PCB Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_5\9_3\FIGURE05H_UTC_MCLOUTHSTEELAREA_9_3.MXD RRODRIG5 10/19/2011 15:12:39

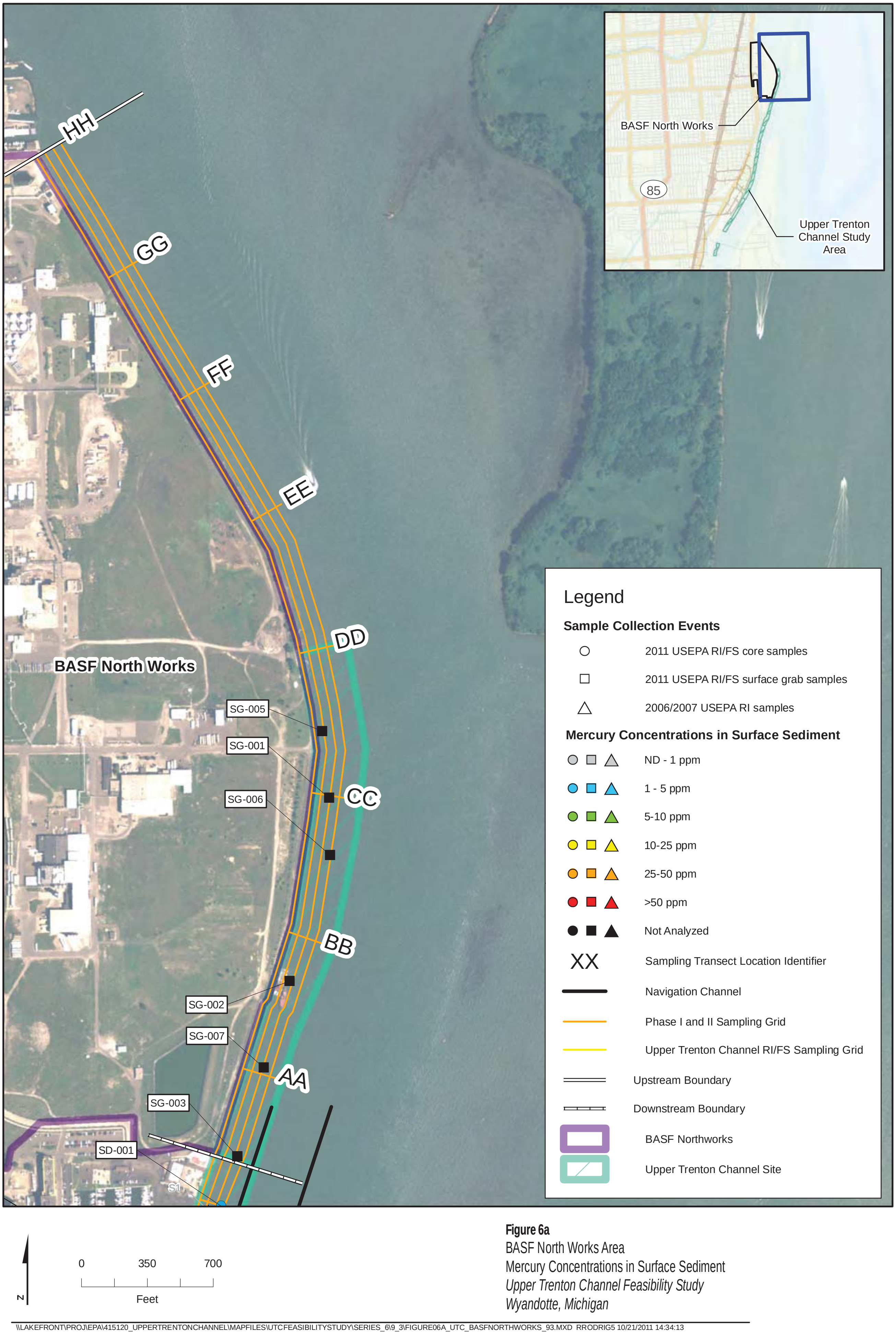


Figure 6a
BASF North Works Area
Mercury Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_6\9_3\FIGURE06A_UTC_BASFNORTHWORKS_93.MXD RRODRIG5 10/21/2011 14:34:13

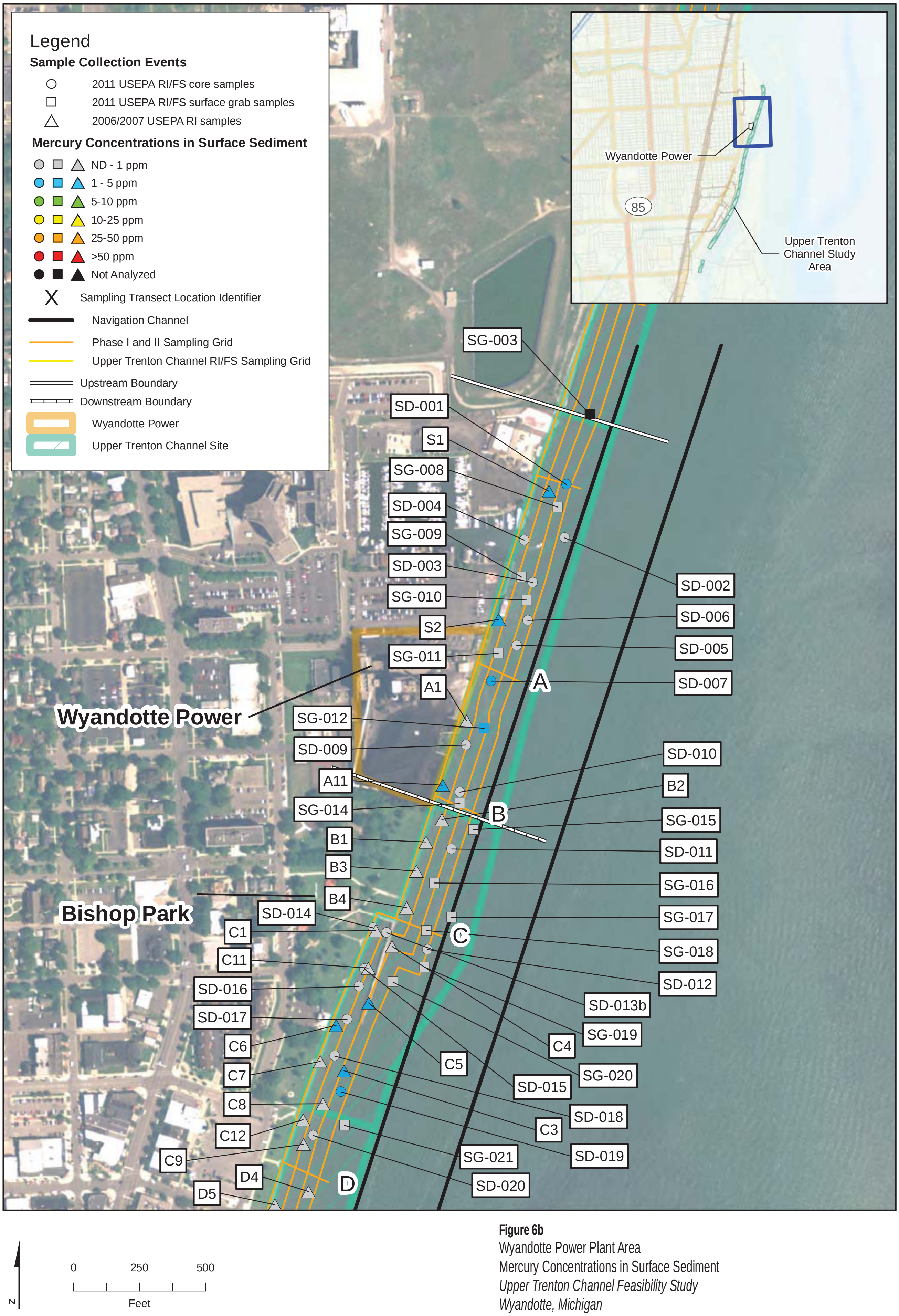


Figure 6b
Wyandotte Power Plant Area
Mercury Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_6\9_3\FIGURE06B_UTC_WYANDOTTEAREA_93.MXD RRODRIG5 10/21/2011 16:21:39

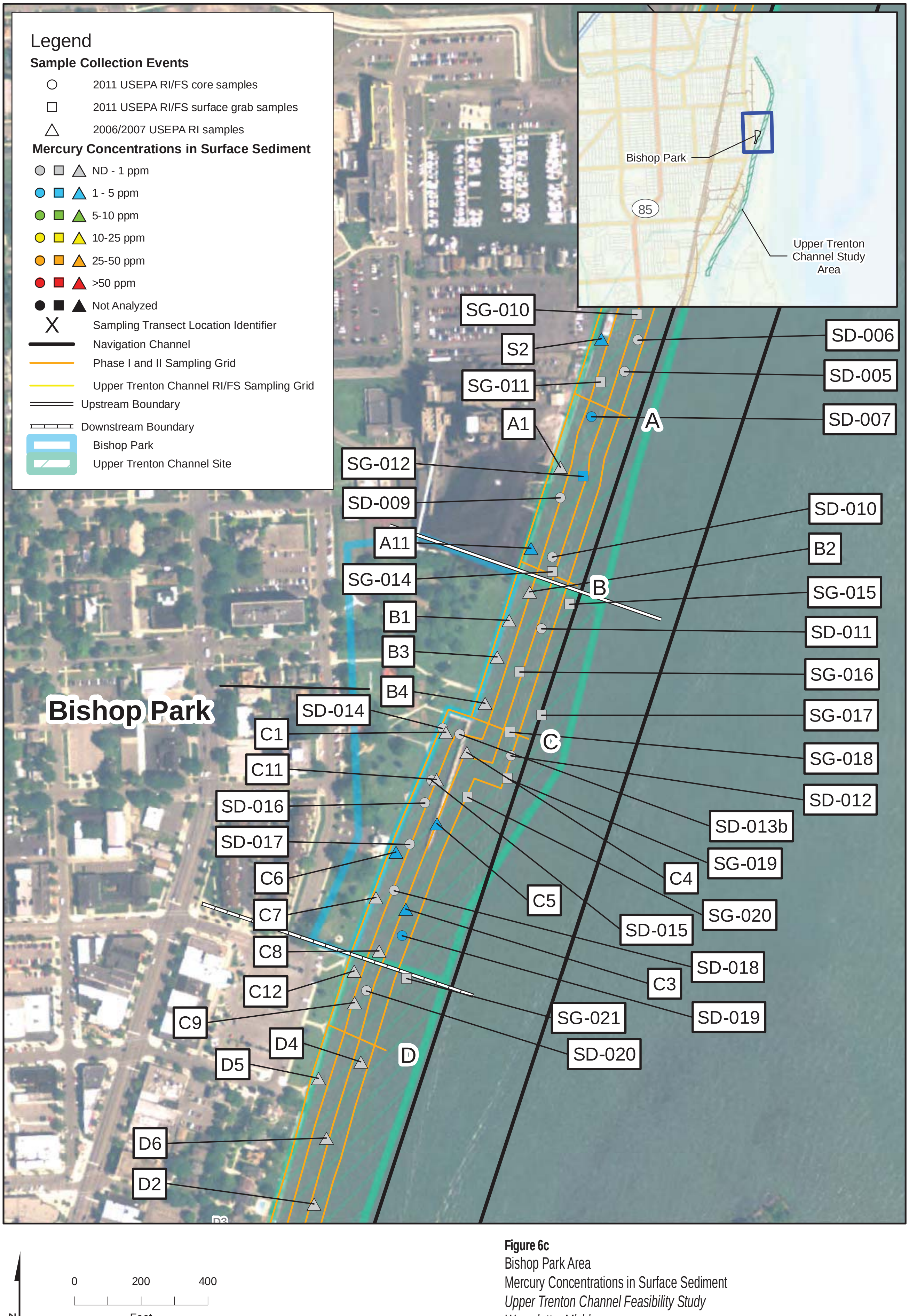


Figure 6c
Bishop Park Area
Mercury Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_6\9_3\FIGURE06C_UTC_BISHOPPARKAREA_93.MXD RRODRIG5 10/21/2011 16:28:42

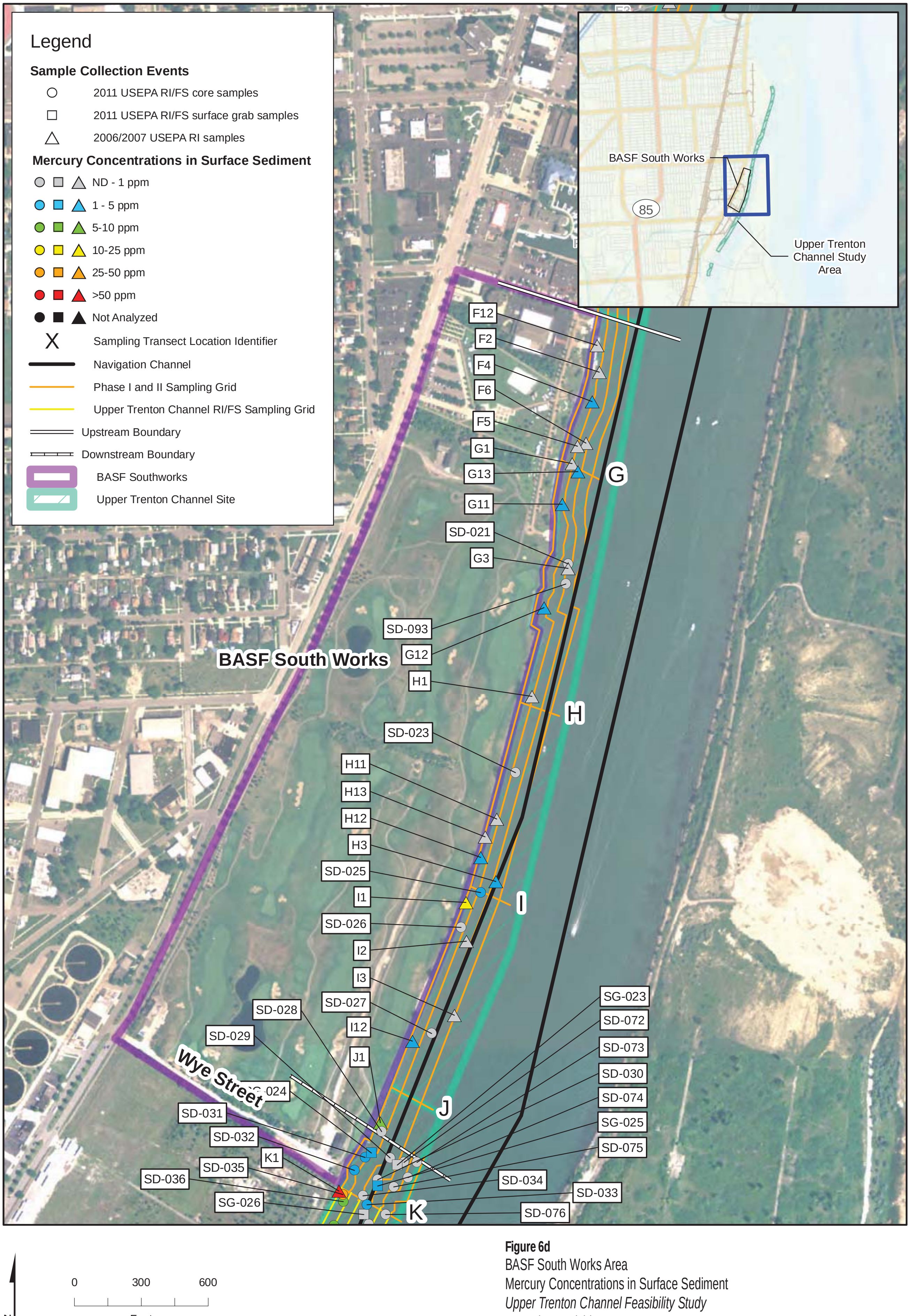


Figure 6d
BASF South Works Area
Mercury Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_6\9_3\FIGURE06D_UTC_BASF SOUTHWORKSAREA_93.MXD RRODRIG5 10/21/2011 16:35:34

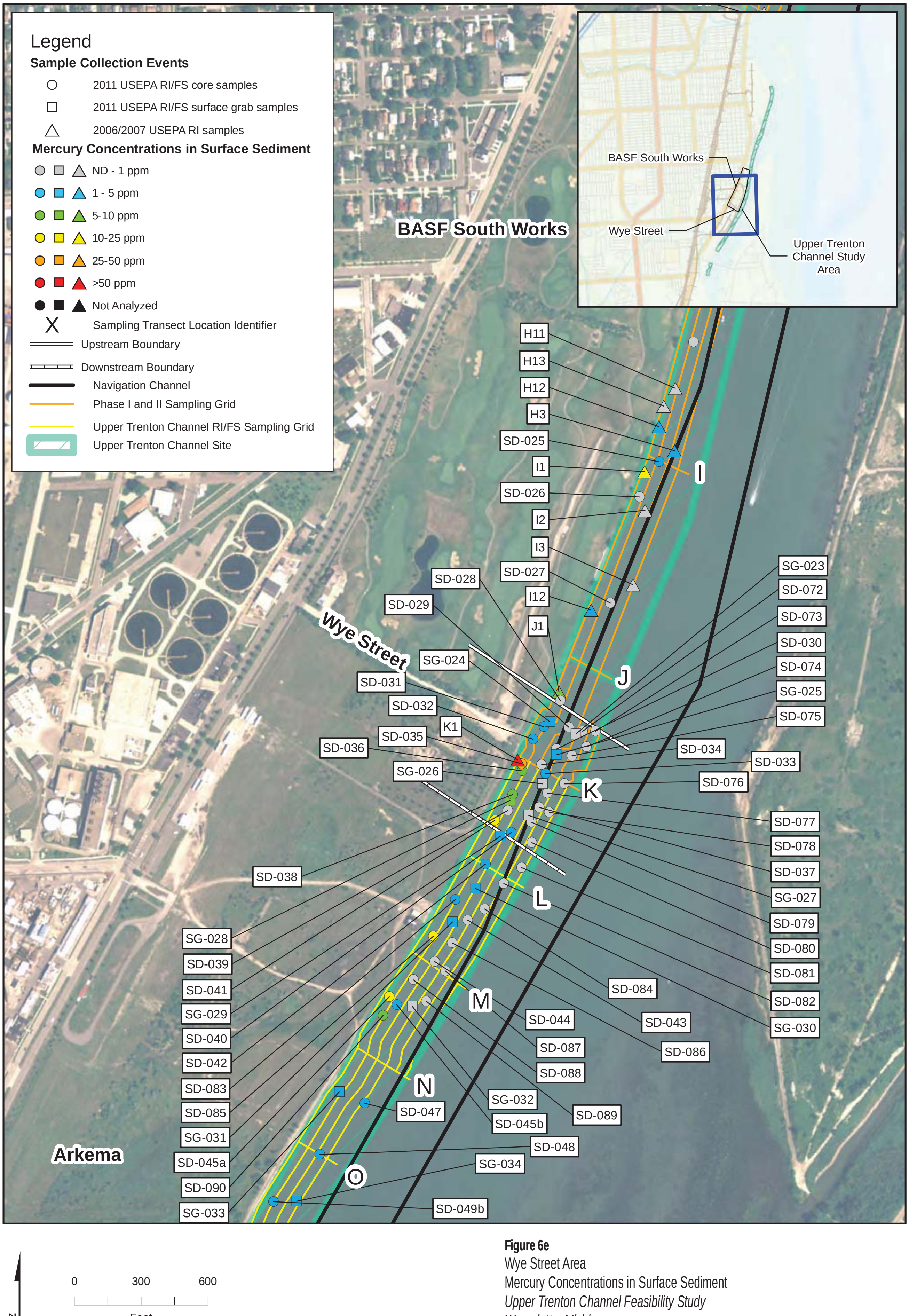


Figure 6e
Wye Street Area
Mercury Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_6\9_3\FIGURE06E_UTC_WYESTREETAREA_93.MXD RRODRIG5 10/21/2011 17:32:53

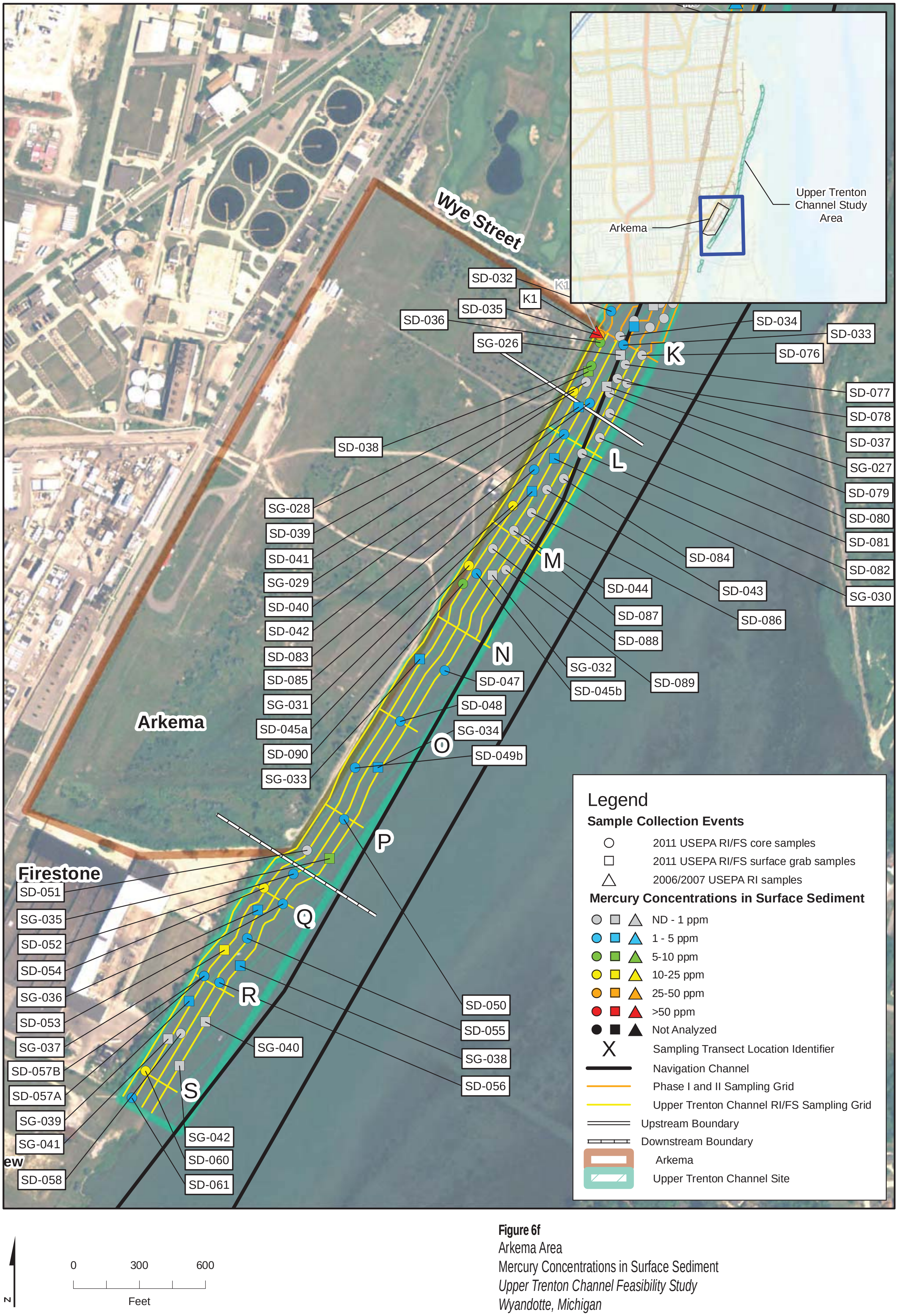


Figure 6f
Arkema Area
Mercury Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_6\9_3\FIGURE06F_UTC_ARKEMAAREA_93.MXD RRODRIG5 10/21/2011 17:38:22

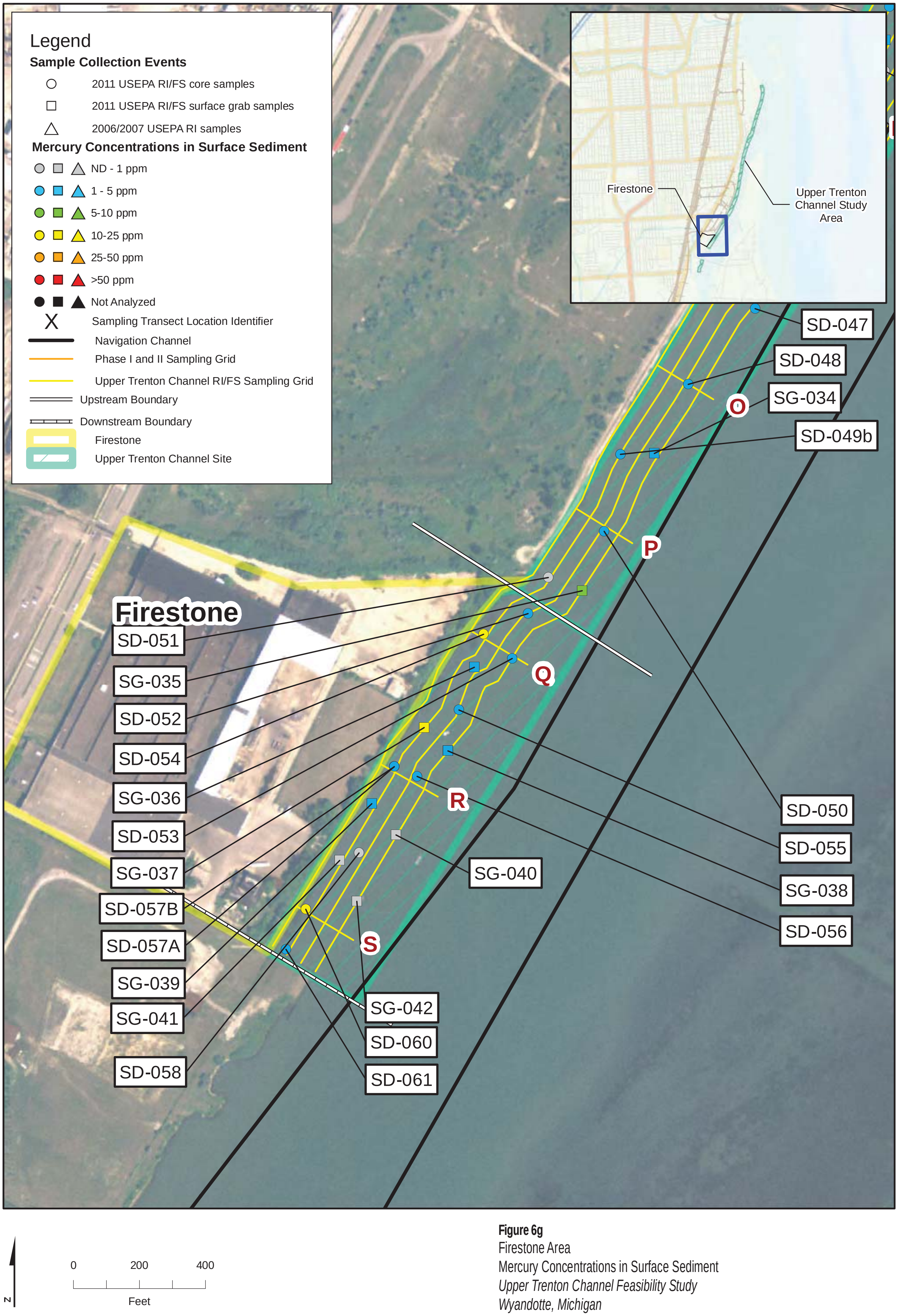


Figure 6g
Firestone Area
Mercury Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_6\9_3\FIGURE06G_UTC_FIRESTONEAREA_93.MXD RRODRIG5 10/21/2011 17:47:16

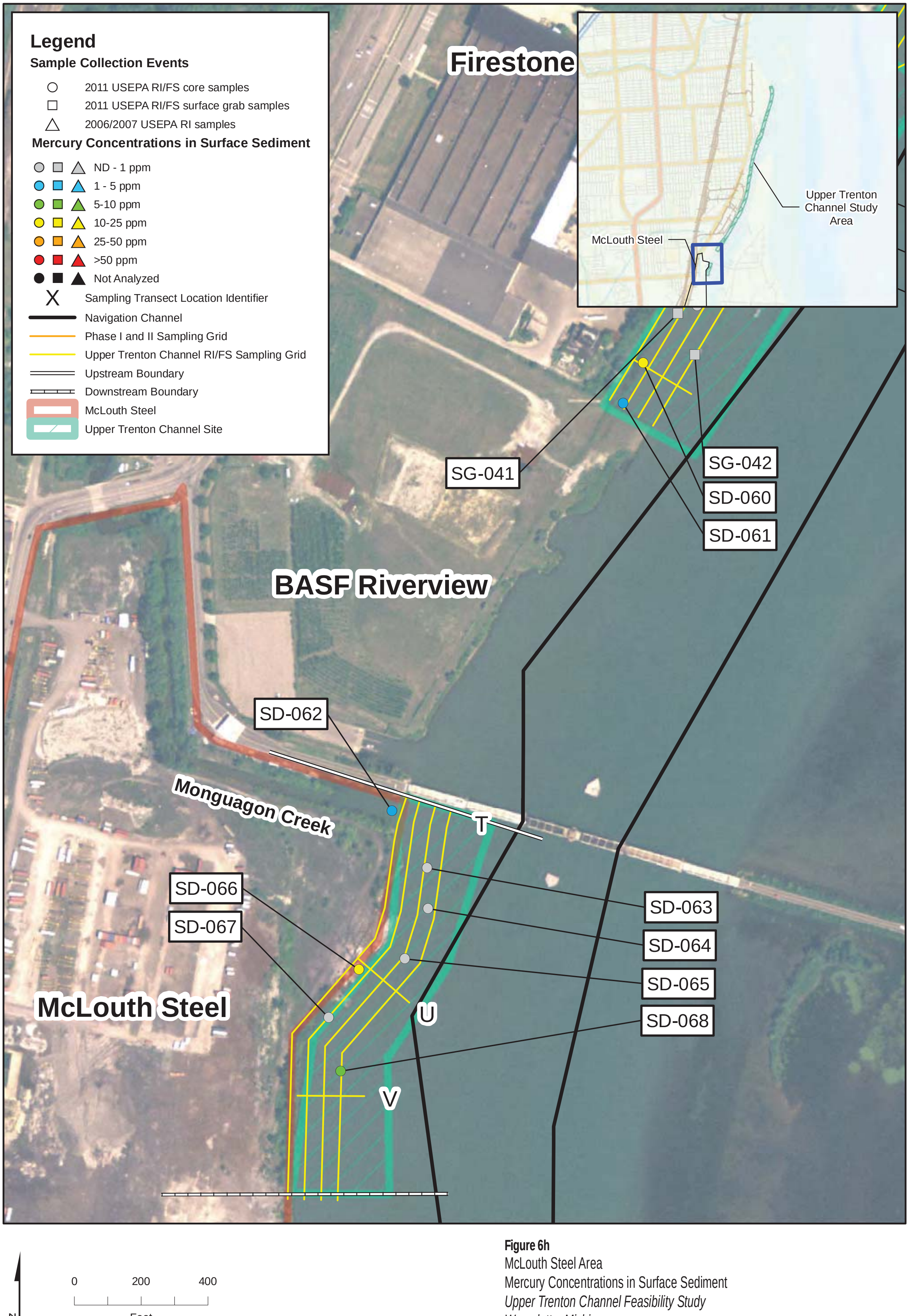
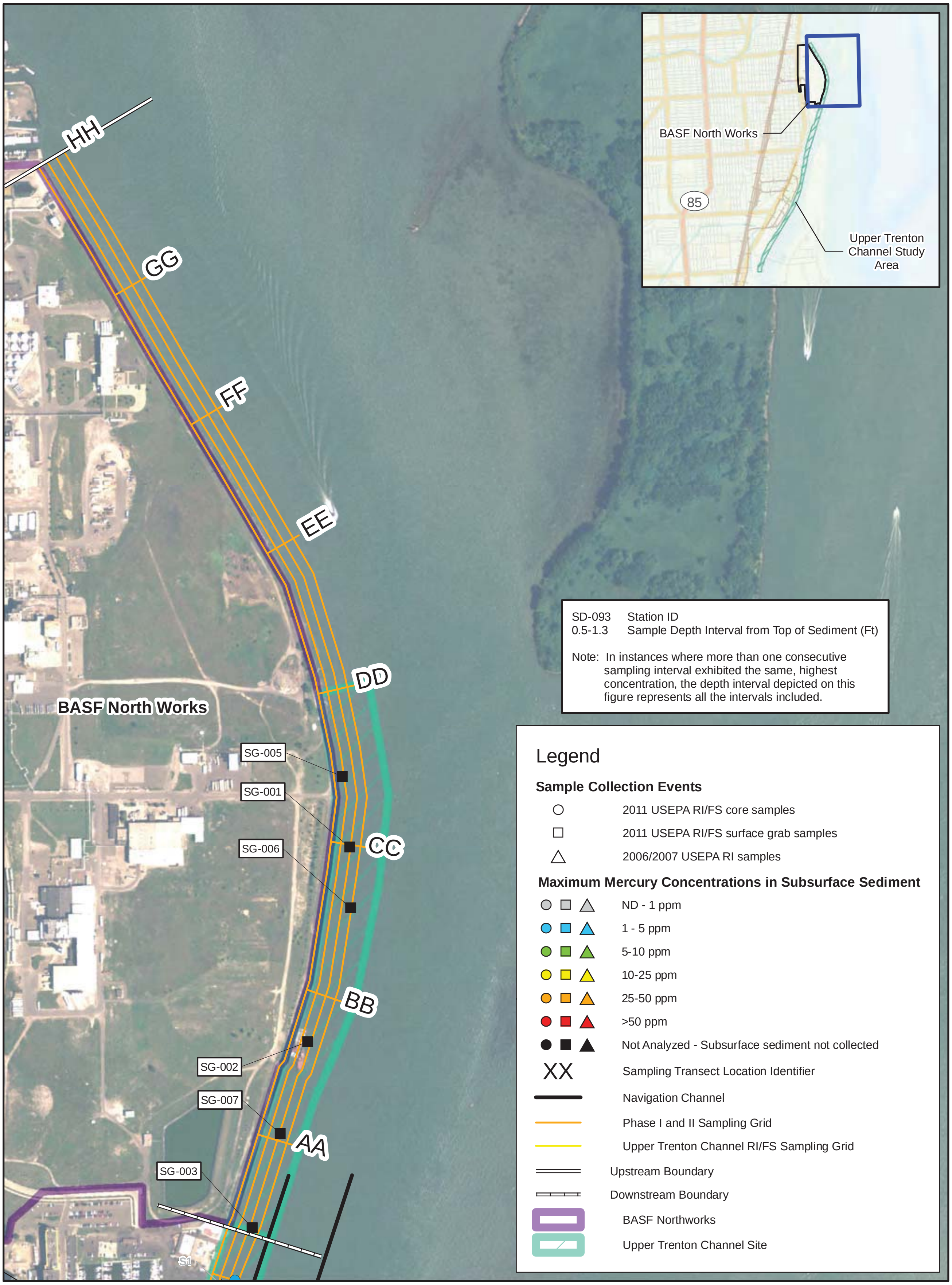


Figure 6h
McLouth Steel Area
Mercury Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_6\9_3\FIGURE06H_UTC_MCLOUTHSTEELAREA_93.MXD RRODRIG5 10/21/2011 17:51:26

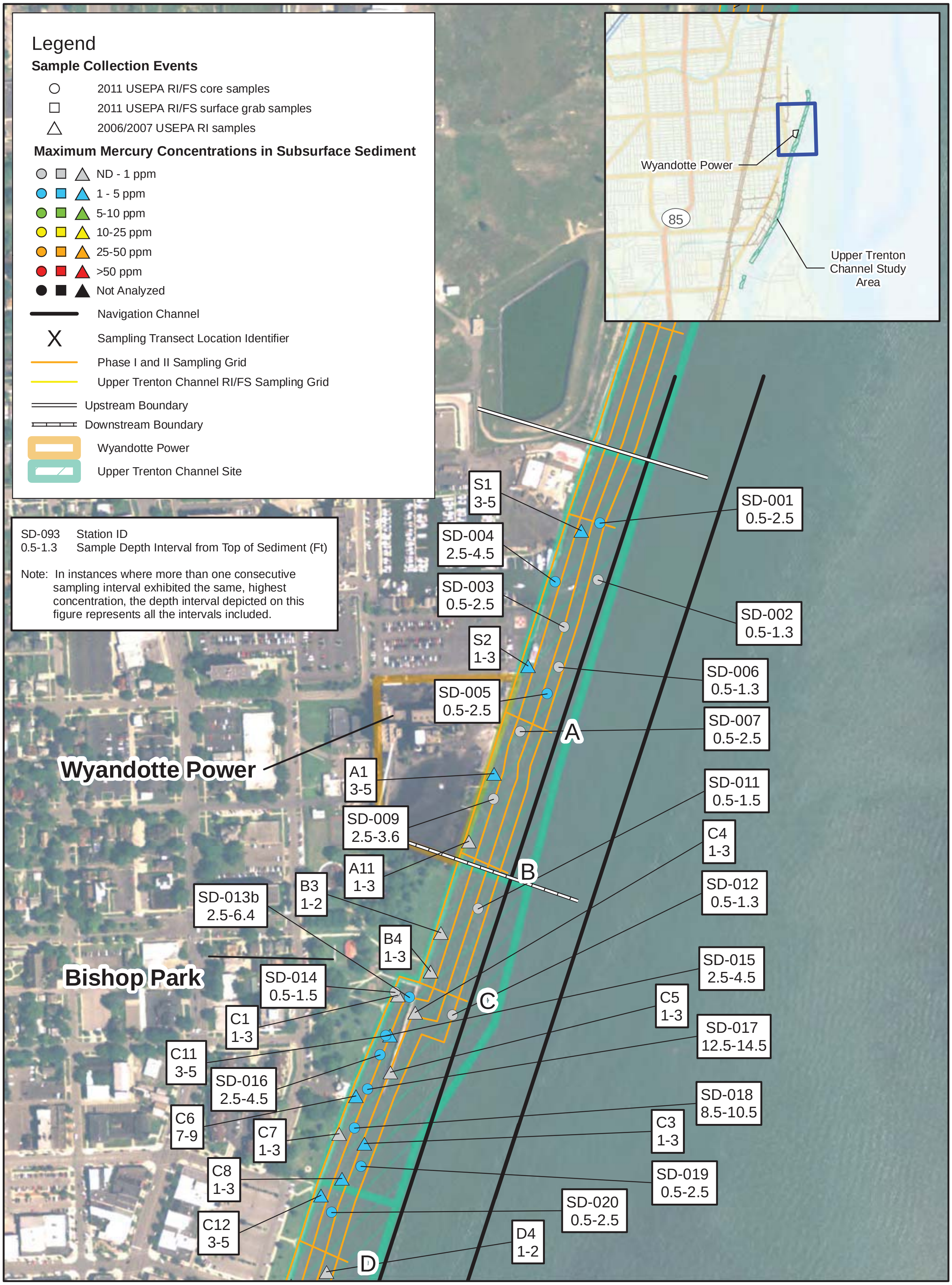


N

0 350 700

Feet

Figure 7a
BASF North Works Area
Maximum Mercury Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan



N

0 250 500

Feet

Figure 7b
Wyandotte Power Plant Area
Maximum Mercury Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

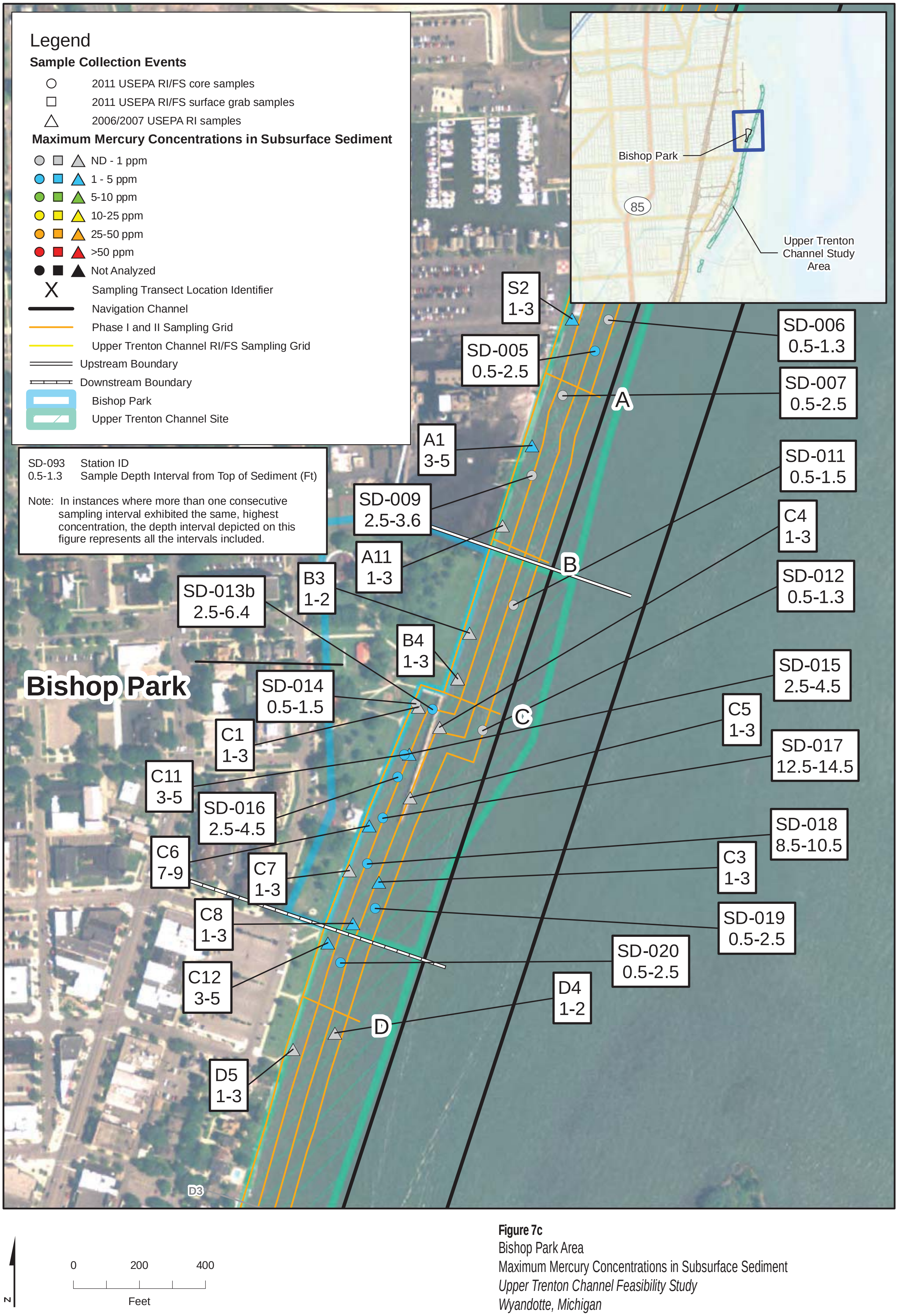


Figure 7c

Bishop Park Area

Maximum Mercury Concentrations in Subsurface Sediment

Upper Trenton Channel Feasibility Study

Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_7\9_3\FIGURE07C_UTC_BISHOPPARKAREA_93.MXD RRODRIG5 10/24/2011 13:18:05

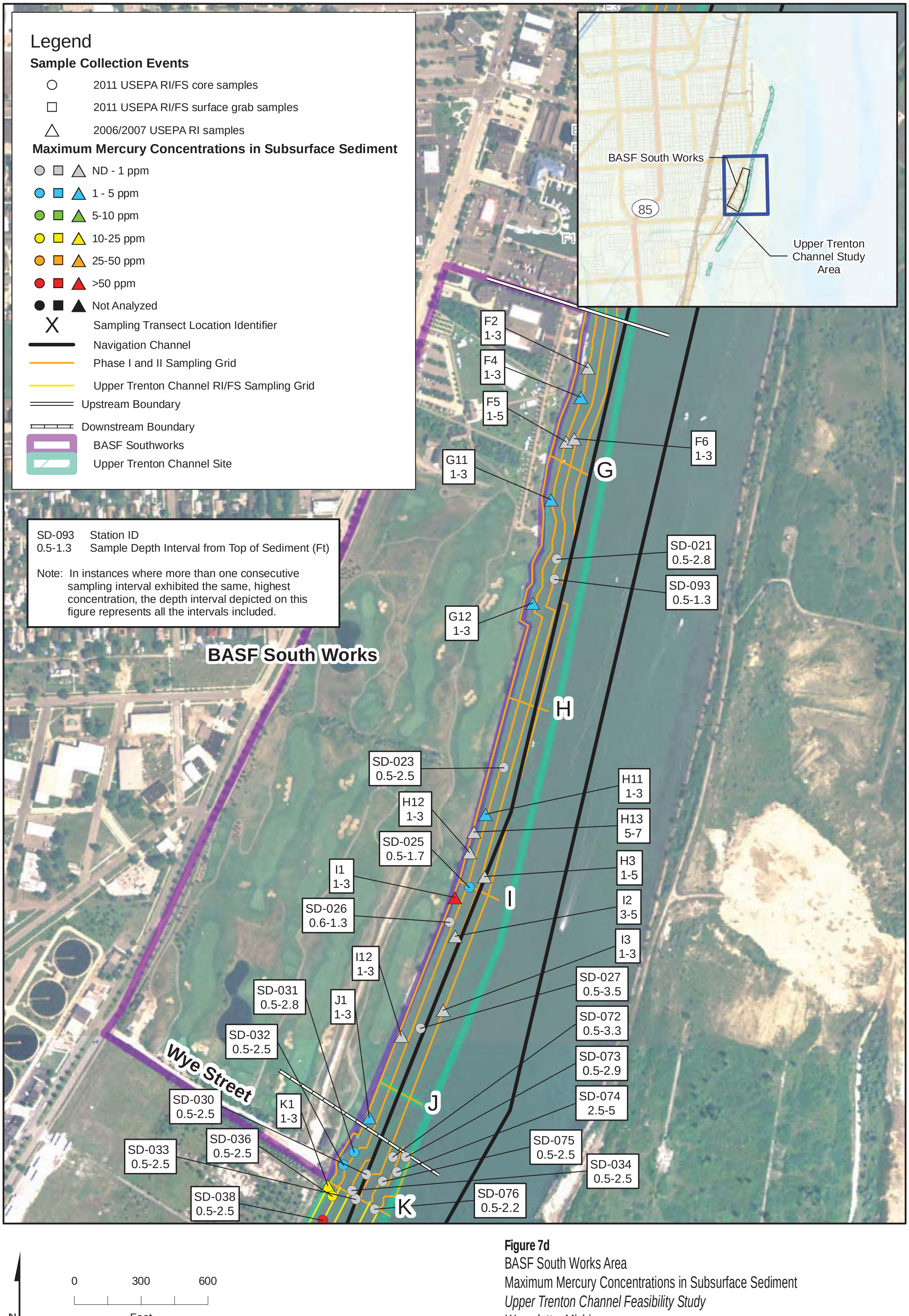


Figure 7d
BASF South Works Area
Maximum Mercury Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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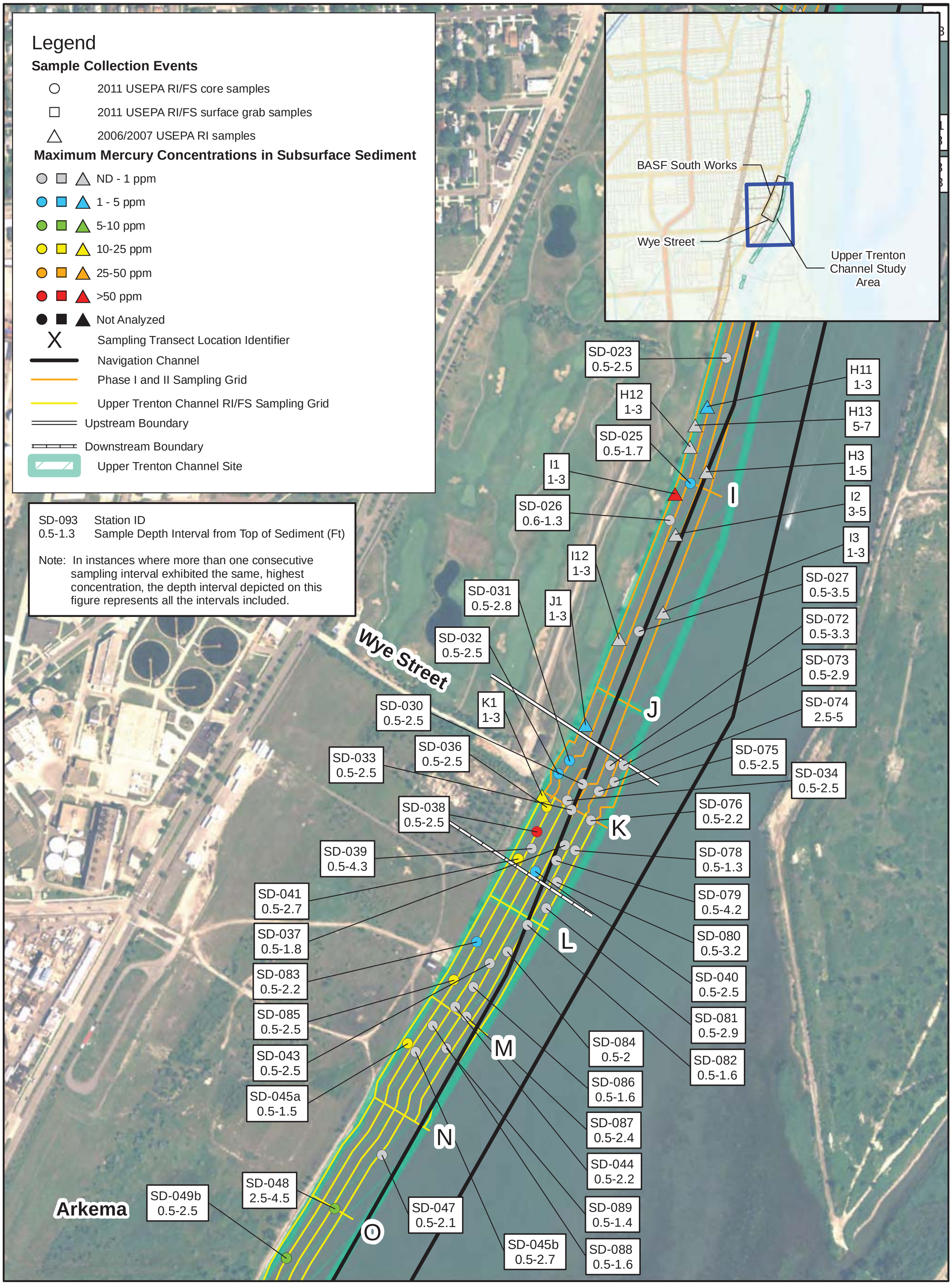

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Feet

Figure 7e
Wye Street Area
Maximum Mercury Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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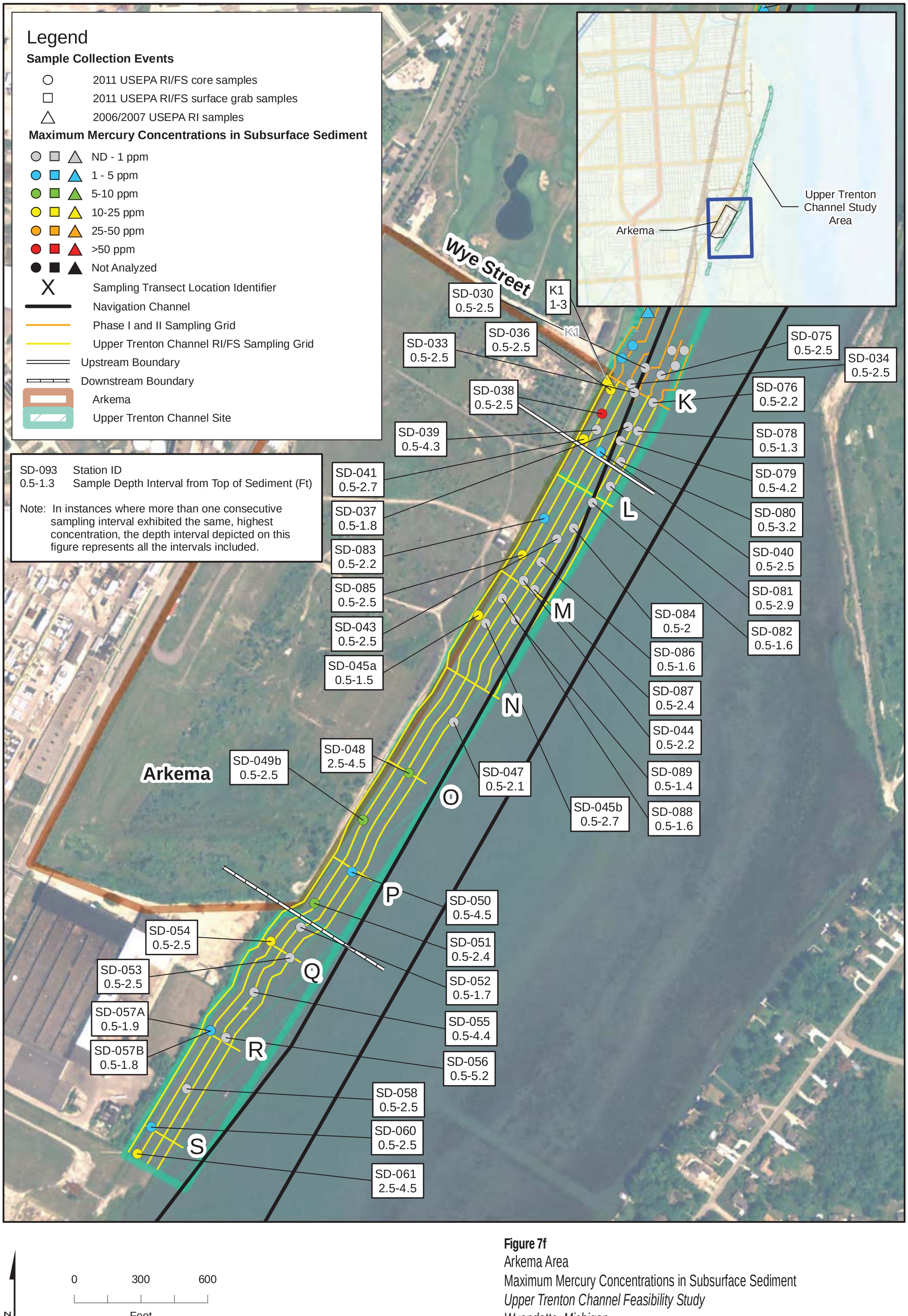

Figure 7f
Arkema Area
Maximum Mercury Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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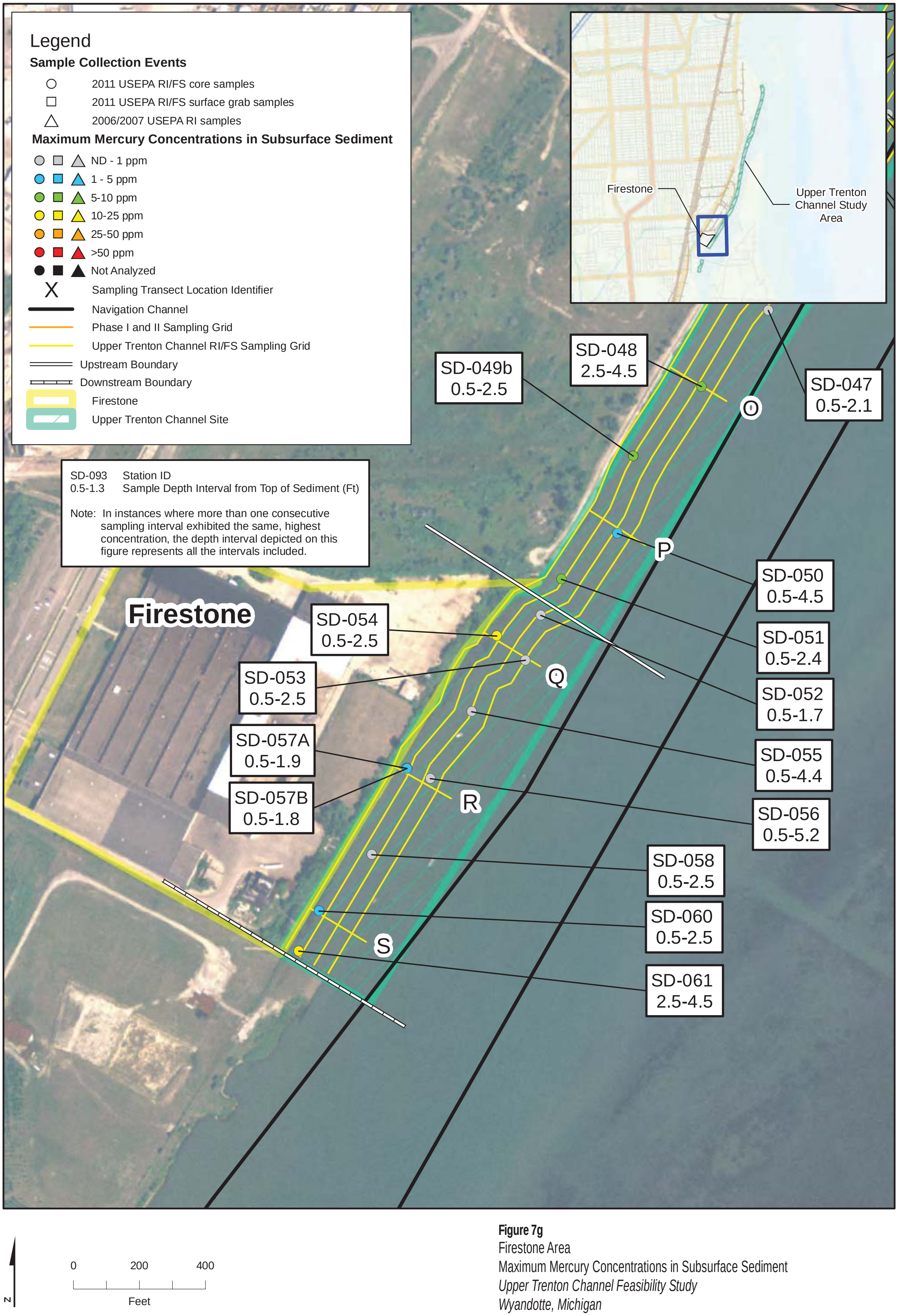

Figure 7g
Firestone Area
Maximum Mercury Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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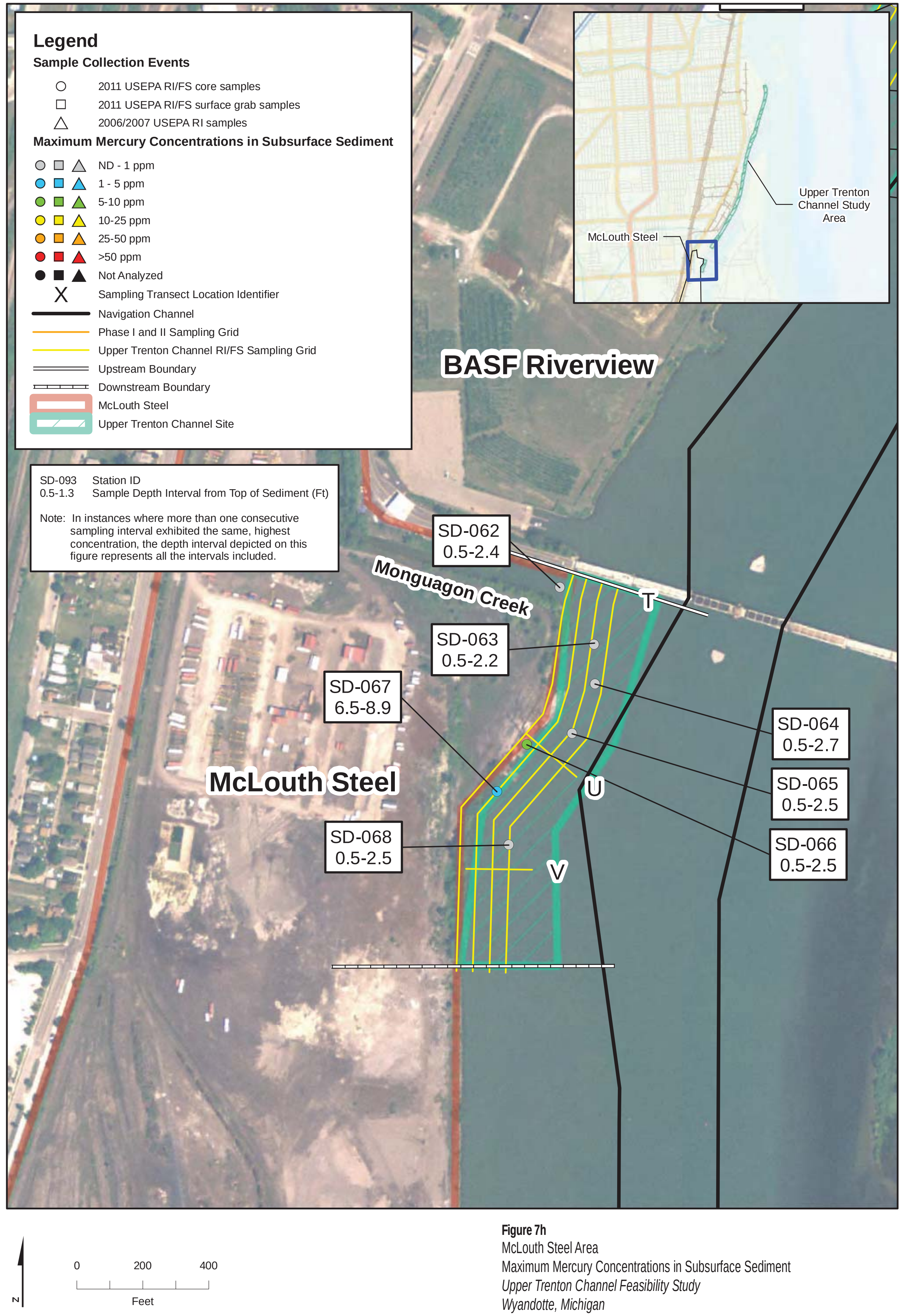

Figure 7h
McLouth Steel Area
Maximum Mercury Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

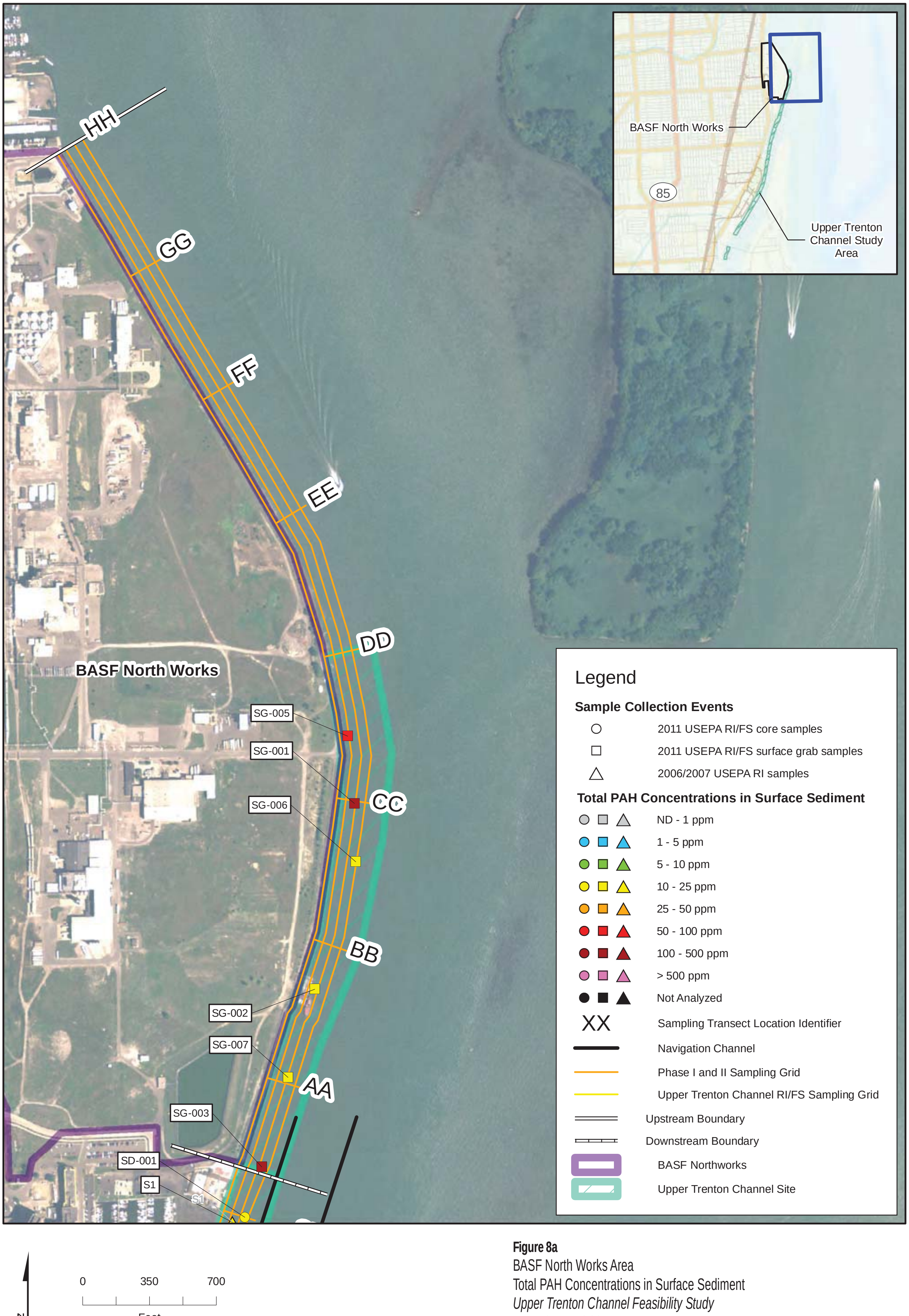

Figure 8a
BASF North Works Area
Total PAH Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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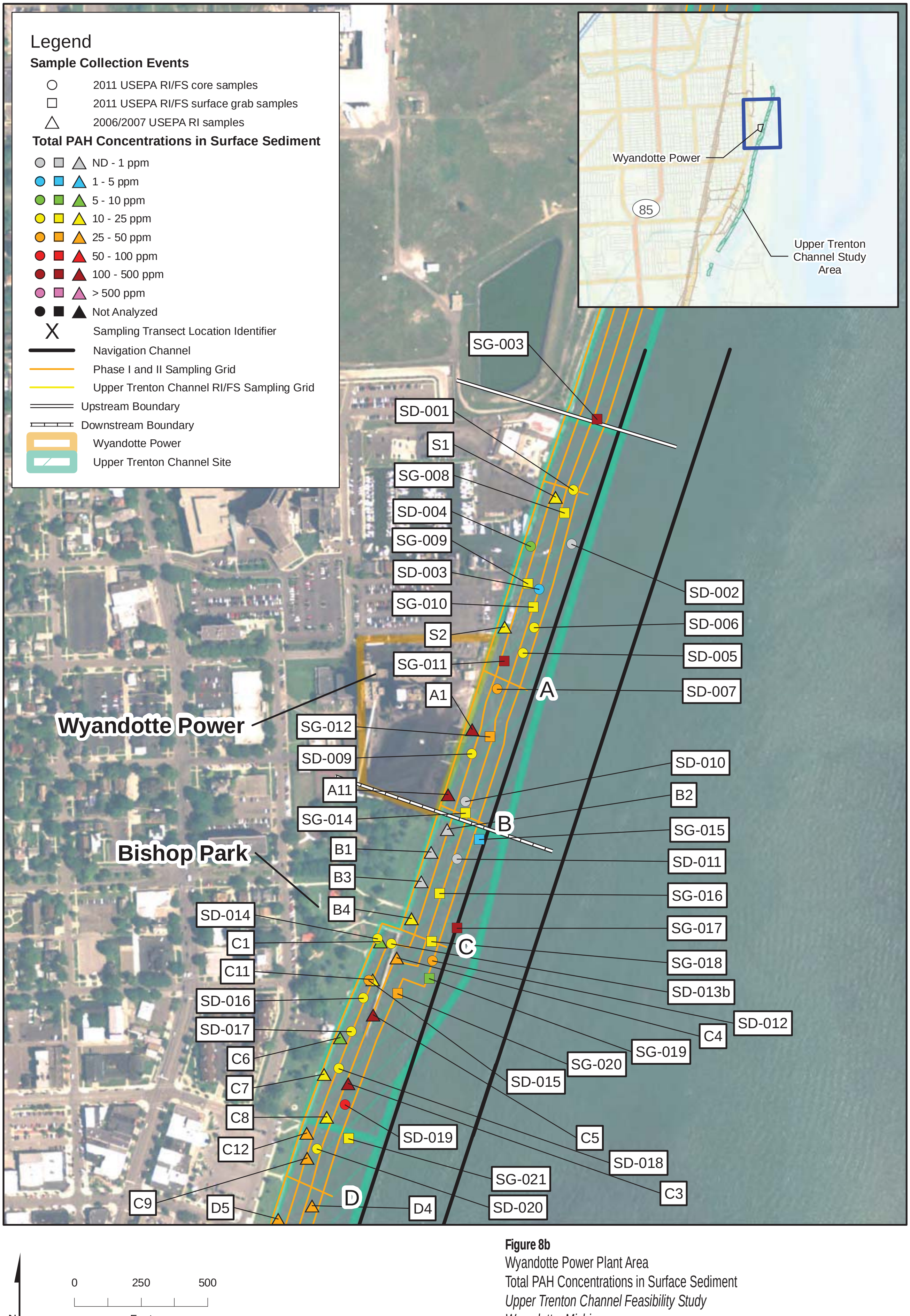

Figure 8b
Wyandotte Power Plant Area
Total PAH Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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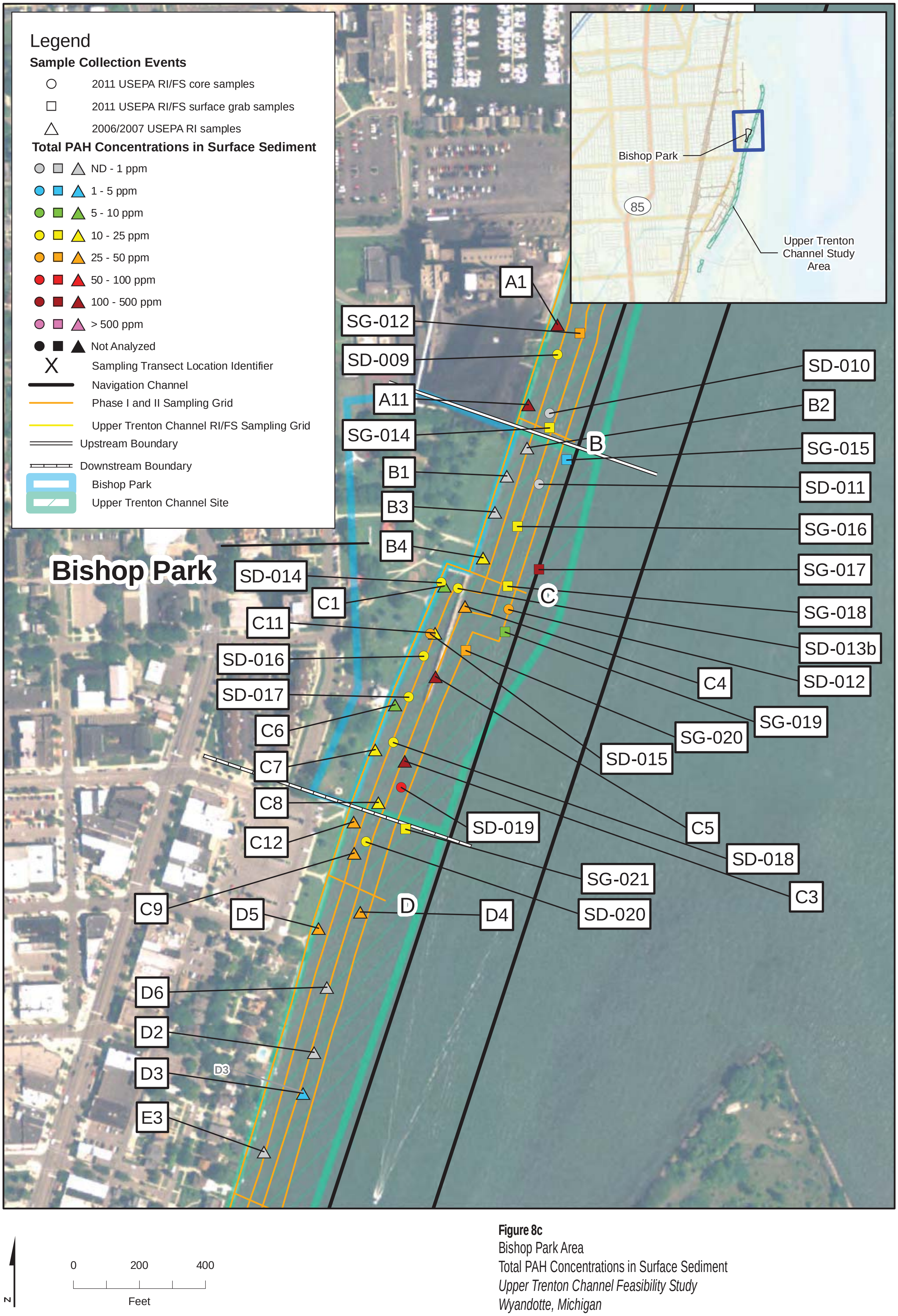

Figure 8c
Bishop Park Area
Total PAH Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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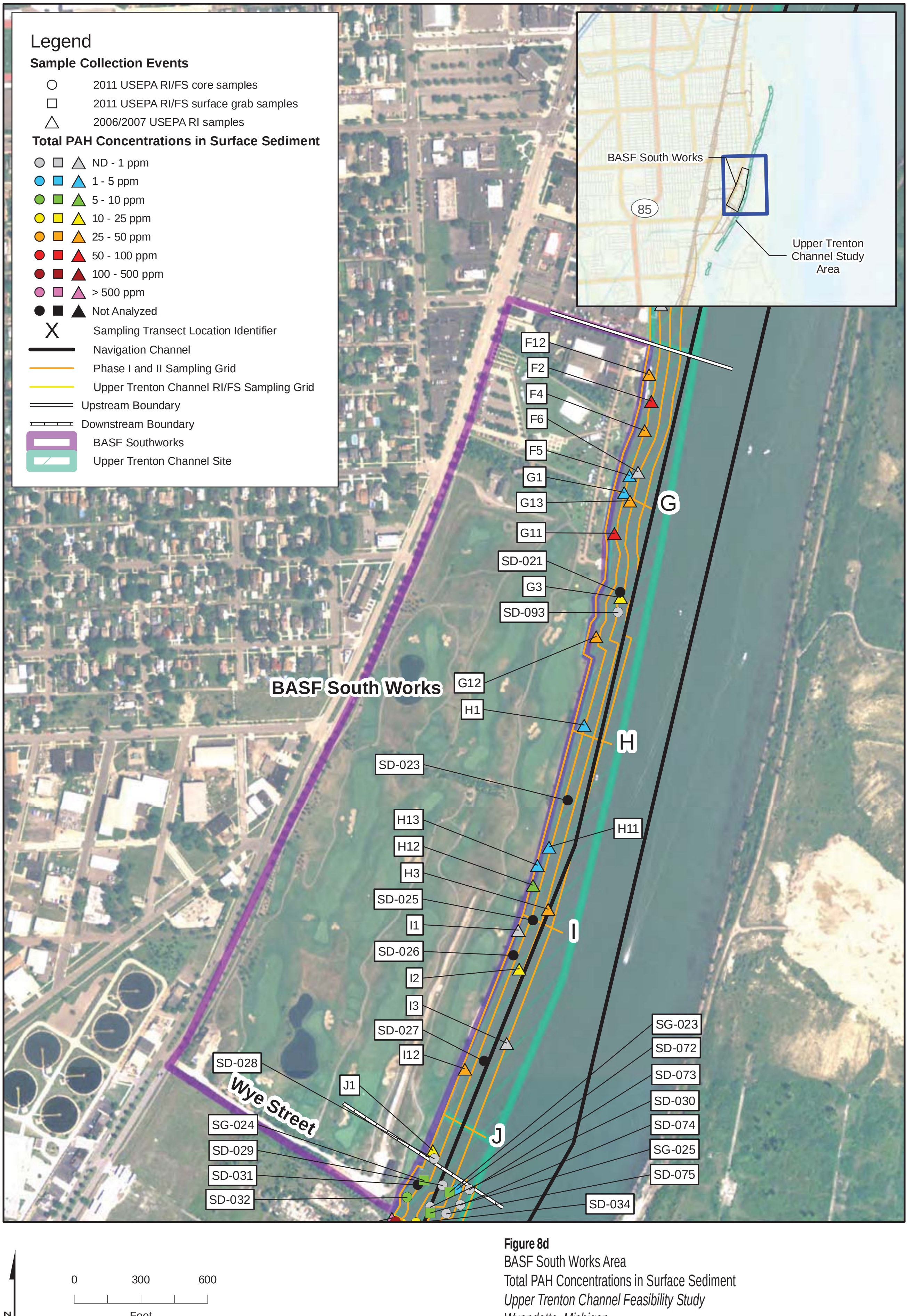

Figure 8d
BASF South Works Area
Total PAH Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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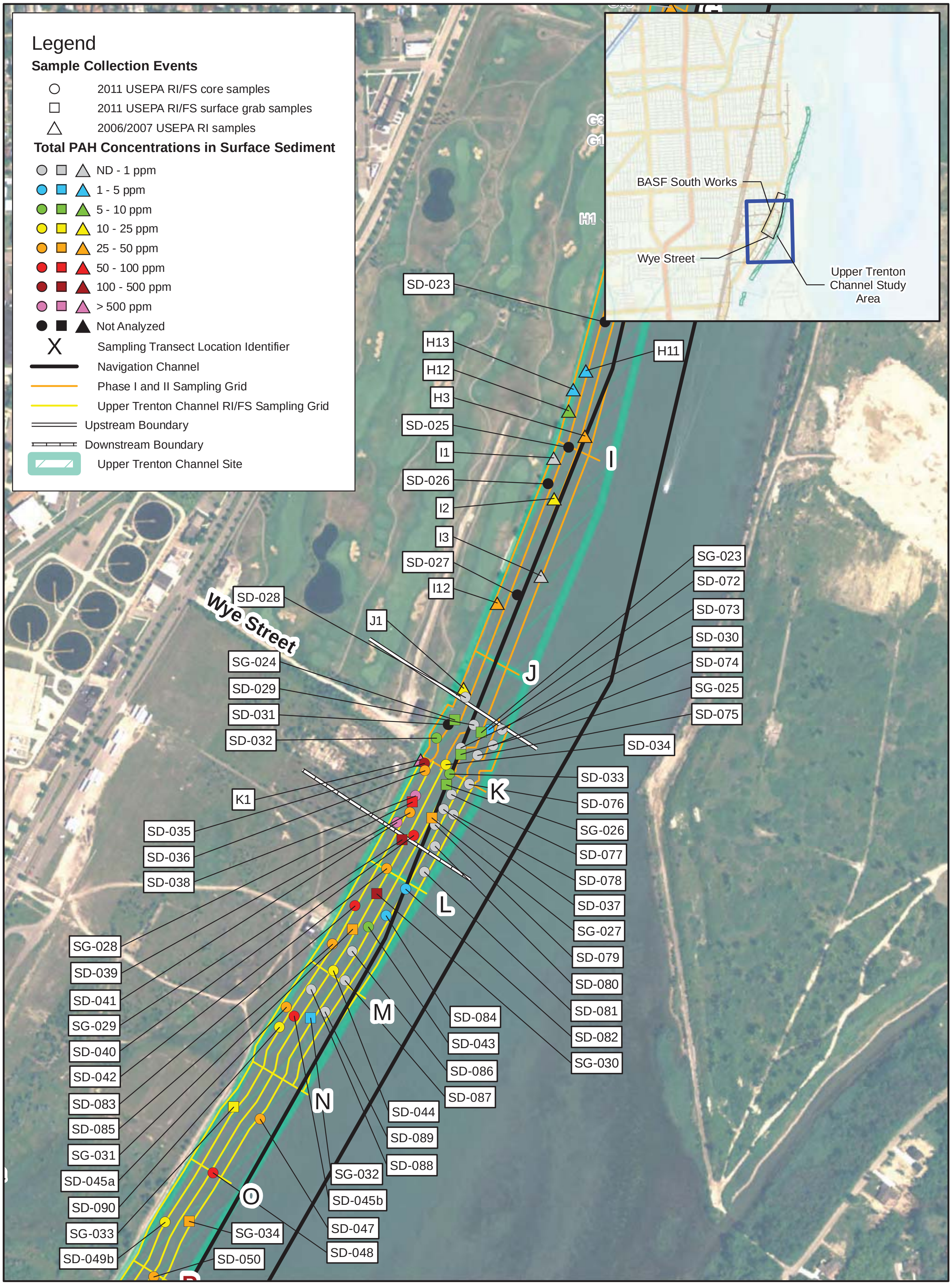

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Feet

Figure 8e

Wye Street Area

Total PAH Concentrations in Surface Sediment

Upper Trenton Channel Feasibility Study

Wyandotte, Michigan

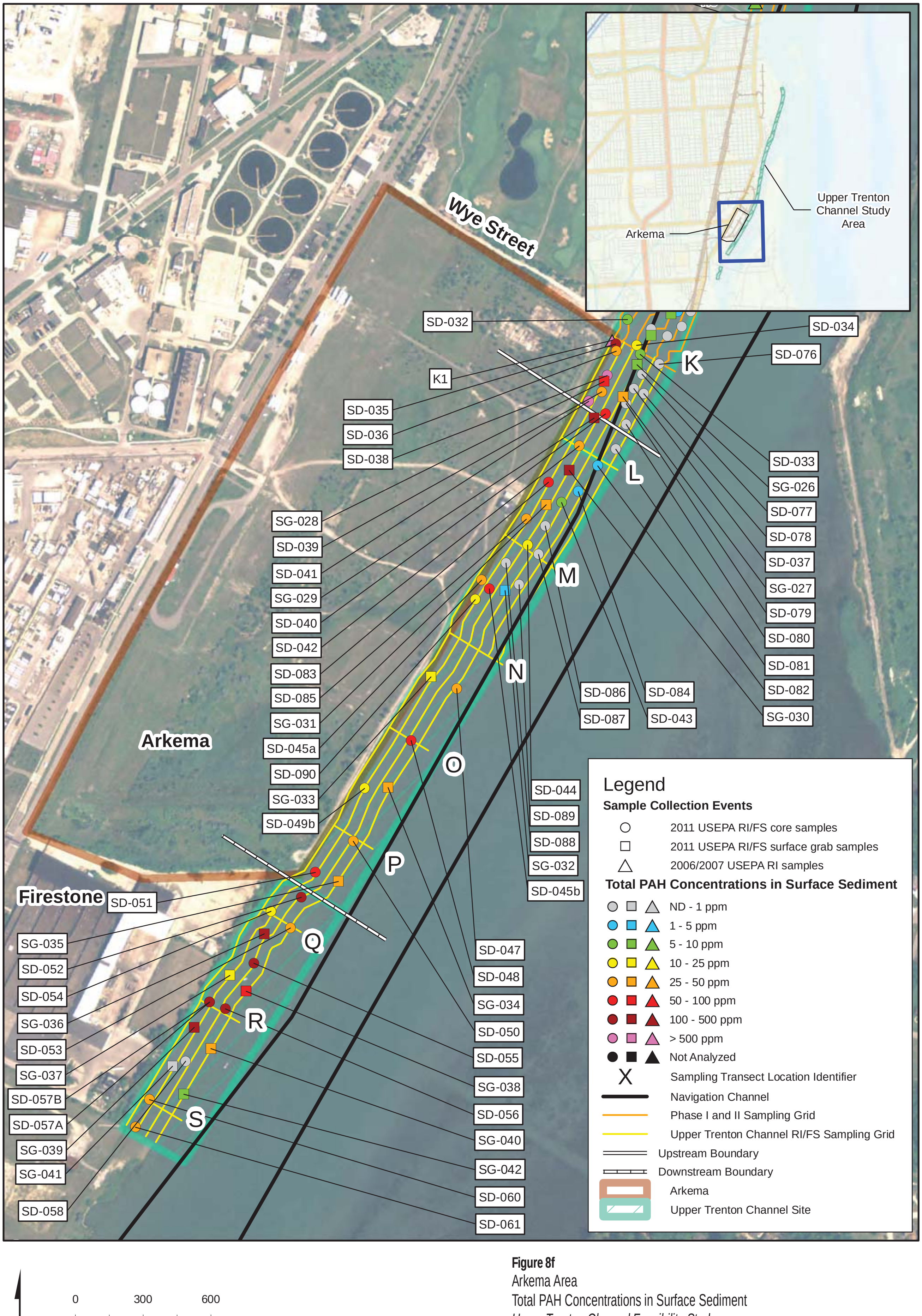

Figure 8f
Arkema Area
Total PAH Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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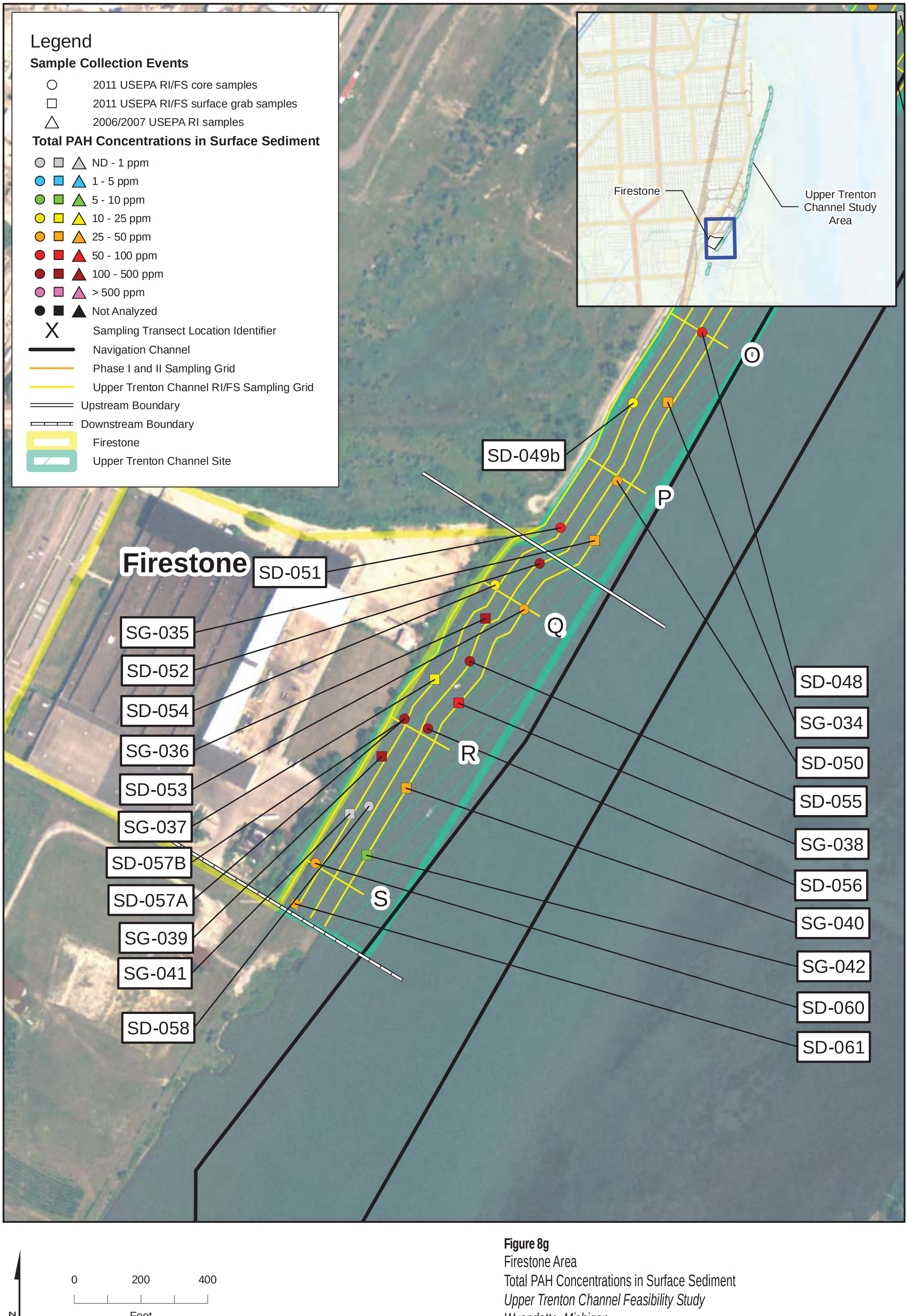

Figure 8g
Firestone Area
Total PAH Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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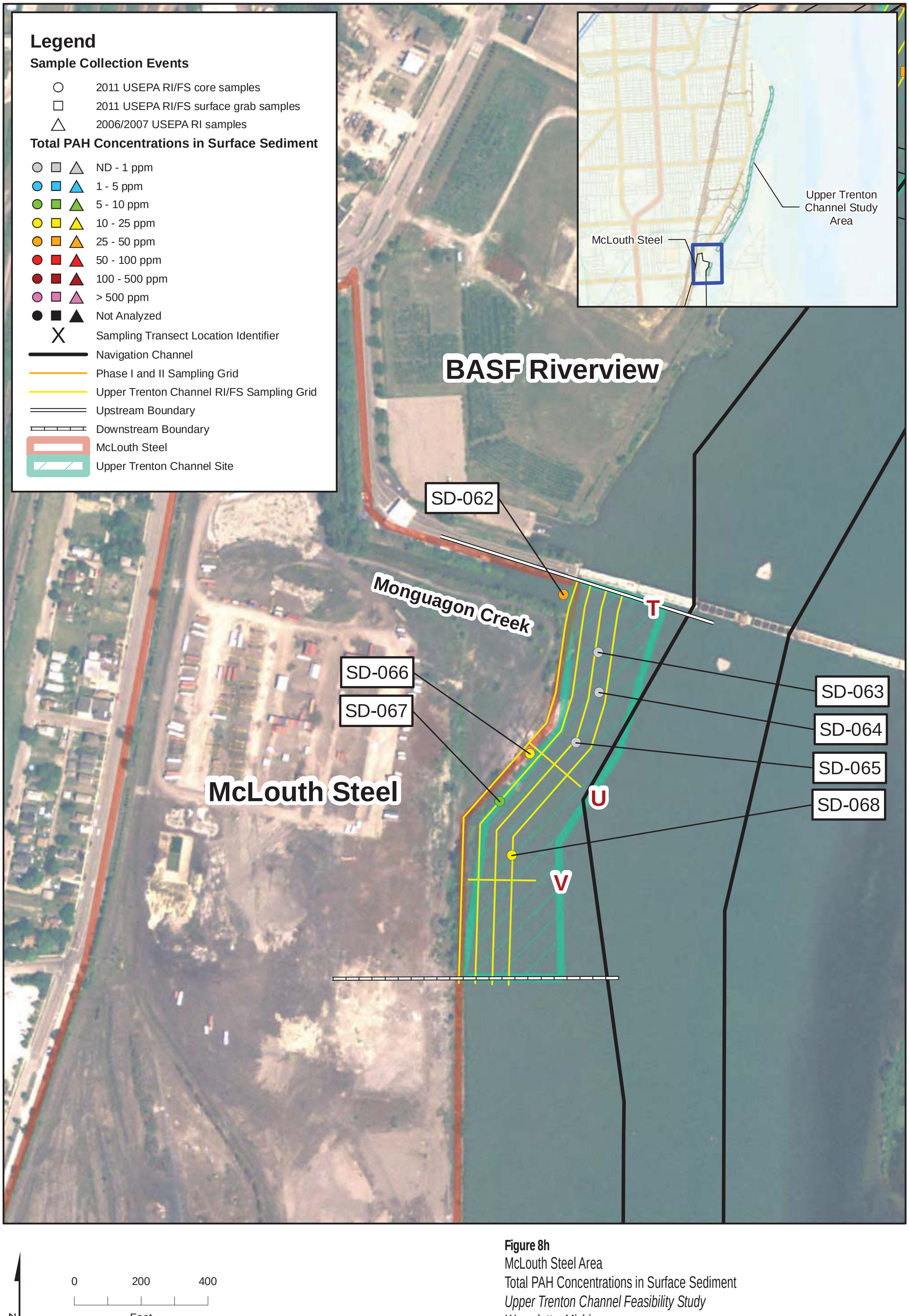

Figure 8h
McLouth Steel Area
Total PAH Concentrations in Surface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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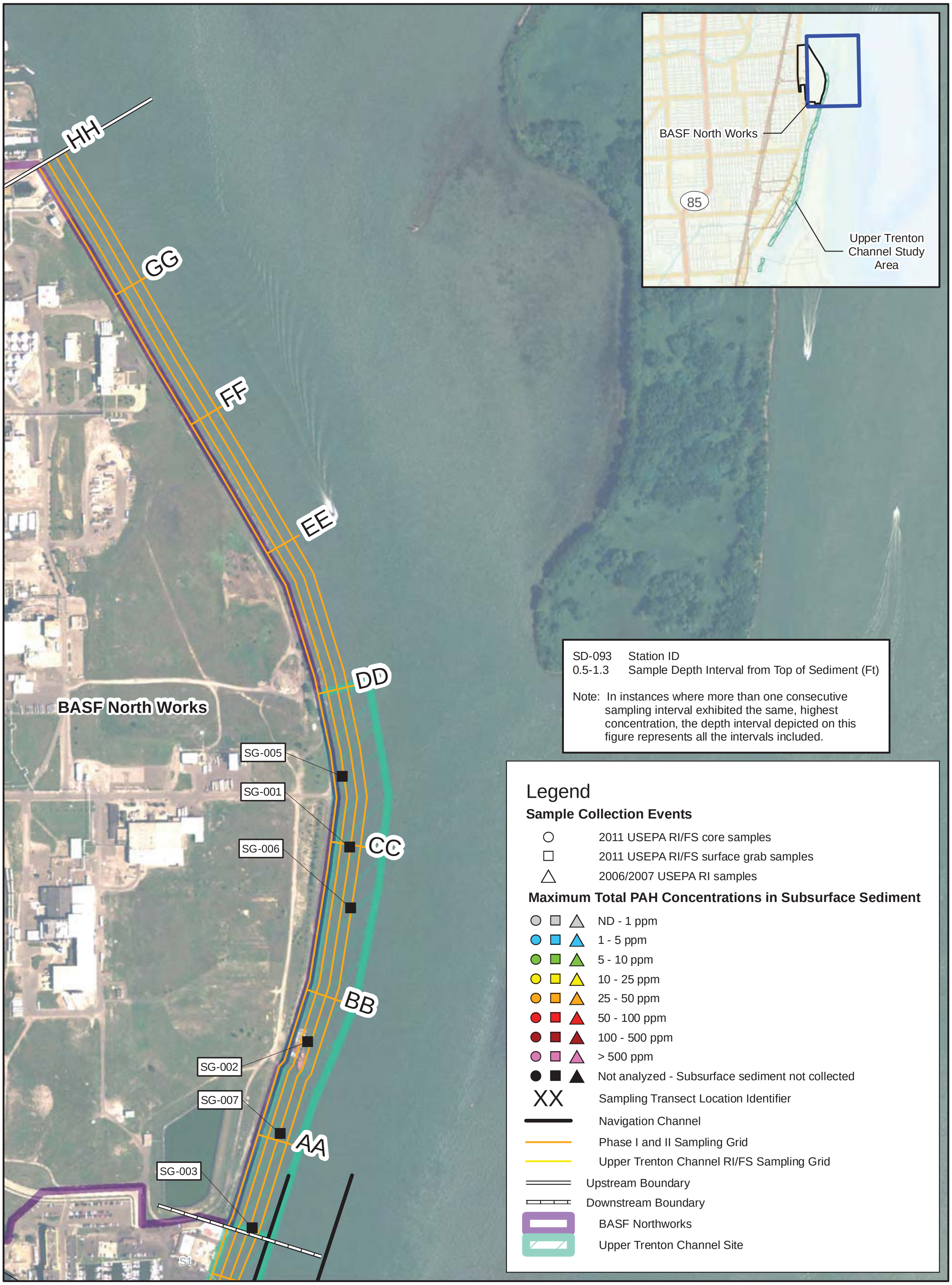

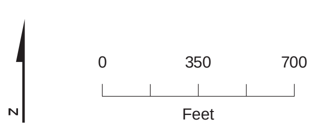

Figure 9a
BASF North Works Area
Maximum Total PAH Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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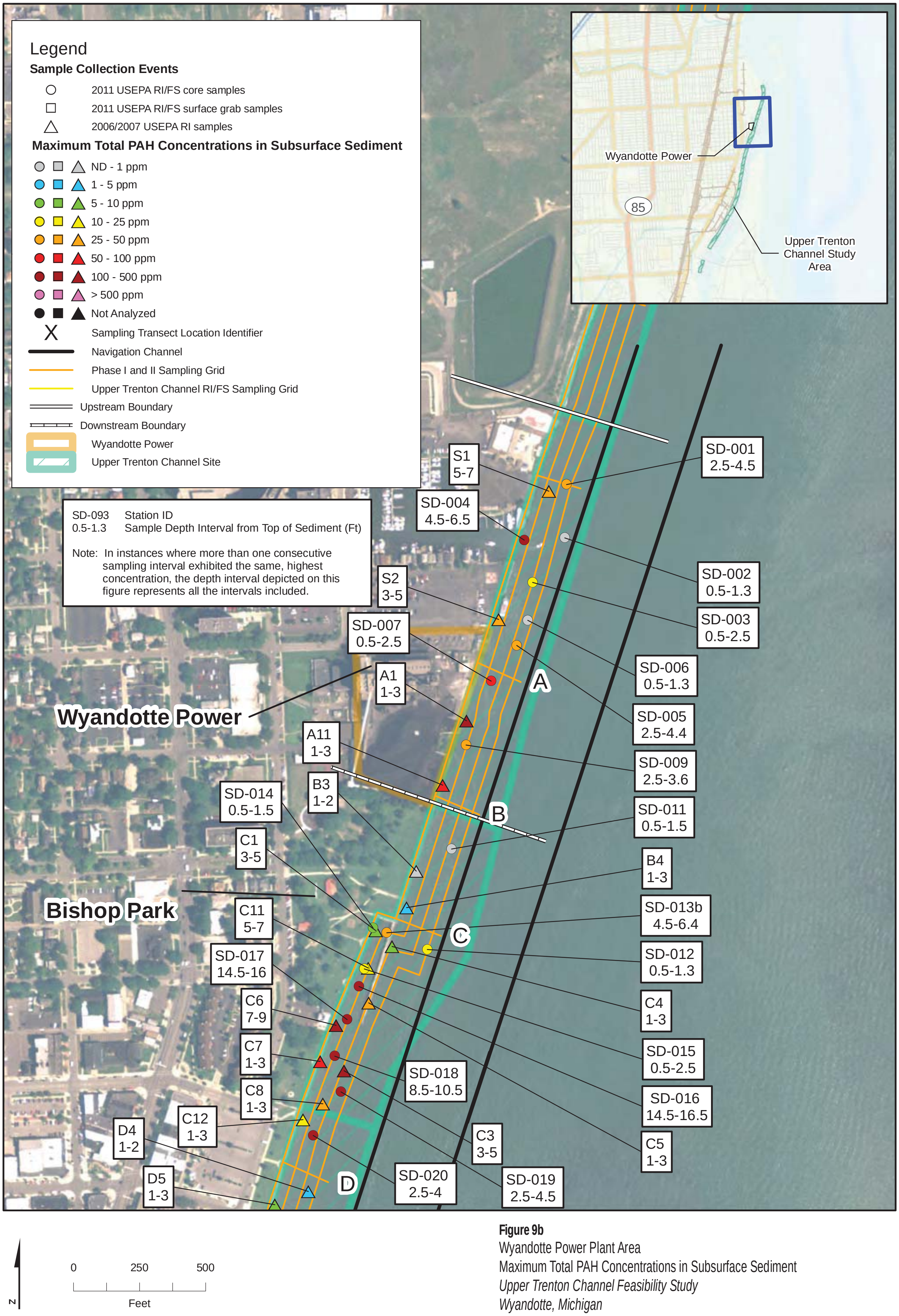

Figure 9b
Wyandotte Power Plant Area
Maximum Total PAH Concentrations in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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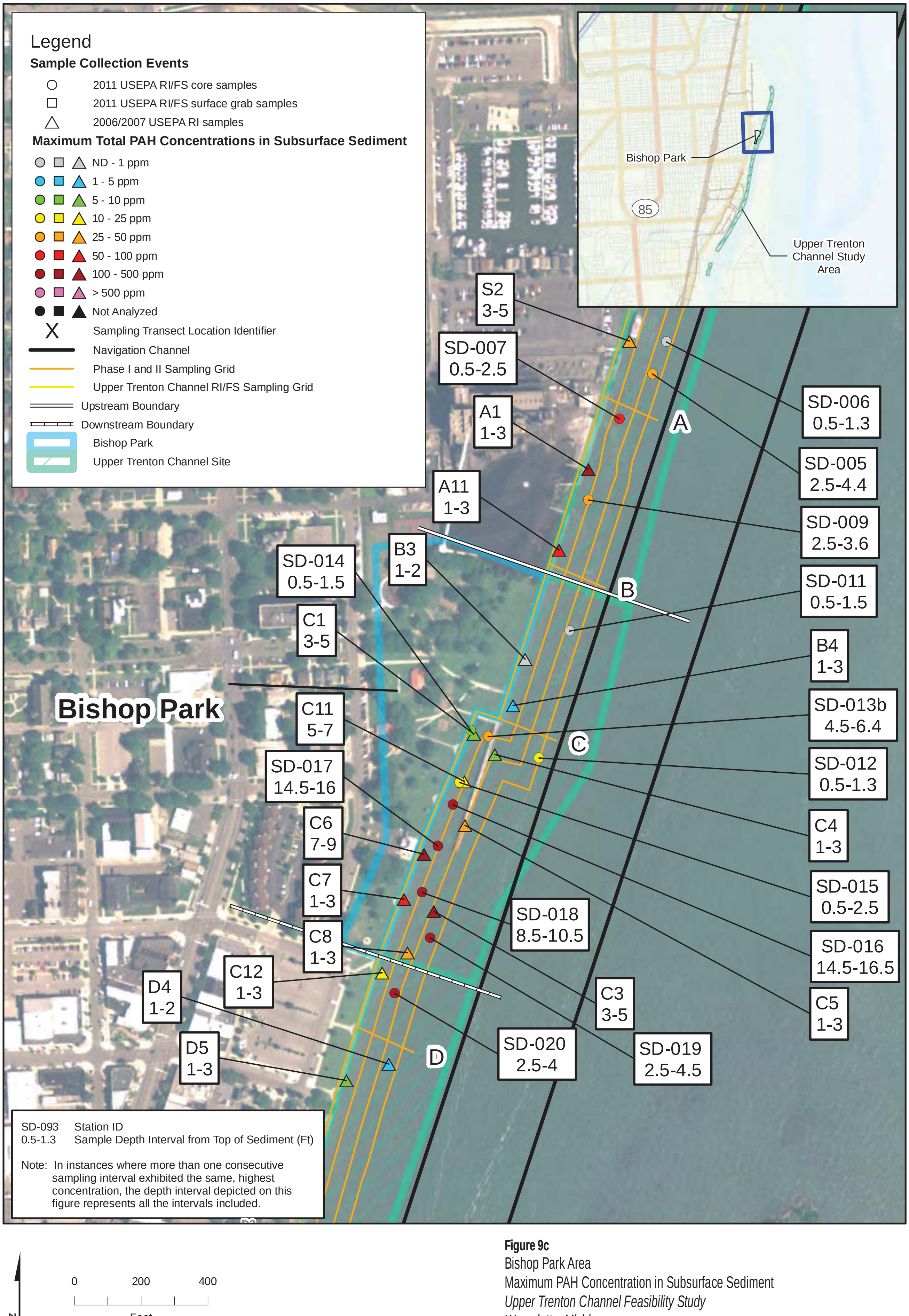

Figure 9c
Bishop Park Area
Maximum PAH Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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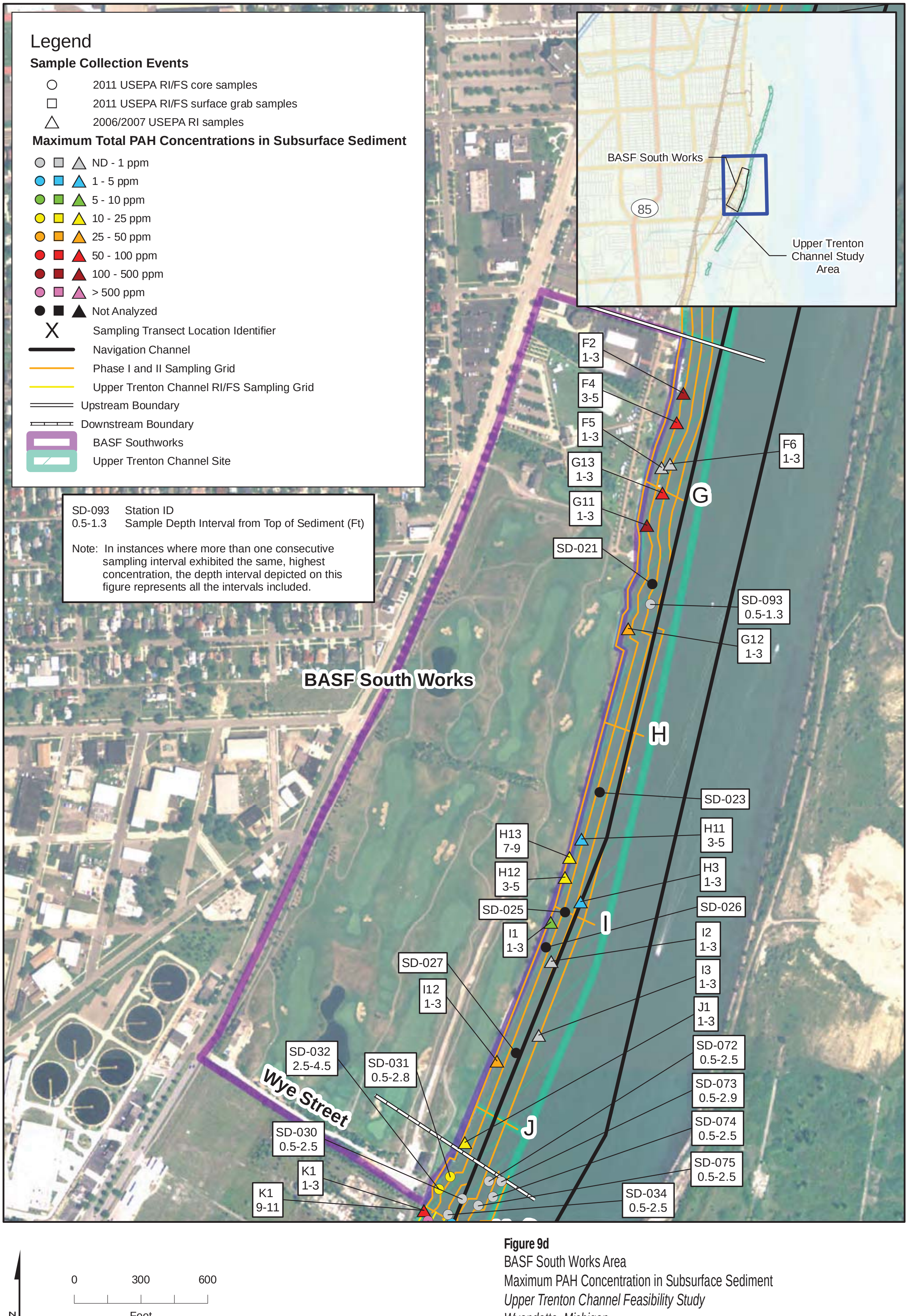

Figure 9d
BASF South Works Area
Maximum PAH Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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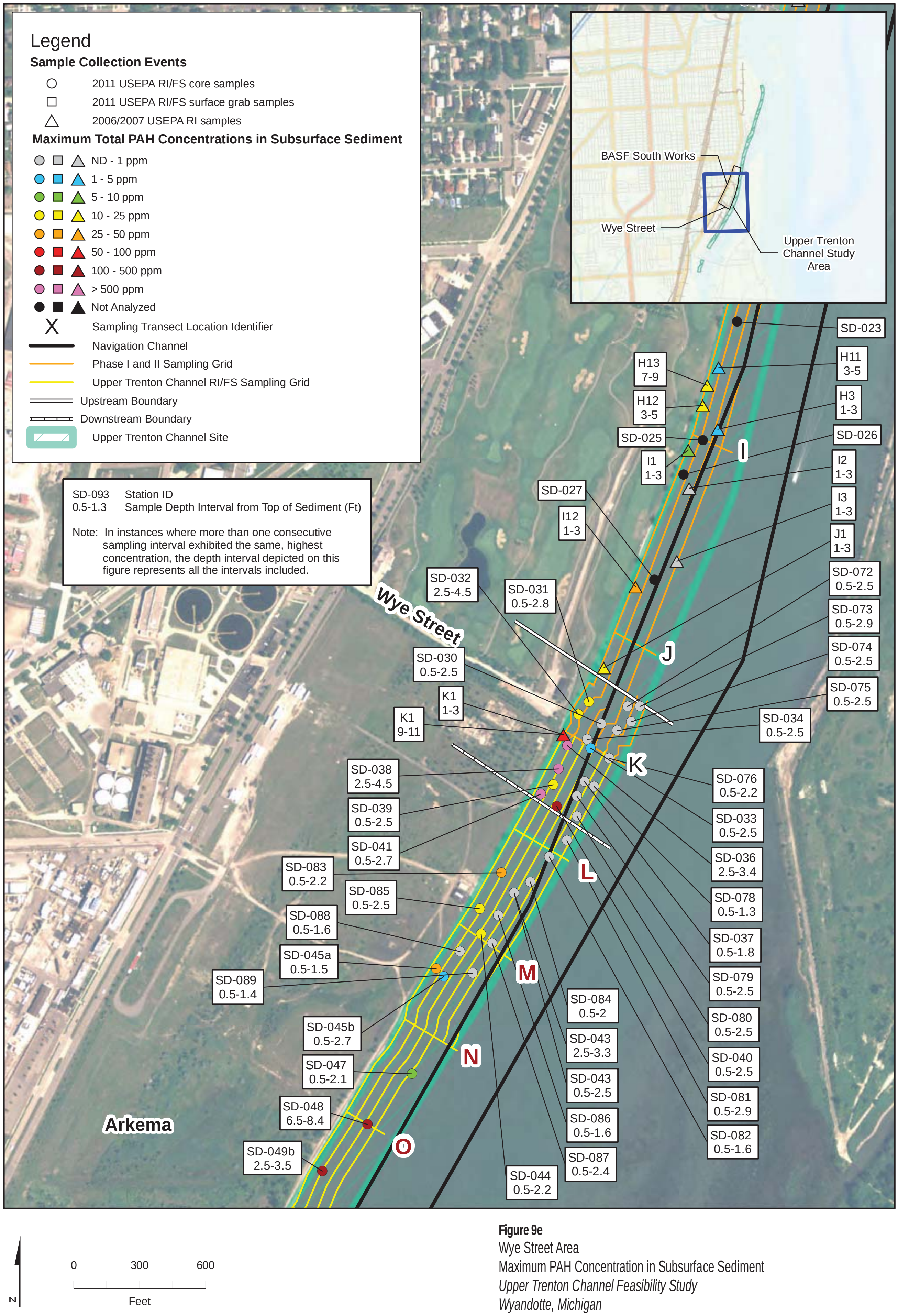

Figure 9e
Wye Street Area
Maximum PAH Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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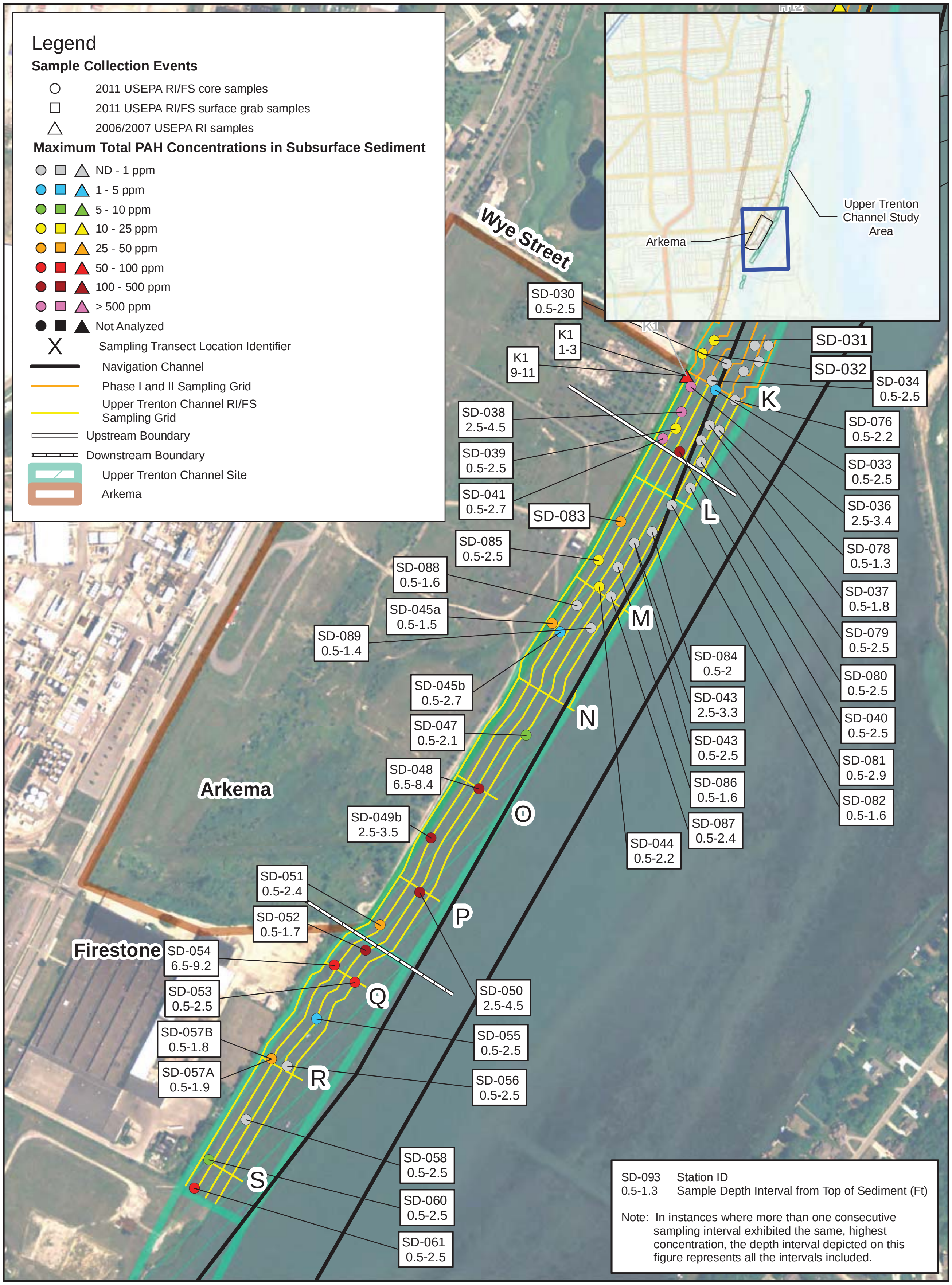

N

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Feet

Figure 9f

Arkema Area

Maximum PAH Concentration in Subsurface Sediment

Upper Trenton Channel Feasibility Study

Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_9\9_3\FIGURE09F_UTC_ARKEMAAREA_93.MXD RRODRIG5 10/20/2011 16:08:08

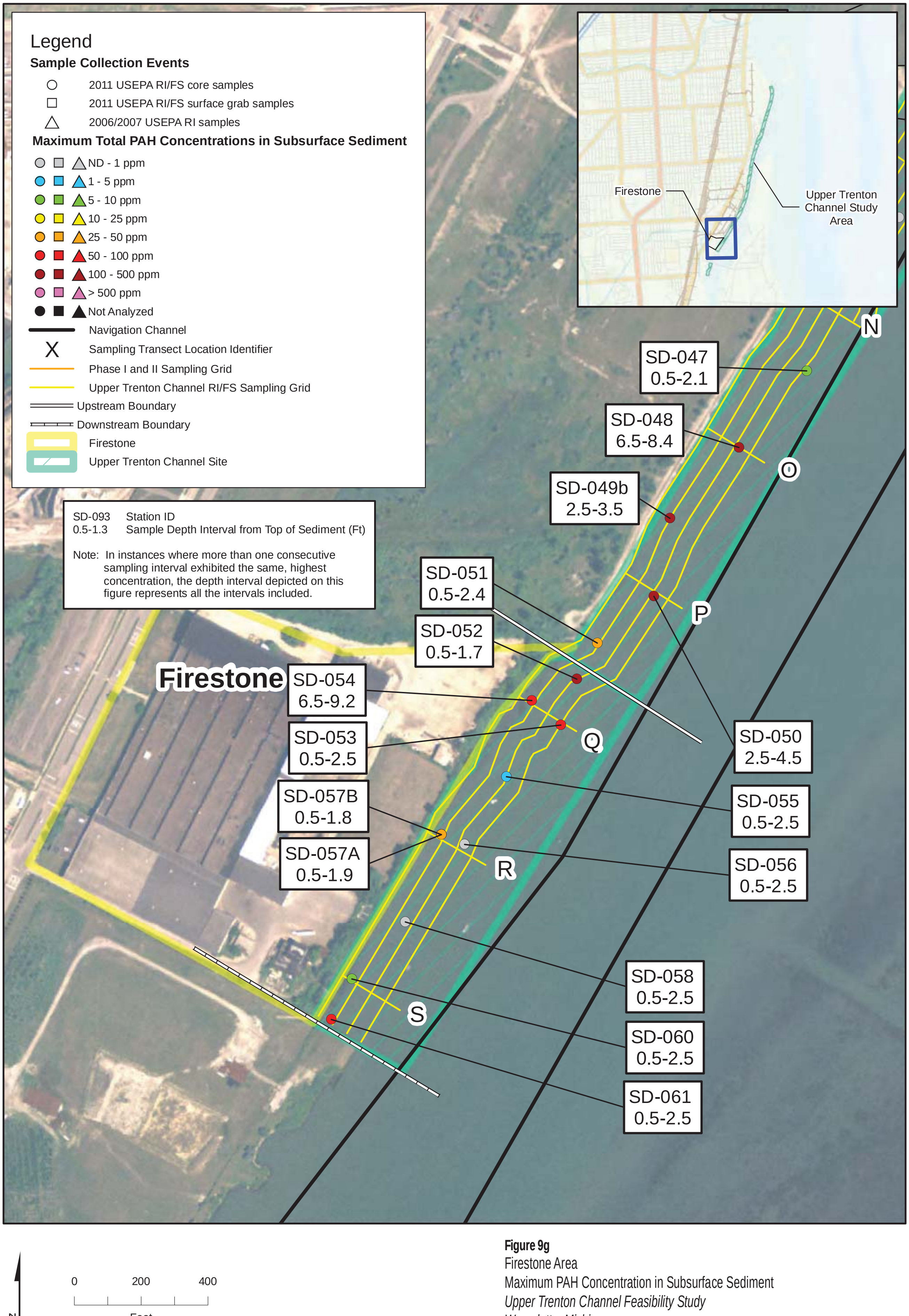

Figure 9g
Firestone Area
Maximum PAH Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

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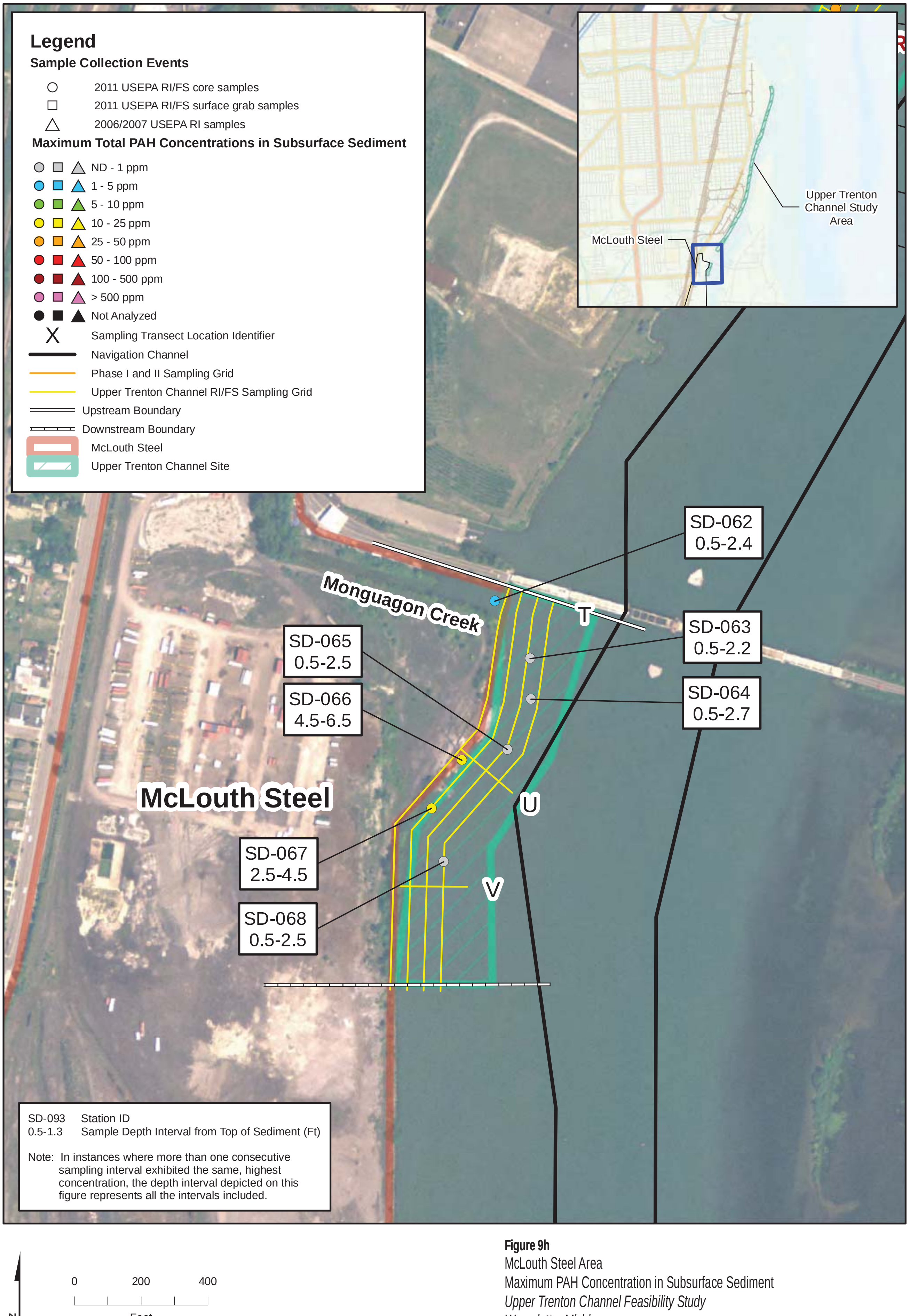

Figure 9h
McLouth Steel Area
Maximum PAH Concentration in Subsurface Sediment
Upper Trenton Channel Feasibility Study
Wyandotte, Michigan

\\LAKEFRONT\PROJ\EPA\415120_UPPERTRENTONCHANNEL\MAPFILES\UTCFEASIBILITYSTUDY\SERIES_9\9_3\FIGURE09H_UTC_MCLOUTHSTEELAREA_93.MXD RRODRIG5 10/20/2011 16:26:14

Attachment A
Data Tables

TABLE A-1

Summary of Analyses Performed - 2011 Investigation

Upper Trenton Channel, Wyandotte, MI

Sampling Area	Field Location	Field ID	Date	CLP ID	CLP ID Metals	Non-CLP ID	34 PAH in Porewater (SPME)	34 PAH in Bulk Sediment	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	pH	TOC	Grainsize	VOCs
North Works	UTC-SG-001	UTC-SG-001-0.0/0.5	4/30/2011	E5AK4	--	11CU01-79	X	X	X					X		
North Works	UTC-SG-002	UTC-SG-002-0.0/0.5	4/30/2011	E5AK5	--	11CU01-80	X	X	X					X		
North Works	UTC-SG-003	UTC-SG-003-0.0/0.5	4/30/2011	E5AK6	--	11CU01-81	X	X	X					X		
North Works	UTC-SG-003	UTC-SG-003-0.0/0.5-R	4/30/2011	E5AK7	--	11CU01-82	X	X	X					X		
North Works	UTC-SG-005	UTC-SG-005-0.0/0.5	4/30/2011	E5AK8	--	11CU01-83	X	X	X					X		
North Works	UTC-SG-006	UTC-SG-006-0.0/0.5	4/30/2011	E5AK9	--	11CU01-84	X	X	X					X		
North Works	UTC-SG-007	UTC-SG-007-0.0/0.5	4/30/2011	E5AL0	--	11CU01-85	X	X	X					X		
Wyandotte Power	UTC-SD-001	UTC-SD-001-0.0/0.5	6/17/2011	E5C13	ME5C13	11CU06-54		X	X	X		X	X			
Wyandotte Power	UTC-SD-001	UTC-SD-001-0.5/2.5	6/17/2011	E5C14	ME5C14	11CU06-55		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-001	UTC-SD-001-0.5/2.5-R	6/17/2011	E5C15	ME5C15	11CU06-56		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-001	UTC-SD-001-2.5/4.5	6/17/2011	E5C16	ME5C16	11CU06-57		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-001	UTC-SD-001-4.5/6.8	6/17/2011	E5C17	ME5C17	11CU06-58		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-002	UTC-SD-002-0.0/0.5	6/17/2011	E5C22	ME5C22	11CU06-64		X	X	X		X				
Wyandotte Power	UTC-SD-002	UTC-SD-002-0.5/1.3	6/17/2011	E5C23	ME5C23	11CU06-63		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-003	UTC-SD-003-0.0/0.5	6/17/2011	E5C24	ME5C24	--		X		X		X				
Wyandotte Power	UTC-SD-003	UTC-SD-003-0.5/2.5	6/17/2011	E5C25	ME5C25	11CU06-65		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-003	UTC-SD-003-02.5/4.4	6/17/2011	E5C26	ME5C26	11CU06-66		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-004	UTC-SD-004-0.0/0.5	5/4/2011	E5AW5	ME5AW5	11CU02-68		X	X	X		X	X	X		
Wyandotte Power	UTC-SD-004	UTC-SD-004-0.5/2.5	5/4/2011	E5AW6	ME5AW6	11CU02-69		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-004	UTC-SD-004-2.5/4.5	5/4/2011	E5AW7	ME5AW7	11CU02-70		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-004	UTC-SD-004-4.5/6.5	5/4/2011	E5AW8	ME5AW8	11CU02-71		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-004	UTC-SD-004-6.5/9.0	5/4/2011	E5AW9	ME5AW9	11CU02-72		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-004	UTC-SD-004-6.5/9.0-R	5/4/2011	E5AX0	ME5AX0	11CU02-73		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-005	UTC-SD-005-0.0/0.5	5/4/2011	E5AX1	ME5AX1	11CU02-74		X	X	X		X	X			
Wyandotte Power	UTC-SD-005	UTC-SD-005-0.5/2.5	5/4/2011	E5AX2	ME5AX2	11CU02-75		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-005	UTC-SD-005-0.5/2.5-R	5/4/2011	E5AX3	ME5AX3	11CU02-76		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-005	UTC-SD-005-2.5/4.4	5/4/2011	E5AX4	ME5AX4	11CU02-77		X	X	X	X	X	X	X	X	
Wyandotte Power	UTC-SD-006	UTC-SD-006-0.0/0.5	6/17/2011	E5C27	ME5C27	11CU06-67		X	X	X		X	X			
Wyandotte Power	UTC-SD-006	UTC-SD-006-0.5/1.3	6/17/2011	E5C28	ME5C28	11CU06-68		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-007	UTC-SD-007-0.0/0.5	5/4/2011	E5AY0	ME5AY0	11CU02-83		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-007	UTC-SD-007-0.5/2.5	5/4/2011	E5AY1	ME5AY1	11CU02-84		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-007	UTC-SD-007-0.5/2.5-R	5/4/2011	E5AY2	ME5AY2	11CU02-85		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-007	UTC-SD-007-2.5/4.0	5/4/2011	E5AY3	ME5AY3	11CU02-86		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-009	UTC-SD-009-0.0/0.5	5/4/2011	E5AX5	ME5AX5	11CU02-78		X	X	X		X				
Wyandotte Power	UTC-SD-009	UTC-SD-009-0.5/2.5	5/4/2011	E5AX6	ME5AX6	11CU02-79		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-009	UTC-SD-009-2.5/3.6	5/4/2011	E5AX7	ME5AX7	11CU02-80		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SD-010	UTC-SD-010-0.0/0.7	6/17/2011	E5C29	ME5C29	11CU06-69		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SG-008	UTC-SG-008-0.0/0.5	5/2/2011	E5AL1	ME5AL1	11CU01-86		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SG-009	UTC-SG-009-0.0/0.5	5/2/2011	E5AL2	ME5AL2	11CU01-87		X	X	X	X	X	X	X	X	
Wyandotte Power	UTC-SG-010	UTC-SG-010-0.0/0.5	5/2/2011	E5AL3	ME5AL3	11CU01-88		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SG-011	UTC-SG-011-0.0/0.5	5/2/2011	E5AL4	ME5AL4	11CU01-89		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SG-012	UTC-SG-012-0.0/0.5	5/2/2011	E5AL5	ME5AL5	11CU01-90		X	X	X		X	X	X	X	
Wyandotte Power	UTC-SG-014	UTC-SG-014-0.0/0.5	5/2/2011	E5AL6	ME5AL6	11CU01-91		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-011	UTC-SD-011-0.0/0.5	4/30/2011	E5AK2	ME5AK2	11CU01-77		X	X	X		X	X			
Bishop Park	UTC-SD-011	UTC-SD-011-0.5/1.5	4/26/2011	E5AK3	ME5AK3	11CU01-78		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-012	UTC-SD-012-0.0/0.5	4/30/2011	E5AK0	ME5AK0	11CU01-75		X	X	X		X				
Bishop Park	UTC-SD-012	UTC-SD-012-0.5/1.3	4/30/2011	E5AK1	ME5AK1	11CU01-76		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-013	UTC-SD-013-0.0/0.5	4/26/2011	E5AE1	ME5AE1	11CU01-30		X	X	X		X				
Bishop Park	UTC-SD-013	UTC-SD-013-0.5/2.5	4/26/2011	E5AE2	ME5AE2	11CU01-31		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-013	UTC-SD-013-2.5/4.5	4/26/2011	E5AE3	ME5AE3	11CU01-32		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-013	UTC-SD-013-4.5/6.4	4/26/2011	E5AE4	ME5AE4	11CU01-33		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-013	UTC-SD-013-4.5/6.4-R	4/26/2011	E5AE5	ME5AE5	11CU01-34		X	X	X		X	X	X	X	

TABLE A-1
Summary of Analyses Performed - 2011 Investigation
Upper Trenton Channel, Wyandotte, MI

Sampling Area	Field Location	Field ID	Date	CLP ID	CLP ID Metals	Non-CLP ID	34 PAH in Porewater (SPME)	34 PAH in Bulk Sediment	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	pH	TOC	Grainsize	VOCs
Bishop Park	UTC-SD-014	UTC-SD-014-0.0/0.5	4/26/2011	E5AE7	ME5AE7	11CU01-35		X	X	X		X	X	X		
Bishop Park	UTC-SD-014	UTC-SD-014-0.5/1.5	4/26/2011	E5AE8	ME5AE8	11CU01-36		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-015	UTC-SD-015-0.0/0.5	4/29/2011	E5AJ5	ME5AJ5	11CU01-70		X	X	X		X	X			
Bishop Park	UTC-SD-015	UTC-SD-015-0.5/2.5	4/29/2011	E5AJ6	ME5AJ6	11CU01-71		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-015	UTC-SD-015-2.5/4.5	4/29/2011	E5AJ7	ME5AJ7	11CU01-72		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-015	UTC-SD-015-4.5/6.5	4/29/2011	E5AJ8	ME5AJ8	11CU01-73		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-015	UTC-SD-015-6.5/9.0	4/29/2011	E5AJ9	ME5AJ9	11CU01-74		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-0.0/0.5	4/29/2011	E5AH4	ME5AH4	--		X		X		X				
Bishop Park	UTC-SD-016	UTC-SD-016-0.5/2.5	4/29/2011	E5AH5	ME5AH5	11CU01-60		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-10.5/12.5	4/29/2011	E5AJ0	ME5AJ0	11CU01-65		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-10.5/12.5-R	4/29/2011	E5AJ1	ME5AJ1	11CU01-66		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-12.5/14.5	4/29/2011	E5AJ2	ME5AJ2	11CU01-67		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-14.5/16.5	4/29/2011	E5AJ3	ME5AJ3	11CU01-68		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-16.5/18.6	4/29/2011	E5AJ4	ME5AJ4	11CU01-69		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-2.5/4.5	4/29/2011	E5AH6	ME5AH6	11CU01-61		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-4.5/6.5	4/29/2011	E5AH7	ME5AH7	11CU01-62		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-6.5/8.5	4/29/2011	E5AH8	ME5AH8	11CU01-63		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-016	UTC-SD-016-8.5/10.5	4/29/2011	E5AH9	ME5AH9	11CU01-64		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-0.0/0.5	4/30/2011	E5AG4	ME5AG4	11CU01-50		X	X	X		X				
Bishop Park	UTC-SD-017	UTC-SD-017-0.5/2.5	4/30/2011	E5AG5	ME5AG5	11CU01-51		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-10.5/12.5	4/30/2011	E5AH0	ME5AH0	11CU01-56		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-10.5/12.5-R	4/30/2011	E5AH1	ME5AH1	11CU01-57		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-12.5/14.5	4/30/2011	E5AH2	ME5AH2	11CU01-58		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-14.5/16	4/30/2011	E5AH3	ME5AH3	11CU01-59		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-2.5/4.5	4/30/2011	E5AG6	ME5AG6	11CU01-52		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-4.5/6.5	4/30/2011	E5AG7	ME5AG7	11CU01-53		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-6.5/8.5	4/30/2011	E5AG8	ME5AG8	11CU01-54		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-017	UTC-SD-017-8.5/10.5	4/30/2011	E5AG9	ME5AG9	11CU01-55		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-018	UTC-SD-018-0.0/0.5	4/30/2011	E5AF6	ME5AF6	11CU01-42		X	X	X		X				
Bishop Park	UTC-SD-018	UTC-SD-018-0.5/2.5	4/30/2011	E5AF7	ME5AF7	11CU01-43		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-018	UTC-SD-018-10.5/12.3	4/30/2011	E5AG3	ME5AG3	11CU01-49		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-018	UTC-SD-018-2.5/4.5	4/30/2011	E5AF8	ME5AF8	11CU01-44		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-018	UTC-SD-018-2.5/4.5-R	4/30/2011	E5AF9	ME5AF9	11CU01-45		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-018	UTC-SD-018-4.5/6.5	4/30/2011	E5AG0	ME5AG0	11CU01-46		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-018	UTC-SD-018-6.5/8.5	4/30/2011	E5AG1	ME5AG1	11CU01-47		X	X	X	X	X	X	X	X	
Bishop Park	UTC-SD-018	UTC-SD-018-8.5/10.5	4/30/2011	E5AG2	ME5AG2	11CU01-48		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-019	UTC-SD-019-0.0/0.5	4/30/2011	E5AF2	ME5AF2	--		X		X		X				
Bishop Park	UTC-SD-019	UTC-SD-019-0.5/2.5	4/30/2011	E5AF3	ME5AF3	11CU01-39		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-019	UTC-SD-019-2.5/4.5	4/30/2011	E5AF4	ME5AF4	11CU01-40		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-019	UTC-SD-019-4.5/5.8	4/30/2011	E5AF5	ME5AF5	11CU01-41		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-020	UTC-SD-020-0.0/0.5	4/30/2011	E5AE9	ME5AE9	--		X		X		X				
Bishop Park	UTC-SD-020	UTC-SD-020-0.5/2.5	4/30/2011	E5AF0	ME5AF0	11CU01-37		X	X	X		X	X	X	X	
Bishop Park	UTC-SD-020	UTC-SD-020-2.5/4.0	4/30/2011	E5AF1	ME5AF1	11CU01-38		X	X	X		X	X	X	X	
Bishop Park	UTC-SG-015	UTC-SG-015-0.0/0.5	5/2/2011	E5AN4	ME5AN4	11CU02-10	X	X	X	X		X	X	X	X	
Bishop Park	UTC-SG-016	UTC-SG-016-0.0/0.5	5/2/2011	E5AN5	ME5AN5	11CU02-11	X	X	X	X		X	X	X	X	
Bishop Park	UTC-SG-017	UTC-SG-017-0.0/0.5	5/3/2011	E5AR7	ME5AR7	11CU02-41	X	X	X	X		X	X	X	X	
Bishop Park	UTC-SG-018	UTC-SG-018-0.0/0.5	5/3/2011	E5AR5	ME5AR5	11CU02-39	X	X	X	X		X	X	X	X	
Bishop Park	UTC-SG-019	UTC-SG-019-0.0/0.5	5/3/2011	E5AR8	ME5AR8	11CU02-42	X	X	X	X		X	X	X	X	
Bishop Park	UTC-SG-020	UTC-SG-020-0.0/0.5	5/3/2011	E5AR4	ME5AR4	11CU02-38	X	X	X	X	X	X	X	X	X	
Bishop Park	UTC-SG-021	UTC-SG-021-0.0/0.5	5/3/2011	E5AR6	ME5AR6	11CU02-40	X	X	X	X		X	X	X	X	
Bishop Park	UTC-SG-021	UTC-SG-021-0.0/0.5-R	5/3/2011	E5AR9	ME5AR9	11CU02-43	X	X	X	X		X	X	X	X	
South Works	UTC-SD-021	UTC-SD-021-0.0/0.5	6/16/2011	E5C03	ME5C03	11CU06-42			X	X	X	X	X			X

TABLE A-1

Summary of Analyses Performed - 2011 Investigation

Upper Trenton Channel, Wyandotte, MI

Sampling Area	Field Location	Field ID	Date	CLP ID	CLP ID Metals	Non-CLP ID	34 PAH in Porewater (SPME)	34 PAH in Bulk Sediment	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	pH	TOC	Grainsize	VOCs
South Works	UTC-SD-021	UTC-SD-021-0.5/2.8	6/16/2011	E5C04	ME5C04	11CU06-43			X	X	X	X	X			X
South Works	UTC-SD-023	UTC-SD-023-0.0/0.5	6/16/2011	E5C05	ME5C05	11CU06-44			X	X		X	X			
South Works	UTC-SD-023	UTC-SD-023-0.5/2.5	6/16/2011	E5C06	ME5C06	11CU06-45			X	X		X	X			
South Works	UTC-SD-023	UTC-SD-023-2.5/4.0	6/16/2011	E5C07	ME5C07	11CU06-46			X	X		X	X			
South Works	UTC-SD-023	UTC-SD-023-2.5/4.0-R	6/16/2011	E5C08	ME5C08	11CU06-47			X	X		X	X			
South Works	UTC-SD-025	UTC-SD-025-0.0/0.5	6/16/2011	E5C11	ME5C11	11CU06-50			X	X		X	X			
South Works	UTC-SD-025	UTC-SD-025-0.5/1.7	6/16/2011	E5C12	ME5C12	11CU06-51			X	X		X	X			
South Works	UTC-SD-026	UTC-SD-026-0.0/0.6	6/16/2011	E5C09	ME5C09	11CU06-48			X	X		X	X			
South Works	UTC-SD-026	UTC-SD-026-0.6/1.3	6/16/2011	E5C10	ME5C10	11CU06-49			X	X		X	X			
South Works	UTC-SD-027	UTC-SD-027-0.0/0.5	6/17/2011	E5C18	ME5C18	11CU06-59			X	X		X	X			
South Works	UTC-SD-027	UTC-SD-027-0.5/2.5	6/17/2011	E5C19	ME5C19	11CU06-60			X	X		X	X			
South Works	UTC-SD-027	UTC-SD-027-0.5/2.5-R	6/17/2011	E5C20	ME5C20	11CU06-61			X	X		X	X			
South Works	UTC-SD-027	UTC-SD-027-2.5/3.5	6/17/2011	E5C21	ME5C21	11CU06-62			X	X		X	X			
South Works	UTC-SD-093	UTC-SD-093-0.0/0.5	6/17/2011	E5C30	ME5C30	11CU06-70		X	X	X		X	X			X
South Works	UTC-SD-093	UTC-SD-093-0.5/1.3	6/17/2011	E5C31	ME5C31	11CU06-71		X	X	X		X	X	X	X	X
Wye Street	UTC-SD-028	UTC-SD-028-0.0/0.5	4/26/2011	E5AA0	ME5AA0	11CU01-01		X	X	X		X				
Wye Street	UTC-SD-029	UTC-SD-029-0.0/0.5	4/26/2011	E5AA1	ME5AA1	11CU01-02		X	X	X	X	X				
Wye Street	UTC-SD-030	UTC-SD-030-0.0/0.5	5/4/2011	E5AT4	ME5AT4	11CU02-56		X	X	X		X	X	X		
Wye Street	UTC-SD-030	UTC-SD-030-0.5/2.5	5/4/2011	E5AT5	ME5AT5	11CU02-57		X	X	X		X	X	X	X	
Wye Street	UTC-SD-031	UTC-SD-031-0.0/0.5	4/26/2011	E5AA2	ME5AA2	--				X		X				
Wye Street	UTC-SD-031	UTC-SD-031-0.5/2.8	4/26/2011	E5AA3	ME5AA3	11CU01-03		X	X	X		X	X	X	X	
Wye Street	UTC-SD-032	UTC-SD-032-0.0/0.5	4/26/2011	E5AA6	ME5AA6	11CU01-05		X	X	X		X	X	X		X
Wye Street	UTC-SD-032	UTC-SD-032-0.5/2.5	4/26/2011	E5AA7	ME5AA7	11CU01-06		X	X	X	X	X	X	X	X	X
Wye Street	UTC-SD-032	UTC-SD-032-2.5/4.5	4/26/2011	E5AA8	ME5AA8	11CU01-07		X	X	X	X	X	X	X	X	X
Wye Street	UTC-SD-032	UTC-SD-032-2.5/4.5-R	4/26/2011	E5AA9	ME5AA9	11CU01-08		X	X	X	X	X	X	X	X	X
Wye Street	UTC-SD-032	UTC-SD-032-4.5/6.5	4/26/2011	E5AB0	ME5AB0	11CU01-09		X	X	X	X	X	X	X	X	X
Wye Street	UTC-SD-032	UTC-SD-032-6.5/7.0	4/26/2011	E5AB1	ME5AB1	11CU01-10		X	X	X		X	X	X	X	X
Wye Street	UTC-SD-033	UTC-SD-033-0.0/0.5	5/4/2011	E5AT8	ME5AT8	11CU02-61		X	X	X		X				
Wye Street	UTC-SD-033	UTC-SD-033-0.5/2.5	5/4/2011	E5AT9	ME5AT9	11CU02-62		X	X	X		X	X	X	X	
Wye Street	UTC-SD-034	UTC-SD-034-0.0/0.5	4/26/2011	E5AB2	ME5AB2	11CU01-11		X	X	X		X	X	X		
Wye Street	UTC-SD-034	UTC-SD-034-0.5/2.5	4/26/2011	E5AB3	ME5AB3	11CU01-12		X	X	X	X	X	X	X	X	X
Wye Street	UTC-SD-034	UTC-SD-034-0.5/2.5-R	4/26/2011	E5AB4	ME5AB4	11CU01-13		X	X	X	X	X	X	X	X	X
Wye Street	UTC-SD-035	UTC-SD-035-0.0/0.9	4/26/2011	E5AB8	ME5AB8	11CU01-17		X	X	X		X	X	X	X	X
Wye Street	UTC-SD-036	UTC-SD-036-0.0/0.5	4/26/2011	E5AB9	ME5AB9	11CU01-18		X	X	X		X				X
Wye Street	UTC-SD-036	UTC-SD-036-0.5/2.5	4/26/2011	E5AC0	ME5AC0	11CU01-19		X	X	X		X	X	X	X	X
Wye Street	UTC-SD-036	UTC-SD-036-2.5/3.4	4/26/2011	E5AC1	ME5AC1	11CU01-20		X	X	X		X	X	X		X
Wye Street	UTC-SD-037	UTC-SD-037-0.0/0.5	5/3/2011	E5AQ2	ME5AQ2	11CU02-28		X	X	X		X	X	X		
Wye Street	UTC-SD-037	UTC-SD-037-0.5/1.8	5/3/2011	E5AQ3	ME5AQ3	11CU02-29		X	X	X		X	X	X	X	
Wye Street	UTC-SD-038	UTC-SD-038-0.0/0.5	4/27/2011	E5AC2	ME5AC2	11CU01-17		X	X	X		X		X		X
Wye Street	UTC-SD-038	UTC-SD-038-0.5/2.5	4/27/2011	E5AC3	ME5AC3	11CU01-18		X	X	X	X	X	X	X		X
Wye Street	UTC-SD-038	UTC-SD-038-0.5/2.5-R	4/27/2011	E5AC4	ME5AC4	11CU01-19		X	X	X	X	X	X	X		
Wye Street	UTC-SD-038	UTC-SD-038-2.5/4.5	4/27/2011	E5AC5	ME5AC5	11CU01-20		X	X	X		X	X	X	X	X
Wye Street	UTC-SD-038	UTC-SD-038-4.5/6.5	4/27/2011	E5AC6	ME5AC6	11CU01-21		X	X	X		X	X	X	X	X
Wye Street	UTC-SD-038	UTC-SD-038-6.5/8.6	4/27/2011	E5AC7	ME5AC7	11CU01-22		X	X	X	X	X	X	X		X
Wye Street	UTC-SD-038	UTC-SD-038-6.5/8.6-R	4/27/2011	E5AC8	ME5AC8	11CU01-23		X	X	X	X	X	X	X		
Wye Street	UTC-SD-039	UTC-SD-039-0.0/0.5	5/4/2011	E5AS5	ME5AS5	11CU02-49		X	X	X		X				
Wye Street	UTC-SD-039	UTC-SD-039-0.5/2.5	5/4/2011	E5AS6	ME5AS6	11CU02-50		X	X	X		X	X	X	X	
Wye Street	UTC-SD-039	UTC-SD-039-2.5/4.3	5/4/2011	E5AS7	ME5AS7	11CU02-51		X	X	X		X	X	X	X	
Wye Street	UTC-SD-040	UTC-SD-040-0.0/0.5	4/26/2011	E5AB5	ME5AB5	11CU01-14		X	X	X		X	X	X		
Wye Street	UTC-SD-040	UTC-SD-040-0.5/2.5	4/26/2011	E5AB6	ME5AB6	11CU01-15		X	X	X	X	X	X	X	X	X
Wye Street	UTC-SD-041	UTC-SD-041-0.0/0.5	4/28/2011	E5AD1	ME5AD1	11CU01-25		X	X	X		X		X		X
Wye Street	UTC-SD-041	UTC-SD-041-0.5/2.7	4/28/2011	E5AD2	ME5AD2	11CU01-26		X	X	X		X	X	X	X	X

TABLE A-1

Summary of Analyses Performed - 2011 Investigation

Upper Trenton Channel, Wyandotte, MI

Sampling Area	Field Location	Field ID	Date	CLP ID	CLP ID Metals	Non-CLP ID	34 PAH in Porewater (SPME)	34 PAH in Bulk Sediment	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	pH	TOC	Grainsize	VOCs
Wye Street	UTC-SD-072	UTC-SD-072-0.0/0.5	5/3/2011	E5AQ4	ME5AQ4	11CU02-30		X	X	X		X	X	X		
Wye Street	UTC-SD-072	UTC-SD-072-0.5/2.5	5/3/2011	E5AQ5	ME5AQ5	11CU02-31		X	X	X		X	X	X	X	
Wye Street	UTC-SD-072	UTC-SD-072-0.5/2.5-R	5/3/2011	E5AQ6	ME5AQ6	11CU02-32		X	X	X		X	X	X	X	
Wye Street	UTC-SD-072	UTC-SD-072-2.5/3.3	5/3/2011	E5AQ7	ME5AQ7	11CU02-33		X	X	X		X	X	X	X	
Wye Street	UTC-SD-073	UTC-SD-073-0.0/0.5	6/14/2011	E5BW0	ME5BW0	11CU06-01		X	X	X		X				
Wye Street	UTC-SD-073	UTC-SD-073-0.5/2.9	6/14/2011	E5BW1	ME5BW1	11CU06-02		X	X	X		X	X	X	X	
Wye Street	UTC-SD-074	UTC-SD-074-0.0/0.5	6/14/2011	E5BW2	ME5BW2	11CU06-03		X	X	X		X	X			
Wye Street	UTC-SD-074	UTC-SD-074-0.5/2.5	6/14/2011	E5BW3	ME5BW3	11CU06-04		X	X	X		X	X	X	X	
Wye Street	UTC-SD-074	UTC-SD-074-2.5/5.0	6/14/2011	E5BW4	ME5BW4	11CU06-05		X	X	X		X	X	X	X	
Wye Street	UTC-SD-074	UTC-SD-074-2.5/5.0-R	6/14/2011	E5BW5	ME5BW5	11CU06-06		X	X	X		X	X	X	X	
Wye Street	UTC-SD-075	UTC-SD-075-0.0/0.5	6/14/2011	E5BW6	ME5BW6	11CU06-07		X	X	X		X				
Wye Street	UTC-SD-075	UTC-SD-075-0.5/2.5	6/14/2011	E5BW7	ME5BW7	11CU06-08		X	X	X		X	X	X	X	
Wye Street	UTC-SD-076	UTC-SD-076-0.0/0.5	6/14/2011	E5BW9	ME5BW9	11CU06-10		X	X	X		X	X			
Wye Street	UTC-SD-076	UTC-SD-076-0.5/2.2	6/14/2011	E5BX0	ME5BX0	11CU06-11		X	X	X		X	X	X	X	
Wye Street	UTC-SD-077	UTC-SD-077-0.0/0.9	6/14/2011	E5BW8	ME5BW8	11CU06-09		X	X	X		X	X	X	X	
Wye Street	UTC-SD-078	UTC-SD-078-0.0/0.5	6/14/2011	E5BX1	ME5BX1	11CU06-12		X	X	X		X				
Wye Street	UTC-SD-078	UTC-SD-078-0.5/1.3	6/14/2011	E5BX2	ME5BX2	11CU06-13		X	X	X		X	X	X	X	
Wye Street	UTC-SD-079	UTC-SD-079-0.0/0.5	6/14/2011	E5BX3	ME5BX3	11CU06-14		X	X	X		X				
Wye Street	UTC-SD-079	UTC-SD-079-0.5/2.5	6/14/2011	E5BX4	ME5BX4	11CU06-15		X	X	X		X	X	X	X	
Wye Street	UTC-SD-079	UTC-SD-079-2.5/4.2	6/14/2011	E5BX5	ME5BX5	11CU06-17		X	X	X		X	X	X	X	
Wye Street	UTC-SD-080	UTC-SD-080-0.0/0.5	6/15/2011	E5BX6	ME5BX6	11CU06-16		X	X	X		X	X	X		
Wye Street	UTC-SD-080	UTC-SD-080-0.5/2.5	6/15/2011	E5BX7	ME5BX7	11CU06-18		X	X	X	X	X	X	X	X	
Wye Street	UTC-SD-080	UTC-SD-080-0.5/2.5-R	6/15/2011	E5BX8	ME5BX8	11CU06-19		X	X	X	X	X	X	X	X	
Wye Street	UTC-SD-080	UTC-SD-080-2.5/3.2	6/15/2011	E5BX9	ME5BX9	11CU06-20		X	X	X	X	X	X	X	X	
Wye Street	UTC-SD-081	UTC-SD-081-0.0/0.5	6/15/2011	E5BY0	ME5BY0	11CU06-21		X	X	X		X	X			
Wye Street	UTC-SD-081	UTC-SD-081-0.5/2.9	6/15/2011	E5BY1	ME5BY1	11CU06-22		X	X	X	X	X	X	X	X	
Wye Street	UTC-SG-023	UTC-SG-023-0.0/0.5	5/5/2011	E5B04	ME5B04	11CU03-06		X	X	X		X	X	X	X	
Wye Street	UTC-SG-024	UTC-SG-024-0.0/0.5	5/5/2011	E5B05	ME5B05	11CU03-07		X	X	X		X	X	X	X	
Wye Street	UTC-SG-025	UTC-SG-025-0.0/0.5	5/5/2011	E5B06	ME5B06	11CU03-08		X	X	X		X	X	X	X	
Wye Street	UTC-SG-026	UTC-SG-026-0.0/0.5	5/5/2011	E5B07	ME5B07	11CU03-09		X	X	X		X	X	X	X	
Wye Street	UTC-SG-026	UTC-SG-026-0.0/0.5-R	5/5/2011	E5B08	ME5B08	11CU03-10		X	X	X		X	X	X	X	
Wye Street	UTC-SG-027	UTC-SG-027-0.0/0.5	5/5/2011	E5B09	ME5B09	11CU03-11		X	X	X	X	X	X	X		
Wye Street	UTC-SG-028	UTC-SG-028-0.0/0.5	5/5/2011	E5B10	ME5B10	11CU03-12		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-042	UTC-SD-042-0.0/0.5	4/26/2011	E5AB7	ME5AB7	11CU01-16		X	X	X		X	X	X	X	
Arkema	UTC-SD-043	UTC-SD-043-0.0/0.5	5/4/2011	E5AS8	ME5AS8	11CU02-52		X	X	X		X	X	X		
Arkema	UTC-SD-043	UTC-SD-043-0.5/2.5	5/4/2011	E5AS9	ME5AS9	11CU02-53		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-043	UTC-SD-043-0.5/2.5-R	5/4/2011	E5AT0	ME5AT0	11CU02-54		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-043	UTC-SD-043-2.5-3.3	5/4/2011	E5AT1	ME5AT1	11CU02-55		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-044	UTC-SD-044-0.0/0.5	5/3/2011	E5AS2	ME5AS2	11CU02-46		X	X	X		X				
Arkema	UTC-SD-044	UTC-SD-044-0.5/2.2	5/3/2011	E5AS3	ME5AS3	11CU02-47		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-045-A	UTC-SD-045-A-0.0/0.5	4/27/2011	E5AC9	ME5AC9	--		X		X		X				X
Arkema	UTC-SD-045-A	UTC-SD-045-A-0.5/1.5	4/27/2011	E5AD0	ME5AD0	11CU01-24		X	X	X		X				X
Arkema	UTC-SD-045-B	UTC-SD-045-B-0.0/0.5	4/28/2011	E5AD3	ME5AD3	11CU01-25		X	X	X		X				
Arkema	UTC-SD-045-B	UTC-SD-045-B-0.5/2.7	4/28/2011	E5AD4	ME5AD4	11CU01-26		X	X	X		X	X	X	X	
Arkema	UTC-SD-047	UTC-SD-047-0.0/0.5	5/4/2011	E5AX8	--	11CU02-81		X	X	X	X		X	X		
Arkema	UTC-SD-047	UTC-SD-047-0.5/2.1	5/4/2011	E5AY4	ME5AY4	11CU02-82		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-048	UTC-SD-048-0.0/0.5	5/4/2011	E5AW0	ME5AW0	11CU02-63		X	X	X	X	X	X			
Arkema	UTC-SD-048	UTC-SD-048-0.5/2.5	5/4/2011	E5AW1	ME5AW1	11CU02-64		X	X	X		X	X	X	X	
Arkema	UTC-SD-048	UTC-SD-048-2.5/4.5	5/4/2011	E5AW2	ME5AW2	11CU02-65		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-048	UTC-SD-048-4.5/6.5	5/4/2011	E5AW3	ME5AW3	11CU02-66		X	X	X		X	X	X	X	
Arkema	UTC-SD-048	UTC-SD-048-6.5/8.4	5/4/2011	E5AW4	ME5AW4	11CU02-67		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-049-B	UTC-SD-049-B-0.0/0.5	4/26/2011	E5AD5	ME5AD5	11CU01-27		X	X	X		X				

TABLE A-1

Summary of Analyses Performed - 2011 Investigation

Upper Trenton Channel, Wyandotte, MI

Sampling Area	Field Location	Field ID	Date	CLP ID	CLP ID Metals	Non-CLP ID	34 PAH in Porewater (SPME)	34 PAH in Bulk Sediment	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	pH	TOC	Grainsize	VOCs
Arkema	UTC-SD-049-B	UTC-SD-049-B-0.5/2.5	4/26/2011	E5AD6	ME5AD6	11CU01-28		X	X	X		X	X	X	X	
Arkema	UTC-SD-049-B	UTC-SD-049-B-2.5/3.5	4/26/2011	E5AD7	ME5AD7	11CU01-29		X	X	X		X	X	X		
Arkema	UTC-SD-050	UTC-SD-050-0.0/0.5	5/5/2011	E5B00	ME5B00	11CU03-02		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-050	UTC-SD-050-0.5/2.5	5/5/2011	E5B01	ME5B01	11CU03-03		X	X	X		X	X	X	X	
Arkema	UTC-SD-050	UTC-SD-050-2.5/4.5	5/5/2011	E5B02	ME5B02	11CU03-04		X	X	X		X	X	X	X	
Arkema	UTC-SD-050	UTC-SD-050-4.5/6.6	5/5/2011	E5B03	ME5B03	11CU03-05		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-051	UTC-SD-051-0.0/0.5	5/4/2011	E5AT6	ME5AT6	11CU02-59		X	X	X		X				
Arkema	UTC-SD-051	UTC-SD-051-0.5/2.4	5/4/2011	E5AT7	ME5AT7	11CU02-60		X	X	X		X	X	X	X	
Arkema	UTC-SD-082	UTC-SD-082-0.0/0.5	6/15/2011	E5BY2	ME5BY2	11CU06-23		X	X	X	X	X				
Arkema	UTC-SD-082	UTC-SD-082-0.5/1.6	6/15/2011	E5BY3	ME5BY3	11CU06-24		X	X	X	X	X	X	X	X	
Arkema	UTC-SD-083	UTC-SD-083-0.0/0.5	6/15/2011	E5BY4	ME5BY4	11CU06-25		X	X	X		X				X
Arkema	UTC-SD-083	UTC-SD-083-0.5/2.2	6/15/2011	E5BY5	ME5BY5	11CU06-26		X	X	X	X	X	X	X	X	X
Arkema	UTC-SD-084	UTC-SD-084-0.0/0.5	6/15/2011	E5BY6	ME5BY6	11CU06-27		X	X	X		X	X			
Arkema	UTC-SD-084	UTC-SD-084-0.5/2.0	6/15/2011	E5BY7	ME5BY7	11CU06-28		X	X	X		X	X	X	X	
Arkema	UTC-SD-085	UTC-SD-085-0.0/0.5	6/15/2011	E5BY8	ME5BY8	11CU06-29		X	X	X		X				X
Arkema	UTC-SD-085	UTC-SD-085-0.5/2.5	6/15/2011	E5BY9	ME5BY9	11CU06-30		X	X	X	X	X	X	X	X	X
Arkema	UTC-SD-085	UTC-SD-085-2.5/4.5	6/15/2011	E5BZ0	ME5BZ0	11CU06-31		X	X	X		X	X	X	X	X
Arkema	UTC-SD-085	UTC-SD-085-4.5/5.2	6/15/2011	E5BZ1	ME5BZ1	11CU06-32		X	X	X		X	X	X	X	X
Arkema	UTC-SD-086	UTC-SD-086-0.0/0.5	6/15/2011	E5BZ2	ME5BZ2	11CU06-33		X	X	X		X				
Arkema	UTC-SD-086	UTC-SD-086-0.5/1.6	6/15/2011	E5BZ3	ME5BZ3	11CU06-34		X	X	X		X	X	X	X	
Arkema	UTC-SD-087	UTC-SD-087-0.0/0.5	6/15/2011	E5BZ4	ME5BZ4	11CU06-35		X	X	X		X	X			
Arkema	UTC-SD-087	UTC-SD-087-0.5/2.4	6/15/2011	E5BZ5	ME5BZ5	11CU06-36		X	X	X		X	X	X	X	
Arkema	UTC-SD-087	UTC-SD-087-0.5/2.4-R	6/15/2011	E5C00	ME5C00	11CU06-40		X	X	X		X	X	X	X	
Arkema	UTC-SD-088	UTC-SD-088-0.0/0.5	6/15/2011	E5BZ6	ME5BZ6	11CU06-37		X	X	X		X				
Arkema	UTC-SD-088	UTC-SD-088-0.5/1.6	6/15/2011	E5BZ7	ME5BZ7	11CU06-38		X	X	X		X	X	X	X	
Arkema	UTC-SD-089	UTC-SD-089-0.0/0.5	6/15/2011	E5BZ8	ME5BZ8	--		X		X		X				
Arkema	UTC-SD-089	UTC-SD-089-0.5/1.4	6/15/2011	E5BZ9	ME5BZ9	11CU06-39		X	X	X		X	X	X	X	
Arkema	UTC-SD-090	UTC-SD-090-0.0/0.9	6/16/2011	E5C01	ME5C01	11CU06-41		X	X	X	X	X	X	X		
Arkema	UTC-SG-029	UTC-SG-029-0.0/0.5	5/5/2011	E5B11	ME5B11	11CU03-13	X	X	X	X	X	X	X	X	X	
Arkema	UTC-SG-030	UTC-SG-030-0.0/0.5	5/5/2011	E5B13	ME5B13	11CU03-15	X	X	X	X	X	X	X	X	X	
Arkema	UTC-SG-031	UTC-SG-031-0.0/0.5	5/5/2011	E5B15	ME5B15	11CU03-16	X	X	X	X	X	X	X	X	X	
Arkema	UTC-SG-032	UTC-SG-032-0.0/0.5	5/5/2011	E5B12	ME5B12	11CU03-14	X	X	X	X	X	X	X	X	X	
Arkema	UTC-SG-033	UTC-SG-033-0.0/0.5	5/6/2011	E5B23	ME5B23	11CU03-25	X	X	X	X	X	X	X	X	X	
Arkema	UTC-SG-033	UTC-SG-033-0.0/0.5-R	5/6/2011	E5B24	ME5B24	11CU03-26	X	X	X	X		X	X	X	X	
Arkema	UTC-SG-034	UTC-SG-034-0.0/0.5	5/6/2011	E5B22	ME5B22	11CU03-24	X	X	X	X	X	X	X	X	X	
Arkema	UTC-SG-035	UTC-SG-035-0.0/0.5	5/6/2011	E5B25	ME5B25	11CU03-27	X	X	X	X	X	X	X	X	X	
Firestone	UTC-SD-052	UTC-SD-052-0.0/0.5	5/2/2011	E5AM0	ME5AM0	11CU01-95		X	X	X		X				
Firestone	UTC-SD-052	UTC-SD-052-0.5/1.7	5/2/2011	E5AM1	ME5AM1	11CU01-96		X	X	X		X	X	X	X	
Firestone	UTC-SD-053	UTC-SD-053-0.0/0.5	5/2/2011	E5AL7	ME5AL7	11CU01-92		X	X	X		X				
Firestone	UTC-SD-053	UTC-SD-053-0.5/2,5	5/2/2011	E5AL8	ME5AL8	11CU01-93		X	X	X		X	X	X	X	
Firestone	UTC-SD-053	UTC-SD-053-2.5/4.2	5/2/2011	E5AL9	ME5AL9	11CU01-94		X	X	X		X	X	X	X	
Firestone	UTC-SD-054	UTC-SD-054-0.0/0.5	5/2/2011	E5AM2	ME5AM2	11CU01-97		X	X	X		X				
Firestone	UTC-SD-054	UTC-SD-054-0.5/2.5	5/2/2011	E5AM3	ME5AM3	11CU01-98		X	X	X		X	X	X	X	
Firestone	UTC-SD-054	UTC-SD-054-2.5/4.5	5/2/2011	E5AM4	ME5AM4	11CU01-99		X	X	X		X	X	X	X	
Firestone	UTC-SD-054	UTC-SD-054-4.5/6.5	5/2/2011	E5AM5	ME5AM5	11CU02-01		X	X	X		X	X	X	X	
Firestone	UTC-SD-054	UTC-SD-054-4.5/6.5-R	5/2/2011	E5AM6	ME5AM6	11CU02-02		X	X	X		X	X	X		
Firestone	UTC-SD-054	UTC-SD-054-6.5/9.2	5/2/2011	E5AM7	ME5AM7	11CU02-03		X	X	X	X	X	X	X	X	
Firestone	UTC-SD-055	UTC-SD-055-0.0/0.5	5/2/2011	E5AM8	ME5AM8	11CU02-04		X	X	X		X				
Firestone	UTC-SD-055	UTC-SD-055-0.5/2.5	5/2/2011	E5AM9	ME5AM9	11CU02-05		X	X	X		X	X	X	X	
Firestone	UTC-SD-055	UTC-SD-055-2.5/4.4	5/2/2011	E5AN0	ME5AN0	11CU02-06		X	X	X		X	X	X	X	
Firestone	UTC-SD-056	UTC-SD-056-0.0/0.5	5/2/2011	E5AN1	ME5AN1	11CU02-07		X	X	X		X				
Firestone	UTC-SD-056	UTC-SD-056-0.5/2.5	5/2/2011	E5AN2	ME5AN2	11CU02-08		X	X	X		X	X	X	X	

TABLE A-1

Summary of Analyses Performed - 2011 Investigation

Upper Trenton Channel, Wyandotte, MI

Sampling Area	Field Location	Field ID	Date	CLP ID	CLP ID Metals	Non-CLP ID	34 PAH in Porewater (SPME)	34 PAH in Bulk Sediment	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	pH	TOC	Grainsize	VOCs
Firestone	UTC-SD-056	UTC-SD-056-2.5/5.2	5/2/2011	E5AN3	ME5AN3	11CU02-09		X	X	X		X	X	X	X	
Firestone	UTC-SD-057-A	UTC-SD-057-A-0.0/0.5	5/5/2011	E5AZ8	ME5AZ8	11CU02-00		X	X	X		X	X	X		
Firestone	UTC-SD-057-A	UTC-SD-057-A-0.5/1.9	5/5/2011	E5AZ9	ME5AZ9	11CU03-01		X	X	X		X	X	X	X	
Firestone	UTC-SD-057-B	UTC-SD-057-B-0.0/0.5	5/5/2011	E5AZ6	--	--		X	X	X		X				
Firestone	UTC-SD-057-B	UTC-SD-057-B-0.5/1.8	5/5/2011	E5AZ7	ME5AZ7	11CU02-99		X	X	X		X	X	X	X	
Firestone	UTC-SD-058	UTC-SD-058-0.0/0.5	5/5/2011	E5AZ4	ME5AZ4	11CU02-96		X	X	X		X	X	X		
Firestone	UTC-SD-058	UTC-SD-058-0.5/2.5	5/5/2011	E5AZ5	ME5AZ5	11CU02-97		X	X	X		X	X	X	X	
Firestone	UTC-SD-060	UTC-SD-060-0.0/0.5	5/4/2011	E5AY5	ME5AY5	11CU02-87		X	X	X		X	X	X		
Firestone	UTC-SD-060	UTC-SD-060-0.5/2.5	5/4/2011	E5AY6	ME5AY6	11CU02-88		X	X	X		X	X	X	X	
Firestone	UTC-SD-061	UTC-SD-061-0.0/0.5	5/5/2011	E5AY8	ME5AY8	11CU02-90		X	X	X		X	X	X		
Firestone	UTC-SD-061	UTC-SD-061-0.5/2.5	5/5/2011	E5AY9	ME5AY9	11CU02-91		X	X	X		X	X	X	X	
Firestone	UTC-SD-061	UTC-SD-061-2.5/4.5	5/5/2011	E5AZ0	ME5AZ0	11CU02-92		X	X	X		X	X	X	X	
Firestone	UTC-SD-061	UTC-SD-061-2.5/4.5-R	5/5/2011	E5AZ1	ME5AZ1	11CU02-93		X	X	X		X	X	X	X	
Firestone	UTC-SD-061	UTC-SD-061-4.5/6.5	5/5/2011	E5AZ2	ME5AZ2	11CU02-94		X	X	X		X	X	X	X	
Firestone	UTC-SD-061	UTC-SD-061-6.5/7.2	5/5/2011	E5AZ3	ME5AZ3	11CU02-95		X	X	X		X	X	X	X	
Firestone	UTC-SG-036	UTC-SG-036-0.0/0.5	5/6/2011	E5B21	ME5B21	11CU03-23	X	X	X	X		X	X	X	X	
Firestone	UTC-SG-037	UTC-SG-037-0.0/0.5	5/6/2011	E5B20	ME5B20	11CU03-22	X	X	X	X	X	X	X	X	X	
Firestone	UTC-SG-038	UTC-SG-038-0.0/0.5	5/6/2011	E5B18	ME5B18	11CU03-20	X	X	X	X		X	X	X	X	
Firestone	UTC-SG-038	UTC-SG-038-0.0/0.5-R	5/6/2011	E5B19	ME5B19	11CU03-21	X	X	X	X	X	X	X	X	X	
Firestone	UTC-SG-039	UTC-SG-039-0.0/0.5	5/6/2011	E5B14	ME5B14	11CU03-17	X	X	X	X	X	X	X	X	X	
Firestone	UTC-SG-040	UTC-SG-040-0.0/0.5	5/6/2011	E5B16	ME5B16	11CU03-18	X	X	X	X	X	X	X	X	X	
Firestone	UTC-SG-041	UTC-SG-041-0.0/0.5	5/6/2011	E5B17	ME5B17	11CU03-19	X	X	X	X		X	X	X	X	
Firestone	UTC-SG-042	UTC-SG-042-0.0/0.5	5/6/2011	E5B26	ME5B26	11CU03-28	X	X	X	X		X	X			
McLouth Steel	UTC-SD-062	UTC-SD-062-0.0/0.5	5/3/2011	E5AR2	ME5AR2	11CU02-37		X	X	X		X				
McLouth Steel	UTC-SD-062	UTC-SD-062-0.5/2.4	5/3/2011	E5AR3	ME5AR3	11CU02-38		X	X	X	X	X	X	X	X	
McLouth Steel	UTC-SD-063	UTC-SD-063-0.0/0.5	5/3/2011	E5AS0	ME5AS0	11CU02-44		X	X	X		X				
McLouth Steel	UTC-SD-063	UTC-SD-063-0.5/2.2	5/3/2011	E5AS1	ME5AS1	11CU02-45		X	X	X	X	X	X	X	X	
McLouth Steel	UTC-SD-064	UTC-SD-064-0.0/0.5	5/3/2011	E5AQ0	ME5AQ0	11CU02-26		X	X	X		X				
McLouth Steel	UTC-SD-064	UTC-SD-064-0.5/2.7	5/3/2011	E5AQ1	ME5AQ1	11CU02-27		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-065	UTC-SD-065-0.0/0.5	5/2/2011	E5AN6	ME5AN6	11CU02-12		X	X	X		X				
McLouth Steel	UTC-SD-065	UTC-SD-065-0.5/2.5	5/2/2011	E5AN7	ME5AN7	11CU02-13		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-065	UTC-SD-065-0.5/2.5-R	5/2/2011	E5AN8	ME5AN8	11CU01-14		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-066	UTC-SD-066-0.0/0.5	5/2/2011	E5AN9	ME5AN9	11CU02-15		X	X	X		X				
McLouth Steel	UTC-SD-066	UTC-SD-066-0.5/2.5	5/2/2011	E5AP0	ME5AP0	11CU02-16		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-066	UTC-SD-066-2.5/4.5	5/2/2011	E5AP1	ME5AP1	11CU02-17		X	X	X	X	X	X	X	X	
McLouth Steel	UTC-SD-066	UTC-SD-066-4.5/6.5	5/2/2011	E5AP2	ME5AP2	11CU02-18		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-066	UTC-SD-066-6.5/9.0	5/2/2011	E5AP3	ME5AP3	11CU02-19		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-067	UTC-SD-067-0.0/0.5	5/2/2011	E5AP4	ME5AP4	11CU02-20		X	X	X		X	X			
McLouth Steel	UTC-SD-067	UTC-SD-067-0.5/2.5	5/2/2011	E5AP5	ME5AP5	11CU02-21		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-067	UTC-SD-067-2.5/4.5	5/2/2011	E5AP6	ME5AP6	11CU02-22		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-067	UTC-SD-067-4.5/6.5	5/2/2011	E5AP7	ME5AP7	11CU02-23		X	X	X	X	X	X	X	X	
McLouth Steel	UTC-SD-067	UTC-SD-067-6.5/8.9	5/2/2011	E5AP8	ME5AP8	11CU02-24		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-067	UTC-SD-067-6.5/8.9-R	5/2/2011	E5AP9	ME5AP9	11CU02-25		X	X	X		X	X	X		
McLouth Steel	UTC-SD-068	UTC-SD-068-0.0/0.5	5/3/2011	E5AQ8	ME5AQ8	11CU02-34		X	X	X		X				
McLouth Steel	UTC-SD-068	UTC-SD-068-0.5/2.5	5/3/2011	E5AQ9	ME5AQ9	11CU02-35		X	X	X		X	X	X	X	
McLouth Steel	UTC-SD-068	UTC-SD-068-2.5/4.8	5/3/2011	E5AR1	ME5AR1	11CU02-36		X	X	X		X	X	X	X	

TABLE A-2
Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
North Works	SG-001	UTC-SG-001-0.0/0.5	30-Apr-11		--	--	152	400	--	280	--	--	--	No
North Works	SG-002	UTC-SG-002-0.0/0.5	30-Apr-11		--	--	22.6	1500	--	970	--	--	--	No
North Works	SG-003	UTC-SG-003-0.0/0.5	30-Apr-11		--	--	18.0	1000	--	620	--	--	--	No
North Works	SG-003	UTC-SG-003-0.0/0.5-R	30-Apr-11		--	--	164	910	--	590	--	--	--	No
North Works	SG-005	UTC-SG-005-0.0/0.5	30-Apr-11		--	--	74.4	200	--	130	--	--	--	No
North Works	SG-006	UTC-SG-006-0.0/0.5	30-Apr-11		--	--	15.7	640	--	360	--	--	--	No
North Works	SG-007	UTC-SG-007-0.0/0.5	30-Apr-11		--	--	14.8	4900	--	3500	--	--	--	No
			Surface	Min			14.8	200		130				
				Max			164	4900		3500				
				Average			73.8	1440		977				
				Median			48.5	820		490				
				Std Dev			68.7	1757		1271				

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Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	0.98	3.50	294	--	940	--	2900	7.70	11.1	--
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	0.96	ND	165	--	1600	--	5200	8.10	5.5	--
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	1.6	ND	134	--	2500	--	7400	8.50	6.3	--
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	2.2	ND	133	--	2500	--	8400	8.00	8.9	--
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	0.53	ND	75.2	--	700	--	1900	8.20	3	--
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	0.05 U	ND	4.86	--	110	--	150	8.10	1.1	--
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	1.1	13.6	16.0	--	2100	--	8200	--	--	--
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	1.2	0.13	25.5	--	2300	--	10000	--	--	--
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	0.97	0.38	30.5	--	4300	--	17000	--	--	--
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	1.7	0.13	32.8	--	2700	--	12000	--	--	--
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	1.2	ND	17.5	--	670	--	3200	--	--	--
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	1.2	ND	45.5	--	2000	--	9200	--	--	--
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	0.08	ND	0.45	--	27	--	140	--	--	--
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	0.05 U	ND	ND	--	95	--	170	--	--	--
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	2	16.2	12.2	--	390	--	1300	--	8.6	--
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	1.8	4.20	19.6	--	2200	--	8400	--	6.8	--
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	1.1	ND	41.7	--	850	--	3500	--	4.6	--
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	0.05 U	ND	1.40	--	1200	--	1800	--	1	--
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	2.1 J-	ND	12.9	11000	--	7900	--	8.82	--	No
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	1.9 J-	ND	28.6	7600	--	5600	--	8.89	6.48	No
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	1.6 J-	ND	12.5	8100	--	6100	--	8.39	6.92	No
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	1.1 J-	ND	30.9	9500	--	7100	--	8.3	7.37	No
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	0.93 J-	ND	28.8	5800	--	4200	--	8.21	11	No
Wyandotte Power	SD-002	UTC-SD-002-0.0/0.5	17-Jun-11	0 - 0.5	0.13 J-	ND	0.65	210	--	160	--	--	--	No
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	0.01 J	ND	0.04	170	--	130	--	8.4	3.04	No
Wyandotte Power	SD-003	UTC-SD-003-0.0/0.5	17-Jun-11	0 - 0.5	0.79	0.61	4.67	--	--	--	--	--	--	No
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	0.93	0.28	21.6	7200	--	5400	--	7.81	6.93	No
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	0.09 J	0.10	12.1	390	--	290	--	8.16	5.73	No
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	0.75 J-	10.3	7.73	17000	--	12000	--	7.65	7.37	No
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	1.3 J-	4.36	44.2	15000	--	11000	--	7.98	7.56	No
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	1.6 J-	ND	81.9	19000	--	15000	--	8.08	6.9	No
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	0.35 J-	ND	163	5700	--	4300	--	8.4	4.13	No
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	0.82 J-	ND	110	3500	--	2600	--	8.45	3.86	No
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	0.7 J-	ND	116	3600	--	2700	--	8.46	5.19	No
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	0.73 J-	9.50	21.7	14000	--	11000	--	7.3	--	No
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	1.7 J-	11.70	15.0	15000	--	11000	--	7.36	7.88	No
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	0.69 J-	15.1	20.9	12000	--	9200	--	7.36	7.78	No
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	0.14 UJ	*4.29*	26.0	9500	--	7500	--	7.82	9.51	No
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	0.89	0.07	11.0	1000	--	740	--	8.03	--	No
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	0.02 J	ND	0.88	200	--	150	--	8.63	3.16	No
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	1.2 J-	6.10	29.7	5900	--	4500	--	7.21	6.19	No
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	0.9 J-	5.90	55.7	4100	--	3000	--	7.49	6.44	No
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	0.69 J-	3.00	58.5	3300	--	2500	--	7.49	6.91	No
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	0.17 J-	0.059	16.0	280	--	220	--	8.11	1.78	No
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	0.12 UJ	0.090	11.5	570	--	460	--	--	--	No
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	0.19 J-	0.027	9.60	230	--	190	--	8.37	1.45	No
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	0.43 J-	ND	44.6	600	--	480	--	8.48	1.75	No
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	0.1 J	ND	0.63	170	--	120	--	8.04	2.85	No
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	0.62 J-	ND	24.6	4800	--	3200	--	8.02	6.94	No
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	0.28 J-	*3.70*	17.1	15000	--	11000	--	6.68	5.81	No
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	0.54 J-	4.30	17.0	5700	--	3700	--	7.42	3.87	No
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	0.58 J-	3.80	111	6000	--	4400	--	6.86	6.73	No
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	1.3 J-	0.24	26.6	650	--	430	--	7.11	3.43	No
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	0.27 J-	0.67	17.0	590	--	400	--	7.09	9.14	No
			Surface	Min	0.06	0.02	0.63	170	390	120	1300	6.68	2.85	
				Max	2.20	16.2	294	17000	2500	12000	8400	8.82	11.1	
				Average	0.87	3.91	40.4	5899	1483	4286	5200	7.57	6.52	
				Median	0.75	0.67	17.0	5250	1520	3450	5550	7.54	6.73	
				Standard Deviation	0.65	5.07	70.6	6027	984	4436	3640	0.58	2.53	
			Subsurface	Min	0.01	0.02	0.04	170	27	130	140	7.36	0.80	
				Max	1.90	15.1	165	19000	4300	15000	17000	8.89	12.20	
				Average	0.78	1.26	43.3	6139	1524	4633	5572	8.18	5.38	
				Median	0.90	0.12	28.8	5700	1400	4200	4350	8.20	5.62	
				Standard Deviation	0.65	3.12	46.9	5941	1288	4528	5365	0.36	3.06	

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Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	0.05 U	ND	0.41	--	120	--	130	8.5	1.5	--
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	0.05 U	ND	0.08	--	100	--	91	8.3	1.1	--
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	0.05 U	ND	0.11	--	100	--	140	--	1.6	--
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	0.05 U	ND	0.10	--	97	--	130	--	0.5	--
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	0.29	0.49	18.1	--	130	--	510	--	--	--
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	0.06	0.35	18.0	--	170	--	570	--	--	--
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	0.05 U	ND	0.25	--	110	--	170	7	--	--
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	0.05 U	ND	1.80	--	110	--	150	7	--	--
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	0.52	1.89	6.66	--	1700	--	5200	7.9	7.7	--
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	0.54	3.84	5.46	--	2500	--	7400	6.9	7.4	--
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	0.32	2.68	9.9	--	1100	--	3300	7.9	4.4	--
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	0.98	3.27	14.2	--	5700	--	19000	7.3	9	--
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	1.2	3.60	15.9	--	9500	--	25000	8.5	10.1	--
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	1.3	14.5	17.9	--	7200	--	19000	7.6	9.8	--
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	1	11.9	21.9	--	3500	--	12000	7.4	8.5	--
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	1.5	ND	164	--	2400	--	9900	8.2	8.6	--
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	1.5	ND	85.1	--	2000	--	7600	--	8.7	--
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	0.64	ND	407	--	990	--	2500	--	2.4	--
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	0.32	1.38	31.0	--	220	--	790	--	--	--
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	0.45	0.28	7.18	--	220	--	770	--	--	--
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	0.05 U	ND	0.77	--	90	--	230	--	--	--
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	1.9	ND	153	--	640	--	3700	--	7.9	--
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	0.75	ND	35.1	--	230	--	650	--	6.3	--
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	0.05 U	ND	1.62	--	89	--	120	--	2.4	--
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	1.7	21.3	6.30	--	4400	--	14000	--	--	--
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	0.9	9.40	24.5	--	1700	--	6500	--	--	--
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	0.98	17.4	13.3	--	2500	--	8900	--	--	--
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	0.96	1.45	25.1	--	2200	--	8700	--	--	--
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	1.9	ND	52.3	--	1800	--	6800	--	--	--
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	2.4	ND	54.2	--	1800	--	6900	--	--	--
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	3.3	ND	107	--	2600	--	9500	--	--	--
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	0.8	3.37	15.9	--	3300	--	11000	--	7.1	--
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	0.39	0.82	67.1	--	280	--	1500	--	3.4	--
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	0.45	3.01	12.6	--	1000	--	4500	--	--	--
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	1.5	0.28	38.0	--	1300	--	5700	--	--	--
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	0.12 UJ	ND	0.21	57	--	43	--	8.39	--	No
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	0.12 UJ	ND	0.16	190	--	150	--	8.41	1.93	No
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	0.16 J-	ND	25.9	130	--	100	--	--	--	No
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	0.12 UJ	ND	14.7	73	--	54	--	8.11	0.956	No
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	0.86	7.10	12.3	7000	--	4700	--	--	--	--
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	0.91	*10.5*	9.37	7400	--	5000	--	7.43	4.14	--
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	1.1	*22.9*	15.7	13000	--	8700	--	7.55	5.9	--
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	1.1	2.00	16.5	6500	--	4600	--	8	5.05	--
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	0.92	3.10	28.4	6800	--	4800	--	7.98	4.74	--
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	0.34	0.35	10.2	390	--	220	--	9.98	2.31	No
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	0.17	0.44	8.47	480	--	280	--	10.2	3.11	No
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	0.17 UJ	1.11	27.4	3000	--	1800	--	7.15	--	No
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	0.43 J-	4.50	20.0	25000	--	17000	--	7.16	6.59	No
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	1.5 J-	*27.6*	19.1	21000	--	14000	--	7.22	8.52	No
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	1.2 J-	13.8	18.7	17000	--	11000	--	7.65	7.56	No
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	0.18 UJ	15.0	19.1	16000	--	11000	--	7.54	7.18	No
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	0.62 J-	0.85	14.5	--	--	--	--	--	--	No
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	0.91 J-	4.90	11.8	16000	--	13000	--	7.23	7.36	No
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	0.17 UJ	0.30	79.2	8600	--	6300	--	7.87	12.2	No
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	0.44 J-	0.14	101	8200	--	6000	--	7.92	7.14	No
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	0.54 J-	*0.130*	19.8	12000	--	8800	--	7.99	4.71	No
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	1 J-	ND	176	4800	--	3600	--	8.05	4.52	No
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	0.38 J-	*0.004*	56.7	2300	--	1700	--	7.94	1.59	No
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	1.6 J-	12.2	16.2	17000	--	14000	--	7.22	6	No
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	0.97 J-	13.3	175	14000	--	11000	--	7.32	5.37	No
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	1.5 J-	17.1	14.9	18000	--	13000	--	7.34	8.64	No
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	1 J-	*2.63*	23.9	4900	--	3600	--	7.68	4.88	No
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	0.26 J-	0.56	14.7	1500	--	1100	--	--	--	No
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	0.5 J-	1.96	40.7	2700	--	1800	--	7.12	5.15	No
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	1.7 J-	ND	38.8	7300	--	5300	--	7.95	4.5	No
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	1.5 J-	ND	22.6	8000	--	5900	--	7.75	8.01	No

TABLE A-2
Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	2.5 J-	*0.002*	115	8300	--	6300	--	7.59	4.63	No
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	2.3 J-	ND	136	4200	--	3300	--	7.83	5.77	No
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	1.8 J-	*15.7*	22.1	9500	--	7100	--	7.18	6.36	No
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	1.1 J-	21.1	25.0	11000	--	8500	--	7.36	7.08	No
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	0.81 J-	1.68	17.9	8100	--	6100	--	7.8	6.24	No
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	1.4 J-	0.57	101	8800	--	6800	--	7.73	5.23	No
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	0.36	0.33	13.3	3500	--	2100	--	--	--	No
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	0.47	0.53	16.7	3700	--	2200	--	7.08	5.47	No
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	1.6 J-	*0.23*	100	13000	--	9500	--	7.88	5.09	No
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	0.5	7.80	14.2	4700	--	3100	--	7.18	6.72	No
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	0.49	2.70	14.2	4200	--	2700	--	7.25	6.89	No
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	0.96 J-	7.60	27.8	11000	--	7900	--	7.38	6.17	No
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	1.6 J-	*0.79*	77.5	15000	--	11000	--	7.65	6.75	No
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	2 J-	ND	112	5200	--	3800	--	7.83	5.05	No
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	1.4	ND	97.1	--	--	--	--	--	--	No
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	1.8	ND	204	7100	--	5200	--	7.56	6.17	No
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	1.5	ND	343	3400	--	2400	--	7.61	6.32	No
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	0.54	ND	117	1500	--	1100	--	7.86	4.03	No
Bishop Park	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	0.42	1.03	19.5	--	--	--	--	--	--	No
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	1.6	ND	49.4	7400	--	5300	--	7.6	6.28	No
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	1.3	ND	126	3300	--	2500	--	7.87	6.72	No
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	0.12 UJ	0.05	4.32	120	--	100	--	8.02	2.17	No
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	0.13 J+	0.10	17.1	180	--	140	--	7.88	2.69	No
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	0.18 J-	ND	312	170	--	110	--	7.92	5.12	No
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	0.19 J-	0.15	11.9	200	--	140	--	7.56	9.13	No
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	0.23 J-	0.07	7.13	220	--	170	--	7.46	4.38	No
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	0.24 J-	*0.41*	42.9	730	--	410	--	7.4	5.11	No
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	0.28 J-	0.24	20.6	330	--	240	--	7.4	4.82	No
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	0.17 J-	0.26	18.3	320	--	230	--	7.28	4.92	No
			Surface	Min	0.03	0.02	0.08	57	100	43	91	6.90	1.10	
				Max	1.90	21.3	312	7000	5700	4700	19000	9.98	10.30	
				Average	0.50	1.66	37.0	1252	1537	812	5349	7.83	5.52	
				Median	0.29	0.35	14.5	275	640	195	3700	7.60	5.11	
				Standard Deviation	0.53	4.08	66.7	1991	1876	1303	6234	0.77	3.08	
			Subsurface	Min	0.03	0.002	0.10	73	89	54	120	7.00	0.50	
				Max	3.30	27.6	407	25000	9500	17000	25000	10.20	17.10	
				Average	1.02	4.64	59.0	8959	2016	6494	6319	7.70	5.98	
				Median	0.98	0.53	24.5	8050	1300	6000	5700	7.65	6.17	
				Standard Deviation	0.71	7.03	78.7	6121	2501	4395	6789	0.52	2.91	

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Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Residential Area	C12	C12 0-1_20061221	21-Dec-06	0 - 1	0.17	1.14	25.8	--	670	--	1900	8.80	4	--
Residential Area	C12	C12 1-3_20061221	21-Dec-06	1 - 3	0.68	2.80	18.8	--	4700	--	13000	8.10	8.8	--
Residential Area	C12	C12 3-5_20061221	21-Dec-06	3 - 5	1.5	21.6	5.30	--	4200	--	14000	8.00	8.8	--
Residential Area	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	0.64	1.36	10.1	--	1300	--	5700	--	--	--
Residential Area	C9	C9 0-1_20070710	10-Jul-07	0 - 1	0.77	2.18	41.4	--	730	--	3300	--	5.9	--
Residential Area	D2	D2 0-1_20061221	21-Dec-06	0 - 1	0.05 U	ND	0.39	--	54	--	52	8.20	1.3	--
Residential Area	D3	D3 0-1_20061221	21-Dec-06	0 - 1	0.05 U	ND	3.94	--	45	--	54	8.60	1.9	--
Residential Area	D4	D4 0-1_20070711	11-Jul-07	0 - 1	0.1	ND	36.7	--	210	--	550	--	--	--
Residential Area	D4	D4 1-2_20070711	11-Jul-07	1 - 2	0.05 U	ND	3.01	--	110	--	160	--	--	--
Residential Area	D5	D5 0-1_20070710	10-Jul-07	0 - 1	0.47	ND	30.8	--	320	--	1500	--	7.7	--
Residential Area	D5	D5 1-3_20070710	10-Jul-07	1 - 3	0.2	0.26	7.71	--	93	--	620	--	2.7	--
Residential Area	D6	D6 0-1_20070710	10-Jul-07	0 - 1	0.05 U	ND	0.81	--	84	--	120	--	1.4	--
Residential Area	E1	E1 0-1_20061221	21-Dec-06	0 - 1	0.12	ND	11.8	--	160	--	320	8.30	1.5	--
Residential Area	E1	E1 1-3_20061221	21-Dec-06	1 - 3	0.1	ND	4.02	--	110	--	160	8.30	1.4	--
Residential Area	E2	E2 0-1_20061222	22-Dec-06	0 - 1	0.05 U	ND	0.30	--	100	--	98	8.30	1.4	--
Residential Area	E2	E2 1-3_20061222	22-Dec-06	1 - 3	0.05 U	ND	0.09	--	98	--	88	8.20	1.1	--
Residential Area	E21	E21 0-1_20061221	21-Dec-06	0 - 1	0.18	0.12	13.0	--	180	--	480	8.20	1.3	--
Residential Area	E3	E3 0-1_20070710	10-Jul-07	0 - 1	0.05 U	ND	0.10	--	110	--	150	--	0.4	--
Residential Area	E3	E31-3_20070710	10-Jul-07	1 - 3	0.05 U	ND	ND	--	95	--	130	--	--	--
Residential Area	E6	E6 0-1_20070711	11-Jul-07	0 - 1	0.05 U	ND	0.59	--	90	--	160	--	--	--
Residential Area	E6	E6 1-3_20070711	11-Jul-07	1 - 3	0.09	ND	9.19	--	48	--	170	--	--	--
			Surface	Min	0.03	0.12	0.10		45		52	8.20	0.40	
				Max	0.77	2.18	41.4		1300		5700	8.80	7.70	
				Average	0.16	0.39	13.8		277		924	8.38	2.53	
				Median	0.06	0.12	7.89		135		240	8.25	1.45	
				Standard Deviation	0.23	0.63	15.7		365		1619	0.26	2.26	
			Subsurface	Min	0.03	0.12	0.09		48		88	8.00	0.50	
				Max	1.50	21.6	18.8		4700		14000	8.30	8.80	
				Average	0.33	3.14	6.09		1182		3541	8.13	3.28	
				Median	0.10	0.13	4.66		104		165	8.10	1.90	
				Standard Deviation	0.52	7.52	6.03		2022		6155	0.15	3.50	

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Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	0.33	0.64	5	--	1200	--	4200	7.10	7.2	--
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	0.99	0.58	29	--	730	--	2200	7.70	5.2	--
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	0.42	1.21	25	--	1300	--	5300	7.20	10.4	--
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	0.55	0.14	66	--	970	--	4100	7.60	7.1	--
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	0.58	ND	181	--	760	--	1900	8.00	3.1	--
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	1.1	ND	41	--	2900	--	16000	--	--	--
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	1.6	ND	45	--	2600	--	14000	--	--	--
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	1.4	0.16	54	--	1800	--	10000	--	--	--
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	0.11	ND	2	--	120	--	250	--	1.6	--
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	0.05 U	ND	0	--	98	--	140	--	1.1	--
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	0.05 U	ND	ND	--	150	--	200	--	1.1	--
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	0.05 U	ND	ND	--	100	--	160	--	--	--
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	0.05 U	ND	ND	--	120	--	160	--	--	--
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	0.05 U	ND	2	--	100	--	150	8.20	1.7	--
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	2.3	ND	58	--	2700	--	8900	7.30	5.1	--
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	1.9	ND	181	--	2800	--	8900	--	--	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	1.7	ND	208	--	2300	--	7200	7.60	8.4	--
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	0.33	ND	18	--	300	--	750	8.00	2	--
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	0.05 U	ND	1	--	75	--	100	--	--	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	0.05 U	ND	2	--	98	--	110	8.10	0.9	--
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	2.5	ND	33	--	2200	--	8400	7.70	15.5	--
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	1.7	ND	47	--	2600	--	9600	7.80	9.3	--
South Works	G3	G3 0-1_12/21/2006	21-Dec-06	0 - 1	0.25	0.28	14	--	2400	--	12000	11.80	--	--
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	1.8	ND	41	--	1700	--	8400	--	--	--
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	2.6	ND	70	--	120	--	240	--	--	--
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	0.05 U	ND	2	--	1300	--	3100	--	--	--
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	0.3	0.21	4	--	110	--	240	8.50	9.8	--
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	0.46	0.26	2	--	44	--	220	10.10	5.4	--
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	1.1	ND	1	--	40	--	150	11.40	3.6	--
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	0.85	ND	5	--	160	--	760	11.40	4.1	--
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	1.2	ND	7	--	910	--	3300	12.00	12.9	--
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	0.83	ND	10	--	330	--	1000	12.30	3.8	--
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	0.51	ND	11	--	300	--	1000	--	--	--
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	0.44	ND	6	--	310	--	880	12.50	5	--
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	0.52	ND	8	--	220	--	610	12.30	5.1	--
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	0.27	ND	5	--	180	--	550	--	--	--
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	0.49	ND	5	--	140	--	480	12.10	5.6	--
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	0.68	ND	3	--	130	--	460	11.20	3.2	--
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	0.26	ND	5	--	180	--	540	11.70	3	--
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	0.57	ND	5	--	190	--	730	11.90	3.7	--
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	0.81	ND	11	--	300	--	1100	11.90	8.7	--
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	0.26	ND	20	--	280	--	1300	12.10	11.8	--
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	1.2	ND	27	--	71	--	390	11.20	6.1	--
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	0.05 U	ND	1	--	59	--	74	9.30	2.5	--
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	0.05 U	ND	0	--	130	--	120	8.70	1.5	--
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	15	*ND*	1	--	130	--	620	10.80	4.5	--
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	85	*ND*	7	--	830	--	2600	11.20	6.9	--
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	16	ND	0	--	120	--	170	9.40	1.7	--
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	2.1	0.23	26	--	310	--	1300	11.00	6.1	--
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	0.96	ND	39	--	660	--	2100	9.40	5.2	--
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	0.2	ND	20	--	650	--	2100	8.50	1.4	--
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	0.37	ND	12	--	160	--	560	11.20	2.1	--
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	0.05 U	ND	0	--	81	--	110	9.10	1.1	--
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	0.54	ND	ND	--	69	--	77	8.90	1.4	--
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	0.29	ND	1	--	76	--	87	8.80	3.9	--
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	0.05 U	ND	0	--	79	--	90	8.80	0.9	--
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	9.5	1.16	14	--	890	--	2800	8.60	5.1	--
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	3.7	0.37	14	--	1400	--	4500	8.00	6.9	--
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	1	ND	8	--	1600	--	2300	8.00	6.4	--
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	0.07 J-	ND	--	5300	--	4400	--	12	--	Yes, clear NAPL, sweet smelling
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	0.11 U	ND	--	420	--	360	--	9.23	--	Yes, clear NAPL, sweet smelling
South Works	SD-023	UTC-SD-023-0.0/0.5	16-Jun-11	0 - 0.5	0.65	ND	--	13000	--	10000	--	9.27	--	No
South Works	SD-023	UTC-SD-023-0.5/2.5	16-Jun-11	0.5 - 2.5	0.3	ND	--	3800	--	3000	--	10.1	--	No
South Works	SD-023	UTC-SD-023-2.5/4.0	16-Jun-11	2.5 - 4	0.11 U	ND	--	140	--	110	--	9.28	--	No
South Works	SD-023	UTC-SD-023-2.5/4.0-R	16-Jun-11	2.5 - 4	0.11 U	ND	--	230	--	190	--	9.45	--	No
South Works	SD-025	UTC-SD-025-0.0/0.5	16-Jun-11	0 - 0.5	1.8	ND	--	900	--	630	--	12.2	--	No
South Works	SD-025	UTC-SD-025-0.5/1.7	16-Jun-11	0.5 - 1.7	1.7	ND	--	920	--	640	--	12.2	--	No

TABLE A-2
Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
South Works	SD-026	UTC-SD-026-0.0/0.6	16-Jun-11	0 - 0.6	0.19 J	ND	--	430	--	310	--	11.3	--	No
South Works	SD-026	UTC-SD-026-0.6/1.3	16-Jun-11	0.6 - 1.3	0.04 J	ND	--	80	--	49	--	11.3	--	No
South Works	SD-027	UTC-SD-027-0.0/0.5	17-Jun-11	0 - 0.5	0.01 J-	ND	--	120	--	98	--	9.02	--	No
South Works	SD-027	UTC-SD-027-0.5/2.5	17-Jun-11	0.5 - 2.5	0.1 UJ	ND	--	150	--	120	--	8.68	--	No
South Works	SD-027	UTC-SD-027-0.5/2.5-R	17-Jun-11	0.5 - 2.5	0.11 UJ	ND	--	120	--	96	--	8.55	--	No
South Works	SD-027	UTC-SD-027-2.5/3.5	17-Jun-11	2.5 - 3.5	0.11 UJ	ND	--	170	--	130	--	8.44	--	No
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	0.03 J	ND	0	250	--	220	--	9.56	--	Strong hydraulic oil like odor
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	0.12 U	ND	0	180	--	140	--	8.61	2.62	Strong hydraulic oil like odor
			Surface	Min	0.01	0.018	0	120	44	98	87	7.10	1.40	
				Max	15.00	1.21	66	13000	2900	10000	16000	12.20	15.50	
				Average	1.60	0.23	17	3333	863	2610	3454	9.65	6.20	
				Median	0.46	0.13	9	665	310	470	1300	9.42	5.40	
				Standard Deviation	3.25	0.31	20	5128	955	3976	4433	1.75	3.93	
			Subsurface	Min	0.03	0.02	0	80	40	49	74	7.60	0.90	
				Max	85.00	0.58	208	3800	2800	3000	14000	12.50	20.00	
				Average	3.03	0.13	24	744	630	579	2270	9.87	4.65	
				Median	0.50	0.10	7	205	280	165	760	9.40	3.70	
				Standard Deviation	13.19	0.11	46	1264	798	996	3496	1.68	3.92	

TABLE A-2
Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	67	250	535	--	26000	--	23000	9.40	3	--
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	23	410	642	--	15000	--	13000	--	--	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	12	460	389	--	14000	--	11000	9.50	11.3	--
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	2.5	130	279	--	3200	--	2400	8.40	6.4	--
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	1.8	47.0	146	--	4300	--	3900	--	--	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	1.6	33.0	173	--	4200	--	3900	8.10	6	--
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	0.78	3.10	62.7	--	1500	--	3000	9.30	5	--
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	0.78	1.50	57.8	--	1000	--	1900	8.30	2.8	--
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	0.95	ND	0.52	130 J	--	88 J	--	--	--	No
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	0.5	0.051	0.22	130	--	96	--	--	--	No
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	0.12 U	0.14	0.50	160	--	120	--	7.96	1.64	no NAPL, but asphalt like material noted
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	0.12 U	ND	0.30	180	--	140	--	8	2.53	no NAPL, but asphalt like material noted
Wye Street	SD-031	UTC-SD-031-0.0/0.5	26-Apr-11	0 - 0.5	1.1	ND	--	--	--	--	--	--	--	no NAPL, PAH/naptha odor noted
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	1.1	ND	20.3	2300	--	1700	--	8.9	4.52	no NAPL, PAH/naptha odor noted
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	3.3	ND	6.32	3200	--	2300	--	--	--	no NAPL, PAH/naptha odor noted
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	2.4	0.14	4.94	5200	--	3900	--	8.65	8.81	no NAPL, PAH/naptha odor noted
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	0.88	0.007	21.2	4000	--	3000	--	8.82	7.4	no NAPL, PAH/naptha odor noted
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	0.96	0.008	15.0	5000	--	3700	--	8.78	6.86	no NAPL, PAH/naptha odor noted
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	1.4	0.003	13.8	6200	--	4600	--	8.81	6.12	no NAPL, PAH/naptha odor noted
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	1.4	ND	12.7	4400	--	3200	--	9.17	6.75	no NAPL, PAH/naptha odor noted
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	1.3 J-	ND	9.01	200	--	170	--	--	--	no NAPL, PAH/naptha odor noted
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	0.12 U	ND	1.59	150	--	120	--	7.92	1.43	no NAPL, PAH/naptha odor noted
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	0.0092 J	ND	14.0	390	--	370	--	8.45	3.34	NAPL and strong odor
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	0.0098 J	0.26	0.16	72	--	57	--	8.49	1.73	NAPL and strong odor
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	0.0097 J	0.27	0.50	86	--	70	--	8.42	1.52	NAPL and strong odor
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	47.4	40.1	340	23000	--	15000	--	9.45	8.5	Strong naptha odor, "cinder-like" material noted, NAPL saturated at top
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	9.5	77.1	35.0	11000	--	7000	--	--	--	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	23.1	538	810	15000	--	12000	--	10.3	5.89	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	9.9	1845	6400	26000	--	24000	--	10.2	12.8	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	0.12 U	ND	0.39	140	--	110	--	8.22	1.61	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	0.12 U	ND	0.19	160	--	120	--	8.13	2.52	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	7.2 J-	ND	1300	5400	--	3300	--	--	--	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	45.8 J-	324	2000	18000	--	16000	--	10.3	12.4	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	54.5 J-	245	2600	16000	--	14000	--	8.94	16.6	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	19.9 J-	ND	2883	24000	--	21000	--	9.84	14.3	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	1.3 J-	ND	1055	15000	--	13000	--	8.24	9.33	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	1.2 J-	68.0	355	5900	--	4700	--	8.36	7.49	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	1.1 J-	75.1	339	5900	--	4900	--	8.46	8.06	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	0.61 J-	ND	30.6	1500	--	1200	--	--	--	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	0.12 U	ND	18.0	260	--	210	--	8.69	1.47	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	0.12 U	ND	0.43	170	--	130	--	8.3	1.09	Strong naptha odor, "cinder-like" material noted, NAPL saturated
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	2.2	ND	70.9	13000	--	11000	--	9.12	7.48	NAPL and strong odor
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	1.7	131	214	19000	--	18000	--	10.2	7.42	NAPL and strong odor
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	11.5 J-	ND	1100	11000	--	7800	--	--	--	NAPL and strong odor
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	20.1 J-	ND	1500	20000	--	15000	--	7.58	9.69	NAPL and strong odor
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	0.12 U	ND	1.98	150	--	120	--	7.98	2.45	yes, strong odor, sticky black material
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	0.12 U	ND	0.27	140 J	--	120 J	--	7.98	2.96	yes, strong odor, sticky black material
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	0.12 U	ND	0.29	250 J	--	210 J	--	7.95	1.67	yes, strong odor, sticky black material
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	0.12 U	ND	0.22	120	--	89	--	7.86	1.61	yes, strong odor, sticky black material
Wye Street	SD-073	UTC-SD-073-0.0/0.5	14-Jun-11	0 - 0.5	0.11 U	ND	0.14	150	--	120	--	--	--	mild odor, no NAPL observed
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	0.11 U	ND	0.03	170	--	130	--	7.93	2.59	mild odor, no NAPL observed

TABLE A-2
Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	0.12 U	ND	0.09	240	--	180	--	8.42	--	no NAPL, black "cinders" noted
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	0.11 U	ND	0.05	190	--	150	--	8.16	3.19	no NAPL, black "cinders" noted
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	0.11 U	ND	ND	170	--	130	--	8.08	2.87	no NAPL, black "cinders" noted
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	0.12 U	ND	0.04	150	--	110	--	8.21	2.51	no NAPL, black "cinders" noted
Wye Street	SD-075	UTC-SD-075-0.0/0.5	14-Jun-11	0 - 0.5	0.11 U	ND	ND	150	--	110	--	--	--	no
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	0.12 U	ND	0.005	200	--	160	--	8.41	2.25	no
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	0.12 U	ND	0.01	86	--	66	--	8.11	--	brown sheen
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	0.11 U	ND	0.004	140	--	110	--	8.24	2.26	brown sheen
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	0.12 U	ND	0.01	140	--	110	--	8.45	2.38	no
Wye Street	SD-078	UTC-SD-078-0.0/0.5	14-Jun-11	0 - 0.5	0.11 U	ND	0.14	240	--	180	--	--	--	no
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	0.11 U	ND	0.01	200	--	150	--	8.47	2.49	no
Wye Street	SD-079	UTC-SD-079-0.0/0.5	14-Jun-11	0 - 0.5	0.12 U	ND	0.16	160	--	130	--	--	--	no
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	0.12 U	ND	0.09	180	--	140	--	8.05	2.93	no
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	0.12 U	ND	0.004	180	--	140	--	8.29	2.97	no
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	0.12 U	ND	0.005	230	--	190	--	8.47	2.28	no
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	0.12 U	*0.001*	ND	210	--	160	--	8.58	2.48	no
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	0.12 U	*0.001*	0.00	170	--	140	--	8.56	2.63	no
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	0.12 U	*0.0003*	ND	150	--	110	--	8.46	2.48	no
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	0.12 U	ND	0.01	180	--	160	--	8.28	--	no
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	0.12 U	*0.001*	0.01	130	--	110	--	8.59	2.55	no
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	0.54 J-	ND	5.28	200	--	120	--	7.87	3.17	No
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	1.1 J-	ND	7.43	440	--	300	--	7.94	2.39	No
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	3 J-	NC-R	6.96	120	--	70	--	7.8	6.33	No
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	0.4 J-	ND	5.05	160	--	120	--	7.89	6.05	No
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	0.44 J-	ND	5.70	160	--	120	--	7.62	2.98	No
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	0.9 J-	*17.5*	35.3	6700	--	5900	--	7.48	4.93	NAPL, strong naptha odor
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	6.1 J-	*46.6*	69.3	5800	--	3000	--	7.42	6.52	No
			Surface	Min	0.01	0.02	0.002	86	26000	66	23000	7.42	1.61	
				Max	67.00	250	1300	23000	26000	15000	23000	11.30	8.50	
				Average	5.33	16.6	119	2663		1871		8.42	4.14	
				Median	0.54	0.02	5	200		160		8.22	3.17	
				Standard Deviation	14.37	51.1	316	5516		3820		0.90	2.28	
			Subsurface	Min	0.01	0.001	0.002	86	1000	70	1900	7.58	1.09	
				Max	54.50	1845	6400	26000	15000	24000	13000	10.30	16.60	
				Average	4.56	114.7	456	5347	4867	4485	4683	8.64	5.24	
				Median	0.06	0.02	5	230	3700	185	3450	8.46	2.97	
				Standard Deviation	10.79	348.6	1211	7870	5148	6925	4152	0.73	3.91	

TABLE A-2
Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	3.7	*ND*	45.3	3600	--	1700	--	8.78	3.11	slight odor, no sheen, no NAPL
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	0.14 J-	*ND*	9.82	340	--	270	--	7.85	1.13	strong odor, slight brown sheen
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	0.61 J-	*0.78*	1.01	270	--	210	--	7.88	1.89	strong odor, slight brown sheen
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	0.12 U	*1.84*	4.86	260	--	200	--	7.91	3.41	strong odor, slight brown sheen
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	0.12 U	*0.17*	0.34	180	--	140	--	7.9	2.43	strong odor, slight brown sheen
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	0.26 J-	*ND*	16.0	300	--	220	--	--	--	staining and moderate naptha odor
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	0.12 U	*1.85*	21.0	400	--	310	--	8.28	1.76	staining and moderate naptha odor
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	14.1 J-	NC-R	29.1	--	--	--	--	--	--	tar-like odor, sticky coating, asphalt like material, elevated PID hits
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	1.4 J-	NC-R	75.3	2600	--	1900	--	--	--	tar-like odor, sticky coating, asphalt like material, elevated PID hits
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	16.2 J-	NC-R	32.0	4700	--	3600	--	--	--	tar-like odor, sticky coating, asphalt like material, elevated PID hits
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	0.84 J-	ND	4.55	1100	--	810	--	8.13	5.56	tar-like odor, sticky coating, asphalt like material, elevated PID hits
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	1.7 J-	*0.72*	47.1	1600	--	1300	--	8.57	4.95	no
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	0.18 J-	*0.066*	5.34	270	--	220	--	8.44	3.42	no
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	1.6 J-	*0.50*	97.6	6900	--	5200	--	8.22	--	asphalt like, black coating, noted as "tar-like" substance on core logs
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	1 J-	ND	138	8000	--	6200	--	8.25	3.93	asphalt like, black coating, noted as "tar-like" substance on core logs
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	6.4 J-	*5.35*	66.3	5300	--	4000	--	8.18	9.57	asphalt like, black coating, noted as "tar-like" substance on core logs
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	0.45 J-	NC-R	89.3	11000	--	8800	--	7.96	9.42	asphalt like, black coating, noted as "tar-like" substance on core logs
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	0.13 UJ	*0.025*	148	1800	--	1400	--	7.9	4.77	asphalt like, black coating, noted as "tar-like" substance on core logs
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	3.9 J-	NC-R	24.1	2300	--	1700	--	--	--	--
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	6.2 J-	ND	85.8	3100	--	2400	--	8.23	8.63	--
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	1.7 J-	ND	140	4300	--	3400	--	8.12	6.2	--
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	2.2 J-	*0.63*	37.2	3700	--	2600	--	7.95	6.98	sheen and hydrocarbon odor pervasive, black cinder-like/slag-like material at top of core.
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	2.6 J-	ND	96.0	5900	--	4200	--	7.93	5.61	sheen and hydrocarbon odor pervasive, black cinder-like/slag-like material at top of core.
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	2.6 J-	ND	169	9400	--	6900	--	7.89	6.62	sheen and hydrocarbon odor pervasive, black cinder-like/slag-like material at top of core.
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	1.1 J-	*0.039*	152	2900	--	2100	--	8.08	6.25	sheen and hydrocarbon odor pervasive, black cinder-like/slag-like material at top of core.
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	0.52 J-	ND	52.5	4700	--	3600	--	--	--	no
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	9.5 J-	NC-R	29.5	10000	--	8000	--	7.95	6.98	no
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	0.41	*0.15*	4.07	340	--	260	--	--	--	moderate odor, "halowax-like" material noted
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	0.09 J	*0.033*	0.54	200	--	170	--	8.37	3.49	moderate odor, "halowax-like" material noted
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	3.1	*ND*	55.3	7500	--	5900	--	--	--	NAPL, sheen and staining
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	2.2	*4.22*	48.1	7200	--	5700	--	7.9	7.49	NAPL, sheen and staining
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	0.17	ND	1.14	300	--	230	--	8.46	--	no
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	0.02 J	ND	0.55	180	--	140	--	8.27	2.47	no
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	10	NC-R	28.6	5100	--	3900	--	--	--	NAPL - coated/sticky
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	13	*28.6*	20.9	2000	--	1500	--	8.13	4.38	NAPL - coated/sticky
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	0.11 U	ND	0.08	190	--	150	--	8.55	2.8	NAPL - coated/sticky
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	0.12 U	ND	0.04	160	--	130	--	8.26	2.39	NAPL - coated/sticky
Arkema	SD-086	UTC-SD-086-0.0/0.5	15-Jun-11	0 - 0.5	0.12 U	ND	0.19	170	--	140	--	--	--	no
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	0.11 U	ND	0.005	170	--	130	--	8.62	3.98	no
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	0.12 J-	ND	0.005	170	--	130	--	8.57	--	no
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	0.1 UJ	ND	0.02	200	--	160	--	8.42	3.24	no
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	0.1 UJ	ND	0.01	190	--	150	--	8.35	2.42	no
Arkema	SD-088	UTC-SD-088-0.0/0.5	15-Jun-11	0 - 0.5	0.03 J-	NC-R	0.52	230	--	190	--	--	--	staining in top 0.2', "halowax like material" noted
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	0.1 UJ	ND	0.16	190	--	150	--	8.63	4.7	staining in top 0.2', "halowax like material" noted
Arkema	SD-089	UTC-SD-089-0.0/0.5	15-Jun-11	0 - 0.5	0.01 J-	ND	0.02	--	--	--	--	--	--	no
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	0.12 UJ	ND	0.13	160	--	130	--	8.55	2.09	no
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	6.4 J-	ND	15.0	10000	--	7900	--	7.13	8	Halowax-like material noted, moderate HC odor
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	1.1 J-	*33.8*	368	4800	--	2800	--	7.24	12.3	NAPL, strong naptha odor
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	1.2 J-	*5.83*	253	2700	--	1800	--	7.43	5.74	NAPL, strong naptha odor
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	1.1 J-	*10.6*	47.4	1200	--	510	--	7.23	6.43	sheen, weak naptha odor
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	0.56 J-	*0.98*	3.01	280	--	150	--	7.95	4.2	no

TABLE A-2
Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	2.9 J-	*4.78*	12.1	1300	--	980	--	8.04	7.49	slight sheen
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	2.2 J+	*ND*	13.3	1200	--	840	--	7.99	9.24	slight sheen
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	1.8 J-	*4.91*	28.1	410	--	290	--	7.66	2.02	no
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	6.5 J+	*2.24*	33.1	2500	--	1800	--	7.8	4.5	no
			Surface	Min	0.01	0.02	0.005	170		130		7.13	1.13	
				Max	14.10	33.8	368	10000		7900		8.78	12.30	
				Average	2.50	3.84	47.7	2627		1895		7.93	5.72	
				Median	1.30	0.63	28.3	1950		1500		7.95	5.35	
				Standard Deviation	3.39	8.26	82.2	2704		2086		0.53	3.15	
			Subsurface	Min	0.02	0.02	0.005	160		130		7.89	1.76	
				Max	16.20	28.6	169	11000		8800		8.63	9.57	
				Average	2.51	1.85	49.8	3049		2348		8.19	4.86	
				Median	0.53	0.03	20.9	1450		1105		8.18	4.38	
				Standard Deviation	4.30	6.01	58.8	3544		2758		0.24	2.29	

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Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	2 J+	ND	149	8100	--	6100	--	--	--	no
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	0.36 J+	ND	189	5100	--	3900	--	7.83	7.33	no
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	1.4 J+	ND	35.7	6600	--	4900	--	--	--	no
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	0.47 J+	NC-R	58.0	5400	--	4000	--	7.92	8	no
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	0.19 J+	ND	14.8	870	--	630	--	8.32	4.7	no
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	18.4 J+	ND	20.1	12000	--	8400	--	--	--	no
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	13.5 J+	ND	19.5	14000	--	9700	--	7.72	5.25	no
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	1 UJ	ND	16.2	13000	--	9700	--	7.75	4.8	no
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	3.4 J+	ND	28.7	12000	--	8600	--	7.83	4.69	no
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	3.7 J+	ND	35.7	14000	--	10000	--	7.72	4.63	no
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	1.8 J+	*0.042*	60.6	5400	--	3900	--	7.69	4.2	no
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	1.2 J+	ND	107	5100	--	3900	--	--	--	no
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	0.12 UJ	ND	3.22	47	--	37	--	7.93	4.22	no
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	0.12 UJ	ND	0.28	35	--	26	--	7.88	1.89	no
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	1.2 J+	ND	100	2400	--	1800	--	--	--	no
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	0.12 UJ	ND	0.92	130	--	97	--	8.24	1.47	no
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	0.12 UJ	ND	0.26	160	--	120	--	7.98	2.9	no
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	2.5 J-	ND	32.8	13000	--	9500	--	7.54	8.08	black staining noted
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	2.5 J-	ND	109	9900	--	7200	--	--	--	no
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	0.64 J-	ND	37.3	9100	--	7100	--	7.2	7.24	no
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	2.1 J-	ND	128	8900	--	7100	--	7.19	3.3	black staining noted
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	0.12 R	ND	0.14	140	--	100	--	8.24	4.12	no
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	0.12 UJ	ND	0.09	130	--	92	--	8.17	1.5	no
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	10.4 J-	10.0	25.1	12000	--	8800	--	7.32	10.2	no
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	1.5 J-	ND	8.45	4700	--	3700	--	7.34	4.09	no
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	2.8 J-	23.8	45.0	29000	--	20000	--	7.32	9.2	no
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	12.2 J-	52.4	54.8	26000	--	18000	--	7.39	9.08	no
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	11.1 J-	31.6	22.7	31000	--	21000	--	7.3	8.79	no
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	13.7 J-	33.8	22.6	24000	--	16000	--	7.36	7.83	no
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	8.8 J-	20.1	35.5	16000	--	11000	--	7.45	5.8	no
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	9.9 J-	12.6	17.9	21000	--	14000	--	7.53	9.27	no
Firestone	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	2.5 J-	ND	116	12000	--	9300	--	7.44	6.47	no
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	13.4 J-	*4.28*	17.6	6300	--	4800	--	7.44	7.4	no
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	1.3 J-	ND	61.3	12000	--	9000	--	7.88	5.46	no
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	1.6 J-	*0.18*	55.8	13000	--	10000	--	7.85	5.31	no
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	1.3 J-	*0.009*	158	7700	--	6000	--	7.38	6.8	no
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	0.81 J-	*0.17*	34.5	3400	--	2600	--	8.01	4.77	no
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	0.39 J-	ND	0.01	1700	--	1100	--	6.96	5.55	no
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	0.32 J+	ND	5.34	200	--	150	--	7.87	--	slight sheen
			Surface	Min	0.12	0.009	0.01	140		100		6.96	4.12	
				Max	18.40	23.8	158	29000		20000		8.24	10.20	
				Average	3.70	2.28	55.5	8338		6150		7.58	6.81	
				Median	1.60	0.029	35.7	7700		6000		7.44	6.64	
				Standard Deviation	5.21	6.11	50.9	6921		4866		0.37	1.95	
			Subsurface	Min	0.06	0.019	0.09	35		26		7.19	1.47	
				Max	13.70	52.4	189	31000		21000		8.32	9.27	
				Average	3.67	6.63	40.8	9251		6537		7.72	5.19	
				Median	0.64	0.028	19.5	5400		4000		7.75	4.70	
				Standard Deviation	5.07	14.7	51.0	9290		6329		0.34	2.50	

TABLE A-2
Summary of Contaminants of Interest
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Mercury (mg/kg)	Total PCBs[1] (mg/kg)	Total PAHs (mg/kg)	Petroleum Range Organics (C8-C40) (mg/kg)	Diesel Range Organics (C10-C20) (mg/kg)	Diesel Range Organics (C10-C28) (mg/kg)	Oil Range Organics (C20-C34) (mg/kg)	pH (Standard Units)	TOC (%)	NAPL Observations (No = none observed)
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	4.9 J-	ND	39.7	4700	--	3100	--	--	--	no NAPL, but very strong odors noted
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	0.15 J-	*0.18*	3.15	570	--	400	--	7.92	2.91	no NAPL, but very strong odors noted
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	0.13 U	ND	0.61	72	--	48	--	--	--	no
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	0.12 U	*0.012*	0.65	110	--	71	--	8.48	2.11	no
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	0.12 U	ND	0.12	70	--	47	--	--	--	no
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	0.12 U	ND	0.03	55	--	35	--	8.23	0.921	no
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	0.12 UJ	ND	0.05	130	--	97	--	--	--	no
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	0.0086 J+	ND	0.06	120	--	85	--	8.26	3.08	no
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	0.0055 J+	ND	0.06	76	--	56	--	8.18	2.94	no
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	18.7 J+	25.0	11.7	16000	--	11000	--	--	--	no
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	8.1 J+	20.4	6.43	12000	--	9100	--	7.48	6.47	no
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	7.2 J+	*21.1*	14.2	13000	--	9900	--	7.49	5.59	no
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	8 J+	17.5	21.0	8600	--	6300	--	7.55	6.72	no
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	0.12 U	0.07	0.24	84	--	67	--	8.32	1.28	no
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	0.76 J+	0.23	5.60	6100	--	4100	--	7.54	--	ashphalt/concrete at top, thin white fibers throughout
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	0.74 J+	3.70	10.1	9700	--	6700	--	7.45	4.45	ashphalt/concrete at top, thin white fibers throughout
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	1.4 J+	4.96	14.2	29000	--	20000	--	7.39	8.2	ashphalt/concrete at top, thin white fibers throughout
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	1.3 J+	*4.50*	11.3	26000	--	18000	--	7.41	6.07	ashphalt/concrete at top, thin white fibers throughout
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	2.4 J+	2.27	14.0	35000	--	25000	--	7.28	7.34	ashphalt/concrete at top, thin white fibers throughout
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	2.2 J+	2.16	12.4	38000	--	28000	--	7.43	7.07	ashphalt/concrete at top, thin white fibers throughout
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	9.7 J-	3.00	15.6	6500	--	5000	--	--	--	no
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	0.13 U	ND	0.18	110	--	84	--	7.82	0.794	no
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	0.12 U	ND	0.10	38	--	27	--	8.25	1.27	no
			Surface	Min	0.06	0.019	0.05	70		47		7.54		
				Max	18.70	25.0	39.7	16000		11000		7.54		
				Average	4.89	4.72	10.5	4796		3342				
				Median	0.76	0.13	5.60	4700		3100				
				Standard Deviation	7.08	10.01	14.3	5724		3964				
			Subsurface	Min	0.01	0.018	0.03	38		27		7.39	0.79	
				Max	8.10	21.1	21.0	38000		28000		8.48	8.20	
				Average	2.11	5.32	6.79	9813		7055		7.82	4.09	
				Median	0.45	1.12	4.79	4585		3350		7.69	3.77	
				Standard Deviation	3.15	8.01	7.05	12692		9101		0.41	2.62	

Notes:
1. Where PCB congener data were availble for the 2011 samples, the total is the sum of congeners. These values are italicized and underlined
J = estimated value
R = rejected value
U= result not detected below reporting limit shown
NC-R - total PCB sum not calculated because Aroclor data rejected.
Summary statistics calculated using 1/2 the RL for non-detected results. Non-detected values with elevated RL
Field duplicates identified with a "-R" or "X" in the Sample ID
Summary statistics calculated using the the best result of field duplicates (either highest result of two detected values
Rejected results not included in summary statistics
-- parameter not analyzed

TABLE A-3

Recovered Sediment Thickness

Upper Trenton Channel, Wyandotte, Michigan

Area	Sample ID	Sample Type	Recovered Core Length (feet)	Comment
Wyandotte Power	SD-001	Core Sample	6.8	
Wyandotte Power	SD-002	Core Sample	1.3	
Wyandotte Power	SD-004	Core Sample	9	
Wyandotte Power	SD-003	Core Sample	4.4	
Wyandotte Power	SD-005	Core Sample	4.4	
Wyandotte Power	SD-006	Core Sample	1.3	
Wyandotte Power	SD-007	Core Sample	4	
Wyandotte Power	SD-008	Core Sample	NA	No core able to be recovered - shells and dense clay.
Wyandotte Power	SD-009	Core Sample	3.6	
Wyandotte Power	SD-010	Core Sample	0.7	
Bishop Park	SD-011	Core Sample	1.5	
Bishop Park	SD-012	Core Sample	1.3	
Bishop Park	SD-013B	Core Sample	6.4	
Bishop Park	SD-014	Core Sample	1.5	
Bishop Park	SD-015	Core Sample	9	
Bishop Park	SD-016	Core Sample	18.6	
Bishop Park	SD-017	Core Sample	16	
Bishop Park	SD-018	Core Sample	12.3	
Bishop Park	SD-019	Core Sample	5.8	
Bishop Park	SD-020	Core Sample	4	
South Works	SD-021	Core Sample	2.8	
South Works	SD-022	Core Sample	NA	No sample collected - gravel and asphalt prevented core from being taken (3 attempts)
South Works	SD-023	Core Sample	4	
South Works	SD-024	Core Sample	NA	No sample collected - gravel and asphalt prevented core from being taken
South Works	SD-025	Core Sample	1.7	
South Works	SD-026	Core Sample	1.3	
South Works	SD-027	Core Sample	3.5	
South Works	SD-093	Core Sample	1.3	Location added due to observing NAPL at SD021
Wye Street Area	SD-028	Core Sample	0.6	
Wye Street Area	SD-029	Core Sample	0.5	
Wye Street Area	SD-030	Core Sample	2.5	
Wye Street Area	SD-031	Core Sample	2.8	
Wye Street Area	SD-032	Core Sample	7	two cores collected - shorter core (0-0.5 collected for only PCBs/metals) Longer core 0.5- end sampled for all parameters
Wye Street Area	SD-033	Core Sample	2.7	
Wye Street Area	SD-034	Core Sample	2.5	
Wye Street Area	SD-035	Core Sample	0.9	
Wye Street Area	SD-036	Core Sample	3.4	
Wye Street Area	SD-037	Core Sample	1.8	
Wye Street Area	SD-038	Core Sample	8.6	
Wye Street Area	SD-039	Core Sample	4.5	
Wye Street Area	SD-040	Core Sample	2.5	
Wye Street Area	SD-041	Core Sample	2.7	
Wye Street Area	SD-072	Core Sample	3.3	
Wye Street Area	SD-073	Core Sample	2.9	
Wye Street Area	SD-074	Core Sample	5	
Wye Street Area	SD-075	Core Sample	2.5	
Wye Street Area	SD-076	Core Sample	2.2	
Wye Street Area	SD-077	Core Sample	0.9	
Wye Street Area	SD-078	Core Sample	1.3	
Wye Street Area	SD-079	Core Sample	4.2	
Wye Street Area	SD-080	Core Sample	3.2	
Wye Street Area	SD-081	Core Sample	2.9	
Wye Street Area	SD-092	Core Sample	NA	Target of "K-1" from RI. Not sampled in 2011 due to debris/rubble/rip rap when positioned on target location (0' from target based on Mudpuppy GPS)

TABLE A-3

Recovered Sediment Thickness

Upper Trenton Channel, Wyandotte, Michigan

Area	Sample ID	Sample Type	Recovered Core Length (feet)	Comment
Arkema	SD-042	Core Sample	0.5	
Arkema	SD-043	Core Sample	3.6	
Arkema	SD-044	Core Sample	2.2	
Arkema	SD-045a	Core Sample	1.5	
Arkema	SD-045b	Core Sample	2.7	
Arkema	SD-046	Core Sample	NA	No sample able to be collected after four attempts - too much debris and rocks
Arkema	SD-047	Core Sample	2.1	
Arkema	SD-048	Core Sample	8.4	
Arkema	SD-049b	Core Sample	3.5	
Arkema	SD-050	Core Sample	6.6	
Arkema	SD-051	Core Sample	2.4	
Arkema	SD-082	Core Sample	1.6	
Arkema	SD-083	Core Sample	2.2	
Arkema	SD-084	Core Sample	2.3	
Arkema	SD-085	Core Sample	5.2	
Arkema	SD-086	Core Sample	1.6	
Arkema	SD-087	Core Sample	2.4	
Arkema	SD-088	Core Sample	1.6	
Arkema	SD-089	Core Sample	1.4	
Arkema	SD-090	Core Sample	0.9	
Arkema	SD-091	Core Sample	NA	No sample collected - gravel and asphalt prevented core from being taken
Firestone	SD-052	Core Sample	1.7	
Firestone	SD-053	Core Sample	4.2	
Firestone	SD-054	Core Sample	9.2	
Firestone	SD-055	Core Sample	4.4	
Firestone	SD-056	Core Sample	5.2	
Firestone	SD-057a	Core Sample	1.8	
Firestone	SD-057b	Core Sample	1.8	
Firestone	SD-058	Core Sample	2.5	
Firestone	SD-059	Core Sample	NA	No sample able to be collected after two attempts due to clay pulling back out of tube.
Firestone	SD-060	Core Sample	2.5	
Firestone	SD-061	Core Sample	7.2	
McLouth Steel	SD-062	Core Sample	2.4	
McLouth Steel	SD-063	Core Sample	2.3	
McLouth Steel	SD-064	Core Sample	2.7	
McLouth Steel	SD-065	Core Sample	2.5	
McLouth Steel	SD-066	Core Sample	9	
McLouth Steel	SD-067	Core Sample	8.9	
McLouth Steel	SD-068	Core Sample	4.8	

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %		Moisture (%)
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0-1	7.70	11.10		36.5
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1-3	8.10	5.50		58.8
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3-5	8.50	6.30		74.5
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0-1	8.00	8.90		77.8
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1-3	8.20	3.00		35.8
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3-5	8.10	1.10		19.5
Wyandotte Power	S1	S1 0-1_07/11/2007	11-Jul-07	0-1	--	3.80		81.3
Wyandotte Power	S1	S1 1-3_07/11/2007	11-Jul-07	1-3	--	5.6J		100.6
Wyandotte Power	S1	S1 3-5_07/11/2007	11-Jul-07	3-5	--	8.30		75.5
Wyandotte Power	S1	S1 5-7_07/11/2007	11-Jul-07	5-7	--	12.20		132.6
Wyandotte Power	S1	S1 7-9_07/11/2007	11-Jul-07	7-9	--	3.70		51.5
Wyandotte Power	S1	S1 9-11_07/11/2007	11-Jul-07	9-11	--	0.80		20.8
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0-1	--	8.60		100.2
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1-3	--	6.80		87.8
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3-5	--	4.60		62.1
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5-7	--	1.00		19.1
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	8.82	--		--
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	8.89	6.48		--
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	8.39	6.92		--
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	8.30	7.37		--
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	8.21	11.00		--
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	8.40	3.04		--
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	7.81	6.93		--
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	8.16	5.73		--
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	4-May-11	0 - 0.5	7.65	7.37		--
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	4-May-11	0.5 - 2.5	7.98	7.56		--
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	4-May-11	2.5 - 4.5	8.08	6.90		--
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	4-May-11	4.5 - 6.5	8.40	4.13		--
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	4-May-11	6.5 - 9	8.45	3.86		--
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	4-May-11	6.5 - 9	8.46	5.19		--
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	4-May-11	0 - 0.5	7.30	--		--
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	4-May-11	0.5 - 2.5	7.36	7.88		--
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	4-May-11	0.5 - 2.5	7.36	7.78		--
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	4-May-11	2.5 - 4.4	7.82	9.51	J	32.3
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	8.03	--		--
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	8.63	3.16		--
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	4-May-11	0 - 0.5	7.21	6.19		--
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	4-May-11	0.5 - 2.5	7.49	6.44	J	--
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	4-May-11	0.5 - 2.5	7.49	6.91	J	--
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	4-May-11	2.5 - 4	8.11	1.78	J	--
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	4-May-11	0.5 - 2.5	8.37	1.45		--
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	4-May-11	2.5 - 3.6	8.48	1.75		--
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	8.04	2.85		--
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	2-May-11	0 - 0.5	8.02	6.94		--
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	2-May-11	0 - 0.5	6.68	5.81		54.8
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	2-May-11	0 - 0.5	7.42	3.87		--
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	2-May-11	0 - 0.5	6.86	6.73		--
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	2-May-11	0 - 0.5	7.11	3.43		--
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	2-May-11	0 - 0.5	7.09	9.14		--
			Surface	Min	6.68	2.85		36.5
				Max	8.82	11.10		100.2
				Average	7.57	6.52		70.1
				Median	7.54	6.73		77.8
				Std Dev	0.58	2.53		24.8
			Subsurface	Min	7.36	0.80		19.1
				Max	8.89	12.20		132.6
				Average	8.18	5.38		59.3
				Median	8.20	5.62		58.8
				Std Dev	0.36	3.06		34.7

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %	Moisture (%)
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0-1	8.50	1.50	21.1
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0-1	8.30	1.10	18.9
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0-1	--	1.60	19.7
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1-2	--	0.50	19.2
Bishop Park	B4	B4 0-1_07/11/2007	11-Jul-07	0-1	--	1.9J	23.5
Bishop Park	B4	B4 1-3_07/11/2007	11-Jul-07	1-3	--	1.80	20.9
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0-1	7.00	7.70	73.3
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1-3	7.00	7.40	64.7
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3-5	7.90	4.40	55.3
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0-1	6.90	9.00	101.1
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1-3	7.90	10.10	116.5
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3-5	7.30	9.80	92.6
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5-7	8.50	8.50	91.7
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0-1	7.60	8.60	89.0
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1-3	7.40	8.70	79.3
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3-5	8.20	2.40	31.5
Bishop Park	C4	C4 0-1_07/11/2007	11-Jul-07	0-1	--	9.70	33.5
Bishop Park	C4	C4 1-3_07/11/2007	11-Jul-07	1-3	--	3.00	34.4
Bishop Park	C4	C4 3-5_07/11/2007	11-Jul-07	3-5	--	0.90	18.6
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0-1	--	7.90	78.1
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1-3	--	6.30	51.2
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3-5	--	2.40	20.2
Bishop Park	C6	C6 0-1_07/11/2007	11-Jul-07	0-1	--	10.30	99.4
Bishop Park	C6	C6 1-3_07/11/2007	11-Jul-07	1-3	--	9.80	84.7
Bishop Park	C6	C6 3-5_07/11/2007	11-Jul-07	3-5	--	9.30	80.4
Bishop Park	C6	C6 5-7_07/11/2007	11-Jul-07	5-7	--	7.30	89.6
Bishop Park	C6	C6 7-9_07/11/2007	11-Jul-07	7-9	--	8.00	77.3
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0-1	--	7.10	43.2
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1-3	--	3.40	42.7
Bishop Park	C8	C8 0-1_07/11/2007	11-Jul-07	0-1	--	4.60	53.5
Bishop Park	C8	C8 1-3_07/11/2007	11-Jul-07	1-3	--	17.10	66.9
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	8.39	--	--
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	8.41	1.93 J	--
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	8.11	0.96	--
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	7.43	4.14	45.2
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	7.55	5.90	49.8
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	8.00	5.05	--
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	7.98	4.74	--
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	9.98	2.31	--
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	10.20	3.11	--
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	7.15	--	--
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	7.16	6.59	--
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	7.22	8.52	51.8
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	7.65	7.56	--
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	7.54	7.18	--
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	7.23	7.36	--
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	7.87	12.20	--
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	7.92	7.14	--
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	7.99	4.71	45.0
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	8.05	4.52	--
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	7.94	1.59	31.0
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	7.22	6.00	--
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	7.32	5.37	--
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	7.34	8.64	--
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	7.68	4.88	43.9
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	7.12	5.15	--
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	7.95	4.50	--
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	7.75	8.01	--
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	7.59	4.63	38.8
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	7.83	5.77	--
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	7.18	6.36	46.2
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	7.36	7.08	--
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	7.80	6.24	--
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	7.73	5.23	--

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %		Moisture (%)
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	7.08	5.47	J	--
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	7.88	5.09		38.5
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	7.18	6.72	J	--
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	7.25	6.89	J	--
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	7.38	6.17	J	--
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	7.65	6.75		40.7
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	7.83	5.05		--
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	7.56	6.17	J	--
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	7.61	6.32	J	--
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	7.86	4.03	J	--
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	7.60	6.28	J	--
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	7.87	6.72	J	--
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	2-May-11	0 - 0.5	8.02	2.17		--
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	2-May-11	0 - 0.5	7.88	2.69		--
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	3-May-11	0 - 0.5	7.92	5.12	J	--
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	3-May-11	0 - 0.5	7.56	9.13		--
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	3-May-11	0 - 0.5	7.46	4.38		--
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	3-May-11	0 - 0.5	7.40	5.11	J	35.1
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	3-May-11	0 - 0.5	7.40	4.82		--
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	3-May-11	0 - 0.5	7.28	4.92		--
			Surface	Min	6.90	1.10		18.9
				Max	9.98	10.30		101.1
				Average	7.83	5.52		53.0
				Median	7.60	5.11		43.2
				Std Dev	0.77	3.08		31.3
			Subsurface	Min	7.00	0.50		18.6
				Max	10.20	17.10		116.5
				Average	7.70	5.98		54.1
				Median	7.65	6.17		46.2
				Std Dev	0.52	2.91		25.7

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %	Moisture (%)
Residential Area	C12	C12 0-1_20061221	21-Dec-06	0-1	8.80	4.00	22.8
Residential Area	C12	C12 1-3_20061221	21-Dec-06	1-3	8.10	8.80	62.8
Residential Area	C12	C12 3-5_20061221	21-Dec-06	3-5	8.00	8.80	73.1
Residential Area	C9	C9 0-1_20070710	10-Jul-07	0-1	--	5.90	64.4
Residential Area	D2	D2 0-1_20061221	21-Dec-06	0-1	8.20	1.30	21.3
Residential Area	D3	D3 0-1_20061221	21-Dec-06	0-1	8.60	1.90	21.2
Residential Area	D4	D4 0-1_07/11/2007	11-Jul-07	0-1	--	0.50	21.5
Residential Area	D4	D4 1-2_07/11/2007	11-Jul-07	1-2	--	0.50	20.3
Residential Area	D5	D5 0-1_20070710	10-Jul-07	0-1	--	7.70	41.5
Residential Area	D5	D5 1-3_20070710	10-Jul-07	1-3	--	2.70	31.4
Residential Area	D6	D6 0-1_20070710	10-Jul-07	0-1	--	1.40	17.7
Residential Area	E1	E1 0-1_20061221	21-Dec-06	0-1	8.30	1.50	23.2
Residential Area	E1	E1 1-3_20061221	21-Dec-06	1-3	8.30	1.40	18.4
Residential Area	E2	E2 0-1_20061222	22-Dec-06	0-1	8.30	1.40	20.7
Residential Area	E2	E2 1-3_20061222	22-Dec-06	1-3	8.20	1.10	20.3
Residential Area	E21	E21 0-1_20061221	21-Dec-06	0-1	8.20	1.30	23.3
Residential Area	E3	E3 0-1_20070710	10-Jul-07	0-1	--	0.40	18.4
Residential Area	E3	E3 1-3_20070710	10-Jul-07	1-3	--	0.50	17.8
Residential Area	E6	E6 0-1_07/11/2007	11-Jul-07	0-1	--	3.00	19.6
Residential Area	E6	E6 1-2_07/11/2007	11-Jul-07	1-2	--	2.40	25.8
			Surface	Min	8.20	0.40	17.7
				Max	8.80	7.70	64.4
				Average	8.38	2.53	26.3
				Median	8.25	1.45	21.4
				Std Dev	0.26	2.26	13.5
			Subsurface	Min	8.00	0.50	17.8
				Max	8.30	8.80	73.1
				Average	8.13	3.28	33.7
				Median	8.10	1.90	23.1
				Std Dev	0.15	3.50	21.8

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %	Moisture (%)
South Works	F1	F1 0-1_20061221	21-Dec-06	0-1	7.10	7.20	118.6
South Works	F1	F1 1-3_20061221	21-Dec-06	1-3	7.70	5.20	53.5
South Works	F12	F12 0-1_20061221	21-Dec-06	0-1	7.20	10.40	66.9
South Works	F2	F2 0-1_20061221	21-Dec-06	0-1	7.60	7.10	50.3
South Works	F2	F2 1-3_20061221	21-Dec-06	1-3	8.00	3.10	39.2
South Works	F4	F4 0-1_07/11/2007	11-Jul-07	0-1	--	10.80	70.1
South Works	F4	F4 1-3_07/11/2007	11-Jul-07	1-3	--	7.90	67.7
South Works	F4	F4 3-5_07/11/2007	11-Jul-07	3-5	--	20.00	44.4
South Works	F5	F5 0-1_20070710	10-Jul-07	0-1	--	1.60	21.7
South Works	F5	F5 1-3_20070710	10-Jul-07	1-3	--	1.10	20.5
South Works	F5	F5 3-5_20070710	10-Jul-07	3-5	--	1.10	20.6
South Works	F6	F6 0-1_07/11/2007	11-Jul-07	0-1	--	1.40	20.9
South Works	F6	F6 1-3_07/11/2007	11-Jul-07	1-3	--	1.00	18.7
South Works	G1	G1 0-1_20061221	21-Dec-06	0-1	8.20	1.70	19.3
South Works	G11	G11 0-1_20061220	20-Dec-06	0-1	7.30	5.10	81.2
South Works	G11	G11 1-3_20061220	20-Dec-06	1-3	7.60	8.40	77.6
South Works	G11	G11 3-5_20061220	20-Dec-06	3-5	8.00	2.00	27.3
South Works	G11	G11 5-7_20061220	20-Dec-06	5-7	8.10	0.90	18.6
South Works	G12	G12 0-1_20061221	21-Dec-06	0-1	7.70	15.50	62.3
South Works	G12	G12 1-3_20061221	21-Dec-06	1-3	7.80	9.30	84.8
South Works	G13	G13 0-1_07/11/2007	11-Jul-07	0-1	--	8.40	99.6
South Works	G13	G13 1-3_07/11/2007	11-Jul-07	1-3	--	7.70	90.9
South Works	G13	G13 3-5_07/11/2007	11-Jul-07	3-5	--	2.00	23.9
South Works	G3	G3 0-1_20061221	21-Dec-06	0-1	11.80	2.00	160.5
South Works	H1	H1 0-1_20061220	20-Dec-06	0-1	8.50	9.80	19.1
South Works	H11	H11 0-1_20061220	20-Dec-06	0-1	10.10	5.40	45.4
South Works	H11	H11 1-3_20061220	20-Dec-06	1-3	11.40	3.60	68.0
South Works	H11	H11 3-5_20061220	20-Dec-06	3-5	11.40	4.10	89.2
South Works	H12	H12 0-1_20061219	19-Dec-06	0-1	12.00	12.90	91.9
South Works	H12	H12 1-3_20061219	19-Dec-06	1-3	12.30	3.80	86.7
South Works	H12	H12 3-5_20061219	19-Dec-06	3-5	12.50	5.00	90.8
South Works	H12	H12 5-7_20061219	19-Dec-06	5-7	12.30	5.10	95.2
South Works	H12	H12 7-9_20061219	19-Dec-06	7-9	12.10	5.60	58.1
South Works	H13	H13 0-1_20061221	21-Dec-06	0-1	11.20	3.20	50.8
South Works	H13	H13 1-3_20061221	21-Dec-06	1-3	11.70	3.00	63.9
South Works	H13	H13 3-5_20061221	21-Dec-06	3-5	11.90	3.70	74.8
South Works	H13	H13 5-7_20061221	21-Dec-06	5-7	11.90	8.70	88.3
South Works	H13	H13 7-9_20061221	21-Dec-06	7-9	12.10	11.80	85.6
South Works	H3	H3 0-1_20061220	20-Dec-06	0-1	11.20	6.10	105.7
South Works	H3	H3 1-3_20061220	20-Dec-06	1-3	9.30	2.50	42.2
South Works	H3	H3 3-5_20061220	20-Dec-06	3-5	8.70	1.50	15.2
South Works	I1	I1 0-1_20061219	19-Dec-06	0-1	10.80	4.50	27.7
South Works	I1	I1 1-3_20061219	19-Dec-06	1-3	11.20	6.90	48.4
South Works	I1	I1 3-5_20061219	19-Dec-06	3-5	9.40	1.70	19.6
South Works	I12	I12 0-1_20061219	19-Dec-06	0-1	11.00	6.10	33.6
South Works	I12	I12 1-3_20061219	19-Dec-06	1-3	9.40	5.20	45.2
South Works	I12	I12 3-5_20061219	19-Dec-06	3-5	8.50	1.40	23.8
South Works	I2	I2 0-1_20061220	20-Dec-06	0-1	11.20	2.10	66.3
South Works	I2	I2 1-3_20061220	20-Dec-06	1-3	9.10	1.10	19.3
South Works	I2	I2 3-5_20061220	20-Dec-06	3-5	8.90	1.40	21.2
South Works	I3	I3 0-1_20061220	20-Dec-06	0-1	8.80	3.90	22.2
South Works	I3	I3 1-3_20061220	20-Dec-06	1-3	8.80	0.90	20.4
South Works	J1	J1 0-1_20061219	19-Dec-06	0-1	8.60	5.10	47.4
South Works	J1	J1 1-3_20061219	19-Dec-06	1-3	8.00	6.90	64.7
South Works	J1	J1 3-5_20061219	19-Dec-06	3-5	8.00	6.40	44.2
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	12.00	--	64.2
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	9.23	--	19.5
South Works	SD-023	UTC-SD-023-0.0/0.5	16-Jun-11	0 - 0.5	9.27	--	--
South Works	SD-023	UTC-SD-023-0.5/2.5	16-Jun-11	0.5 - 2.5	10.10	--	--
South Works	SD-023	UTC-SD-023-2.5/4.0	16-Jun-11	2.5 - 4	9.28	--	--
South Works	SD-023	UTC-SD-023-2.5/4.0-R	16-Jun-11	2.5 - 4	9.45	--	--
South Works	SD-025	UTC-SD-025-0.0/0.5	16-Jun-11	0 - 0.5	12.20	--	--
South Works	SD-025	UTC-SD-025-0.5/1.7	16-Jun-11	0.5 - 1.7	12.20	--	--
South Works	SD-026	UTC-SD-026-0.0/0.6	16-Jun-11	0 - 0.6	11.30	--	--

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %	Moisture (%)
South Works	SD-026	UTC-SD-026-0.6/1.3	16-Jun-11	0.6 - 1.3	11.30	--	--
South Works	SD-027	UTC-SD-027-0.0/0.5	17-Jun-11	0 - 0.5	9.02	--	--
South Works	SD-027	UTC-SD-027-0.5/2.5	17-Jun-11	0.5 - 2.5	8.68	--	--
South Works	SD-027	UTC-SD-027-0.5/2.5-R	17-Jun-11	0.5 - 2.5	8.55	--	--
South Works	SD-027	UTC-SD-027-2.5/3.5	17-Jun-11	2.5 - 3.5	8.44	--	--
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	9.56	--	--
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	8.61	2.62	--
			Surface	Min	7.10	1.40	19.1
				Max	12.20	15.50	160.5
				Average	9.65	6.20	61.2
				Median	9.42	5.40	56.6
				Std Dev	1.75	3.93	37.1
			Subsurface	Min	7.60	0.90	15.2
				Max	12.50	20.00	95.2
				Average	9.87	4.65	50.6
				Median	9.40	3.70	45.2
				Std Dev	1.68	3.92	27.8

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %		Moisture (%)
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0-1	9.40	3.00		101.7
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1-3	9.50	11.30		89.6
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3-5	8.40	6.40		117.6
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5-7	8.10	6.00		96.9
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7-9	9.30	5.00		101.3
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9-11	8.30	2.80		74.3
Wye Street	SD-030	UTC-SD-030-0.0/0.5	4-May-11	0 - 0.5	7.96	1.64		--
Wye Street	SD-030	UTC-SD-030-0.5/2.5	4-May-11	0.5 - 2.5	8.00	2.53		--
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	8.90	4.52	J	--
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	8.65	8.81		47.7
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	8.82	7.40		45.4
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	8.78	6.86		44.7
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	8.81	6.12		52.7
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	9.17	6.75		--
Wye Street	SD-033	UTC-SD-033-0.5/2.5	4-May-11	0.5 - 2.5	7.92	1.43		--
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	8.45	3.34		--
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	8.49	1.73		16.8
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	8.42	1.52		16.7
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	9.45	8.50	J	32.3
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	10.30	5.89		45.0
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	10.20	12.80	J	35.5
Wye Street	SD-037	UTC-SD-037-0.0/0.5	3-May-11	0 - 0.5	8.22	1.61		--
Wye Street	SD-037	UTC-SD-037-0.5/1.8	3-May-11	0.5 - 1.8	8.13	2.52	J	--
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	10.30	12.40		36.7
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	8.94	16.60		36.2
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	9.84	14.30		--
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	8.24	9.33		--
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	8.36	7.49		47.2
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	8.46	8.06		47.9
Wye Street	SD-039	UTC-SD-039-0.5/2.5	4-May-11	0.5 - 2.5	8.69	1.47	J	--
Wye Street	SD-039	UTC-SD-039-2.5/4.3	4-May-11	2.5 - 4.3	8.30	1.09	J	--
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	9.12	7.48		--
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	10.20	7.42	J	42.1
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	7.58	9.69		--
Wye Street	SD-072	UTC-SD-072-0.0/0.5	3-May-11	0 - 0.5	7.98	2.45	J	--
Wye Street	SD-072	UTC-SD-072-0.5/2.5	3-May-11	0.5 - 2.5	7.98	2.96	J	--
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	3-May-11	0.5 - 2.5	7.95	1.67	J	--
Wye Street	SD-072	UTC-SD-072-2.5/3.3	3-May-11	2.5 - 3.3	7.86	1.61		--
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	7.93	2.59		--
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	8.42	--		--
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	8.16	3.19		--
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	8.08	2.87		--
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	8.21	2.51		--
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	8.41	2.25		--
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	8.11	--		--
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	8.24	2.26		--
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	8.45	2.38		--
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	8.47	2.49		--
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	8.05	2.93		--
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	8.29	2.97		--
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	8.47	2.28		--
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	8.58	2.48		17.9
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	8.56	2.63		18.0
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	8.46	2.48		18.0
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	8.28	--		--

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %		Moisture (%)
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	8.59	2.55		18.4
Wye Street	SG-023	UTC-SG-023-0.0/0.5	5-May-11	0 - 0.5	7.87	3.17		--
Wye Street	SG-024	UTC-SG-024-0.0/0.5	5-May-11	0 - 0.5	7.94	2.39		--
Wye Street	SG-025	UTC-SG-025-0.0/0.5	5-May-11	0 - 0.5	7.80	6.33		--
Wye Street	SG-026	UTC-SG-026-0.0/0.5	5-May-11	0 - 0.5	7.89	6.05		--
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	5-May-11	0 - 0.5	7.62	2.98		--
Wye Street	SG-027	UTC-SG-027-0.0/0.5	5-May-11	0 - 0.5	7.48	4.93		25.4
Wye Street	SG-028	UTC-SG-028-0.0/0.5	5-May-11	0 - 0.5	7.42	6.52	J	30.2
			Surface	Min	7.42	1.61		25.4
				Max	11.30	8.50		101.7
				Average	8.42	4.14		47.4
				Median	8.22	3.17		31.3
				Std Dev	0.90	2.28		36.3
			Subsurface	Min	7.58	1.09		16.8
				Max	10.30	16.60		117.6
				Average	8.64	5.24		53.2
				Median	8.46	2.97		45.4
				Std Dev	0.73	3.91		31.7

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %		Moisture (%)
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	8.78	3.11		--
Arkema	SD-043	UTC-SD-043-0.0/0.5	4-May-11	0 - 0.5	7.85	1.13		--
Arkema	SD-043	UTC-SD-043-0.5/2.5	4-May-11	0.5 - 2.5	7.88	1.89		19.1
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	4-May-11	0.5 - 2.5	7.91	3.41		18.5
Arkema	SD-043	UTC-SD-043-2.5-3.3	4-May-11	2.5 - 3.3	7.90	2.43		--
Arkema	SD-044	UTC-SD-044-0.5/2.2	3-May-11	0.5 - 2.2	8.28	1.76		17.0
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	8.13	5.56		--
Arkema	SD-047	UTC-SD-047-0.0/0.5	4-May-11	0 - 0.5	8.57	4.95		--
Arkema	SD-047	UTC-SD-047-0.5/2.1	4-May-11	0.5 - 2.1	8.44	3.42		--
Arkema	SD-048	UTC-SD-048-0.0/0.5	4-May-11	0 - 0.5	8.22	--		--
Arkema	SD-048	UTC-SD-048-0.5/2.5	4-May-11	0.5 - 2.5	8.25	3.93		--
Arkema	SD-048	UTC-SD-048-2.5/4.5	4-May-11	2.5 - 4.5	8.18	9.57		41.8
Arkema	SD-048	UTC-SD-048-4.5/6.5	4-May-11	4.5 - 6.5	7.96	9.42		--
Arkema	SD-048	UTC-SD-048-6.5/8.4	4-May-11	6.5 - 8.4	7.90	4.77		--
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	8.23	8.63		--
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	8.12	6.20		--
Arkema	SD-050	UTC-SD-050-0.0/0.5	5-May-11	0 - 0.5	7.95	6.98		--
Arkema	SD-050	UTC-SD-050-0.5/2.5	5-May-11	0.5 - 2.5	7.93	5.61		--
Arkema	SD-050	UTC-SD-050-2.5/4.5	5-May-11	2.5 - 4.5	7.89	6.62		--
Arkema	SD-050	UTC-SD-050-4.5/6.6	5-May-11	4.5 - 6.6	8.08	6.25		27.9
Arkema	SD-051	UTC-SD-051-0.5/2.4	4-May-11	0.5 - 2.4	7.95	6.98		--
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	8.37	3.49		16.7
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	7.90	7.49		35.5
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	8.46	--		--
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	8.27	2.47		--
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	8.13	4.38		24.6
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	8.55	2.80		--
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	8.26	2.39		--
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	8.62	3.98		--
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	8.57	--		--
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	8.42	3.24		--
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	8.35	2.42		--
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	8.63	4.70		--
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	8.55	2.09		--
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	7.13	8.00		55.1
Arkema	SG-029	UTC-SG-029-0.0/0.5	5-May-11	0 - 0.5	7.24	12.30	J	--
Arkema	SG-030	UTC-SG-030-0.0/0.5	5-May-11	0 - 0.5	7.43	5.74		--
Arkema	SG-031	UTC-SG-031-0.0/0.5	5-May-11	0 - 0.5	7.23	6.43	J	--
Arkema	SG-032	UTC-SG-032-0.0/0.5	5-May-11	0 - 0.5	7.95	4.20	J	--
Arkema	SG-033	UTC-SG-033-0.0/0.5	6-May-11	0 - 0.5	8.04	7.49		--
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	6-May-11	0 - 0.5	7.99	9.24		--
Arkema	SG-034	UTC-SG-034-0.0/0.5	6-May-11	0 - 0.5	7.66	2.02		--
Arkema	SG-035	UTC-SG-035-0.0/0.5	6-May-11	0 - 0.5	7.80	4.50		--
			Surface	Min	7.13	1.13		55.1
				Max	8.78	12.30		55.1
				Average	7.93	5.72		
				Median	7.95	5.35		
				Std Dev	0.53	3.15		
			Subsurface	Min	7.89	1.76		16.7
				Max	8.63	9.57		41.8
				Average	8.19	4.86		27.3
				Median	8.18	4.38		26.3
				Std Dev	0.24	2.29		10.0

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %	Moisture (%)
Firestone	SD-052	UTC-SD-052-0.5/1.7	2-May-11	0.5 - 1.7	7.83	7.33	--
Firestone	SD-053	UTC-SD-053-0.5/2,5	2-May-11	0.5 - 2.5	7.92	8.00	--
Firestone	SD-053	UTC-SD-053-2.5/4.2	2-May-11	2.5 - 4.2	8.32	4.70	--
Firestone	SD-054	UTC-SD-054-0.5/2.5	2-May-11	0.5 - 2.5	7.72	5.25	--
Firestone	SD-054	UTC-SD-054-2.5/4.5	2-May-11	2.5 - 4.5	7.75	4.80	--
Firestone	SD-054	UTC-SD-054-4.5/6.5	2-May-11	4.5 - 6.5	7.83	4.69	--
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	2-May-11	4.5 - 6.5	7.72	4.63	--
Firestone	SD-054	UTC-SD-054-6.5/9.2	2-May-11	6.5 - 9.2	7.69	4.20	43.2
Firestone	SD-055	UTC-SD-055-0.5/2.5	2-May-11	0.5 - 2.5	7.93	4.22	--
Firestone	SD-055	UTC-SD-055-2.5/4.4	2-May-11	2.5 - 4.4	7.88	1.89	--
Firestone	SD-056	UTC-SD-056-0.5/2.5	2-May-11	0.5 - 2.5	8.24	1.47	--
Firestone	SD-056	UTC-SD-056-2.5/5.2	2-May-11	2.5 - 5.2	7.98	2.90	--
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	5-May-11	0 - 0.5	7.54	8.08	--
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	5-May-11	0.5 - 1.8	7.20	7.24	--
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	5-May-11	0.5 - 1.9	7.19	3.30	--
Firestone	SD-058	UTC-SD-058-0.0/0.5	5-May-11	0 - 0.5	8.24	4.12	--
Firestone	SD-058	UTC-SD-058-0.5/2.5	5-May-11	0.5 - 2.5	8.17	1.50	--
Firestone	SD-060	UTC-SD-060-0.0/0.5	4-May-11	0 - 0.5	7.32	10.20	--
Firestone	SD-060	UTC-SD-060-0.5/2.5	4-May-11	0.5 - 2.5	7.34	4.09	--
Firestone	SD-061	UTC-SD-061-0.0/0.5	5-May-11	0 - 0.5	7.32	9.20	--
Firestone	SD-061	UTC-SD-061-0.5/2.5	5-May-11	0.5 - 2.5	7.39	9.08	--
Firestone	SD-061	UTC-SD-061-2.5/4.5	5-May-11	2.5 - 4.5	7.30	8.79	--
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	5-May-11	2.5 - 4.5	7.36	7.83	--
Firestone	SD-061	UTC-SD-061-4.5/6.5	5-May-11	4.5 - 6.5	7.45	5.80	--
Firestone	SD-061	UTC-SD-061-6.5/7.2	5-May-11	6.5 - 7.2	7.53	9.27	--
Firestone	SG-036	UTC-SG-036-0.0/0.5	6-May-11	0 - 0.5	7.44	6.47	--
Firestone	SG-037	UTC-SG-037-0.0/0.5	6-May-11	0 - 0.5	7.44	7.40	--
Firestone	SG-038	UTC-SG-038-0.0/0.5	6-May-11	0 - 0.5	7.88	5.46	--
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	6-May-11	0 - 0.5	7.85	5.31	--
Firestone	SG-039	UTC-SG-039-0.0/0.5	6-May-11	0 - 0.5	7.38	6.80	43.3
Firestone	SG-040	UTC-SG-040-0.0/0.5	6-May-11	0 - 0.5	8.01	4.77	--
Firestone	SG-041	UTC-SG-041-0.0/0.5	6-May-11	0 - 0.5	6.96	5.55	--
Firestone	SG-042	UTC-SG-042-0.0/0.5	6-May-11	0 - 0.5	7.87	-- --	--
			Surface	Min	6.96	4.12	43.3
				Max	8.24	10.20	43.3
				Average	7.58	6.81	
				Median	7.44	6.64	
				Std Dev	0.37	1.95	
			Subsurface	Min	7.19	1.47	43.2
				Max	8.32	9.27	43.2
				Average	7.72	5.19	
				Median	7.75	4.70	
				Std Dev	0.34	2.50	

TABLE A-4

Wet Chemistry Data

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	pH	TOC %		Moisture (%)
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	3-May-11	0.5 - 2.4	7.92	2.91		24.4
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	3-May-11	0.5 - 2.2	8.48	2.11	J	18.3
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	3-May-11	0.5 - 2.7	8.23	0.92	J	--
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	2-May-11	0.5 - 2.5	8.26	3.08		--
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	2-May-11	0.5 - 2.5	8.18	2.94		--
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	2-May-11	0.5 - 2.5	7.48	6.47		--
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	2-May-11	2.5 - 4.5	7.49	5.59		49.9
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	2-May-11	4.5 - 6.5	7.55	6.72		--
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	2-May-11	6.5 - 9	8.32	1.28		--
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	2-May-11	0 - 0.5	7.54	--	--	--
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	2-May-11	0.5 - 2.5	7.45	4.45		--
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	2-May-11	2.5 - 4.5	7.39	8.20		--
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	2-May-11	4.5 - 6.5	7.41	6.07		47.4
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	2-May-11	6.5 - 8.9	7.28	7.34		--
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	2-May-11	6.5 - 8.9	7.43	7.07		--
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	3-May-11	0.5 - 2.5	7.82	0.79		--
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	3-May-11	2.5 - 4.8	8.25	1.27		--
			Surface	Min	7.54			
				Max	7.54			
				Average				
				Median				
				Std Dev				
			Subsurface	Min	7.39	0.79		18.3
				Max	8.48	8.20		49.9
				Average	7.82	4.09		35.0
				Median	7.69	3.77		35.9
				Std Dev	0.41	2.62		16.0

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
Wyandotte Power	UTC-SD-001-0.5/2.5	SD-001	0.5 - 2.5	17-Jun-11	0	0.2	0.6	14.3	54.2	30.7
Wyandotte Power	UTC-SD-001-0.5/2.5-R	SD-001	0.5 - 2.5	17-Jun-11	2.4	0.3	0.2	13.6	51.7	31.8
Wyandotte Power	UTC-SD-001-2.5/4.5	SD-001	2.5 - 4.5	17-Jun-11	0	0.7	1.8	28.7	39.3	29.5
Wyandotte Power	UTC-SD-001-4.5/6.8	SD-001	4.5 - 6.8	17-Jun-11	0.8	0.8	2.6	44.7	32.5	18.6
Wyandotte Power	UTC-SD-002-0.5/1.3	SD-002	0.5 - 1.3	17-Jun-11	2.1	4.2	5.3	14.2	32.1	42.1
Wyandotte Power	UTC-SD-003-0.5/2.5	SD-003	0.5 - 2.5	17-Jun-11	0.2	1.1	4.1	40	32.5	22.1
Wyandotte Power	UTC-SD-003-02.5/4.4	SD-003	2.5 - 4.4	17-Jun-11	7.2	5.1	6.5	24.9	23.4	32.9
Wyandotte Power	UTC-SD-004-0.5/2.5	SD-004	0.5 - 2.5	04-May-11	1	0.9	2	15.5	42.1	38.5
Wyandotte Power	UTC-SD-004-2.5/4.5	SD-004	2.5 - 4.5	04-May-11	0	0	1.3	6.7	44	48
Wyandotte Power	UTC-SD-004-4.5/6.5	SD-004	4.5 - 6.5	04-May-11	0	0	1.3	22.6	47.5	28.6
Wyandotte Power	UTC-SD-004-6.5/9.0	SD-004	6.5 - 9	04-May-11	0	0.4	0.5	39.1	37.6	22.4
Wyandotte Power	UTC-SD-004-6.5/9.0-R	SD-004	6.5 - 9	04-May-11	0	0	0.7	39.9	38.8	20.6
Wyandotte Power	UTC-SD-005-0.5/2.5	SD-005	0.5 - 2.5	04-May-11	0	0.1	1	18.4	50.9	29.6
Wyandotte Power	UTC-SD-005-0.5/2.5-R	SD-005	0.5 - 2.5	04-May-11	0	0.2	0.9	20.2	49.5	29.2
Wyandotte Power	UTC-SD-005-2.5/4.4	SD-005	2.5 - 4.4	04-May-11	1.5	2.8	10.5	32.9	31.4	20.9
Wyandotte Power	UTC-SD-006-0.5/1.3	SD-006	0.5 - 1.3	17-Jun-11	13.4	2.8	5	12.7	28.4	37.7
Wyandotte Power	UTC-SD-007-0.0/0.5	SD-007	0 - 0.5	04-May-11	0.5	0.6	2.1	40.4	42.8	13.6
Wyandotte Power	UTC-SD-007-0.5/2.5	SD-007	0.5 - 2.5	04-May-11	1.3	1.9	4.5	43.4	35.3	13.6
Wyandotte Power	UTC-SD-007-0.5/2.5-R	SD-007	0.5 - 2.5	04-May-11	2.3	2.1	5.4	47.2	29.5	13.5
Wyandotte Power	UTC-SD-007-2.5/4.0	SD-007	2.5 - 4	04-May-11	3.2	0.8	1.2	73.8	14.4	6.6
Wyandotte Power	UTC-SD-009-0.5/2.5	SD-009	0.5 - 2.5	04-May-11	3.7	2.6	6.3	17	36	34.4
Wyandotte Power	UTC-SD-009-2.5/3.6	SD-009	2.5 - 3.6	04-May-11	5.3	2.7	3.8	48.5	19.2	20.5
Wyandotte Power	UTC-SD-010-0.0/0.7	SD-010	0 - 0.7	17-Jun-11	0.5	3.5	6	41.2	18.4	30.4
Wyandotte Power	UTC-SG-008-0.0/0.5	SG-008	0 - 0.5	02-May-11	0	0	0.3	20.4	38.3	41
Wyandotte Power	UTC-SG-009-0.0/0.5	SG-009	0 - 0.5	02-May-11	2.2	0	0.5	15.8	40.4	41.1
Wyandotte Power	UTC-SG-010-0.0/0.5	SG-010	0 - 0.5	02-May-11	0	0	0.6	29.4	35.8	34.2
Wyandotte Power	UTC-SG-011-0.0/0.5	SG-011	0 - 0.5	02-May-11	0.6	0.4	2.1	37.4	36.4	23.1
Wyandotte Power	UTC-SG-012-0.0/0.5	SG-012	0 - 0.5	02-May-11	1.8	1.1	3	66.7	18.8	8.6
Wyandotte Power	UTC-SG-014-0.0/0.5	SG-014	0 - 0.5	02-May-11	11.2	9.3	11.2	35.2	14.3	18.8
				min	0.0	0.0	0.2	6.7	14.3	6.6
				max	13.4	9.3	11.2	73.8	54.2	48.0
				average	2.1	1.5	3.1	31.2	35.0	27.0
				median	0.8	0.8	2.1	29.4	36.0	29.2

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
Bishop Park	UTC-SD-011-0.5/1.5	SD-011	0.5 - 1.5	26-Apr-11	1.3	4.2	5.5	13.5	32.7	42.8
Bishop Park	UTC-SD-012-0.5/1.3	SD-012	0.5 - 1.3	30-Apr-11	11.5	17.3	16.7	48.3	4.3	1.9
Bishop Park	UTC-SD-013-0.5/2.5	SD-013	0.5 - 2.5	26-Apr-11	0.1	0.5	2.2	35.1	30.2	31.9
Bishop Park	UTC-SD-013-2.5/4.5	SD-013	2.5 - 4.5	26-Apr-11	0	0	0.3	9.6	47.4	42.7
Bishop Park	UTC-SD-013-4.5/6.4	SD-013	4.5 - 6.4	26-Apr-11	0	0	0.4	9.7	41.9	48
Bishop Park	UTC-SD-013-4.5/6.4-R	SD-013	4.5 - 6.4	26-Apr-11	0	0	0.2	10.3	42.9	46.6
Bishop Park	UTC-SD-014-0.5/1.5	SD-014	0.5 - 1.5	26-Apr-11	13.4	5.3	7.2	27.9	20	26.2
Bishop Park	UTC-SD-015-0.5/2.5	SD-015	0.5 - 2.5	29-Apr-11	0	0	0.4	6.7	53.1	39.8
Bishop Park	UTC-SD-015-2.5/4.5	SD-015	2.5 - 4.5	29-Apr-11	0	0	0.2	7.3	54.1	38.4
Bishop Park	UTC-SD-015-4.5/6.5	SD-015	4.5 - 6.5	29-Apr-11	0	0.2	0.1	4.7	54	41
Bishop Park	UTC-SD-015-6.5/9.0	SD-015	6.5 - 9	29-Apr-11	0	0	0.1	6.5	48.1	45.3
Bishop Park	UTC-SD-016-0.5/2.5	SD-016	0.5 - 2.5	29-Apr-11	0	0.1	0.4	7	54	38.5
Bishop Park	UTC-SD-016-10.5/12.5	SD-016	10.5 - 12.5	29-Apr-11	2.3	0.4	1	15.2	47	34.1
Bishop Park	UTC-SD-016-10.5/12.5-R	SD-016	10.5 - 12.5	29-Apr-11	0	0.3	1.1	16.7	48.7	33.2
Bishop Park	UTC-SD-016-12.5/14.5	SD-016	12.5 - 14.5	29-Apr-11	0.4	0.3	0.8	12.6	47.8	38.1
Bishop Park	UTC-SD-016-14.5/16.5	SD-016	14.5 - 16.5	29-Apr-11	1.9	3	4.5	21.5	43	26.1
Bishop Park	UTC-SD-016-16.5/18.6	SD-016	16.5 - 18.6	29-Apr-11	4.8	6.3	23.9	30.1	20.8	14.1
Bishop Park	UTC-SD-016-2.5/4.5	SD-016	2.5 - 4.5	29-Apr-11	0	0	0.3	4.1	56.5	39.1
Bishop Park	UTC-SD-016-4.5/6.5	SD-016	4.5 - 6.5	29-Apr-11	0	0.1	0.1	6.4	47.5	45.9
Bishop Park	UTC-SD-016-6.5/8.5	SD-016	6.5 - 8.5	29-Apr-11	0	0	0	6.4	56.6	37
Bishop Park	UTC-SD-016-8.5/10.5	SD-016	8.5 - 10.5	29-Apr-11	1.1	0.9	3.2	43	30.4	21.4
Bishop Park	UTC-SD-017-0.5/2.5	SD-017	0.5 - 2.5	30-Apr-11	0.3	0.3	1.1	45.7	38	14.6
Bishop Park	UTC-SD-017-10.5/12.5	SD-017	10.5 - 12.5	30-Apr-11	0	0.1	0.7	12.9	44.7	41.6
Bishop Park	UTC-SD-017-10.5/12.5-R	SD-017	10.5 - 12.5	30-Apr-11	0.7	0.2	0.7	12.6	43.7	42.1
Bishop Park	UTC-SD-017-12.5/14.5	SD-017	12.5 - 14.5	30-Apr-11	0	0.5	2.4	20.3	47.7	29.1
Bishop Park	UTC-SD-017-14.5/16	SD-017	14.5 - 16	30-Apr-11	1	2	5.8	25.3	43.2	22.7
Bishop Park	UTC-SD-017-2.5/4.5	SD-017	2.5 - 4.5	30-Apr-11	0	0	0	9	55.3	35.7
Bishop Park	UTC-SD-017-4.5/6.5	SD-017	4.5 - 6.5	30-Apr-11	0	0	0	4.5	48.1	47.4
Bishop Park	UTC-SD-017-6.5/8.5	SD-017	6.5 - 8.5	30-Apr-11	0	0	0.3	15.6	42.2	41.9
Bishop Park	UTC-SD-017-8.5/10.5	SD-017	8.5 - 10.5	30-Apr-11	0.4	1.2	2.9	20.8	40.9	33.8
Bishop Park	UTC-SD-018-0.5/2.5	SD-018	0.5 - 2.5	30-Apr-11	0.8	0.4	0.8	24	48.8	25.2
Bishop Park	UTC-SD-018-10.5/12.3	SD-018	10.5 - 12.3	30-Apr-11	0	0.5	0.9	14.5	49.1	35
Bishop Park	UTC-SD-018-2.5/4.5	SD-018	2.5 - 4.5	30-Apr-11	0	0.4	1.5	22.2	46.2	29.7
Bishop Park	UTC-SD-018-2.5/4.5-R	SD-018	2.5 - 4.5	30-Apr-11	0.3	0.9	1.3	21.2	46.8	29.5
Bishop Park	UTC-SD-018-4.5/6.5	SD-018	4.5 - 6.5	30-Apr-11	0.4	0.2	0.4	17.4	47	34.6
Bishop Park	UTC-SD-018-6.5/8.5	SD-018	6.5 - 8.5	30-Apr-11	0	0	0.3	9.4	52.1	38.2
Bishop Park	UTC-SD-018-8.5/10.5	SD-018	8.5 - 10.5	30-Apr-11	3.7	0.9	1	11.8	43.6	39

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
Bishop Park	UTC-SD-019-0.5/2.5	SD-019	0.5 - 2.5	30-Apr-11	0.6	1.6	2	26.2	41.1	28.5
Bishop Park	UTC-SD-019-2.5/4.5	SD-019	2.5 - 4.5	30-Apr-11	1.2	1.5	3.1	37.1	37.3	19.8
Bishop Park	UTC-SD-019-4.5/5.8	SD-019	4.5 - 5.8	30-Apr-11	10.4	5.4	6.5	30.6	21.2	25.9
Bishop Park	UTC-SD-020-0.5/2.5	SD-020	0.5 - 2.5	30-Apr-11	0	0.2	0.7	13.2	50.3	35.6
Bishop Park	UTC-SD-020-2.5/4.0	SD-020	2.5 - 4	30-Apr-11	2.2	1.4	1.5	27.3	52.2	15.4
Bishop Park	UTC-SG-015-0.0/0.5	SG-015	0 - 0.5	02-May-11	39.3	25.5	15	8	3.4	8.8
Bishop Park	UTC-SG-016-0.0/0.5	SG-016	0 - 0.5	02-May-11	33.1	23.4	21.9	19	0.5	2.1
Bishop Park	UTC-SG-017-0.0/0.5	SG-017	0 - 0.5	03-May-11	40.2	16.8	13.1	28.3	0.3	1.3
Bishop Park	UTC-SG-018-0.0/0.5	SG-018	0 - 0.5	03-May-11	15	10.5	10.8	54.1	6.5	3.1
Bishop Park	UTC-SG-019-0.0/0.5	SG-019	0 - 0.5	03-May-11	31.7	19.2	11.2	34.3	2.9	0.7
Bishop Park	UTC-SG-020-0.0/0.5	SG-020	0 - 0.5	03-May-11	7.3	6.8	16.9	59.6	3.9	5.5
Bishop Park	UTC-SG-021-0.0/0.5	SG-021	0 - 0.5	03-May-11	5.6	2.1	8.3	75	5.9	3
Bishop Park	UTC-SG-021-0.0/0.5-R	SG-021	0 - 0.5	03-May-11	3.8	2.1	8	75.2	7.8	3.2
				min	0.0	0.0	0.0	4.1	0.3	0.7
				max	40.2	25.5	23.9	75.2	56.6	48.0
				average	4.7	3.3	4.2	22.4	37.0	28.5
				median	0.4	0.5	1.1	17.1	43.7	33.5

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
South Works	UTC-SD-093-0.5/1.3	SD-093	0.5 - 1.3	17-Jun-11	2.5	3.4	5.6	13.6	26	48.9
Wye Street	UTC-SD-030-0.5/2.5	SD-030	0.5 - 2.5	04-May-11	5.5	2.5	5.8	12.5	31.2	42.5
Wye Street	UTC-SD-031-0.5/2.8	SD-031	0.5 - 2.8	26-Apr-11	12	9.4	6.5	17.8	33.7	20.6
Wye Street	UTC-SD-032-0.5/2.5	SD-032	0.5 - 2.5	26-Apr-11	2.4	0.9	4.8	14.2	42.6	35.1
Wye Street	UTC-SD-032-2.5/4.5	SD-032	2.5 - 4.5	26-Apr-11	0.3	1	1.5	11	55.3	30.9
Wye Street	UTC-SD-032-2.5/4.5-R	SD-032	2.5 - 4.5	26-Apr-11	1.9	1.1	1.3	10	59	26.7
Wye Street	UTC-SD-032-4.5/6.5	SD-032	4.5 - 6.5	26-Apr-11	2.1	2.2	2.5	7	55.5	30.7
Wye Street	UTC-SD-032-6.5/7.0	SD-032	6.5 - 7	26-Apr-11	0.9	0.9	6.5	18.7	58.8	14.2
Wye Street	UTC-SD-033-0.5/2.5	SD-033	0.5 - 2.5	04-May-11	5.9	3	6.8	14.8	32.8	36.7
Wye Street	UTC-SD-034-0.5/2.5	SD-034	0.5 - 2.5	26-Apr-11	0.4	2.4	4.9	12.7	36.9	42.7
Wye Street	UTC-SD-034-0.5/2.5-R	SD-034	0.5 - 2.5	26-Apr-11	0.7	2.2	5.3	12.4	36.8	42.6
Wye Street	UTC-SD-035-0.0/0.9	SD-035	0 - 0.9	26-Apr-11	0	32.5	15.2	35	14.8	2.5
Wye Street	UTC-SD-036-0.5/2.5	SD-036	0.5 - 2.5	26-Apr-11	20.7	7.6	15.1	27.4	17.6	11.6
Wye Street	UTC-SD-037-0.5/1.8	SD-037	0.5 - 1.8	03-May-11	2.7	3.7	5.7	13.1	30.7	44.1
Wye Street	UTC-SD-038-2.5/4.5	SD-038	2.5 - 4.5	27-Apr-11	2.5	2.5	10	31.7	34.2	19.1
Wye Street	UTC-SD-038-4.5/6.5	SD-038	4.5 - 6.5	27-Apr-11	0.1	0	0.4	6.4	54.3	38.8
Wye Street	UTC-SD-039-0.5/2.5	SD-039	0.5 - 2.5	04-May-11	9.2	6.4	8.1	15.2	26.6	34.5
Wye Street	UTC-SD-039-2.5/4.3	SD-039	2.5 - 4.3	04-May-11	1	3.5	5.7	13.1	36.4	40.3
Wye Street	UTC-SD-040-0.5/2.5	SD-040	0.5 - 2.5	26-Apr-11	3.9	3.8	14.2	54.2	15	8.8
Wye Street	UTC-SD-041-0.5/2.7	SD-041	0.5 - 2.7	28-Apr-11	9.4	2.2	10.5	33.2	26.8	17.9
Wye Street	UTC-SD-072-0.5/2.5	SD-072	0.5 - 2.5	03-May-11	7.7	3.1	5	13.1	27.1	44
Wye Street	UTC-SD-072-0.5/2.5-R	SD-072	0.5 - 2.5	03-May-11	0.7	3.6	5.6	13.9	31	45.2
Wye Street	UTC-SD-072-2.5/3.3	SD-072	2.5 - 3.3	03-May-11	11	2.9	5.5	12.5	25.2	42.9
Wye Street	UTC-SD-073-0.5/2.9	SD-073	0.5 - 2.9	14-Jun-11	4.1	2.7	5.8	14.1	31.3	42
Wye Street	UTC-SD-074-0.5/2.5	SD-074	0.5 - 2.5	14-Jun-11	0	4.2	5.2	13.5	32.7	44.4
Wye Street	UTC-SD-074-2.5/5.0	SD-074	2.5 - 5	14-Jun-11	1.4	4.3	5.1	12.8	32.4	44
Wye Street	UTC-SD-074-2.5/5.0-R	SD-074	2.5 - 5	14-Jun-11	8	2.8	4.8	11.8	35	37.6
Wye Street	UTC-SD-075-0.5/2.5	SD-075	0.5 - 2.5	14-Jun-11	2.6	3.2	5.9	13.2	34.7	40.4
Wye Street	UTC-SD-076-0.5/2.2	SD-076	0.5 - 2.2	14-Jun-11	8.5	3.3	5.5	12.8	30.4	39.5
Wye Street	UTC-SD-077-0.0/0.9	SD-077	0 - 0.9	14-Jun-11	0.7	3	6.2	14.2	32	43.9
Wye Street	UTC-SD-078-0.5/1.3	SD-078	0.5 - 1.3	14-Jun-11	0	2.9	5.7	12.9	31.1	47.4
Wye Street	UTC-SD-079-0.5/2.5	SD-079	0.5 - 2.5	14-Jun-11	8.1	2.6	5.2	12.7	29.4	42
Wye Street	UTC-SD-079-2.5/4.2	SD-079	2.5 - 4.2	14-Jun-11	7.6	3.3	5.7	12.9	28.5	42
Wye Street	UTC-SD-080-0.5/2.5	SD-080	0.5 - 2.5	15-Jun-11	0	4	5.6	13.4	33.5	43.5
Wye Street	UTC-SD-080-0.5/2.5-R	SD-080	0.5 - 2.5	15-Jun-11	6.9	3.9	5.4	13.2	28.1	42.5

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
Wye Street	UTC-SD-080-2.5/3.2	SD-080	2.5 - 3.2	15-Jun-11	2	2.5	5.3	12.8	30.8	46.6
Wye Street	UTC-SD-081-0.5/2.9	SD-081	0.5 - 2.9	15-Jun-11	3.1	4.1	5.5	12.6	35.1	39.6
Wye Street	UTC-SG-023-0.0/0.5	SG-023	0 - 0.5	05-May-11	49	19.4	13.5	15.4	1.4	1.3
Wye Street	UTC-SG-024-0.0/0.5	SG-024	0 - 0.5	05-May-11	20.2	7.3	16.9	29.3	17.6	8.6
Wye Street	UTC-SG-025-0.0/0.5	SG-025	0 - 0.5	05-May-11	62.2	18	5.3	9.9	3.6	1
Wye Street	UTC-SG-026-0.0/0.5	SG-026	0 - 0.5	05-May-11	21.4	15.8	16.1	30	8.4	8.3
Wye Street	UTC-SG-026-0.0/0.5-R	SG-026	0 - 0.5	05-May-11	11.5	8	17.2	47.2	8.7	7.4
Wye Street	UTC-SG-028-0.0/0.5	SG-028	0 - 0.5	05-May-11	17.5	8.6	24.9	39.5	5.5	4
				min	0.0	0.0	0.4	6.4	1.4	1.0
				max	62.2	32.5	24.9	54.2	59.0	47.4
				average	8.0	5.3	7.6	18.0	30.3	30.9
				median	3.5	3.3	5.7	13.2	31.2	39.2

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
Arkema	UTC-SD-042-0.0/0.5	SD-042	0 - 0.5	26-Apr-11	8.2	8.6	21.6	41.1	11.5	9
Arkema	UTC-SD-043-0.5/2.5	SD-043	0.5 - 2.5	04-May-11	5.6	3.5	6.6	13.4	30.6	40.3
Arkema	UTC-SD-043-0.5/2.5-R	SD-043	0.5 - 2.5	04-May-11	2	4.6	6.4	13.3	31.5	42.2
Arkema	UTC-SD-043-2.5-3.3	SD-043	2.5 - 3.3	04-May-11	7.6	2.8	5.7	12.5	30.9	40.5
Arkema	UTC-SD-044-0.5/2.2	SD-044	0.5 - 2.2	03-May-11	3.4	5.6	7.9	14.7	28.7	39.7
Arkema	UTC-SD-045-B-0.5/2.7	SD-045	0.5 - 2.7	28-Apr-11	5.9	4.8	7.9	16.8	30.8	33.8
Arkema	UTC-SD-047-0.5/2.1	SD-047	0.5 - 2.1	04-May-11	1.5	8.8	13.3	26.2	22.8	27.4
Arkema	UTC-SD-048-0.5/2.5	SD-048	0.5 - 2.5	04-May-11	0	0.4	0.9	8.4	62.8	27.5
Arkema	UTC-SD-048-2.5/4.5	SD-048	2.5 - 4.5	04-May-11	0.9	0.5	4.5	29.4	39.4	25.3
Arkema	UTC-SD-048-4.5/6.5	SD-048	4.5 - 6.5	04-May-11	0.1	0.3	2.2	26.4	50.5	20.5
Arkema	UTC-SD-048-6.5/8.4	SD-048	6.5 - 8.4	04-May-11	1.6	2.1	4	20.9	42.8	28.6
Arkema	UTC-SD-049-B-0.5/2.5	SD-049	0.5 - 2.5	26-Apr-11	1	1	1.6	16.8	50.5	29.1
Arkema	UTC-SD-050-0.0/0.5	SD-050	0 - 0.5	05-May-11	2.1	0.2	1	17.5	55.1	24.1
Arkema	UTC-SD-050-0.5/2.5	SD-050	0.5 - 2.5	05-May-11	0.4	0.1	0.6	8	59.1	31.8
Arkema	UTC-SD-050-2.5/4.5	SD-050	2.5 - 4.5	05-May-11	0	0.1	0.6	7.1	62.2	30
Arkema	UTC-SD-050-4.5/6.6	SD-050	4.5 - 6.6	05-May-11	1.7	3	5.7	39.4	36	14.2
Arkema	UTC-SD-051-0.5/2.4	SD-051	0.5 - 2.4	04-May-11	0.7	0	0.1	9.3	55.1	34.8
Arkema	UTC-SD-082-0.5/1.6	SD-082	0.5 - 1.6	15-Jun-11	8	4.1	8	15.4	27.6	36.9
Arkema	UTC-SD-083-0.5/2.2	SD-083	0.5 - 2.2	15-Jun-11	6.1	4.6	5.7	21.9	28	33.7
Arkema	UTC-SD-084-0.5/2.0	SD-084	0.5 - 2	15-Jun-11	1.1	4.3	6.3	13.4	29.2	45.7
Arkema	UTC-SD-085-0.5/2.5	SD-085	0.5 - 2.5	15-Jun-11	2.7	3.4	6.2	15.3	37.1	35.3
Arkema	UTC-SD-085-2.5/4.5	SD-085	2.5 - 4.5	15-Jun-11	0	3	6.4	14	35.3	41.3
Arkema	UTC-SD-085-4.5/5.2	SD-085	4.5 - 5.2	15-Jun-11	0	2.8	6	13.9	33.6	43.7
Arkema	UTC-SD-086-0.5/1.6	SD-086	0.5 - 1.6	15-Jun-11	4.4	4.1	5.8	13.4	31.7	40.6
Arkema	UTC-SD-087-0.5/2.4	SD-087	0.5 - 2.4	15-Jun-11	4.8	3.3	5.7	13.2	29.9	43.1
Arkema	UTC-SD-087-0.5/2.4-R	SD-087	0.5 - 2.4	15-Jun-11	4.9	3.6	5.6	13.1	31.2	41.6
Arkema	UTC-SD-088-0.5/1.6	SD-088	0.5 - 1.6	15-Jun-11	5.6	4.7	5.9	13.4	30.9	39.5
Arkema	UTC-SD-089-0.5/1.4	SD-089	0.5 - 1.4	15-Jun-11	4.6	2.5	5.5	12.7	32.5	42.2
Arkema	UTC-SG-029-0.0/0.5	SG-029	0 - 0.5	05-May-11	12.6	3	8.1	56.6	12.1	7.6
Arkema	UTC-SG-030-0.0/0.5	SG-030	0 - 0.5	05-May-11	2.4	3	9.1	64.5	15	6
Arkema	UTC-SG-031-0.0/0.5	SG-031	0 - 0.5	05-May-11	4	4.4	6.2	67.5	12.3	5.6
Arkema	UTC-SG-032-0.0/0.5	SG-032	0 - 0.5	05-May-11	20.9	9.6	10.4	15.3	17.4	26.4

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
Arkema	UTC-SG-033-0.0/0.5	SG-033	0 - 0.5	06-May-11	22.8	10.8	12.3	42.7	4.7	6.7
Arkema	UTC-SG-033-0.0/0.5-R	SG-033	0 - 0.5	06-May-11	16.5	9.1	12.5	44.7	10.5	6.7
Arkema	UTC-SG-034-0.0/0.5	SG-034	0 - 0.5	06-May-11	12.3	15.2	13.4	52.4	3.7	3.1
Arkema	UTC-SG-035-0.0/0.5	SG-035	0 - 0.5	06-May-11	43.3	5.2	8.3	31.8	5.8	5.6
				min	0	0	0.1	7.1	3.7	3.1
				max	43.3	15.2	21.6	67.5	62.8	45.7
				average	6.10278	4.1	6.6	23.8	31.4	28.1
				median	3.7	3.45	6.1	15.35	30.9	30.9

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
Firestone	UTC-SD-052-0.5/1.7	SD-052	0.5 - 1.7	02-May-11	2.6	1.4	1.8	12.9	57.6	23.7
Firestone	UTC-SD-053-0.5/2,5	SD-053	0.5 - 2.5	02-May-11	0	0.1	0.4	22.3	46.4	30.8
Firestone	UTC-SD-053-2.5/4.2	SD-053	2.5 - 4.2	02-May-11	14.7	3.9	4.2	13.4	28.5	35.3
Firestone	UTC-SD-054-0.5/2.5	SD-054	0.5 - 2.5	02-May-11	0	0	0	6	50.8	43.2
Firestone	UTC-SD-054-2.5/4.5	SD-054	2.5 - 4.5	02-May-11	0	0.1	0	5.2	55.4	39.3
Firestone	UTC-SD-054-4.5/6.5	SD-054	4.5 - 6.5	02-May-11	0	0.2	0.1	5.7	52.2	41.8
Firestone	UTC-SD-054-6.5/9.2	SD-054	6.5 - 9.2	02-May-11	0	0	0.2	2.9	60.2	36.7
Firestone	UTC-SD-055-0.5/2.5	SD-055	0.5 - 2.5	02-May-11	10.5	3.2	5.1	12.2	26.2	42.8
Firestone	UTC-SD-055-2.5/4.4	SD-055	2.5 - 4.4	02-May-11	4.5	2.6	5.2	12.8	27.7	47.2
Firestone	UTC-SD-056-0.5/2.5	SD-056	0.5 - 2.5	02-May-11	2.4	2.8	6.1	13.9	31	43.8
Firestone	UTC-SD-056-2.5/5.2	SD-056	2.5 - 5.2	02-May-11	1.1	4	5.6	13.2	31.1	45
Firestone	UTC-SD-057-A-0.5/1.9	SD-057	0.5 - 1.9	05-May-11	0	0.4	0.2	2.9	75	21.5
Firestone	UTC-SD-057-B-0.5/1.8	SD-057	0.5 - 1.8	05-May-11	0	0	0.1	3.3	84.1	12.5
Firestone	UTC-SD-058-0.5/2.5	SD-058	0.5 - 2.5	05-May-11	1.5	3.5	5.7	13.7	32	43.6
Firestone	UTC-SD-060-0.5/2.5	SD-060	0.5 - 2.5	04-May-11	5.9	1.6	1.9	28.7	38.9	23
Firestone	UTC-SD-061-0.5/2.5	SD-061	0.5 - 2.5	05-May-11	0	0.6	1.3	8.3	43.9	45.9
Firestone	UTC-SD-061-2.5/4.5	SD-061	2.5 - 4.5	05-May-11	2.3	0.8	0.8	6.1	40.1	49.9
Firestone	UTC-SD-061-2.5/4.5-R	SD-061	2.5 - 4.5	05-May-11	3.4	0.3	0.8	6.2	43.6	45.7
Firestone	UTC-SD-061-4.5/6.5	SD-061	4.5 - 6.5	05-May-11	3.2	2.4	2.4	12.4	29.1	50.5
Firestone	UTC-SD-061-6.5/7.2	SD-061	6.5 - 7.2	05-May-11	0	0.5	1.1	5.2	40.8	52.4
Firestone	UTC-SG-036-0.0/0.5	SG-036	0 - 0.5	06-May-11	0	0.8	0.4	3.3	66	29.5
Firestone	UTC-SG-037-0.0/0.5	SG-037	0 - 0.5	06-May-11	0.7	1.1	0.6	8.6	54.7	34.3
Firestone	UTC-SG-038-0.0/0.5	SG-038	0 - 0.5	06-May-11	0	0.3	1.4	11.4	44.5	42.4
Firestone	UTC-SG-038-0.0/0.5-R	SG-038	0 - 0.5	06-May-11	0	0.8	0.6	8.1	47.8	42.7
Firestone	UTC-SG-039-0.0/0.5	SG-039	0 - 0.5	06-May-11	0	0.1	0.5	4	68.4	27
Firestone	UTC-SG-040-0.0/0.5	SG-040	0 - 0.5	06-May-11	2.3	1.6	0.7	17.6	53.4	24.4
Firestone	UTC-SG-041-0.0/0.5	SG-041	0 - 0.5	06-May-11	0.6	1.9	2.2	31.4	37.1	26.8
				min	0	0	0	4.1	0.3	0.7
				max	62.2	32.5	24.9	75.2	62.8	48.9
				average	6.5	4.2	5.9	23.3	32.9	28.8
				median	2.2	2.7	5.5	15.4	32.7	33.5

TABLE A-5

Particle Size Data: April-June, 2011 Sediment Sampling (percent)

Upper Trenton Channel, Wyandotte, Michigan

Area	Field ID	Location ID	Depth (ft)	Date	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
McLouth Steel	UTC-SD-062-0.5/2.4	SD-062	0.5 - 2.4	03-May-11	0	1	2.3	10.8	29.2	56.7
McLouth Steel	UTC-SD-063-0.5/2.2	SD-063	0.5 - 2.2	03-May-11	23.5	3	5.3	16.8	14.6	36.8
McLouth Steel	UTC-SD-064-0.5/2.7	SD-064	0.5 - 2.7	03-May-11	6.7	4.7	8.3	22.6	28.8	28.9
McLouth Steel	UTC-SD-065-0.5/2.5	SD-065	0.5 - 2.5	02-May-11	1.7	6.1	9.3	19.3	26.8	36.8
McLouth Steel	UTC-SD-065-0.5/2.5-R	SD-065	0.5 - 2.5	02-May-11	10	4.9	8.6	17.9	28.3	30.3
McLouth Steel	UTC-SD-066-0.5/2.5	SD-066	0.5 - 2.5	02-May-11	0	0	0.1	2	48.5	49.4
McLouth Steel	UTC-SD-066-2.5/4.5	SD-066	2.5 - 4.5	02-May-11	0	0	0.1	3.2	44.9	51.8
McLouth Steel	UTC-SD-066-4.5/6.5	SD-066	4.5 - 6.5	02-May-11	4.5	0.3	1.3	6.3	37.3	50.3
McLouth Steel	UTC-SD-066-6.5/9.0	SD-066	6.5 - 9	02-May-11	4.4	3.4	6.3	17.1	27.3	41.5
McLouth Steel	UTC-SD-067-0.5/2.5	SD-067	0.5 - 2.5	02-May-11	0	0	0.3	6.1	54	39.6
McLouth Steel	UTC-SD-067-2.5/4.5	SD-067	2.5 - 4.5	02-May-11	0	0	0.4	4.8	52.8	42
McLouth Steel	UTC-SD-067-4.5/6.5	SD-067	4.5 - 6.5	02-May-11	0	0	0.4	4.4	51.9	43.3
McLouth Steel	UTC-SD-067-6.5/8.9	SD-067	6.5 - 8.9	02-May-11	0	0.1	0.1	2.4	50.7	46.7
McLouth Steel	UTC-SD-068-0.5/2.5	SD-068	0.5 - 2.5	03-May-11	0.8	3.2	5.3	16.4	32.7	41.6
McLouth Steel	UTC-SD-068-2.5/4.8	SD-068	2.5 - 4.8	03-May-11	13.2	2.2	7.4	19.5	26.1	31.6
				min	0.0	0.0	0.1	2.0	14.6	28.9
				max	23.5	6.1	9.3	22.6	54.0	56.7
				average	4.3	1.9	3.7	11.3	36.9	41.8
				median	0.8	1.0	2.3	10.8	32.7	41.6

TABLE A-6
PCB Aroclor Data and Summary Statistics (ug/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	2400 U	2400 U	2400 U	2400 U	2400	1100	1400 U	1400 U	1400 U	3500
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	ND
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	ND
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	ND
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	ND
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	7800 U	7800 U	7800 U	7800 U	7600	4600	1400	7800 U	7800 U	13600
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	390 U	390 U	390 U	390 U	390 U	130	390 U	390 U	390 U	130
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	380 U	380 U	380 U	380 U	210	170	380 U	380 U	380 U	380
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	340 U	340 U	340 U	340 U	340 U	130	340 U	340 U	340 U	130
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	ND
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	ND
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	ND
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	12000 U	12000 U	12000 U	12000	12000 U	4200	4100 U	4100 U	4100 U	16200
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	3000 U	3000 U	3000 U	2900	3000 U	1300	1900 U	1900 U	1900 U	4200
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	320 U	320 U	320 U	320 U	320 U	320 U	320 U	320 U	320 U	ND
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	68 U	68 U	68 U	68 U	68 U	68 U	68 U	68 U	68 U	ND
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	ND
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	ND
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	ND
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND
Wyandotte Power	SD-002	UTC-SD-002-0.0/0.5	17-Jun-11	0 - 0.5	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	ND
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wyandotte Power	SD-003	UTC-SD-003-0.0/0.5	17-Jun-11	0 - 0.5	69 U	69 U	69 U	350 J	69 U	260 J	69 U	69 U	69 U	610
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	66 U	66 U	66 U	140 J	66 U	140 J	66 U	66 U	66 U	280
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	42 U	42 U	42 U	53 J	42 U	46 J	42 U	42 U	42 U	99
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	71 U	71 U	71 U	71 U	8300	2000 NJ	71 U	71 U	71 U	10300
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	60 U	60 U	60 U	60 U	3800	560 NJ	60 U	60 U	60 U	4360
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	ND
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	ND
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	51 U	51 U	51 U	51 U	51 U	51 U	51 U	51 U	51 U	ND
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	3000	51 U	51 U	51 U	4200 J	2300	51 U	51 U	51 U	9500
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	110 U	110 U	110 U	110 U	7900	3800 J	110 U	110 U	110 U	11700
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	100 U	100 U	100 U	100 U	9800	5300	100 U	100 U	100 U	15100
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	96 U	96 U	96 U	96 U	4100	2500	96 U	96 U	96 U	6600
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	49 U	49 U	49 U	49 U	49 U	74 J	49 U	49 U	49 U	74
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	ND
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	99 U	99 U	99 U	99 U	4200	1900 NJ	99 U	99 U	99 U	6100
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	99 U	99 U	99 U	99 U	4000	1900 J	99 U	99 U	99 U	5900
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	93 U	93 U	93 U	93 U	3000	930 U	93 U	93 U	93 U	3000
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	36 U	36 U	36 U	36 U	59 NJ	36 U	36 U	36 U	36 U	59
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	39 U	39 U	39 U	39 U	90 J	39 U	39 U	39 U	39 U	90
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	38 U	38 U	38 U	38 U	27 J	38 U	38 U	38 U	38 U	27
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	42 U	42 U	42 U	42 U	42 U	42 U	42 U	42 U	42 U	ND
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	43 U	43 U	43 U	43 U	43 U	43 U	43 U	43 U	43 U	ND
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	64 U	64 U	64 U	64 U	100 R	130 R	64 U	64 U	64 U	ND
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	71 UJ	71 UJ	71 UJ	71 UJ	480 J	460 J	71 UJ	71 UJ	71 UJ	940
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	65 UJ	65 UJ	65 UJ	65 UJ	4300	65 UJ	65 UJ	65 UJ	65 UJ	4300
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	60 UJ	60 UJ	60 UJ		3800	60 UJ	60 UJ		60 UJ	3800
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	47 U	47 U	47 U	47 U	240	47 U	47 U	47 U	47 U	240
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	53 U	53 U	53 U	53 U	310	360 J	53 U	53 U	53 U	670
			Surface	Min										25
				Max										16200
				Average										4130
				Median										940
				Standard Deviation										5232
			Subsurface	Min										19
				Max										15100
				Average										1434
				Median										140
				Standard Deviation										3328

TABLE A-6
PCB Aroclor Data and Summary Statistics (ug/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	ND
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	340 U	340 U	340 U	340 U	340	150	250 U	250 U	250 U	490
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	250 U	250 U	250 U	250 U	200	150	250 U	250 U	250 U	350
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	600 U	600 U	600 U	600 U	590	990 U	1300	1300 U	320 U	1890
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	2300 U	2300 U	2300 U	2300 U	2300	1000	540	550 U	340 U	3840
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	2500 U	2500 U	2500 U	2500 U	2400	1200 U	280	310 U	310 U	2680
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	970 U	970 U	970 U	970 U	970	1600 U	2300	2300 U	420 U	3270
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	2300 U	2300 U	2300 U	2300 U	2200	1400 U	1400	1400 U	420 U	3600
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	13000 U	13000 U	13000 U	13000 U	13000	3300 U	1500	1500 U	390 U	14500
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	11000 U	11000 U	11000 U	11000 U	11000	2800 U	880	890 U	350 U	11880
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	370 U	370 U	370 U	370 U	370 U	700 U	370 U	370 U	370 U	ND
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	ND
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U	ND
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	550 U	550 U	550 U	550 U	550	580	250	280 U	280 U	1380
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	250 U	250 U	250 U	250 U	170	110	250 U	250 U	250 U	280
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	ND
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	ND
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	12000 U	12000 U	12000 U	12000 U	12000	7200	2100	3800 U	3800 U	21300
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	6000 U	6000 U	6000 U	6000 U	5900	3500	3600 U	3600 U	3600 U	9400
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	11000 U	11000 U	11000 U	11000 U	11000	5200	1200	3800 U	3800 U	17400
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	530 U	530 U	530 U	530 U	520	610	320	350 U	350 U	1450
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	ND
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	ND
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	ND
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	1800 U	1800 U	1800 U	1800	1800 U	870	700	710 U	340 U	3370
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	460 U	460 U	460 U	460 U	450	370	280 U	280 U	280 U	820
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	1900 U	1900 U	1900 U	1900 U	1800	850	360	370 U	340 U	3010
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	350 U	350 U	350 U	350 U	280	350 U	350 U	350 U	350 U	280
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	ND
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	ND
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	ND
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	120 U	120 U	120 U	120 U	4800	2300 NJ	120 U	120 U	120 U	7100
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	120 U	120 U	120 U	120 U	4700	1900 J	120 U	120 U	120 U	6600
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	240 U	240 U	240 U	240 U	10000	3700 J	240 U	240 U	240 U	13700
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	46 U	46 U	46 U	46 U	2000	990 R	46 U	46 U	46 U	2000
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	63 U	63 U	63 U	63 U	3100	1600 R	370 R	63 U	63 U	3100
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	65 U	65 U	65 U	65 U	350	500 R	380 R	65 U	65 U	350
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	54 U	54 U	54 U	54 U	190	250	150 R	54 U	54 U	440
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	54 U	54 U	54 U	54 U	530 J	54 U	580	54 U	54 U	1110
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	66 UJ	66 UJ	66 UJ	66 UJ	2000 NJ	66 UJ	2500 J	66 UJ	66 UJ	4500
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	130 U	130 U	130 U	130 U	8900 NJ	5700	130 U	130 U	130 U	14600
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	110 U	110 U	110 U	110 U	8200 NJ	5600 J	110 U	110 U	110 U	13800
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	120 U	120 U	120 U	120 U	9100 NJ	5900	120 U	120 U	120 U	15000
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	57 U	57 U	57 U	57 U	340 NJ	57 U	510 J	57 U	57 U	850
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	64 UJ	64 UJ	64 UJ	64 UJ	2000 NJ	64 UJ	2900 J	64 UJ	64 UJ	4900
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	56 U	56 U	56 U	56 U	300	56 U	56 U	56 U	56 U	300
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	54 U	54 U	54 U	54 U	140 J	54 U	54 U	54 U	54 U	140
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	ND
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	ND
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	ND
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	61 UJ	61 UJ	61 UJ	61 UJ	6900 NJ	5300	61 UJ	61 UJ	61 UJ	12200
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	130 U	130 U	130 U	130 U	8000 NJ	5300	130 U	130 U	130 U	13300
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	120 U	120 U	120 U	120 U	9400 NJ	7700	120 U	120 U	120 U	17100
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	54 U	54 U	54 U	54 U	970 J	1000	54 U	54 U	54 U	1970
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	66 U	66 U	66 U	66 U	260 R	560	66 U	66 U	66 U	560
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	65 U	65 U	65 U	65 U	760 J	1200	65 U	65 U	65 U	1960
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	54 U	54 U	54 U	54 U	54 U	54 U	54 U	54 U	54 U	ND
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	49 UJ	49 UJ	49 UJ	49 UJ	49 UJ	49 UJ	49 UJ	49 UJ	49 UJ	ND

TABLE A-6

PCB Aroclor Data and Summary Statistics (ug/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	65 U	65 U	65 U	65 U	7300 J	5100	65 U	65 U	65 U	12400
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	610 U	610 U	610 U	610 U	15000	6100	610 U	610 U	610 U	21100
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	46 U	46 U	46 U	46 U	920 NJ	760	46 U	46 U	46 U	1680
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	58 U	58 U	58 U	58 U	570	58 U	58 U	58 U	58 U	570
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	62 U	62 U	62 U	62 U	210 R	330	62 U	62 U	62 U	330
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	52 U	52 U	52 U	52 U	250 R	530	52 U	52 U	52 U	530
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	50 U	50 U	50 U	50 U	170 NJ	50 U	50 U	50 U	50 U	170
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	56 U	56 U	56 U	56 U	4500 NJ	3300	56 U	56 U	56 U	7800
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	60 U	60 U	60 U	60 U	1700 NJ	1000	60 U	60 U	60 U	2700
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	52 U	52 U	52 U	52 U	4400 NJ	3200	52 U	52 U	52 U	7600
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	56 U	56 U	56 U	56 U	660	56 U	56 U	56 U	56 U	660
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	ND
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	59 U	59 U	59 U	59 U	59 U	59 U	59 U	59 U	59 U	ND
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	ND
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	67 U	67 U	67 U	67 U	67 U	67 U	67 U	67 U	67 U	ND
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	61 U	61 U	61 U	61 U	61 U	61 U	61 U	61 U	61 U	ND
Bishop Park	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	55 U	55 U	55 U	55 U	580	450 J	230 R	55 U	55 U	1030
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	51 U	51 U	51 U	51 U	51 U	51 U	51 U	51 U	51 U	ND
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	52 U	52 U	52 U	52 U	52 U	52 U	52 U	52 U	52 U	ND
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	37 U	37 U	37 U	37 U	48 NJ	37 U	37 U	37 U	37 U	48
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	38 U	38 U	38 U	38 U	95 J	38 U	38 U	38 U	38 U	95
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	36 U	36 U	36 U	36 U	36 U	36 U	36 U	36 U	36 U	ND
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	42 U	42 U	42 U	42 U	150	42 U	42 U	42 U	42 U	150
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	39 U	39 U	39 U	39 U	67	39 U	39 U	39 U	39 U	67
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	ND
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	44 U	44 U	44 U	44 U	240	44 U	44 U	44 U	44 U	240
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	43 U	43 U	43 U	43 U	260	43 U	43 U	43 U	43 U	260
			Surface	Min										18
				Max										21300
				Average										1542
				Median										260
				Standard Deviation										3963
			Subsurface	Min										19
				Max										21100
				Average										3973
				Median										440
				Standard Deviation										5905

TABLE A-6

PCB Aroclor Data and Summary Statistics (ug/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
Residential	C12	C12 0-1_20061221	21-Dec-06	0 - 1	300 U	300 U	300 U	300 U	290	400	450	460 U	270 U	1140
Residential	C12	C12 1-3_20061221	21-Dec-06	1 - 3	1800 U	1800 U	1800 U	1800 U	1600	1100 U	1200	1200 U	320 U	2800
Residential	C12	C12 3-5_20061221	21-Dec-06	3 - 5	15000 U	15000 U	15000 U	15000 U	15000	6600	3600 U	3600 U	3600 U	21600
Residential	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	720 U	720 U	720 U	720 U	720 U	530	830	830 U	390 U	1360
Residential	C9	C9 0-1_20070710	10-Jul-07	0 - 1	720 U	720 U	720 U	720 U	700	830	650	660 U	340 U	2180
Residential	D2	D2 0-1_20061221	21-Dec-06	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	D3	D3 0-1_20061221	21-Dec-06	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	D4	D4 0-1_20070711	11-Jul-07	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	D4	D4 1-2_20070711	11-Jul-07	1 - 2	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	D5	D5 0-1_20070710	10-Jul-07	0 - 1	320 U	320 U	320 U	320 U	320 U	440 U	290 U	290 U	290 U	ND
Residential	D5	D5 1-3_20070710	10-Jul-07	1 - 3	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	ND
Residential	D6	D6 0-1_20070710	10-Jul-07	0 - 1	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	ND
Residential	E1	E1 0-1_20061221	21-Dec-06	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	E1	E1 1-3_20061221	21-Dec-06	1 - 3	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	E2	E2 0-1_20061222	22-Dec-06	0 - 1	480 U	480 U	480 U	480 U	480 U	480 U	480 U	480 U	480 U	ND
Residential	E2	E2 1-3_20061222	22-Dec-06	1 - 3	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	E21	E21 0-1_20061221	21-Dec-06	0 - 1	250 U	250 U	250 U	250 U	120	250 U	250 U	250 U	250 U	120
Residential	E3	E3 0-1_20070710	10-Jul-07	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	E3	E31-3_20070710	10-Jul-07	1 - 3	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	E6	E6 0-1_20070711	11-Jul-07	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
Residential	E6	E6 1-3_20070711	11-Jul-07	1 - 3	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	ND
			Surface	Min										115
				Max										2180
				Average										373
				Median										120
				Standard Deviation										611
			Subsurface	Min										120
				Max										21600
				Average										3574
				Median										130
				Standard Deviation										8011

TABLE A-6

PCB Aroclor Data and Summary Statistics (ug/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	440 U	440 U	440 U	440 U	370	440 U	270	440 U	440 U	640
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	320 U	320 U	320 U	320 U	280	320 U	300	320 U	320 U	580
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	430 U	430 U	430 U	430 U	420	530	260	340 U	340 U	1210
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	290 U	290 U	290 U	290 U	290 U	140	290 U	290 U	290 U	140
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U	ND
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	ND
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	ND
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	310 U	310 U	310 U	310 U	310 U	160	310 U	310 U	310 U	160
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	ND
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	ND
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	ND
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	ND
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	ND
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	ND
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	ND
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	420 U	420 U	420 U	420 U	420 U	420 U	420 U	420 U	420 U	ND
South Works	G3	G3 0-1_20061221	21-Dec-06	0 - 1	540 U	540 U	540 U	540 U	540 U	280	540 U	540 U	540 U	280
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	430 U	430 U	430 U	430 U	430 U	430 U	430 U	430 U	430 U	ND
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	ND
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	ND
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	260 U	260 U	260 U	260 U	260 U	210	260 U	260 U	260 U	210
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	280 U	280 U	280 U	280 U	280 U	260	280 U	280 U	280 U	260
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	320 U	320 U	320 U	320 U	320 U	320 U	320 U	320 U	320 U	ND
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	ND
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	ND
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	ND
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	ND
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	ND
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	ND
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	ND
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	ND
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	ND
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	340 U	340 U	340 U	340 U	340 U	560 U	340 U	340 U	340 U	ND
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	ND
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	ND
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	410 U	410 U	410 U	410 U	410 U	2100 U	410 U	410 U	410 U	ND
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	ND
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	ND
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	ND
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	3800 U	3800 U	3800 U	3800 U	3800 U	1300 U	1300 U	1300 U	1300 U	*ND*
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	6300 U	6300 U	6300 U	6300 U	6300 U	2900 U	2900 U	2900 U	2900 U	*ND*
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	ND
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	140 U	140 U	140 U	140 U	92	140	160 U	160 U	160 U	232
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	140 U	140 U	140 U	140 U	140 U	120 U	120 U	120 U	120 U	ND
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	130 U	130 U	130 U	130 U	130 U	120 U	120 U	120 U	120 U	ND
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	160 U	160 U	160 U	160 U	160 U	200 U	160 U	160 U	160 U	ND
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	ND
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	ND
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	ND
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	120 U	120 U	120 U	120 U	120 U	190 U	120 U	120 U	120 U	ND
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	660 U	660 U	660 U	660 U	650	510	270 U	270 U	150 U	1160
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	160 U	160 U	160 U	160 U	150	220	160 U	160 U	160 U	370
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	38000 U	38000 U	38000 U	38000 U	38000 U	45000 U	38000 U	38000 U	15000 U	*ND*
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	78 U	78 U	78 U	78 U	78 U	78 U	78 U	78 U	78 U	ND
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
South Works	SD-023	UTC-SD-023-0.0/0.5	16-Jun-11	0 - 0.5	67 U	67 U	67 U	67 U	67 U	67 U	67 U	67 U	67 U	ND
South Works	SD-023	UTC-SD-023-0.5/2.5	16-Jun-11	0.5 - 2.5	52 U	52 U	52 U	52 U	52 U	52 U	52 U	52 U	52 U	ND
South Works	SD-023	UTC-SD-023-2.5/4.0	16-Jun-11	2.5 - 4	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
South Works	SD-023	UTC-SD-023-2.5/4.0-R	16-Jun-11	2.5 - 4	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
South Works	SD-025	UTC-SD-025-0.0/0.5	16-Jun-11	0 - 0.5	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	ND
South Works	SD-025	UTC-SD-025-0.5/1.7	16-Jun-11	0.5 - 1.7	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	ND
South Works	SD-026	UTC-SD-026-0.0/0.6	16-Jun-11	0 - 0.6	72 U	72 U	72 U	72 U	72 U	72 U	72 U	72 U	72 U	ND

TABLE A-6
PCB Aroclor Data and Summary Statistics (ug/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
South Works	SD-026	UTC-SD-026-0.6/1.3	16-Jun-11	0.6 - 1.3	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	ND
South Works	SD-027	UTC-SD-027-0.0/0.5	17-Jun-11	0 - 0.5	36 U	36 U	36 U	36 U	36 U	36 U	36 U	36 U	36 U	ND
South Works	SD-027	UTC-SD-027-0.5/2.5	17-Jun-11	0.5 - 2.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
South Works	SD-027	UTC-SD-027-0.5/2.5-R	17-Jun-11	0.5 - 2.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
South Works	SD-027	UTC-SD-027-2.5/3.5	17-Jun-11	2.5 - 3.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	42 U	42 U	42 U	42 U	42 U	42 U	42 U	42 U	42 U	ND
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	ND
			Surface	Min										21.0
				Max										1210
				Average										274
				Median										170.0
				Standard Deviation										327
			Subsurface	Min										25.0
				Max										1050
				Average										170
				Median										120.0
				Standard Deviation										186

TABLE A-6
PCB Aroclor Data and Summary Statistics (ug/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	750000 U	750000 U	750000 U	750000 U	750000 U	5000000 U	250000	260000 U	75000 U	250000
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	180000 U	180000 U	180000 U	180000 U	180000 U	680000 U	410000	430000 U	180000 U	410000
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	190000 U	190000 U	190000 U	190000 U	190000 U	600000 U	460000	470000 U	190000 U	460000
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	43000 U	43000 U	43000 U	43000 U	43000 U	240000 U	130000	130000 U	43000 U	130000
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	21000 U	21000 U	21000 U	21000 U	21000 U	78000 U	47000	47000 U	21000 U	47000
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	10000 U	10000 U	10000 U	10000 U	10000 U	61000 U	33000	34000 U	10000 U	33000
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	2000 U	2000 U	2000 U	2000 U	2000 U	9000 U	3100	3200 U	2000 U	3100
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	1200 U	1200 U	1200 U	1200 U	1200 U	6700 U	1500	1500 U	910 U	1500
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	38 U	38 U	38 U	38 U	38 U	140	38 U	38 U	38 U	140
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	48 U	48 U	48 U	48 U	48 U	48 U	48 U	48 U	48 U	ND
Wye Street	SD-031	UTC-SD-031-0.0/0.5	26-Apr-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	ND
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	ND
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	ND
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	ND
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	ND
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	62 U	ND
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	ND
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	ND
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	45000 U	45000 U	45000 U	45000 U	45000 U	45000 U	45000 U	45000 U	45000 U	*ND*
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	460000 U	460000 U	460000 U	460000 U	460000 U	460000 U	460000 U	460000 U	460000 U	*ND*
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	54000 U	54000 U	54000 U	54000 U	54000 U	54000 U	54000 U	54000 U	54000 U	*ND*
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	510000 U	510000 U	510000 U	510000 U	510000 U	510000 U	510000 U	510000 U	510000 U	*ND*
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	*ND*
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	*ND*
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	49000 U	49000 U	49000 U	49000 U	49000 U	49000 U	49000 U	49000 U	49000 U	*ND*
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	55000 U	55000 U	55000 U	55000 U	55000 U	55000 U	55000 U	55000 U	55000 U	*ND*
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	58000 U	58000 U	58000 U	58000 U	58000 U	58000 U	58000 U	58000 U	58000 U	*ND*
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	*ND*
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	590 U	590 U	590 U	590 U	590 U	590 U	590 U	590 U	590 U	ND
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	*ND*
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	*ND*
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	ND
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	52000 U	52000 U	52000 U	52000 U	52000 U	52000 U	52000 U	52000 U	52000 U	*ND*
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	*ND*
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	570 U	570 U	570 U	570 U	570 U	570 U	570 U	570 U	570 U	ND
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	*ND*
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-073	UTC-SD-073-0.0/0.5	14-Jun-11	0 - 0.5	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	ND
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-075	UTC-SD-075-0.0/0.5	14-Jun-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-078	UTC-SD-078-0.0/0.5	14-Jun-11	0 - 0.5	43 U	43 U	43 U	43 U	43 U	43 U	43 U	43 U	43 U	ND
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
Wye Street	SD-079	UTC-SD-079-0.0/0.5	14-Jun-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND

TABLE A-6
PCB Aroclor Data and Summary Statistics (ug/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	ND
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	40 R	40 R	40 R	40 R	40 R	40 R	40 R	40 R	40 R	NC-R
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	43 UJ	43 UJ	43 UJ	43 UJ	43 UJ	43 UJ	43 UJ	43 UJ	43 UJ	ND
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	ND
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	48000 U	48000 U	48000 U	48000 U	48000 U	48000 U	48000 U	48000 U	48000 U	*ND*
			Surface	Min										18.0
				Max										250000
				Average										8667
				Median										20.5
				Standard Deviation										46415
			Subsurface	Min										18.5
				Max										460000
				Average										19338
				Median										20.5
				Standard Deviation										82608

TABLE A-6
PCB Aroclor Data and Summary Statistics (ug/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	*ND*
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	*ND*
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	*ND*
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	*ND*
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	ND
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	*ND*
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	1900 U	1900 U	1900 U	1900 U	1900 U	1900 U	1900 U	1900 U	1900 U	*ND*
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	62 R	62 R	62 R	62 R	62 R	62 R	62 R	62 R	62 R	NC-R
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	61 R	61 R	61 R	61 R	61 R	61 R	61 R	61 R	61 R	NC-R
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	57 R	57 R	57 R	57 R	57 R	57 R	57 R	57 R	57 R	NC-R
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	ND
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	230 R	230 R	230 R	230 R	230 R	230 R	230 R	230 R	230 R	NC-R
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	39 R	39 R	39 R	39 R	39 R	39 R	39 R	39 R	39 R	NC-R
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	56 R	56 R	56 R	56 R	56 R	56 R	56 R	56 R	56 R	NC-R
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	ND
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	52 R	52 R	52 R	52 R	52 R	52 R	52 R	52 R	52 R	NC-R
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	57 R	57 R	57 R	57 R	57 R	57 R	57 R	57 R	57 R	NC-R
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	47 R	47 R	47 R	47 R	47 R	47 R	47 R	47 R	47 R	NC-R
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	42 R	42 R	42 R	42 R	42 R	42 R	42 R	42 R	42 R	NC-R
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	56 U	56 U	56 U	56 U	56 U	56 U	56 U	56 U	56 U	ND
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	54 R	54 R	54 R	54 R	54 R	54 R	54 R	54 R	54 R	NC-R
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	ND
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	ND
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	61 U	61 U	61 U	61 U	61 U	61 U	61 U	61 U	61 U	ND
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	61 R	61 R	61 R	61 R	61 R	61 R	61 R	61 R	61 R	NC-R
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	*ND*
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	49 R	49 R	49 R	49 R	49 R	49 R	49 R	49 R	49 R	NC-R
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	57 R	57 R	57 R	57 R	57 R	57 R	57 R	57 R	57 R	NC-R
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	880 U	880 U	880 U	880 U	880 U	880 U	880 U	880 U	880 U	ND
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-086	UTC-SD-086-0.0/0.5	15-Jun-11	0 - 0.5	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-088	UTC-SD-088-0.0/0.5	15-Jun-11	0 - 0.5	40 R	40 R	40 R	40 R	40 R	40 R	40 R	40 R	40 R	NC-R
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-089	UTC-SD-089-0.0/0.5	15-Jun-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	71 U	71 U	71 U	71 U	71 U	71 U	71 U	71 U	71 U	ND
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	*ND*
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	*ND*
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U	ND
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	410 U	410 U	410 U	410 U	410 U	410 U	410 U	410 U	410 U	ND
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	*ND*
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	*ND*
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	*ND*
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	460 U	460 U	460 U	460 U	460 U	460 U	460 U	460 U	460 U	ND
			Surface	Min										19.5
				Max										230
				Average										82.7
				Median										25.5
				Standard Deviation										95.1
			Subsurface	Min										19.5
				Max										440
				Average										57.8
				Median										22.5
				Standard Deviation										107

TABLE A-6

PCB Aroclor Data and Summary Statistics (ug/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	57 UJ	57 UJ	57 UJ	57 UJ	57 UJ	57 UJ	57 UJ	57 UJ	57 UJ	ND
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	53 U	53 U	53 U	53 U	53 U	53 U	53 U	53 U	53 U	ND
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	52 U	52 U	52 U	52 U	52 U	52 U	52 U	52 U	52 U	ND
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	64 R	64 R	64 R	64 R	64 R	64 R	64 R	64 R	64 R	NC-R
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	ND
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	61 U	61 U	61 U	61 U	61 U	61 U	61 U	61 U	61 U	ND
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	67 U	67 U	67 U	67 U	67 U	67 U	67 U	67 U	67 U	ND
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	ND
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	ND
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	54 UJ	54 UJ	54 UJ	54 UJ	54 UJ	54 UJ	54 UJ	54 UJ	54 UJ	ND
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	54 U	54 U	54 U	54 U	54 U	54 U	54 U	54 U	54 U	ND
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	ND
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	ND
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	ND
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	ND
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	64 U	64 U	64 U	64 U	64 U	64 U	64 U	64 U	64 U	ND
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	43 U	43 U	43 U	43 U	43 U	43 U	43 U	43 U	43 U	ND
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	320 U	320 U	320 U	320 U	10000 J	3200 U	320 U	320 U	320 U	10000
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	4700	720 U	720 U	720 U	13000 J	6100	720 U	720 U	720 U	23800
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	6400	700 U	700 U	700 U	28000 J	18000	700 U	700 U	700 U	52400
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	4600	640 U	640 U	640 U	17000 J	10000	640 U	640 U	640 U	31600
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	4800	670 U	670 U	670 U	18000 J	11000	670 U	670 U	670 U	33800
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	3100 J	600 U	600 U	600 U	12000 J	5000	600 U	600 U	600 U	20100
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	2200 J	620 U	620 U	620 U	7100 J	3300	620 U	620 U	620 U	12600
Firestone	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	ND
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	52 U	52 U	52 U	52 U	52 U	52 U	52 U	52 U	52 U	ND
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	ND
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	59 U	59 U	59 U	59 U	59 U	59 U	59 U	59 U	59 U	ND
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	620 U	620 U	620 U	620 U	620 U	620 U	620 U	620 U	620 U	ND
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	59 U	59 U	59 U	59 U	59 U	59 U	59 U	59 U	59 U	ND
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	41 UJ	41 UJ	41 UJ	41 UJ	41 UJ	41 UJ	41 UJ	41 UJ	41 UJ	ND
			Surface	Min										19.5
				Max										23800
				Average										2066
				Median										29.5
				Standard Deviation										6094
			Subsurface	Min										18.5
				Max										52400
				Average										6624
				Median										27.5
				Standard Deviation										14675

TABLE A-6
PCB Aroclor Data and Summary Statistics (ug/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB, TOTAL
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	660 U	660 U	660 U	660 U	660 U	660 U	660 U	660 U	660 U	ND
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	ND
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	41 U	ND
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	42 U	42 U	42 U	42 U	42 U	42 U	42 U	42 U	42 U	ND
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	35 U	35 U	35 U	35 U	35 U	35 U	35 U	35 U	35 U	ND
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	71 U	71 U	71 U	71 U	14000	11000	71 U	71 U	71 U	25000
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	71 U	71 U	71 U	71 U	12000	8400	71 U	71 U	71 U	20400
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	68 U	68 U	68 U	68 U	17000	11000	68 U	68 U	68 U	28000
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	57 U	57 U	57 U	57 U	9300	8200	57 U	57 U	57 U	17500
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	37 U	37 U	37 U	37 U	35 J	39 NJ	37 U	37 U	37 U	74
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	68 UJ	68 UJ	68 UJ	68 UJ	230 NJ	540 R	68 UJ	68 UJ	68 UJ	230
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	73 UJ	73 UJ	73 UJ	73 UJ	500 NJ	3200 NJ	73 UJ	73 UJ	73 UJ	3700
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	64 UJ	64 UJ	64 UJ	64 UJ	510 J	3800 NJ	650 J	64 UJ	64 UJ	4960
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	62 UJ	62 UJ	62 UJ	62 UJ	640 J	590 R	62 UJ	62 UJ	62 UJ	640
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	66 UJ	66 UJ	66 UJ	66 UJ	990 J	750 NJ	530 J	66 UJ	66 UJ	2270
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	66 UJ	66 UJ	66 UJ	66 UJ	950 J	730 NJ	480 J	66 UJ	66 UJ	2160
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	55 U	55 U	55 U	55 U	1500 J	1500 J	55 U	55 U	55 U	3000
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	38 U	ND
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	36 U	36 U	36 U	36 U	36 U	36 U	36 U	36 U	36 U	ND
			Surface	Min										18.5
				Max										25000
				Average										4088
				Median										230
				Standard Deviation										9284
			Subsurface	Min										18.0
				Max										28000
				Average										5547
				Median										357
				Standard Deviation										9280

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

NC-R - total PCB sum not calculated because Aroclor data rejected.

Summary statistics calculated only for total PCBs. In cases of non-detected results, 1/2 the maximum RL for a sample was used. Non-detected values with elevated RL (greater than 1000 ug/kg) were not included in summary statistics to avoid unnecessary high bias. Values excluded from summary statistics for this reason are italicized.

Field duplicates identified with a "-R" or "X" in the Sample ID

Summary statistics calculated using the the best result of field duplicates (either highest result of two detected values or the detected result if on result was a detect and the other a non-detect)

Rejected results not included in summary statistics

-- parameter not analyzed

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-005-2.5/4.4	UTC-SD-013-0.5/2.5	UTC-SD-013-2.5/4.5	UTC-SD-015-2.5/4.5	UTC-SD-016-12.5/14.5	UTC-SD-016-16.5/18.6	UTC-SD-016-8.5/10.5	UTC-SD-017-12.5/14.5
	Sample ID	11CU02-77	11CU01-31	11CU01-32	11CU01-72	11CU01-67	11CU01-69	11CU01-64	11CU01-58
	Interval	2.5 - 4.4	0.5 - 2.5	2.5 - 4.5	2.5 - 4.5	12.5 - 14.5	16.5 - 18.6	8.5 - 10.5	12.5 - 14.5
	Sample Date	5/4/2011	4/26/2011	4/26/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/30/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	0.95	1.7 J	3.2	16	0.48 U	0.0085 J	0.84	0.098 U
PCB 2 (BZ)	ng/g	0.29 J	0.42 BJ	0.65 BJ	2.3 B	0.065 QBJ	0.022 BJ	0.28 BJ	0.069 BJ
PCB 3 (BZ)	ng/g	0.76	1.4 QBJ	2.6 QB	10 B	0.48 U	0.017 BJ	0.65 B	0.06 BJ
PCB 4 (BZ)	ng/g	7.8	19	26	180	0.1 QJ	0.0082 QJ	5.9	0.2 U
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	0.33 J	0.57 QJ	0.88 QJ	12	0.48 U	0.097 U	0.36 J	0.021 QJ
PCB 6 (BZ)	ng/g	5.6 B	14	19	140	0.14 QJ	0.011 QJ	4.6	0.098 U
PCB 7 (BZ)	ng/g	0.88	1.9 Q	3.1	31	0.48 U	0.097 U	0.89	0.098 U
PCB 8 (BZ)	ng/g	35 B	84 B	130 B	680 B	0.38 QBJ	0.037 QBJ	26 B	0.2 U
PCB 9 (BZ)	ng/g	1.5	3.6 Q	5.6	48	0.48 U	0.097 U	1.6	0.098 U
PCB 10 (BZ)	ng/g	0.24 QJ	0.77 QJ	0.87 QJ	9.6	0.48 U	0.097 U	0.29 QJ	0.098 U
PCB 11 (BZ)	ng/g	0.26 QBJ	0.44 QBJ	0.58 BJ	2.8 BJ	0.96 U	0.0062 QBJ	0.2 BJ	0.018 QBJ
PCB 12 (BZ)	ng/g	1.3 C	3.3 QC	4.7 C	34 C	0.09 QCJ	0.016 QCJ	1.3 C	0.041 QCJ
PCB 13 (BZ)	ng/g	1.3 C12	3.3 QC12	4.7 C12	34 C12	0.09 QC12J	0.016 QC12J	1.3 C12	0.041 QC12J
PCB 14 (BZ)	ng/g	0.031 QJ	1.8 U	2 U	0.13 QJ	0.48 U	0.097 U	0.021 QJ	0.098 U
PCB 16 (BZ)	ng/g	47	110	210	510	0.35 QJ	0.044 J	27	0.098 U
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	10	28 B	42 B	210 B	0.14 QBJ	0.0087 QBJ	8.2 B	0.098 U
PCB 17 (BZ)	ng/g	54	120	250	580	0.55	0.051 J	33	0.098 U
PCB 18 (BZ)	ng/g	130 C	310 C	650 C	1200 C	1.3 C	0.13 CJ	78 C	0.2 U
PCB 19 (BZ)	ng/g	8.4	20	35	99 S	0.48 U	0.097 U	5.1 S	0.098 U
PCB 20 (BZ)	ng/g	170 BC	450 BC	910 BC	1500 BC	2 BC	0.17 BCJ	100 BC	0.053 QBCJ
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	23 C26	58 C26	110 C26	250 C26	0.22 QC26J	0.019 QC26J	15 C26	0.017 QC26J
PCB 21 (BZ)	ng/g	100 BC	260 BC	510 BC	930 BC	1.2 BC	0.092 BCJ	61 BC	0.047 BCJ
PCB 22 (BZ)	ng/g	59 B	150	300	520	0.66	0.052 J	34	0.027 QJ
PCB 23 (BZ)	ng/g	0.097 QJ	0.24 QJ	0.39 QJ	2.1 J	0.48 U	0.097 U	0.095 J	0.098 U
PCB 24 (BZ)	ng/g	1.1	2.2 Q	4	20	0.48 U	0.097 U	0.84	0.098 U
PCB 25 (BZ)	ng/g	8.9	22	41	110	0.085 QJ	0.007 QJ	5.7	0.098 U
PCB 26 (BZ)	ng/g	23 C	58 C	110 C	250 C	0.22 QCJ	0.019 QCJ	15 C	0.017 QCJ
PCB 27 (BZ)	ng/g	6.1	14	26	72	0.48 U	0.097 U	3.8	0.098 U
PCB 28 (BZ)	ng/g	170 BC20	450 BC20	910 BC20	1500 BC20	2 BC20	0.17 BC20J	100 BC20	0.053 QBC20J
PCB 30 (BZ)	ng/g	130 C18	310 C18	650 C18	1200 C18	1.3 C18	0.13 C18J	78 C18	0.2 U
PCB 31 (BZ)	ng/g	180 B	470 B	970 B	1400 B	2 B	0.17 BJ	110 B	0.058 QBJ
PCB 32 (BZ)	ng/g	39	83	180	330	0.3 J	0.021 SJ	20	0.098 U
PCB 33 (BZ)	ng/g	100 BC21	260 BC21	510 BC21	930 BC21	1.2 BC21	0.092 BC21J	61 BC21	0.047 BC21J
PCB 34 (BZ)	ng/g	0.85	1.8	4	7.4	0.48 U	0.097 U	0.47	0.098 U
PCB 35 (BZ)	ng/g	1.2	3.2	4.6	16 Q	0.48 U	0.0087 QJ	0.39 U	0.039 J
PCB 36 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.017 QJ
PCB 37 (BZ)	ng/g	36	91	180	360	0.39 J	0.028 QJ	22	0.036 QJ
PCB 38 (BZ)	ng/g	0.15 QJ	0.39 QJ	0.85 J	1.1 J	0.48 U	0.0059 J	0.077 J	0.098 U
PCB 39 (BZ)	ng/g	1.1	2.4 Q	6	6.9	0.48 U	0.097 U	0.39 U	0.098 U
PCB 40 (BZ)	ng/g	130 C	340 C	820 C	730 C	1.3 C	0.11 C	70 C	0.098 U
PCB 41 (BZ)	ng/g	130 C40	340 C40	820 C40	730 C40	1.3 C40	0.11 C40	70 C40	0.098 U
PCB 42 (BZ)	ng/g	57	150	360	320	0.54	0.045 J	29	0.098 U
PCB 43 (BZ)	ng/g	8 C	21 C	50 C	49 C	0.082 QCJ	0.097 U	4.3 C	0.098 U
PCB 44 (BZ)	ng/g	220 BC	590 BC	1400 BC	1200 BC	2.8 BC	0.21 BC	120 BC	0.075 QBCJ
PCB 45 (BZ)	ng/g	45 C	120 C	280 C	280 C	0.39 QCJ	0.028 QCJ	24 C	0.098 U
PCB 46 (BZ)	ng/g	15	40	90	86	0.48 U	0.014 J	7.8	0.098 U
PCB 47 (BZ)	ng/g	220 BC44	590 BC44	1400 BC44	1200 BC44	2.8 BC44	0.21 BC44	120 BC44	0.075 QBC44J
PCB 48 (BZ)	ng/g	53	150	360	330	0.57	0.058 J	30	0.098 U
PCB 49 (BZ)	ng/g	130 C	350 C	820 C	720 C	1.6 C	0.1 C	72 C	0.042 QCJ
PCB 50 (BZ)	ng/g	33 C	87 C	200 C	180 C	0.31 CJ	0.025 QCJ	18 C	0.098 U
PCB 51 (BZ)	ng/g	45 C45	120 C45	280 C45	280 C45	0.39 QC45J	0.028 QC45J	24 C45	0.098 U
PCB 52 (BZ)	ng/g	260 B	670 B	1500 B	1300 B	4 B	0.27 B	150 B	0.11 B
PCB 53 (BZ)	ng/g	33 C50	87 C50	200 C50	180 C50	0.31 C50J	0.025 QC50J	18 C50	0.098 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-017-2.5/4.5	UTC-SD-018-10.5/12.3	UTC-SD-018-6.5/8.5	UTC-SD-021-0.0/0.5	UTC-SD-021-0.5/2.8	UTC-SD-029-0.0/0.5	UTC-SD-032-0.5/2.5	UTC-SD-032-2.5/4.5
Sample ID		11CU01-52	11CU01-49	11CU01-47	11CU06-42	11CU06-43	11CU01-02	11CU01-06	11CU01-07
Interval		2.5 - 4.5	10.5 - 12.3	6.5 - 8.5	0 - 0.5	0.5 - 2.8	0 - 0.5	0.5 - 2.5	2.5 - 4.5
Sample Date		4/30/2011	4/30/2011	4/30/2011	6/16/2011	6/16/2011	4/26/2011	4/26/2011	4/26/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	2.5	0.49 U	0.095 QJ	0.12 QJ	0.0069 QJ	0.037 QJ	0.67	0.066 QJ
PCB 2 (BZ)	ng/g	0.52 QBJ	0.054 BJ	1.5 U	0.18 J	0.0067 QJ	0.051 U	0.18 J	0.1 QJ
PCB 3 (BZ)	ng/g	2.3 B	0.059 QBJ	1.5 U	0.24 BJ	0.0081 QBJ	0.017 QJ	0.63	0.16 J
PCB 4 (BZ)	ng/g	29	0.1 QJ	0.36 QJ	0.24 QBJ	0.016 QSBJ	0.17 Q	0.49 QJ	0.48 U
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	1.2 J	0.49 U	1.5 U	0.048 QJ	0.0012 QJ	0.0065 QJ	0.035 QJ	0.015 QJ
PCB 6 (BZ)	ng/g	30	0.14 QJ	0.41 QJ	0.11 QBJ	0.0036 QBJ	0.1 Q	0.24 QJ	0.027 QJ
PCB 7 (BZ)	ng/g	3.4	0.49 U	1.5 U	0.072 QBJ	0.0023 QBJ	0.012 QJ	0.12 QJ	0.016 QJ
PCB 8 (BZ)	ng/g	140 B	0.75 QBJ	2.4 QBJ	0.39 QBJ	0.032 QB	0.41 B	1.4 B	0.11 QSBJ
PCB 9 (BZ)	ng/g	6.2	0.052 QJ	0.18 QJ	0.07 QBJ	0.0016 QBJ	0.02 QJ	0.1 QJ	0.24 U
PCB 10 (BZ)	ng/g	0.83 QJ	0.49 U	1.5 U	0.049 QBJ	0.00081 QSBJ	0.007 QJ	0.38 U	0.24 U
PCB 11 (BZ)	ng/g	0.77 QBJ	0.064 QBJ	0.13 QBJ	0.15 QBJ	0.005 QBJ	0.019 QBJ	0.091 QBJ	0.043 QBJ
PCB 12 (BZ)	ng/g	10 C	0.083 QCJ	0.26 QCJ	0.23 QBCJ	0.0094 QBCJ	0.051 QC	0.21 QCJ	0.11 QCJ
PCB 13 (BZ)	ng/g	10 C12	0.083 QC12J	0.26 QC12J	0.23 QBC12J	0.0094 QBC12J	0.051 QC12	0.21 QC12J	0.11 QC12J
PCB 14 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.061 QJ	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 16 (BZ)	ng/g	170	1.1	3.7	0.16 QJ	0.016 Q	0.54	0.26 J	0.24 U
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	43 B	0.35 QBJ	0.99 QBJ	0.23 QBJ	0.0098 QBJ	0.21	0.83	0.081 QJ
PCB 17 (BZ)	ng/g	190	1.4	4.7	0.21 J	0.013	0.59	0.41	0.24 U
PCB 18 (BZ)	ng/g	470 C	3.6 C	14 C	0.52 CJ	0.04 QC	1.6 C	0.76 CJ	0.065 CJ
PCB 19 (BZ)	ng/g	30	0.19 J	0.56 QJ	0.56 U	0.0099 U	0.14	0.081 QSJ	0.24 U
PCB 20 (BZ)	ng/g	630 BC	5.8 BC	22 BC	0.84 BCJ	0.042 BC	2.2 BC	1.4 BC	0.093 BCJ
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	88 C26	0.64 C26	2.1 C26	0.18 C26J	0.0042 QC26J	0.27 C26	0.19 QC26J	0.021 QC26J
PCB 21 (BZ)	ng/g	360 BC	3 BC	11 BC	0.45 CJ	0.02 C	0.96 C	0.62 C	0.045 CJ
PCB 22 (BZ)	ng/g	210	1.7	6.6	0.22 J	0.012	0.64	0.28 J	0.24 U
PCB 23 (BZ)	ng/g	0.48 QJ	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 24 (BZ)	ng/g	4	0.49 U	1.5 U	0.56 U	0.0099 U	0.011 QJ	0.38 U	0.24 U
PCB 25 (BZ)	ng/g	53	0.29 J	0.97 J	0.051 QJ	0.0025 QJ	0.19	0.11 J	0.24 U
PCB 26 (BZ)	ng/g	88 C	0.64 C	2.1 C	0.18 CJ	0.0042 QCJ	0.27 C	0.19 QCJ	0.021 QCJ
PCB 27 (BZ)	ng/g	22	0.16 J	0.4 QJ	0.56 U	0.0099 U	0.088	0.036 QJ	0.24 U
PCB 28 (BZ)	ng/g	630 BC20	5.8 BC20	22 BC20	0.84 BC20J	0.042 BC20	2.2 BC20	1.4 BC20	0.093 BC20J
PCB 30 (BZ)	ng/g	470 C18	3.6 C18	14 C18	0.52 C18J	0.04 QC18	1.6 C18	0.76 C18J	0.065 C18J
PCB 31 (BZ)	ng/g	630 B	6.2 B	24 B	0.98 J	0.039	2.1	1.2	0.087 QJ
PCB 32 (BZ)	ng/g	130	0.9	3.7	0.12 QSJ	0.0072 QSJ	0.45	0.2 SJ	0.24 U
PCB 33 (BZ)	ng/g	360 BC21	3 BC21	11 BC21	0.45 C21J	0.02 C21	0.96 C21	0.62 C21	0.045 C21J
PCB 34 (BZ)	ng/g	3	0.035 J	1.5 U	0.56 U	0.0099 U	0.01 QJ	0.38 U	0.24 U
PCB 35 (BZ)	ng/g	5.1	0.091 J	0.17 QJ	0.091 J	0.0047 J	0.031 J	0.053 J	0.029 QJ
PCB 36 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.00099 QJ	0.051 U	0.38 U	0.24 U
PCB 37 (BZ)	ng/g	130	1.1	4.3	0.27 J	0.0097 J	0.42	0.33 J	0.039 QJ
PCB 38 (BZ)	ng/g	0.45 J	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 39 (BZ)	ng/g	3.7	0.073 QJ	1.5 U	0.56 U	0.0016 QJ	0.051 U	0.38 U	0.24 U
PCB 40 (BZ)	ng/g	450 C	4.9 C	20 C	1.3 C	0.027 C	1.5 C	0.65 C	0.045 QCJ
PCB 41 (BZ)	ng/g	450 C40	4.9 C40	20 C40	1.3 C40	0.027 C40	1.5 C40	0.65 C40	0.045 QC40J
PCB 42 (BZ)	ng/g	190	2.1	8.6	0.47 J	0.0098 J	0.67	0.45	0.034 QJ
PCB 43 (BZ)	ng/g	27 C	0.26 QCJ	0.84 QCJ	0.08 CJ	0.0099 U	0.091 C	0.38 U	0.24 U
PCB 44 (BZ)	ng/g	760 BC	9.1 BC	36 BC	5.2 C	0.083 C	2.6 C	2.7 C	0.24 C
PCB 45 (BZ)	ng/g	160 C	1.5 C	6.4 C	0.23 QCJ	0.0064 QCJ	0.54 C	0.28 QCJ	0.24 U
PCB 46 (BZ)	ng/g	50	0.53	2	0.56 U	0.0023 J	0.2	0.38 U	0.24 U
PCB 47 (BZ)	ng/g	760 BC44	9.1 BC44	36 BC44	5.2 C44	0.083 C44	2.6 C44	2.7 C44	0.24 C44
PCB 48 (BZ)	ng/g	190	2.1	8.3	0.49 J	0.0093 J	0.5	0.2 QJ	0.24 U
PCB 49 (BZ)	ng/g	450 C	5.4 C	22 C	2.8 C	0.047 C	1.5 C	3 C	0.32 C
PCB 50 (BZ)	ng/g	110 C	1.3 C	5.1 C	0.31 QCJ	0.0061 QCJ	0.42 C	0.25 QCJ	0.24 U
PCB 51 (BZ)	ng/g	160 C45	1.5 C45	6.4 C45	0.23 QC45J	0.0064 QC45J	0.54 C45	0.28 QC45J	0.24 U
PCB 52 (BZ)	ng/g	860 B	12 B	42 B	13	0.18	3	5.3	0.51
PCB 53 (BZ)	ng/g	110 C50	1.3 C50	5.1 C50	0.31 QC50J	0.0061 QC50J	0.42 C50	0.25 QC50J	0.24 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-032-2.5/4.5-R	UTC-SD-032-4.5/6.5	UTC-SD-034-0.5/2.5	UTC-SD-034-0.5/2.5-R	UTC-SD-035-0.0/0.9	UTC-SD-036-0.0/0.5	UTC-SD-036-0.5/2.5	UTC-SD-036-2.5/3.4
	Sample ID	11CU01-08	11CU01-09	11CU01-12	11CU01-13	E5AB8	E5AB9	E5AC0	E5AC1
	Interval	2.5 - 4.5	4.5 - 6.5	0.5 - 2.5	0.5 - 2.5	0 - 0.9	0 - 0.5	0.5 - 2.5	2.5 - 3.4
	Sample Date	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	0.057 QJ	0.24 J	26	27	130 QJ	340 QJ	1100	800
PCB 2 (BZ)	ng/g	0.12 J	0.12 QJ	0.16 J	0.17 J	390 U	370 U	400 U	390 U
PCB 3 (BZ)	ng/g	0.12 QJ	0.43	14	16	67 BJ	210 QBJ	650 B	460 B
PCB 4 (BZ)	ng/g	0.068 QJ	0.066 QSJ	14	15	140 QBJ	270 QBJ	920 B	750 BJ
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	0.24 U	0.015 QJ	0.43 U	0.12 QJ	390 U	36 QJ	42 QJ	390 U
PCB 6 (BZ)	ng/g	0.021 QJ	0.05 QJ	0.9 Q	1 Q	49 QBJ	86 QBJ	230 QBJ	190 QBJ
PCB 7 (BZ)	ng/g	0.24 U	0.04 QJ	0.5 Q	0.58 Q	390 U	27 QBJ	87 QBJ	97 QBJ
PCB 8 (BZ)	ng/g	0.11 QBJ	0.2 QBJ	48 B	51 B	310 QBJ	630 QBJ	2400 B	2000 B
PCB 9 (BZ)	ng/g	0.24 U	0.034 QJ	0.56 Q	0.61 Q	390 U	77 QBJ	110 QBJ	100 QBJ
PCB 10 (BZ)	ng/g	0.24 U	0.39 U	0.25 QJ	0.26 QJ	390 U	40 QBJ	72 QBJ	37 QBJ
PCB 11 (BZ)	ng/g	0.026 QBJ	0.038 QBJ	0.053 QBJ	0.075 QBJ	790 U	34 QBJ	810 U	26 QBJ
PCB 12 (BZ)	ng/g	0.092 QCJ	0.14 QCJ	0.19 QCJ	0.23 QCJ	390 U	59 QBCJ	97 QBCJ	72 QBCJ
PCB 13 (BZ)	ng/g	0.092 QC12J	0.14 QC12J	0.19 QC12J	0.23 QC12J	390 U	59 QBC12J	97 QBC12J	72 QBC12J
PCB 14 (BZ)	ng/g	0.24 U	0.025 QJ	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 16 (BZ)	ng/g	0.24 U	0.39 U	1.6	1.5	390 U	370 U	160 QJ	170 QJ
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	0.062 QJ	0.15 QJ	24	27	170 QBJ	330 QBJ	1300 B	1200 B
PCB 17 (BZ)	ng/g	0.24 U	0.39 U	1.6	1.6	390 U	110 J	290 J	220 QJ
PCB 18 (BZ)	ng/g	0.058 CJ	0.092 QCJ	5.8 C	5.9 C	68 QCJ	210 CJ	720 CJ	630 QCJ
PCB 19 (BZ)	ng/g	0.24 U	0.39 U	0.24 J	0.26 J	390 U	370 U	400 U	390 U
PCB 20 (BZ)	ng/g	0.11 BCJ	0.11 BCJ	19 BC	20 BC	190 BCJ	380 BCJ	1500 BC	1700 BC
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	0.023 QC26J	0.39 U	0.11 C26J	0.13 C26J	390 U	370 U	58 QC26J	43 QC26J
PCB 21 (BZ)	ng/g	0.032 QCJ	0.06 QCJ	2.9 C	3.1 C	99 QCJ	140 CJ	590 C	530 QC
PCB 22 (BZ)	ng/g	0.016 J	0.028 J	1.7	1.9	39 J	98 J	310 J	230 J
PCB 23 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 24 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 25 (BZ)	ng/g	0.24 U	0.39 U	0.054 J	0.051 QJ	390 U	370 U	400 U	390 U
PCB 26 (BZ)	ng/g	0.023 QCJ	0.39 U	0.11 CJ	0.13 CJ	390 U	370 U	58 QCJ	43 QCJ
PCB 27 (BZ)	ng/g	0.24 U	0.39 U	0.035 QJ	0.068 J	390 U	370 U	400 U	390 U
PCB 28 (BZ)	ng/g	0.11 BC20J	0.11 BC20J	19 BC20	20 BC20	190 BC20J	380 BC20J	1500 BC20	1700 BC20
PCB 30 (BZ)	ng/g	0.058 C18J	0.092 QC18J	5.8 C18	5.9 C18	68 QC18J	210 C18J	720 C18J	630 QC18J
PCB 31 (BZ)	ng/g	0.097 J	0.088 J	7.3	7.8	140 QJ	230 QJ	1100	1100
PCB 32 (BZ)	ng/g	0.24 U	0.39 U	1.8	1.8	25 QJ	63 J	190 QJ	150 QJ
PCB 33 (BZ)	ng/g	0.032 QC21J	0.06 QC21J	2.9 C21	3.1 C21	99 QC21J	140 C21J	590 C21	530 QC21
PCB 34 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 35 (BZ)	ng/g	0.24 U	0.032 QJ	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 36 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 37 (BZ)	ng/g	0.04 J	0.058 QJ	0.76	0.87	390 U	59 J	210 J	190 J
PCB 38 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 39 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 40 (BZ)	ng/g	0.049 CJ	0.39 U	1.2 C	1.2 C	390 U	54 QCJ	480 C	550 C
PCB 41 (BZ)	ng/g	0.049 C40J	0.39 U	1.2 C40	1.2 C40	390 U	54 QC40J	480 C40	550 C40
PCB 42 (BZ)	ng/g	0.061 J	0.39 U	0.33 QJ	0.38 J	390 U	370 U	120 QJ	250 J
PCB 43 (BZ)	ng/g	0.24 U	0.39 U	0.073 QCJ	0.4 U	390 U	370 U	400 U	390 U
PCB 44 (BZ)	ng/g	0.2 QCJ	0.041 QCJ	4 C	3.9 C	100 QCJ	230 CJ	1300 C	2000 C
PCB 45 (BZ)	ng/g	0.24 U	0.39 U	0.22 QCJ	0.24 CJ	390 U	370 U	120 QCJ	180 QCJ
PCB 46 (BZ)	ng/g	0.24 U	0.39 U	0.056 QJ	0.4 U	390 U	370 U	400 U	390 U
PCB 47 (BZ)	ng/g	0.2 QC44J	0.041 QC44J	4 C44	3.9 C44	100 QC44J	230 C44J	1300 C44	2000 C44
PCB 48 (BZ)	ng/g	0.24 U	0.39 U	0.39 QJ	0.4	390 U	370 U	180 J	280 J
PCB 49 (BZ)	ng/g	0.3 C	0.064 QCJ	1.3 C	1.3 C	84 CJ	110 CJ	630 C	910 C
PCB 50 (BZ)	ng/g	0.24 U	0.39 U	0.18 CJ	0.19 CJ	390 U	370 U	85 QCJ	110 QCJ
PCB 51 (BZ)	ng/g	0.24 U	0.39 U	0.22 QC45J	0.24 C45J	390 U	370 U	120 QC45J	180 QC45J
PCB 52 (BZ)	ng/g	0.49	0.12 J	6.7	6.8	200 J	480	2500 Q	4100
PCB 53 (BZ)	ng/g	0.24 U	0.39 U	0.18 C50J	0.19 C50J	390 U	370 U	85 QC50J	110 QC50J

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-038-0.5/2.5	UTC-SD-038-0.5/2.5-R	UTC-SD-038-6.5/8.6	UTC-SD-038-6.5/8.6-R	UTC-SD-040-0.5/2.5	UTC-SD-043-0.5/2.5	UTC-SD-043-0.5/2.5-R	UTC-SD-043-2.5-3.3
	Sample ID	11CU01-18B	11CU01-19B	11CU01-22	11CU01-23	11CU01-15	11CU02-53	11CU02-54	E5AT1
	Interval	0.5 - 2.5	0.5 - 2.5	6.5 - 8.6	6.5 - 8.6	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	2.5 - 3.3
	Sample Date	4/27/2011	4/27/2011	4/27/2011	4/27/2011	4/26/2011	5/4/2011	5/4/2011	5/4/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	4500	3000 Q	250	250	450	32	67	4.3
PCB 2 (BZ)	ng/g	110 J	83 J	5.6 J	38 U	20 QJ	7.1 U	9.4 U	0.38 U
PCB 3 (BZ)	ng/g	2900	2400	140	160	490	15 Q	31	2.1
PCB 4 (BZ)	ng/g	1600	1200 Q	160 Q	180 Q	260 QS	21 Q	51	2.9
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	52 QJ	33 QJ	3.6 QJ	38 U	9 QJ	7.1 U	9.4 U	0.38 U
PCB 6 (BZ)	ng/g	390 Q	310 Q	34 Q	40 Q	83 Q	1.3 QJ	3.8 QBJ	0.28 QJ
PCB 7 (BZ)	ng/g	150 QJ	110 QJ	10 QJ	11 QJ	30 QJ	0.67 QJ	1.8 QJ	0.14 QJ
PCB 8 (BZ)	ng/g	4900 B	3700 B	510 B	530 B	1000 B	61 B	170 B	9.5
PCB 9 (BZ)	ng/g	180 QJ	150 QJ	16 QJ	15 QJ	39 QJ	0.72 QJ	2.3 QJ	0.13 QJ
PCB 10 (BZ)	ng/g	64 QJ	46 QJ	5.9 QJ	38 U	9.2 QSJ	7.1 U	0.9 J	0.18 QJ
PCB 11 (BZ)	ng/g	370 U	290 U	60 U	5.1 QBJ	150 U	14 U	19 U	0.76 U
PCB 12 (BZ)	ng/g	120 QCJ	85 QCJ	7.4 QCJ	10 QCJ	30 QCJ	7.1 U	1.5 QCJ	0.38 U
PCB 13 (BZ)	ng/g	120 QC12J	85 QC12J	7.4 QC12J	10 QC12J	30 QC12J	7.1 U	1.5 QC12J	0.38 U
PCB 14 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 16 (BZ)	ng/g	420	340 Q	130	150	90	2 QJ	4.8 QJ	0.38 U
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	2900	2100	230	230 Q	430	32	87	5.4 B
PCB 17 (BZ)	ng/g	460	340	170	180	96	1.7 J	5.8 J	0.41 Q
PCB 18 (BZ)	ng/g	1300 C	950 C	360 C	410 C	250 C	7.3 CJ	21 C	1.2 QC
PCB 19 (BZ)	ng/g	110 J	75 J	27 J	28 QJ	23 J	7.1 U	9.4 U	0.38 U
PCB 20 (BZ)	ng/g	2400 BC	1800 BC	820 BC	930 BC	480 BC	31 BC	73 BC	4 BC
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	92 C26J	59 QC26J	42 C26	50 C26	19 C26J	0.38 QC26J	0.6 QC26J	0.38 U
PCB 21 (BZ)	ng/g	830 C	640 C	340 C	370 C	170 C	4.5 CJ	12 BC	0.8 C
PCB 22 (BZ)	ng/g	450	340	180	200	81	1.8 QJ	5.6 BJ	0.33 J
PCB 23 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 24 (BZ)	ng/g	190 U	150 U	3.2 QJ	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 25 (BZ)	ng/g	49 J	28 QJ	15 J	19 J	13 J	7.1 U	0.43 J	0.38 U
PCB 26 (BZ)	ng/g	92 CJ	59 QCJ	42 C	50 C	19 CJ	0.38 QCJ	0.6 QCJ	0.38 U
PCB 27 (BZ)	ng/g	37 J	23 QJ	12 J	14 J	76 U	7.1 U	9.4 U	0.38 U
PCB 28 (BZ)	ng/g	2400 BC20	1800 BC20	820 BC20	930 BC20	480 BC20	31 BC20	73 BC20	4 BC20
PCB 30 (BZ)	ng/g	1300 C18	950 C18	360 C18	410 C18	250 C18	7.3 C18J	21 C18	1.2 QC18
PCB 31 (BZ)	ng/g	1500	1100	540	610	290	12 BJ	27 B	1.6 B
PCB 32 (BZ)	ng/g	340	260	120	130	65 J	1.6 QJ	6.2 J	0.34 BJ
PCB 33 (BZ)	ng/g	830 C21	640 C21	340 C21	370 C21	170 C21	4.5 C21J	12 BC21	0.8 C21
PCB 34 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 35 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 36 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 37 (BZ)	ng/g	330	230 Q	180	200	60 J	0.89 QJ	2.6 J	0.22 QJ
PCB 38 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 39 (BZ)	ng/g	190 U	150 U	30 U	38 U	6.9 J	7.1 U	9.4 U	0.38 U
PCB 40 (BZ)	ng/g	420 C	310 C	190 C	220 C	57 QCJ	1.2 QCJ	3.8 CJ	0.33 QCJ
PCB 41 (BZ)	ng/g	420 C40	310 C40	190 C40	220 C40	57 QC40J	1.2 QC40J	3.8 C40J	0.33 QC40J
PCB 42 (BZ)	ng/g	180 J	98 J	81	91	26 J	7.1 U	1.4 J	0.38 U
PCB 43 (BZ)	ng/g	190 U	31 CJ	8.1 QCJ	8.3 QCJ	76 U	7.1 U	9.4 U	0.38 U
PCB 44 (BZ)	ng/g	1200 C	790 C	350 C	410 C	180 C	5.3 CJ	16 BC	1 QC
PCB 45 (BZ)	ng/g	100 QCJ	91 CJ	67 C	78 C	21 CJ	7.1 U	9.4 U	0.38 U
PCB 46 (BZ)	ng/g	190 U	150 U	15 J	19 J	76 U	7.1 U	9.4 U	0.38 U
PCB 47 (BZ)	ng/g	1200 C44	790 C44	350 C44	410 C44	180 C44	5.3 C44J	16 BC44	1 QC44
PCB 48 (BZ)	ng/g	180 J	100 QJ	94	100	21 J	7.1 U	1.1 QJ	0.38 U
PCB 49 (BZ)	ng/g	580 C	390 C	200 C	230 C	73 CJ	2.5 CJ	5.8 CJ	0.51 C
PCB 50 (BZ)	ng/g	98 CJ	67 CJ	44 C	52 C	11 CJ	7.1 U	0.62 QCJ	0.38 U
PCB 51 (BZ)	ng/g	100 QC45J	91 C45J	67 C45	78 C45	21 C45J	7.1 U	9.4 U	0.38 U
PCB 52 (BZ)	ng/g	2300	1600	420	470	280	9.6 Q	28 B	2 B
PCB 53 (BZ)	ng/g	98 C50J	67 C50J	44 C50	52 C50	11 C50J	7.1 U	0.62 QC50J	0.38 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-044-0.5/2.2	UTC-SD-047-0.0/0.5	UTC-SD-047-0.5/2.1	UTC-SD-048-0.0/0.5	UTC-SD-048-2.5/4.5	UTC-SD-048-6.5/8.4	UTC-SD-050-0.0/0.5	UTC-SD-050-4.5/6.6
	Sample ID	11CU02-47	E5AX8	E5AY4	E5AW0	11CU02-65	E5AW4	E5B00	11CU03-05
	Interval	0.5 - 2.2	0 - 0.5	0.5 - 2.1	0 - 0.5	2.5 - 4.5	6.5 - 8.4	0 - 0.5	4.5 - 6.6
	Sample Date	5/3/2011	5/4/2011	5/4/2011	5/4/2011	5/4/2011	5/4/2011	5/5/2011	5/5/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	25	7.7	0.83	2.6	55	0.68	4.1	1.7
PCB 2 (BZ)	ng/g	0.26 J	0.4 QJ	0.041 QJ	0.12 QJ	1.8 J	0.12	0.36 QJ	0.56
PCB 3 (BZ)	ng/g	14	6.9	0.68	1.3	35	0.86	2.3	1.4
PCB 4 (BZ)	ng/g	17	8 QS	0.96	2.2 Q	43	0.35	3.5 Q	0.42 QJ
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	0.061 QJ	0.2 QJ	0.03 QJ	0.019 QJ	0.37 QJ	0.0094 QJ	0.086 QJ	0.036 QJ
PCB 6 (BZ)	ng/g	2.1 QBJ	2.3 Q	0.23 QJ	0.8 Q	19 B	0.21	1.8 Q	0.34 QBJ
PCB 7 (BZ)	ng/g	0.44 QJ	0.67 Q	0.072 QJ	0.11 QJ	3.2 Q	0.069 Q	0.25 QJ	0.099 QJ
PCB 8 (BZ)	ng/g	48 B	24	2.6	5.4	150 B	0.95	10	2.1 B
PCB 9 (BZ)	ng/g	0.87 QJ	0.97 Q	0.097 QJ	0.19 QJ	5.7	0.068 Q	0.54 Q	0.18 QJ
PCB 10 (BZ)	ng/g	0.4 QJ	0.35 QSJ	0.037 QJ	0.071 QJ	1.6 J	0.018 QJ	0.14 QJ	0.41 U
PCB 11 (BZ)	ng/g	0.13 QBJ	0.21 QBJ	0.8 U	0.1 QBJ	0.61 QBJ	0.041 QBJ	0.19 QBJ	0.11 QBJ
PCB 12 (BZ)	ng/g	1.3 QCJ	1.5 C	0.099 QCJ	1.2 C	7 C	0.12 QC	2.9 QC	0.81 QC
PCB 13 (BZ)	ng/g	1.3 QC12J	1.5 C12	0.099 QC12J	1.2 C12	7 C12	0.12 QC12	2.9 QC12	0.81 QC12
PCB 14 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.025 QJ	0.15 QJ	0.0064 QJ	0.061 QJ	0.039 QJ
PCB 16 (BZ)	ng/g	2.2 J	3.1	0.3 QJ	0.92	13	0.11	1.5	0.099 QJ
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	28	15 B	1.5 B	4.3 B	87	0.54 B	7.7 B	1.7
PCB 17 (BZ)	ng/g	2.5 J	4.2	0.46	1	16	0.15 Q	1.7	0.12 J
PCB 18 (BZ)	ng/g	7.9 C	9.3 C	0.94 C	2.8 C	45 C	0.4 C	4.2 C	0.26 QCJ
PCB 19 (BZ)	ng/g	0.31 J	0.85	0.08 QJ	0.21 J	2.6	0.041 QJ	0.34 J	0.41 U
PCB 20 (BZ)	ng/g	14 BC	16 BC	1.8 BC	2.5 BC	75 BC	0.46 BC	4.3 BC	0.43 QBCJ
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	0.52 QC26J	1.5 C26	0.11 QC26J	2.7 C26	72 C26	0.3 C26	7.7 C26	0.22 C26J
PCB 21 (BZ)	ng/g	4.1 BC	7 C	0.71 C	1.7 C	27 BC	0.18 C	2.9 C	0.25 BCJ
PCB 22 (BZ)	ng/g	2.2 BJ	2.6	0.25 J	0.7	9.4 B	0.075	1.2	0.1 BJ
PCB 23 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 24 (BZ)	ng/g	3.7 U	0.097 QJ	0.4 U	0.034 QJ	0.26 J	0.0091 QJ	0.41 U	0.41 U
PCB 25 (BZ)	ng/g	0.54 J	1	0.082 J	0.81	26	0.13	1.1	0.052 J
PCB 26 (BZ)	ng/g	0.52 QCJ	1.5 C	0.11 QCJ	2.7 C	72 C	0.3 C	7.7 C	0.22 CJ
PCB 27 (BZ)	ng/g	3.7 U	0.4 J	0.4 U	0.14 J	1.2 QJ	0.021 J	0.22 J	0.41 U
PCB 28 (BZ)	ng/g	14 BC20	16 BC20	1.8 BC20	2.5 BC20	75 BC20	0.46 BC20	4.3 BC20	0.43 QBC20J
PCB 30 (BZ)	ng/g	7.9 C18	9.3 C18	0.94 C18	2.8 C18	45 C18	0.4 C18	4.2 C18	0.26 QC18J
PCB 31 (BZ)	ng/g	11 B	13 B	1.4 B	4 B	85 B	0.44 B	6.6 B	0.56 BJ
PCB 32 (BZ)	ng/g	2.1 J	3.1 B	0.29 QBJ	0.68 B	15	0.071 QB	1.9 B	0.052 QJ
PCB 33 (BZ)	ng/g	4.1 BC21	7 C21	0.71 C21	1.7 C21	27 BC21	0.18 C21	2.9 C21	0.25 BC21J
PCB 34 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.05 J	0.44 J	0.0051 QJ	0.41 U	0.41 U
PCB 35 (BZ)	ng/g	0.063 QJ	0.16 J	0.4 U	0.071 QJ	0.37 J	0.015 QJ	0.1 QJ	0.41 U
PCB 36 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 37 (BZ)	ng/g	1.4 J	2.9	0.24 QJ	1.6	10	0.085 Q	4	0.31 QJ
PCB 38 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 39 (BZ)	ng/g	3.7 U	0.2 J	0.4 U	0.033 QJ	0.2 J	0.05 U	0.41 U	0.41 U
PCB 40 (BZ)	ng/g	2.7 CJ	5.4 C	0.69 C	1.9 C	45 C	0.16 C	5.3 C	0.17 CJ
PCB 41 (BZ)	ng/g	2.7 C40J	5.4 C40	0.69 C40	1.9 C40	45 C40	0.16 C40	5.3 C40	0.17 C40J
PCB 42 (BZ)	ng/g	1.2 J	3	0.37 QJ	1.4	25	0.085 Q	2.9	0.098 J
PCB 43 (BZ)	ng/g	3.7 U	0.34 QCJ	0.079 QCJ	0.13 QCJ	1.9 U	0.0088 QCJ	0.32 QCJ	0.41 U
PCB 44 (BZ)	ng/g	9.2 BC	17 C	2.2 C	8.4 C	170 BC	0.63 C	18 C	0.76 BC
PCB 45 (BZ)	ng/g	0.79 CJ	2 C	0.17 CJ	0.51 C	16 C	0.065 C	2.8 C	0.073 CJ
PCB 46 (BZ)	ng/g	0.17 QJ	0.83	0.4 U	0.15 QJ	4.7	0.017 QJ	0.66	0.41 U
PCB 47 (BZ)	ng/g	9.2 BC44	17 C44	2.2 C44	8.4 C44	170 BC44	0.63 C44	18 C44	0.76 BC44
PCB 48 (BZ)	ng/g	0.95 J	1.9	0.15 QJ	0.44	5.2	0.025 J	0.72 Q	0.05 J
PCB 49 (BZ)	ng/g	6.7 C	16 C	1.8 C	13 C	230 C	0.73 C	28 C	0.83 C
PCB 50 (BZ)	ng/g	0.56 CJ	1.7 QC	0.21 CJ	0.48 C	22 C	0.069 C	3.5 C	0.058 QCJ
PCB 51 (BZ)	ng/g	0.79 C45J	2 C45	0.17 C45J	0.51 C45	16 C45	0.065 C45	2.8 C45	0.073 C45J
PCB 52 (BZ)	ng/g	19 B	27 B	3 B	25 B	450 B	1.5 B	49 B	1.5 B
PCB 53 (BZ)	ng/g	0.56 C50J	1.7 QC50	0.21 C50J	0.48 C50	22 C50	0.069 C50	3.5 C50	0.058 QC50J

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-054-6.5/9.2	UTC-SD-062-0.5/2.4	UTC-SD-063-0.5/2.2	UTC-SD-066-2.5/4.5	UTC-SD-067-4.5/6.5	UTC-SD-080-0.5/2.5	UTC-SD-080-0.5/2.5-R	UTC-SD-080-2.5/3.2
	Sample ID	11CU02-03	11CU02-38	11CU02-45	11CU02-17	11CU02-23	11CU06-18	11CU06-19	11CU06-20
	Interval	6.5 - 9.2	0.5 - 2.4	0.5 - 2.2	2.5 - 4.5	4.5 - 6.5	0.5 - 2.5	0.5 - 2.5	2.5 - 3.2
	Sample Date	5/2/2011	5/3/2011	5/3/2011	5/2/2011	5/2/2011	6/15/2011	6/15/2011	6/15/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	0.57	0.056 QJ	0.0018 QJ	3.3	6	0.0027 QJ	0.0028 QJ	0.0025 J
PCB 2 (BZ)	ng/g	0.062 J	0.37 U	0.00096 QJ	0.46 J	0.54 J	0.0027 QBJ	0.0027 BJ	0.0027 QBJ
PCB 3 (BZ)	ng/g	0.41	0.062 J	0.0021 J	2.8	4	0.0098 U	0.0024 QJ	0.0095 U
PCB 4 (BZ)	ng/g	0.74 Q	0.28 J	0.0031 QJ	37	9.4	0.011 QSJ	0.0085 QJ	0.0041 QSJ
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	0.032 QJ	0.37 U	0.0002 QJ	1.3 J	0.43 QJ	0.00099 QJ	0.0096 U	0.0095 U
PCB 6 (BZ)	ng/g	0.2 QBJ	0.18 QBJ	0.0023 QBJ	27 B	7.2 B	0.0045 QJ	0.0033 QJ	0.0095 U
PCB 7 (BZ)	ng/g	0.11 QJ	0.027 QJ	0.0006 QJ	3.9	1.4 QJ	0.0025 QJ	0.0011 QJ	0.0095 U
PCB 8 (BZ)	ng/g	2.6 B	1.1 B	0.016 BJ	180 B	37 B	0.016 QBJ	0.015 QBJ	0.0071 QBJ
PCB 9 (BZ)	ng/g	0.092 QJ	0.051 QJ	0.0007 QJ	6.9	2.6 Q	0.0019 QJ	0.0016 QJ	0.0095 U
PCB 10 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	1.1 QJ	0.49 QJ	0.0017 QSJ	0.0017 QJ	0.00088 QJ
PCB 11 (BZ)	ng/g	0.04 QBJ	0.052 QBJ	0.0044 QBJ	0.64 BJ	1.6 QBJ	0.0061 QBJ	0.0037 QBJ	0.0047 QBJ
PCB 12 (BZ)	ng/g	0.12 QCJ	0.079 QCJ	0.0018 QCJ	5.8 C	3 QC	0.0029 QCJ	0.0015 QCJ	0.00088 QCJ
PCB 13 (BZ)	ng/g	0.12 QC12J	0.079 QC12J	0.0018 QC12J	5.8 C12	3 QC12	0.0029 QC12J	0.0015 QC12J	0.00088 QC12J
PCB 14 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0013 QJ	0.0096 U	0.0095 U
PCB 16 (BZ)	ng/g	0.27 J	0.98	0.0078 QJ	220	29	0.015	0.021	0.0052 J
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	1.1	0.41 Q	0.014 Q	60	20	0.011 Q	0.0078 QJ	0.0036 QJ
PCB 17 (BZ)	ng/g	0.28 J	1.2	0.0095 J	280	36	0.015	0.019	0.004 QJ
PCB 18 (BZ)	ng/g	0.9 C	2.9 C	0.022 C	680 C	75 C	0.038 C	0.059 C	0.014 CJ
PCB 19 (BZ)	ng/g	0.37 U	0.16 J	0.0012 QJ	41	5	0.006 SJ	0.0053 QJ	0.0095 U
PCB 20 (BZ)	ng/g	1.2 BC	3.8 BC	0.045 BC	770 BC	120 BC	0.035 BC	0.041 BC	0.012 BCJ
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	0.061 QC26J	0.45 C26	0.0048 C26J	94 C26	17 C26	0.0053 C26J	0.0049 C26J	0.0018 QC26J
PCB 21 (BZ)	ng/g	0.38 BC	2.1 BC	0.021 BC	420 BC	60 BC	0.015 C	0.018 C	0.0057 CJ
PCB 22 (BZ)	ng/g	0.21 BJ	1.2 B	0.011 B	240 B	35 B	0.0092 SJ	0.011 S	0.0032 SJ
PCB 23 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	0.36 QJ	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 24 (BZ)	ng/g	0.37 U	0.02 QJ	0.0096 U	4.5	0.68 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 25 (BZ)	ng/g	0.031 QJ	0.23 J	0.005 J	37	7.6	0.0028 QJ	0.0031 J	0.0012 J
PCB 26 (BZ)	ng/g	0.061 QCJ	0.45 C	0.0048 CJ	94 C	17 C	0.0053 CJ	0.0049 CJ	0.0018 QCJ
PCB 27 (BZ)	ng/g	0.37 U	0.13 J	0.0013 J	30	4.3	0.003 QJ	0.0053 J	0.0095 U
PCB 28 (BZ)	ng/g	1.2 BC20	3.8 BC20	0.045 BC20	770 BC20	120 BC20	0.035 BC20	0.041 BC20	0.012 BC20J
PCB 30 (BZ)	ng/g	0.9 C18	2.9 C18	0.022 C18	680 C18	75 C18	0.038 C18	0.059 C18	0.014 C18J
PCB 31 (BZ)	ng/g	0.68 BJ	3.7 B	0.035 B	780 B	110 B	0.03 B	0.038 B	0.011 BJ
PCB 32 (BZ)	ng/g	0.18 J	0.86	0.012	190	21	0.014 S	0.015 S	0.0023 QSJ
PCB 33 (BZ)	ng/g	0.38 BC21	2.1 BC21	0.021 BC21	420 BC21	60 BC21	0.015 C21	0.018 C21	0.0057 C21J
PCB 34 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	4.4	0.57 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 35 (BZ)	ng/g	0.021 J	0.038 QJ	0.00069 J	4.2	1.8	0.0098 U	0.0096 U	0.0095 U
PCB 36 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 37 (BZ)	ng/g	0.17 J	0.81	0.012	150	27	0.0076 J	0.0087 J	0.0029 J
PCB 38 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	0.68 J	0.11 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 39 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	5.2	0.7 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 40 (BZ)	ng/g	0.21 CJ	3.1 C	0.038 C	710 C	75 C	0.021 C	0.026 C	0.0047 CJ
PCB 41 (BZ)	ng/g	0.21 C40J	3.1 C40	0.038 C40	710 C40	75 C40	0.021 C40	0.026 C40	0.0047 C40J
PCB 42 (BZ)	ng/g	0.13 J	1.4	0.012	320	34	0.0087 J	0.011	0.0028 QJ
PCB 43 (BZ)	ng/g	0.37 U	0.16 QCJ	0.01 C	45 C	5.2 C	0.0098 U	0.0011 QCJ	0.0095 U
PCB 44 (BZ)	ng/g	0.8 BC	5.8 BC	0.42 BC	1200 BC	130 BC	0.039 C	0.044 C	0.012 C
PCB 45 (BZ)	ng/g	0.065 CJ	1 C	0.14 C	240 C	26 C	0.015 C	0.014 QC	0.002 QCJ
PCB 46 (BZ)	ng/g	0.37 U	0.29 J	0.0041 J	80	8.2	0.0057 J	0.005 J	0.0013 J
PCB 47 (BZ)	ng/g	0.8 BC44	5.8 BC44	0.42 BC44	1200 BC44	130 BC44	0.039 C44	0.044 C44	0.012 C44
PCB 48 (BZ)	ng/g	0.095 J	1.2	0.0071 J	310	32	0.006 J	0.0062 QJ	0.0017 QJ
PCB 49 (BZ)	ng/g	0.51 C	3.6 C	0.17 C	730 C	85 C	0.021 C	0.023 C	0.005 QCJ
PCB 50 (BZ)	ng/g	0.07 CJ	0.71 C	0.057 C	170 C	18 C	0.011 C	0.011 C	0.0017 QCJ
PCB 51 (BZ)	ng/g	0.065 C45J	1 C45	0.14 C45	240 C45	26 C45	0.015 C45	0.014 QC45	0.002 QC45J
PCB 52 (BZ)	ng/g	1.2 B	7.8 B	0.084 B	1300 B	170 B	0.044	0.057	0.016
PCB 53 (BZ)	ng/g	0.07 C50J	0.71 C50	0.057 C50	170 C50	18 C50	0.011 C50	0.011 C50	0.0017 QC50J

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-081-0.5/2.9	UTC-SD-082-0.0/0.5	UTC-SD-082-0.5/1.6	UTC-SD-083-0.5/2.2	UTC-SD-085-0.5/2.5	UTC-SD-090-0.0/0.9	UTC-SG-009-0.0/0.5	UTC-SG-020-0.0/0.5
	Sample ID	11CU06-22	11CU06-23	11CU06-24	11CU06-26	11CU06-30	11CU06-41	11CU01-87	11CU02-38B
	Interval	0.5 - 2.9	0 - 0.5	0.5 - 1.6	0.5 - 2.2	0.5 - 2.5	0 - 0.9	0 - 0.5	0 - 0.5
	Sample Date	6/15/2011	6/15/2011	6/15/2011	6/15/2011	6/15/2011	6/16/2011	5/2/2011	5/3/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	0.031 J	1.3	0.26	120	260	93	2.1	0.29
PCB 2 (BZ)	ng/g	0.049 U	0.047 QBJ	0.012 QBJ	3 B	8 B	2.3	0.57	0.085
PCB 3 (BZ)	ng/g	0.039 J	0.66	0.12	75	170	54 B	1.8	0.25
PCB 4 (BZ)	ng/g	0.021 QJ	1.1 Q	0.17	74	100 S	100 B	9.7	1.5
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	0.014 QJ	0.091 QJ	0.0058 QJ	1 J	4.8 Q	1.5 QJ	0.93	0.13
PCB 6 (BZ)	ng/g	0.012 QJ	0.44 Q	0.079 Q	28	37 Q	51 B	15 B	1.7 B
PCB 7 (BZ)	ng/g	0.0076 QJ	0.1 QJ	0.016 QJ	5 Q	14	4.7 QB	1.9	0.3
PCB 8 (BZ)	ng/g	0.06 BJ	2.7 B	0.44 B	250 B	350 B	380 B	43 B	8 B
PCB 9 (BZ)	ng/g	0.0082 QJ	0.18 QJ	0.025 QJ	7.5 Q	16 Q	13 B	2.7	0.46
PCB 10 (BZ)	ng/g	0.0046 QJ	0.089 QJ	0.014 QJ	2.9 Q	5 QS	3.4 B	0.55 Q	0.083
PCB 11 (BZ)	ng/g	0.015 QBJ	0.12 QBJ	0.033 QBJ	1 QBJ	1.2 QSBJ	2.2 QBJ	1.1 B	0.19 B
PCB 12 (BZ)	ng/g	0.007 QCJ	0.29 QCJ	0.072 QC	11 C	12 QC	18 BC	6.7 C	0.7 C
PCB 13 (BZ)	ng/g	0.007 QC12J	0.29 QC12J	0.072 QC12	11 C12	12 QC12	18 BC12	6.7 C12	0.7 C12
PCB 14 (BZ)	ng/g	0.007 QJ	0.073 QJ	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.0042 QJ
PCB 16 (BZ)	ng/g	0.049 U	1	0.2	19	26	160	46	5.6
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	0.029 QJ	2	0.44	160	180	250 B	17	3.7
PCB 17 (BZ)	ng/g	0.049 U	1.3	0.23	22	28	180	55	6.7
PCB 18 (BZ)	ng/g	0.016 CJ	3.3 C	0.58 C	62 C	77 SC	430 C	120 C	15 C
PCB 19 (BZ)	ng/g	0.049 U	0.33 QJ	0.09	4.2	5.9	35	5.9	0.85 S
PCB 20 (BZ)	ng/g	0.027 BCJ	5.1 BC	1.2 BC	120 BC	170 BC	520 BC	130 BC	22 BC
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	0.049 U	0.68 C26	0.15 C26	14 C26	8.9 C26	100 C26	19 C26	3.2 C26
PCB 21 (BZ)	ng/g	0.0093 QCJ	2.3 C	0.43 C	36 C	60 C	380 C	60 BC	12 BC
PCB 22 (BZ)	ng/g	0.0067 J	1.6	0.32	16	33	190	38 B	7.3 B
PCB 23 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	0.38 QJ	0.15 J	0.015 J
PCB 24 (BZ)	ng/g	0.049 U	0.043 QJ	0.004 QJ	0.62 J	0.69 J	4.5 Q	1.4	0.17
PCB 25 (BZ)	ng/g	0.049 U	0.47	0.1	7.5	4.3	36	19	1.8
PCB 26 (BZ)	ng/g	0.049 U	0.68 C	0.15 C	14 C	8.9 C	100 C	19 C	3.2 C
PCB 27 (BZ)	ng/g	0.049 U	0.22 QJ	0.05	1.7 J	2.7 J	22	6.5	0.89
PCB 28 (BZ)	ng/g	0.027 BC20J	5.1 BC20	1.2 BC20	120 BC20	170 BC20	520 BC20	130 BC20	22 BC20
PCB 30 (BZ)	ng/g	0.016 C18J	3.3 C18	0.58 C18	62 C18	77 SC18	430 C18	120 C18	15 C18
PCB 31 (BZ)	ng/g	0.017 QBJ	4.9 B	1.1 B	97 B	110 B	640	110 B	20 B
PCB 32 (BZ)	ng/g	0.0059 QJ	1.3	0.24	21	22	120	30	4.3 S
PCB 33 (BZ)	ng/g	0.0093 QC21J	2.3 C21	0.43 C21	36 C21	60 C21	380 C21	60 BC21	12 BC21
PCB 34 (BZ)	ng/g	0.049 U	0.39 U	0.0052 QJ	0.25 QJ	0.43 J	3.3	1	0.099
PCB 35 (BZ)	ng/g	0.049 U	0.11 QJ	0.018 QJ	0.31 J	0.5 QJ	4.7 Q	1.9	0.29
PCB 36 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.0036 QJ
PCB 37 (BZ)	ng/g	0.0061 QJ	1.3	0.41	14	25	160	25	6.1
PCB 38 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	0.47 QJ	0.43 U	0.016 J
PCB 39 (BZ)	ng/g	0.049 U	0.39 U	0.0048 QJ	0.31 J	0.62 QJ	3.3	0.73	0.09
PCB 40 (BZ)	ng/g	0.0092 CJ	3 C	0.61 C	19 QC	32 C	310 C	76 C	9.1 C
PCB 41 (BZ)	ng/g	0.0092 C40J	3 C40	0.61 C40	19 QC40	32 C40	310 C40	76 C40	9.1 C40
PCB 42 (BZ)	ng/g	0.049 U	1.4	0.29	11	18	140	34	4.1
PCB 43 (BZ)	ng/g	0.049 U	0.12 QCJ	0.032 CJ	1.8 U	2 QCJ	17 C	5.5 C	0.46 QC
PCB 44 (BZ)	ng/g	0.018 QCJ	5.4 C	1.1 C	68 C	120 C	550 C	140 BC	16 BC
PCB 45 (BZ)	ng/g	0.049 U	1.3 C	0.27 C	7.3 C	10 C	110 C	28 C	3.4 C
PCB 46 (BZ)	ng/g	0.049 U	0.46	0.092	1.8 J	2.5 QJ	37	8.1	0.99
PCB 47 (BZ)	ng/g	0.018 QC44J	5.4 C44	1.1 C44	68 C44	120 C44	550 C44	140 BC44	16 BC44
PCB 48 (BZ)	ng/g	0.049 U	0.94	0.17	4.8	15	130	33	3.1
PCB 49 (BZ)	ng/g	0.015 CJ	3.3 C	0.77 C	65 C	82 C	360 C	84 C	9.5 C
PCB 50 (BZ)	ng/g	0.049 U	1.1 C	0.22 C	6.6 C	8.7 C	81 C	20 C	2.3 C
PCB 51 (BZ)	ng/g	0.049 U	1.3 C45	0.27 C45	7.3 C45	10 C45	110 C45	28 C45	3.4 C45
PCB 52 (BZ)	ng/g	0.023 QJ	7.4	1.6	130	190	680	170 B	16 B
PCB 53 (BZ)	ng/g	0.049 U	1.1 C50	0.22 C50	6.6 C50	8.7 C50	81 C50	20 C50	2.3 C50

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SG-027-0.0/0.5	UTC-SG-028-0.0/0.5	UTC-SG-029-0.0/0.5	UTC-SG-030-0.0/0.5	UTC-SG-031-0.0/0.5	UTC-SG-032-0.0/0.5	UTC-SG-033-0.0/0.5	UTC-SG-034-0.0/0.5
Sample ID		11CU03-11	11CU03-12	E5B11	E5B13	E5B15	E5B12	E5B23	E5B22
Interval		0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Sample Date		5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/6/2011	5/6/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	84	160 J	920	37	40	18	6.2	24
PCB 2 (BZ)	ng/g	62 U	260 U	6 QJ	0.83 QJ	0.51	0.25 QJ	1.5 U	0.68 J
PCB 3 (BZ)	ng/g	67	78 QJ	480	29	24	13	4.1	15
PCB 4 (BZ)	ng/g	59 QJ	120 QJ	670	35 QJ	66	15	6.8	22
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	62 U	260 U	48 U	20 U	0.21 QJ	0.096 QJ	0.18 QJ	2 U
PCB 6 (BZ)	ng/g	12 QBJ	34 QBJ	78 Q	11 QJ	9.4	2.4	2.2 Q	8.8 Q
PCB 7 (BZ)	ng/g	5.8 QJ	260 U	26 QJ	20 U	1.8	0.62 Q	0.46 QJ	1.2 QJ
PCB 8 (BZ)	ng/g	180 B	550 QB	2400	160	280	44	21	74
PCB 9 (BZ)	ng/g	5 QJ	260 U	31 QJ	20 U	4.3	0.82 Q	0.73 J	1.8 J
PCB 10 (BZ)	ng/g	62 U	260 U	19 QJ	20 U	1.1	0.39 J	0.25 QJ	0.73 QJ
PCB 11 (BZ)	ng/g	120 U	510 U	96 U	39 U	0.34 QBJ	0.16 QBJ	0.49 QBJ	0.36 QBJ
PCB 12 (BZ)	ng/g	62 U	260 U	23 QCJ	4.7 QCJ	3.5 C	1.1 C	1.4 QCJ	5.1 QC
PCB 13 (BZ)	ng/g	62 U	260 U	23 QC12J	4.7 QC12J	3.5 C12	1.1 C12	1.4 QC12J	5.1 QC12
PCB 14 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.06 QJ	0.39 U	1.5 U	2 U
PCB 16 (BZ)	ng/g	13 J	30 QJ	110	20 U	35	3.1	3.7	10
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	90 Q	310 Q	1400 B	110 B	160 B	35 B	13 B	54 B
PCB 17 (BZ)	ng/g	15 J	26 QJ	110	10 J	43	3.4	4.8	11
PCB 18 (BZ)	ng/g	35 CJ	86 QCJ	400 C	26 CJ	170 C	10 C	11 C	28 C
PCB 19 (BZ)	ng/g	62 U	260 U	18 QJ	20 U	6.3	0.64	0.71 QJ	2.1
PCB 20 (BZ)	ng/g	90 BCJ	310 BCJ	1000 BC	64 BC	440 BC	18 BC	23 BC	46 BC
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	4 QC26J	10 C26J	27 C26J	3.9 QC26J	9.2 C26	1.6 C26	3 C26	13 C26
PCB 21 (BZ)	ng/g	28 BCJ	67 BCJ	210 C	23 C	88 C	5.3 C	8.9 C	22 C
PCB 22 (BZ)	ng/g	11 BJ	34 BJ	84	6.8 J	47	2.4	5.2	12
PCB 23 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.28 J	0.39 U	1.5 U	2 U
PCB 24 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.56	0.069 QJ	1.5 U	0.41 J
PCB 25 (BZ)	ng/g	2.3 QJ	260 U	12 QJ	2.3 QJ	3.6	0.87	1.5 J	6.5
PCB 26 (BZ)	ng/g	4 QCJ	10 CJ	27 CJ	3.9 QCJ	9.2 C	1.6 C	3 C	13 C
PCB 27 (BZ)	ng/g	62 U	260 U	48 U	20 U	1.9	0.32 J	0.47 QJ	0.94 QJ
PCB 28 (BZ)	ng/g	90 BC20J	310 BC20J	1000 BC20	64 BC20	440 BC20	18 BC20	23 BC20	46 BC20
PCB 30 (BZ)	ng/g	35 C18J	86 QC18J	400 C18	26 C18J	170 C18	10 C18	11 C18	28 C18
PCB 31 (BZ)	ng/g	46 BJ	180 BJ	490 B	49 B	260 B	12 B	17 B	44 B
PCB 32 (BZ)	ng/g	9.4 QJ	30 J	120 B	5.8 QBJ	55 B	3.3 B	3.8 B	9.8 B
PCB 33 (BZ)	ng/g	28 BC21J	67 BC21J	210 C21	23 C21	88 C21	5.3 C21	8.9 C21	22 C21
PCB 34 (BZ)	ng/g	62 U	260 U	48 U	20 U	1	0.083 J	1.5 U	2 U
PCB 35 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.23 QJ	0.073 QJ	0.17 QJ	2 U
PCB 36 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.39 U	0.39 U	1.5 U	2 U
PCB 37 (BZ)	ng/g	9.8 J	24 QJ	49 Q	12 J	22	2	4.3	10
PCB 38 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.39 U	0.39 U	1.5 U	2 U
PCB 39 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.98	0.076 J	1.5 U	2 U
PCB 40 (BZ)	ng/g	13 CJ	39 CJ	110 QC	8.4 QCJ	56 C	4.2 C	11 C	17 C
PCB 41 (BZ)	ng/g	13 C40J	39 C40J	110 QC40	8.4 QC40J	56 C40	4.2 C40	11 C40	17 C40
PCB 42 (BZ)	ng/g	5.4 QJ	260 U	48 QJ	8.2 J	19	2.5	7.7	11
PCB 43 (BZ)	ng/g	62 U	260 U	18 QCJ	20 U	8.7 C	0.22 CJ	1.3 QCJ	1.5 CJ
PCB 44 (BZ)	ng/g	36 BCJ	140 BCJ	360 C	52 C	220 C	11 C	38 C	59 C
PCB 45 (BZ)	ng/g	62 U	260 U	14 QCJ	20 U	38 C	1.2 C	4 QC	6.4 C
PCB 46 (BZ)	ng/g	62 U	260 U	48 U	20 U	3.2	0.36 J	1.5	1.7 QJ
PCB 47 (BZ)	ng/g	36 BC44J	140 BC44J	360 C44	52 C44	220 C44	11 C44	38 C44	59 C44
PCB 48 (BZ)	ng/g	62 U	260 U	26 QJ	2.6 QJ	27	1.1	4.3	5.4
PCB 49 (BZ)	ng/g	19 CJ	99 CJ	200 C	52 C	120 C	8.4 C	31 C	53 C
PCB 50 (BZ)	ng/g	62 U	260 U	48 U	20 U	20 C	0.87 C	2.9 C	5.1 C
PCB 51 (BZ)	ng/g	62 U	260 U	14 QC45J	20 U	38 C45	1.2 C45	4 QC45	6.4 C45
PCB 52 (BZ)	ng/g	59 BJ	300 B	510 B	72 B	370 B	14 B	59 B	100 B
PCB 53 (BZ)	ng/g	62 U	260 U	48 U	20 U	20 C50	0.87 C50	2.9 C50	5.1 C50

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SG-035-0.0/0.5	UTC-SG-037-0.0/0.5	UTC-SG-038-0.0/0.5-R	UTC-SG-039-0.0/0.5	UTC-SG-040-0.0/0.5
	Sample ID	E5B25	E5B20	E5B19	11CU03-17	E5B16
	Interval	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
	Sample Date	5/6/2011	5/6/2011	5/6/2011	5/6/2011	5/6/2011
PCB 1 (2-CHLOROBIPHENYL)	ng/g	41	9.9	0.64	1.5 U	0.65
PCB 2 (BZ)	ng/g	0.55 QJ	0.77	0.051 QJ	1.5 U	0.39 U
PCB 3 (BZ)	ng/g	31	7.9	0.65	1.5 U	0.62
PCB 4 (BZ)	ng/g	35	8.1	0.61 QJ	2.9 U	1.1 Q
PCB 5 (2,3-DICHLOROBIPHENYL)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.043 QJ
PCB 6 (BZ)	ng/g	5.3	3.9	0.22 QJ	1.5 U	0.4 Q
PCB 7 (BZ)	ng/g	1.6 J	0.93 Q	0.077 QJ	1.5 U	0.09 QJ
PCB 8 (BZ)	ng/g	100	32	2.6 Q	0.23 QBJ	4.1
PCB 9 (BZ)	ng/g	2.1	1.5	0.13 QJ	1.5 U	0.19 QJ
PCB 10 (BZ)	ng/g	0.97 J	0.39 Q	0.047 QJ	1.5 U	0.048 QJ
PCB 11 (BZ)	ng/g	0.34 QBJ	0.75 U	0.064 QBJ	2.9 U	0.12 QBJ
PCB 12 (BZ)	ng/g	2.6 QC	2.5 C	0.19 QCJ	1.5 U	0.14 QCJ
PCB 13 (BZ)	ng/g	2.6 QC12	2.5 C12	0.19 QC12J	1.5 U	0.14 QC12J
PCB 14 (BZ)	ng/g	1.8 U	0.38 U	0.028 QJ	1.5 U	0.39 U
PCB 16 (BZ)	ng/g	6.8	4.4	0.25 QJ	1.5 U	0.63 Q
PCB 15 (4,4'-DICHLOROBIPHENYL)	ng/g	81 B	25 B	2.4 B	0.18 QJ	2.2 B
PCB 17 (BZ)	ng/g	7.2	6.1	0.27 QJ	1.5 U	0.8
PCB 18 (BZ)	ng/g	23 C	14 C	0.75 CJ	0.2 CJ	1.9 C
PCB 19 (BZ)	ng/g	1.4 J	1.1	0.47 U	1.5 U	0.12 QJ
PCB 20 (BZ)	ng/g	42 BC	21 BC	2.1 BC	0.37 BCJ	3.4 BC
PCB 29 (2,4,5-TRICHLOROBIPHENYL)	ng/g	3.9 C26	14 C26	0.24 QC26J	1.5 U	0.36 C26J
PCB 21 (BZ)	ng/g	12 C	13 C	0.65 C	0.17 BCJ	1.5 C
PCB 22 (BZ)	ng/g	5.8	5	0.36 J	1.5 U	0.79
PCB 23 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 24 (BZ)	ng/g	0.15 J	0.38 U	0.47 U	1.5 U	0.39 U
PCB 25 (BZ)	ng/g	1.9	3.2	0.17 J	1.5 U	0.18 J
PCB 26 (BZ)	ng/g	3.9 C	14 C	0.24 QCJ	1.5 U	0.36 CJ
PCB 27 (BZ)	ng/g	0.79 J	0.59	0.47 U	1.5 U	0.077 J
PCB 28 (BZ)	ng/g	42 BC20	21 BC20	2.1 BC20	0.37 BC20J	3.4 BC20
PCB 30 (BZ)	ng/g	23 C18	14 C18	0.75 C18J	0.2 C18J	1.9 C18
PCB 31 (BZ)	ng/g	28 B	29 B	1.5 B	0.35 QBJ	2.4 B
PCB 32 (BZ)	ng/g	6.7 B	4.2 B	0.25 BJ	1.5 U	0.61 B
PCB 33 (BZ)	ng/g	12 C21	13 C21	0.65 C21	0.17 BC21J	1.5 C21
PCB 34 (BZ)	ng/g	0.17 QJ	0.56	0.47 U	1.5 U	0.39 U
PCB 35 (BZ)	ng/g	0.25 J	0.38 U	0.47 U	1.5 U	0.055 J
PCB 36 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 37 (BZ)	ng/g	4.7	20	0.52	0.11 QJ	0.78
PCB 38 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 39 (BZ)	ng/g	0.16 QJ	0.38 U	0.47 U	1.5 U	0.39 U
PCB 40 (BZ)	ng/g	10 C	22 C	0.65 C	1.5 U	1.2 C
PCB 41 (BZ)	ng/g	10 C40	22 C40	0.65 C40	1.5 U	1.2 C40
PCB 42 (BZ)	ng/g	6.4	21	0.33 J	1.5 U	0.59
PCB 43 (BZ)	ng/g	0.43 CJ	1.3 QC	0.47 U	1.5 U	0.09 CJ
PCB 44 (BZ)	ng/g	25 C	130 C	2.1 C	0.44 QBCJ	3.1 C
PCB 45 (BZ)	ng/g	2.9 C	4.3 C	0.23 QCJ	1.5 U	0.33 QCJ
PCB 46 (BZ)	ng/g	0.74 QJ	1.3	0.47 U	1.5 U	0.087 J
PCB 47 (BZ)	ng/g	25 C44	130 C44	2.1 C44	0.44 QBC44J	3.1 C44
PCB 48 (BZ)	ng/g	2.6	5.6	0.17 QJ	1.5 U	0.44
PCB 49 (BZ)	ng/g	20 C	130 C	1.8 C	0.2 QCJ	2.1 C
PCB 50 (BZ)	ng/g	1.9 QC	4.7 C	0.22 CJ	1.5 U	0.3 CJ
PCB 51 (BZ)	ng/g	2.9 C45	4.3 C45	0.23 QC45J	1.5 U	0.33 QC45J
PCB 52 (BZ)	ng/g	32 B	220 B	3.1 B	0.36 QBJ	4.7 B
PCB 53 (BZ)	ng/g	1.9 QC50	4.7 C50	0.22 C50J	1.5 U	0.3 C50J

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-005-2.5/4.4	UTC-SD-013-0.5/2.5	UTC-SD-013-2.5/4.5	UTC-SD-015-2.5/4.5	UTC-SD-016-12.5/14.5	UTC-SD-016-16.5/18.6	UTC-SD-016-8.5/10.5	UTC-SD-017-12.5/14.5
	Sample ID	11CU02-77	11CU01-31	11CU01-32	11CU01-72	11CU01-67	11CU01-69	11CU01-64	11CU01-58
	Interval	2.5 - 4.4	0.5 - 2.5	2.5 - 4.5	2.5 - 4.5	12.5 - 14.5	16.5 - 18.6	8.5 - 10.5	12.5 - 14.5
	Sample Date	5/4/2011	4/26/2011	4/26/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/30/2011
PCB 54 (BZ)	ng/g	0.31 QJ	1.1 J	2 J	2.4	0.48 U	0.097 U	0.18 J	0.098 U
PCB 55 (BZ)	ng/g	3.5	11	24	28	0.48 U	0.097 U	2.1	0.098 U
PCB 56 (BZ)	ng/g	100	260	640	530	1.1	0.076 J	53	0.044 J
PCB 57 (BZ)	ng/g	0.74	1.9 Q	4.6	5.8	0.48 U	0.097 U	0.43	0.098 U
PCB 58 (BZ)	ng/g	0.17 QJ	0.79 J	1.5 J	1.6 QJ	0.48 U	0.097 U	0.18 QJ	0.098 U
PCB 59 (BZ)	ng/g	17 C	44 C	110 C	110 C	0.15 QCJ	0.013 QCJ	9.1 C	0.098 U
PCB 60 (BZ)	ng/g	51	140	350	290	0.61	0.043 QJ	29	0.032 QJ
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	370 BC	990 BC	2400 BC	2000 BC	5.1 BC	0.37 BC	210 BC	0.15 BCJ
PCB 62 (BZ)	ng/g	17 C59	44 C59	110 C59	110 C59	0.15 QC59J	0.013 QC59J	9.1 C59	0.098 U
PCB 63 (BZ)	ng/g	7.2	20	50	45	0.094 QJ	0.0079 QJ	4.1	0.098 U
PCB 64 (BZ)	ng/g	100	260	620	520	1.1	0.089 J	51	0.098 U
PCB 65 (BZ)	ng/g	220 BC44	590 BC44	1400 BC44	1200 BC44	2.8 BC44	0.21 BC44	120 BC44	0.075 QBC44J
PCB 66 (BZ)	ng/g	190 B	520	1200	1000	2.3	0.18	110	0.052 QJ
PCB 67 (BZ)	ng/g	4.7	13	29	36	0.48 U	0.097 U	2.8	0.098 U
PCB 68 (BZ)	ng/g	0.38 J	1 QJ	1.9 QJ	3.2	0.48 U	0.097 U	0.3 J	0.098 U
PCB 69 (BZ)	ng/g	130 C49	350 C49	820 C49	720 C49	1.6 C49	0.1 C49	72 C49	0.042 QC49J
PCB 70 (BZ)	ng/g	370 BC61	990 BC61	2400 BC61	2000 BC61	5.1 BC61	0.37 BC61	210 BC61	0.15 BC61J
PCB 71 (BZ)	ng/g	130 C40	340 C40	820 C40	730 C40	1.3 C40	0.11 C40	70 C40	0.098 U
PCB 72 (BZ)	ng/g	0.88	2.3	5.3	5.6	0.48 U	0.097 U	0.56	0.098 U
PCB 73 (BZ)	ng/g	8 C43	21 C43	50 C43	49 C43	0.082 QC43J	0.097 U	4.3 C43	0.098 U
PCB 74 (BZ)	ng/g	370 BC61	990 BC61	2400 BC61	2000 BC61	5.1 BC61	0.37 BC61	210 BC61	0.15 BC61J
PCB 75 (BZ)	ng/g	17 C59	44 C59	110 C59	110 C59	0.15 QC59J	0.013 QC59J	9.1 C59	0.098 U
PCB 76 (BZ)	ng/g	370 BC61	990 BC61	2400 BC61	2000 BC61	5.1 BC61	0.37 BC61	210 BC61	0.15 BC61J
PCB 77 (BZ)	ng/g	14	34	85	82	0.11 QJ	0.015 QJ	7.4	0.098 U
PCB 78 (BZ)	ng/g	0.41 U	1.8 U	2 U	0.91 QJ	0.48 U	0.097 U	0.39 U	0.098 U
PCB 79 (BZ)	ng/g	1.6	2.6 Q	7.2	6.7	0.48 U	0.097 U	0.78	0.098 U
PCB 80 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 81 (BZ)	ng/g	0.47	1.6 J	4.1	3.8	0.48 U	0.097 U	0.26 QJ	0.098 U
PCB 82 (BZ)	ng/g	24	55	150	110	0.42 J	0.097 U	13	0.098 U
PCB 83 (BZ)	ng/g	80 C	170 C	450 C	390 C	1.6 C	0.082 CJ	46 C	0.098 U
PCB 84 (BZ)	ng/g	48	100	250	210	0.8	0.097 U	25	0.098 U
PCB 85 (BZ)	ng/g	29 C	66 C	180 C	140 C	0.53 C	0.021 QCJ	16 C	0.098 U
PCB 86 (BZ)	ng/g	100 C	210 C	540 C	500 C	2 QC	0.083 QCJ	58 C	0.098 U
PCB 87 (BZ)	ng/g	100 C86	210 C86	540 C86	500 C86	2 QC86	0.083 QC86J	58 C86	0.098 U
PCB 88 (BZ)	ng/g	24 C	55 C	140 C	110 C	0.38 QCJ	0.097 U	13 C	0.098 U
PCB 89 (BZ)	ng/g	3.6	8.9	24	16	0.48 U	0.097 U	1.8	0.098 U
PCB 90 (BZ)	ng/g	130 C	270 C	630 C	690 C	3.1 C	0.12 C	82 C	0.098 U
PCB 91 (BZ)	ng/g	24 C88	55 C88	140 C88	110 C88	0.38 QC88J	0.097 U	13 C88	0.098 U
PCB 92 (BZ)	ng/g	21	46	100	110	0.42 J	0.097 U	12	0.098 U
PCB 93 (BZ)	ng/g	1.7 C	5 C	11 QC	7.9 QC	0.48 U	0.097 U	1.2 QC	0.098 U
PCB 94 (BZ)	ng/g	0.96	2.3	6.2	4.7	0.48 U	0.097 U	0.48	0.098 U
PCB 95 (BZ)	ng/g	120	250	550	570	2.5	0.094 J	68	0.098 U
PCB 96 (BZ)	ng/g	2	5.2	14	10	0.48 U	0.097 U	1.1	0.098 U
PCB 97 (BZ)	ng/g	100 C86	210 C86	540 C86	500 C86	2 QC86	0.083 QC86J	58 C86	0.098 U
PCB 98 (BZ)	ng/g	6.4 C	16 C	41 C	30 C	0.48 U	0.097 U	3.4 C	0.098 U
PCB 99 (BZ)	ng/g	80 C83	170 C83	450 C83	390 C83	1.6 C83	0.082 C83J	46 C83	0.098 U
PCB 100 (BZ)	ng/g	1.7 C93	5 C93	11 QC93	7.9 QC93	0.48 U	0.097 U	1.2 QC93	0.098 U
PCB 101 (BZ)	ng/g	130 C90	270 C90	630 C90	690 C90	3.1 C90	0.12 C90	82 C90	0.098 U
PCB 102 (BZ)	ng/g	6.4 C98	16 C98	41 C98	30 C98	0.48 U	0.097 U	3.4 C98	0.098 U
PCB 103 (BZ)	ng/g	0.81	1.5 QJ	4.4	3.7 Q	0.48 U	0.097 U	0.51	0.098 U
PCB 104 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 105 (BZ)	ng/g	62	130	330	290	1.5	0.056 QJ	38	0.047 QJ
PCB 106 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-017-2.5/4.5	UTC-SD-018-10.5/12.3	UTC-SD-018-6.5/8.5	UTC-SD-021-0.0/0.5	UTC-SD-021-0.5/2.8	UTC-SD-029-0.0/0.5	UTC-SD-032-0.5/2.5	UTC-SD-032-2.5/4.5
Sample ID		11CU01-52	11CU01-49	11CU01-47	11CU06-42	11CU06-43	11CU01-02	11CU01-06	11CU01-07
Interval		2.5 - 4.5	10.5 - 12.3	6.5 - 8.5	0 - 0.5	0.5 - 2.8	0 - 0.5	0.5 - 2.5	2.5 - 4.5
Sample Date		4/30/2011	4/30/2011	4/30/2011	6/16/2011	6/16/2011	4/26/2011	4/26/2011	4/26/2011
PCB 54 (BZ)	ng/g	1.4 J	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 55 (BZ)	ng/g	19	0.14 J	0.49 J	0.56 U	0.0099 U	0.041 QJ	0.38 U	0.24 U
PCB 56 (BZ)	ng/g	340	3.8	16	1.3	0.026	1	0.45	0.037 J
PCB 57 (BZ)	ng/g	2.8	0.49 U	0.096 J	0.56 U	0.0099 U	0.0083 J	0.38 U	0.24 U
PCB 58 (BZ)	ng/g	0.84 QJ	0.49 U	1.5 U	0.56 U	0.0068 QJ	0.0079 QJ	0.38 U	0.24 U
PCB 59 (BZ)	ng/g	61 C	0.57 C	2.6 C	0.15 QCJ	0.0027 QCJ	0.21 C	0.13 QCJ	0.24 U
PCB 60 (BZ)	ng/g	190	2	8.7	0.63	0.012 S	0.48	0.11 J	0.24 U
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	1300 BC	17 BC	65 BC	13 C	0.19 C	3.8 C	4.1 C	0.34 CJ
PCB 62 (BZ)	ng/g	61 C59	0.57 C59	2.6 C59	0.15 QC59J	0.0027 QC59J	0.21 C59	0.13 QC59J	0.24 U
PCB 63 (BZ)	ng/g	27	0.34 J	1.2 J	0.13 J	0.0017 QJ	0.071	0.045 QJ	0.24 U
PCB 64 (BZ)	ng/g	330	4	16	1.7	0.032	1.1	0.65	0.044 QJ
PCB 65 (BZ)	ng/g	760 BC44	9.1 BC44	36 BC44	5.2 C44	0.083 C44	2.6 C44	2.7 C44	0.24 C44
PCB 66 (BZ)	ng/g	650	8.1	34	3.6	0.065	1.9	2.3	0.24
PCB 67 (BZ)	ng/g	20	0.16 J	0.61 QJ	0.074 J	0.0099 U	0.047 J	0.38 U	0.24 U
PCB 68 (BZ)	ng/g	1.7 QJ	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.069 QJ	0.24 U
PCB 69 (BZ)	ng/g	450 C49	5.4 C49	22 C49	2.8 C49	0.047 C49	1.5 C49	3 C49	0.32 C49
PCB 70 (BZ)	ng/g	1300 BC61	17 BC61	65 BC61	13 C61	0.19 C61	3.8 C61	4.1 C61	0.34 C61J
PCB 71 (BZ)	ng/g	450 C40	4.9 C40	20 C40	1.3 C40	0.027 C40	1.5 C40	0.65 C40	0.045 QC40J
PCB 72 (BZ)	ng/g	3.6	0.49 U	0.13 QJ	0.56 U	0.0099 U	0.017 J	0.096 J	0.24 U
PCB 73 (BZ)	ng/g	27 C43	0.26 QC43J	0.84 QC43J	0.08 C43J	0.0099 U	0.091 C43	0.38 U	0.24 U
PCB 74 (BZ)	ng/g	1300 BC61	17 BC61	65 BC61	13 C61	0.19 C61	3.8 C61	4.1 C61	0.34 C61J
PCB 75 (BZ)	ng/g	61 C59	0.57 C59	2.6 C59	0.15 QC59J	0.0027 QC59J	0.21 C59	0.13 QC59J	0.24 U
PCB 76 (BZ)	ng/g	1300 BC61	17 BC61	65 BC61	13 C61	0.19 C61	3.8 C61	4.1 C61	0.34 C61J
PCB 77 (BZ)	ng/g	48	0.5	2.2 Q	0.21 J	0.0091 J	0.13	0.063 QJ	0.24 U
PCB 78 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 79 (BZ)	ng/g	4.1 Q	0.1 QJ	0.29 J	0.17 J	0.0025 QJ	0.014 QJ	0.074 QJ	0.24 U
PCB 80 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 81 (BZ)	ng/g	2.2	0.49 U	0.16 J	0.56 U	0.0099 U	0.0072 QJ	0.38 U	0.24 U
PCB 82 (BZ)	ng/g	83	0.86 Q	3.7	2.2	0.029	0.29	0.21 QJ	0.24 U
PCB 83 (BZ)	ng/g	280 C	4.4 C	15 C	9.5 C	0.13 C	0.93 C	3.3 C	0.24 CJ
PCB 84 (BZ)	ng/g	150	2.2	7.3	4.8	0.062	0.61	1	0.24 U
PCB 85 (BZ)	ng/g	100 C	1.5 C	5.5 C	3 C	0.042 C	0.34 C	0.45 C	0.24 U
PCB 86 (BZ)	ng/g	350 C	5.8 C	17 C	13 C	0.17 C	1.3 C	2.1 C	0.1 QCJ
PCB 87 (BZ)	ng/g	350 C86	5.8 C86	17 C86	13 C86	0.17 C86	1.3 C86	2.1 C86	0.1 QC86J
PCB 88 (BZ)	ng/g	82 C	1.2 C	3.6 C	2.3 C	0.027 C	0.31 C	0.74 C	0.24 U
PCB 89 (BZ)	ng/g	12	0.49 U	0.45 J	0.11 QJ	0.0099 U	0.03 QJ	0.38 U	0.24 U
PCB 90 (BZ)	ng/g	470 C	7.9 C	23 C	20 C	0.28 C	1.6 C	5.4 C	0.44 C
PCB 91 (BZ)	ng/g	82 C88	1.2 C88	3.6 C88	2.3 C88	0.027 C88	0.31 C88	0.74 C88	0.24 U
PCB 92 (BZ)	ng/g	79	1.2	3 Q	3.2	0.038	0.3	0.85	0.24 U
PCB 93 (BZ)	ng/g	7 C	0.49 U	1.5 U	0.56 U	0.0099 U	0.021 CJ	0.1 CJ	0.24 U
PCB 94 (BZ)	ng/g	3.4 Q	0.49 U	1.5 U	0.56 U	0.0099 U	0.015 J	0.38 U	0.24 U
PCB 95 (BZ)	ng/g	400	6.3	19	16	0.22	1.7	4.2	0.36 Q
PCB 96 (BZ)	ng/g	7.1	0.49 U	0.31 QJ	0.56 U	0.0099 U	0.025 J	0.38 U	0.24 U
PCB 97 (BZ)	ng/g	350 C86	5.8 C86	17 C86	13 C86	0.17 C86	1.3 C86	2.1 C86	0.1 QC86J
PCB 98 (BZ)	ng/g	22 C	0.23 QCJ	1.1 CJ	0.34 QCJ	0.0046 QCJ	0.065 QC	0.13 CJ	0.24 U
PCB 99 (BZ)	ng/g	280 C83	4.4 C83	15 C83	9.5 C83	0.13 C83	0.93 C83	3.3 C83	0.24 C83J
PCB 100 (BZ)	ng/g	7 C93	0.49 U	1.5 U	0.56 U	0.0099 U	0.021 C93J	0.1 C93J	0.24 U
PCB 101 (BZ)	ng/g	470 C90	7.9 C90	23 C90	20 C90	0.28 C90	1.6 C90	5.4 C90	0.44 C90
PCB 102 (BZ)	ng/g	22 C98	0.23 QC98J	1.1 C98J	0.34 QC98J	0.0046 QC98J	0.065 QC98	0.13 C98J	0.24 U
PCB 103 (BZ)	ng/g	3.5	0.49 U	1.5 U	0.56 U	0.0099 U	0.013 J	0.32 J	0.24 U
PCB 104 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 105 (BZ)	ng/g	200	4	12	8.6	0.11	0.56	1.1	0.24 U
PCB 106 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-032-2.5/4.5-R	UTC-SD-032-4.5/6.5	UTC-SD-034-0.5/2.5	UTC-SD-034-0.5/2.5-R	UTC-SD-035-0.0/0.9	UTC-SD-036-0.0/0.5	UTC-SD-036-0.5/2.5	UTC-SD-036-2.5/3.4
	Sample ID	11CU01-08	11CU01-09	11CU01-12	11CU01-13	E5AB8	E5AB9	E5AC0	E5AC1
	Interval	2.5 - 4.5	4.5 - 6.5	0.5 - 2.5	0.5 - 2.5	0 - 0.9	0 - 0.5	0.5 - 2.5	2.5 - 3.4
	Sample Date	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011
PCB 54 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 55 (BZ)	ng/g	0.24 U	0.39 U	0.055 J	0.052 QJ	390 U	370 U	85 QJ	49 QJ
PCB 56 (BZ)	ng/g	0.03 QJ	0.39 U	0.94	0.91	390 U	93 J	350 J	460 Q
PCB 57 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 58 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 59 (BZ)	ng/g	0.24 U	0.39 U	0.091 CJ	0.074 QCJ	390 U	370 U	400 U	390 U
PCB 60 (BZ)	ng/g	0.24 U	0.39 U	1.2	1.2	390 U	61 QJ	330 QJ	480
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	0.39 CJ	0.11 CJ	7.6 QC	7.7 C	210 QCJ	450 QCJ	2800 C	4400 C
PCB 62 (BZ)	ng/g	0.24 U	0.39 U	0.091 C59J	0.074 QC59J	390 U	370 U	400 U	390 U
PCB 63 (BZ)	ng/g	0.24 U	0.39 U	0.037 QJ	0.03 QJ	390 U	370 U	400 U	390 U
PCB 64 (BZ)	ng/g	0.046 QJ	0.39 U	2	2.1	60 J	100 J	540	800
PCB 65 (BZ)	ng/g	0.2 QC44J	0.041 QC44J	4 C44	3.9 C44	100 QC44J	230 C44J	1300 C44	2000 C44
PCB 66 (BZ)	ng/g	0.22 J	0.058 QJ	4.6	4.6	140 J	200 QJ	1300	2000
PCB 67 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 68 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 69 (BZ)	ng/g	0.3 C49	0.064 QC49J	1.3 C49	1.3 C49	84 C49J	110 C49J	630 C49	910 C49
PCB 70 (BZ)	ng/g	0.39 C61J	0.11 C61J	7.6 QC61	7.7 C61	210 QC61J	450 QC61J	2800 C61	4400 C61
PCB 71 (BZ)	ng/g	0.049 C40J	0.39 U	1.2 C40	1.2 C40	390 U	54 QC40J	480 C40	550 C40
PCB 72 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 73 (BZ)	ng/g	0.24 U	0.39 U	0.073 QC43J	0.4 U	390 U	370 U	400 U	390 U
PCB 74 (BZ)	ng/g	0.39 C61J	0.11 C61J	7.6 QC61	7.7 C61	210 QC61J	450 QC61J	2800 C61	4400 C61
PCB 75 (BZ)	ng/g	0.24 U	0.39 U	0.091 C59J	0.074 QC59J	390 U	370 U	400 U	390 U
PCB 76 (BZ)	ng/g	0.39 C61J	0.11 C61J	7.6 QC61	7.7 C61	210 QC61J	450 QC61J	2800 C61	4400 C61
PCB 77 (BZ)	ng/g	0.24 U	0.39 U	0.051 QJ	0.04 QJ	390 U	370 U	400 U	51 J
PCB 78 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 79 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.013 QJ	390 U	370 U	400 U	390 U
PCB 80 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 81 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 82 (BZ)	ng/g	0.24 U	0.39 U	0.25 J	0.21 QJ	390 U	370 U	220 QJ	450 Q
PCB 83 (BZ)	ng/g	0.18 QCJ	0.39 U	2.4 C	2.4 C	390 U	390 C	1600 C	2100 C
PCB 84 (BZ)	ng/g	0.053 QJ	0.39 U	0.54	0.56	390 U	160 J	600 Q	1100
PCB 85 (BZ)	ng/g	0.24 U	0.39 U	0.4 QCJ	0.54 C	390 U	370 U	410 QC	400 QC
PCB 86 (BZ)	ng/g	0.12 CJ	0.39 U	1.7 C	1.7 C	140 QCJ	470 C	1600 QC	2500 C
PCB 87 (BZ)	ng/g	0.12 C86J	0.39 U	1.7 C86	1.7 C86	140 QC86J	470 C86	1600 QC86	2500 C86
PCB 88 (BZ)	ng/g	0.07 CJ	0.39 U	0.16 QCJ	0.17 CJ	390 U	370 U	190 QCJ	390 C
PCB 89 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 90 (BZ)	ng/g	0.41 C	0.39 U	3.5 C	3.7 C	310 CJ	1000 C	4800 C	6500 C
PCB 91 (BZ)	ng/g	0.07 C88J	0.39 U	0.16 QC88J	0.17 C88J	390 U	370 U	190 QC88J	390 C88
PCB 92 (BZ)	ng/g	0.063 J	0.39 U	0.41 J	0.37 QJ	390 U	130 QJ	570	600 Q
PCB 93 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 94 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 95 (BZ)	ng/g	0.37	0.068 J	3	3	200 QJ	690 Q	4000	5500
PCB 96 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 97 (BZ)	ng/g	0.12 C86J	0.39 U	1.7 C86	1.7 C86	140 QC86J	470 C86	1600 QC86	2500 C86
PCB 98 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 99 (BZ)	ng/g	0.18 QC83J	0.39 U	2.4 C83	2.4 C83	390 U	390 C83	1600 C83	2100 C83
PCB 100 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 101 (BZ)	ng/g	0.41 C90	0.39 U	3.5 C90	3.7 C90	310 C90J	1000 C90	4800 C90	6500 C90
PCB 102 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 103 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 104 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 105 (BZ)	ng/g	0.05 J	0.39 U	1.7	1.7	90 QJ	280 J	1200	1700
PCB 106 (BZ)	ng/g	0.24 U	0.39 U	0.036 QJ	0.038 QJ	390 U	370 U	400 U	390 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-038-0.5/2.5	UTC-SD-038-0.5/2.5-R	UTC-SD-038-6.5/8.6	UTC-SD-038-6.5/8.6-R	UTC-SD-040-0.5/2.5	UTC-SD-043-0.5/2.5	UTC-SD-043-0.5/2.5-R	UTC-SD-043-2.5-3.3
Sample ID		11CU01-18B	11CU01-19B	11CU01-22	11CU01-23	11CU01-15	11CU02-53	11CU02-54	E5AT1
Interval		0.5 - 2.5	0.5 - 2.5	6.5 - 8.6	6.5 - 8.6	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	2.5 - 3.3
Sample Date		4/27/2011	4/27/2011	4/27/2011	4/27/2011	4/26/2011	5/4/2011	5/4/2011	5/4/2011
PCB 54 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 55 (BZ)	ng/g	23 QJ	150 U	6.9 J	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 56 (BZ)	ng/g	310	210	140	140	58 J	0.99 J	1.9 QJ	0.25 QJ
PCB 57 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 58 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 59 (BZ)	ng/g	42 QCJ	30 CJ	22 CJ	31 CJ	76 U	7.1 U	9.4 U	0.38 U
PCB 60 (BZ)	ng/g	330	260	140	160	44 QJ	0.95 QJ	3.8 J	0.27 QJ
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	2300 C	1600 C	680 C	780 C	550 C	11 QCJ	33 QBC	2 QBC
PCB 62 (BZ)	ng/g	42 QC59J	30 C59J	22 C59J	31 C59J	76 U	7.1 U	9.4 U	0.38 U
PCB 63 (BZ)	ng/g	190 U	150 U	9.8 J	11 J	76 U	7.1 U	9.4 U	0.38 U
PCB 64 (BZ)	ng/g	500 Q	360	170	190	69 J	2.5 J	8.3 J	0.48 Q
PCB 65 (BZ)	ng/g	1200 C44	790 C44	350 C44	410 C44	180 C44	5.3 C44J	16 BC44	1 QC44
PCB 66 (BZ)	ng/g	1200	820	430	480	200	6.1 J	20 B	1.2
PCB 67 (BZ)	ng/g	190 U	150 U	6.7 J	7.5 J	76 U	7.1 U	9.4 U	0.38 U
PCB 68 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 69 (BZ)	ng/g	580 C49	390 C49	200 C49	230 C49	73 C49J	2.5 C49J	5.8 C49J	0.51 C49
PCB 70 (BZ)	ng/g	2300 C61	1600 C61	680 C61	780 C61	550 C61	11 QC61J	33 QBC61	2 QBC61
PCB 71 (BZ)	ng/g	420 C40	310 C40	190 C40	220 C40	57 QC40J	1.2 QC40J	3.8 C40J	0.33 QC40J
PCB 72 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 73 (BZ)	ng/g	190 U	31 C43J	8.1 QC43J	8.3 QC43J	76 U	7.1 U	9.4 U	0.38 U
PCB 74 (BZ)	ng/g	2300 C61	1600 C61	680 C61	780 C61	550 C61	11 QC61J	33 QBC61	2 QBC61
PCB 75 (BZ)	ng/g	42 QC59J	30 C59J	22 C59J	31 C59J	76 U	7.1 U	9.4 U	0.38 U
PCB 76 (BZ)	ng/g	2300 C61	1600 C61	680 C61	780 C61	550 C61	11 QC61J	33 QBC61	2 QBC61
PCB 77 (BZ)	ng/g	44 QJ	37 J	25 QJ	32 J	8.1 QJ	7.1 U	9.4 U	0.38 U
PCB 78 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 79 (BZ)	ng/g	190 U	150 U	30 U	38 U	9.3 QJ	7.1 U	9.4 U	0.38 U
PCB 80 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 81 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 82 (BZ)	ng/g	210	120 QJ	29 J	25 J	300	7.1 U	9.4 U	0.38 U
PCB 83 (BZ)	ng/g	1300 C	750 QC	160 C	160 C	660 QC	3.9 QCJ	10 C	1.2 C
PCB 84 (BZ)	ng/g	430 Q	330	60	52 Q	180 Q	1.2 J	1.9 J	0.38 U
PCB 85 (BZ)	ng/g	350 C	200 QC	45 QC	50 C	310 C	7.1 U	1.7 QCJ	0.38 U
PCB 86 (BZ)	ng/g	1400 C	910 C	170 C	170 C	1500 C	2.9 QCJ	6.7 QCJ	0.99 QC
PCB 87 (BZ)	ng/g	1400 C86	910 C86	170 C86	170 C86	1500 C86	2.9 QC86J	6.7 QC86J	0.99 QC86
PCB 88 (BZ)	ng/g	180 QCJ	120 QCJ	29 QCJ	26 CJ	55 QCJ	7.1 U	9.4 U	0.38 U
PCB 89 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 90 (BZ)	ng/g	3700 C	2800 C	600 C	640 C	1600 C	6.4 QCJ	17 C	2 BC
PCB 91 (BZ)	ng/g	180 QC88J	120 QC88J	29 QC88J	26 C88J	55 QC88J	7.1 U	9.4 U	0.38 U
PCB 92 (BZ)	ng/g	350 Q	260	55	51	190	7.1 U	1.8 QJ	0.38 U
PCB 93 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 94 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 95 (BZ)	ng/g	3500	2600	620	700	630	4.9 J	12	1.3
PCB 96 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 97 (BZ)	ng/g	1400 C86	910 C86	170 C86	170 C86	1500 C86	2.9 QC86J	6.7 QC86J	0.99 QC86
PCB 98 (BZ)	ng/g	40 QCJ	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 99 (BZ)	ng/g	1300 C83	750 QC83	160 C83	160 C83	660 QC83	3.9 QC83J	10 C83	1.2 C83
PCB 100 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 101 (BZ)	ng/g	3700 C90	2800 C90	600 C90	640 C90	1600 C90	6.4 QC90J	17 C90	2 BC90
PCB 102 (BZ)	ng/g	40 QC98J	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 103 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 104 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 105 (BZ)	ng/g	1000	680	130	130	3700	7 J	13	1.7
PCB 106 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-044-0.5/2.2	UTC-SD-047-0.0/0.5	UTC-SD-047-0.5/2.1	UTC-SD-048-0.0/0.5	UTC-SD-048-2.5/4.5	UTC-SD-048-6.5/8.4	UTC-SD-050-0.0/0.5	UTC-SD-050-4.5/6.6
Sample ID		11CU02-47	E5AX8	E5AY4	E5AW0	11CU02-65	E5AW4	E5B00	11CU03-05
Interval		0.5 - 2.2	0 - 0.5	0.5 - 2.1	0 - 0.5	2.5 - 4.5	6.5 - 8.4	0 - 0.5	4.5 - 6.6
Sample Date		5/3/2011	5/4/2011	5/4/2011	5/4/2011	5/4/2011	5/4/2011	5/5/2011	5/5/2011
PCB 54 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	0.6 J	0.05 U	0.21 QJ	0.41 U
PCB 55 (BZ)	ng/g	0.15 QJ	0.29 QJ	0.4 U	0.068 J	0.59 QJ	0.32	0.41 U	0.41 U
PCB 56 (BZ)	ng/g	1.6 QJ	3.4	0.48	0.82	9.1	0.041 J	1.4	0.087 J
PCB 57 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	0.2 QJ	0.05 U	0.41 U	0.41 U
PCB 58 (BZ)	ng/g	3.7 U	0.058 QJ	0.4 U	0.12 J	0.8 J	0.05 U	0.094 QJ	0.41 U
PCB 59 (BZ)	ng/g	0.24 CJ	0.88 C	0.088 QCJ	0.3 CJ	5.5 C	0.034 CJ	0.45 QC	0.41 U
PCB 60 (BZ)	ng/g	1.6 J	0.54	0.4 U	0.21 QJ	0.7 QJ	0.012 QJ	0.34 QJ	0.043 J
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	16 BC	25 BC	3 BC	10 BC	150 BC	0.59 BC	18 BC	1.1 BC
PCB 62 (BZ)	ng/g	0.24 C59J	0.88 C59	0.088 QC59J	0.3 C59J	5.5 C59	0.034 C59J	0.45 QC59	0.41 U
PCB 63 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.1 J	0.69 QJ	0.0082 QJ	0.14 QJ	0.41 U
PCB 64 (BZ)	ng/g	3.8	4.3	0.83	1.8	31	0.14	2.9 Q	0.15 J
PCB 65 (BZ)	ng/g	9.2 BC44	17 C44	2.2 C44	8.4 C44	170 BC44	0.63 C44	18 C44	0.76 BC44
PCB 66 (BZ)	ng/g	7.7 B	16	2.1	3.7	100 B	0.05 U	6.1	0.48 B
PCB 67 (BZ)	ng/g	3.7 U	0.15 QJ	0.4 U	0.077 QJ	2.4	0.05 U	0.15 QJ	0.41 U
PCB 68 (BZ)	ng/g	0.083 QJ	0.38 QJ	0.4 U	0.23 QJ	4.6	0.02 QJ	0.73	0.025 J
PCB 69 (BZ)	ng/g	6.7 C49	16 C49	1.8 C49	13 C49	230 C49	0.73 C49	28 C49	0.83 C49
PCB 70 (BZ)	ng/g	16 BC61	25 BC61	3 BC61	10 BC61	150 BC61	0.59 BC61	18 BC61	1.1 BC61
PCB 71 (BZ)	ng/g	2.7 C40J	5.4 C40	0.69 C40	1.9 C40	45 C40	0.16 C40	5.3 C40	0.17 C40J
PCB 72 (BZ)	ng/g	3.7 U	0.5	0.074 J	0.47 Q	7.9	0.04 J	1 Q	0.027 J
PCB 73 (BZ)	ng/g	3.7 U	0.34 QC43J	0.079 QC43J	0.13 QC43J	1.9 U	0.0088 QC43J	0.32 QC43J	0.41 U
PCB 74 (BZ)	ng/g	16 BC61	25 BC61	3 BC61	10 BC61	150 BC61	0.59 BC61	18 BC61	1.1 BC61
PCB 75 (BZ)	ng/g	0.24 C59J	0.88 C59	0.088 QC59J	0.3 C59J	5.5 C59	0.034 C59J	0.45 QC59	0.41 U
PCB 76 (BZ)	ng/g	16 BC61	25 BC61	3 BC61	10 BC61	150 BC61	0.59 BC61	18 BC61	1.1 BC61
PCB 77 (BZ)	ng/g	0.18 QJ	0.46 Q	0.07 QJ	0.2 J	0.86 QJ	0.011 QJ	0.27 J	0.41 U
PCB 78 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 79 (BZ)	ng/g	3.7 U	0.14 QJ	0.4 U	0.07 QJ	0.87 J	0.0076 QJ	0.1 J	0.41 U
PCB 80 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 81 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.031 QJ	1.9 U	0.05 U	0.41 U	0.41 U
PCB 82 (BZ)	ng/g	0.63 QJ	0.52	0.4 U	0.59 Q	4.7	0.025 J	0.89	0.41 U
PCB 83 (BZ)	ng/g	8.6 C	17 C	1.5 C	8.9 C	130 C	0.05 U	13 C	0.44 QC
PCB 84 (BZ)	ng/g	1.7 QJ	4.1	0.47 Q	3.4	45	0.05 U	6.5	0.41 U
PCB 85 (BZ)	ng/g	1.6 CJ	0.98 QC	0.094 QCJ	1.2 C	8.8 C	0.045 QCJ	1.7 C	0.11 CJ
PCB 86 (BZ)	ng/g	6.9 C	6.7 QC	0.69 QC	5 C	54 C	0.25 C	6.6 C	0.37 QCJ
PCB 87 (BZ)	ng/g	6.9 C86	6.7 QC86	0.69 QC86	5 C86	54 C86	0.25 C86	6.6 C86	0.37 QC86J
PCB 88 (BZ)	ng/g	0.97 QCJ	5 C	0.42 QC	3.1 C	52 C	0.2 C	6.3 C	0.078 QCJ
PCB 89 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	0.57 QJ	0.05 U	0.41 U	0.41 U
PCB 90 (BZ)	ng/g	24 C	24 BC	2 BC	18 BC	180 C	0.66 BC	20 BC	0.89 C
PCB 91 (BZ)	ng/g	0.97 QC88J	5 C88	0.42 QC88	3.1 C88	52 C88	0.2 C88	6.3 C88	0.078 QC88J
PCB 92 (BZ)	ng/g	2.7 J	2.6	0.29 J	4.8	37	0.13 Q	6.2	0.23 J
PCB 93 (BZ)	ng/g	0.23 QCJ	0.76 C	0.093 QCJ	0.56 C	8.4 C	0.017 QCJ	1 C	0.41 U
PCB 94 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	0.65 QJ	0.05 U	0.21 QJ	0.41 U
PCB 95 (BZ)	ng/g	19	27	2.3	19	230	0.87	26	0.72 Q
PCB 96 (BZ)	ng/g	3.7 U	0.24 QJ	0.4 U	0.11 J	1.9 Q	0.05 U	0.39 J	0.41 U
PCB 97 (BZ)	ng/g	6.9 C86	6.7 QC86	0.69 QC86	5 C86	54 C86	0.25 C86	6.6 C86	0.37 QC86J
PCB 98 (BZ)	ng/g	3.7 U	1.4 C	0.12 QCJ	0.51 C	5.8 QC	0.033 QCJ	0.93 C	0.41 U
PCB 99 (BZ)	ng/g	8.6 C83	17 C83	1.5 C83	8.9 C83	130 C83	0.05 U	13 C83	0.44 QC83
PCB 100 (BZ)	ng/g	0.23 QC93J	0.76 C93	0.093 QC93J	0.56 C93	8.4 C93	0.017 QC93J	1 C93	0.41 U
PCB 101 (BZ)	ng/g	24 C90	24 BC90	2 BC90	18 BC90	180 C90	0.66 BC90	20 BC90	0.89 C90
PCB 102 (BZ)	ng/g	3.7 U	1.4 C98	0.12 QC98J	0.51 C98	5.8 QC98	0.033 QC98J	0.93 C98	0.41 U
PCB 103 (BZ)	ng/g	3.7 U	1.7 Q	0.14 QJ	1.4	19	0.098	1.8	0.41 U
PCB 104 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 105 (BZ)	ng/g	5.8	2.4	0.2 J	2.1	12	0.052 Q	2.8	1.5 Q
PCB 106 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-054-6.5/9.2	UTC-SD-062-0.5/2.4	UTC-SD-063-0.5/2.2	UTC-SD-066-2.5/4.5	UTC-SD-067-4.5/6.5	UTC-SD-080-0.5/2.5	UTC-SD-080-0.5/2.5-R	UTC-SD-080-2.5/3.2
Sample ID		11CU02-03	11CU02-38	11CU02-45	11CU02-17	11CU02-23	11CU06-18	11CU06-19	11CU06-20
Interval		6.5 - 9.2	0.5 - 2.4	0.5 - 2.2	2.5 - 4.5	4.5 - 6.5	0.5 - 2.5	0.5 - 2.5	2.5 - 3.2
Sample Date		5/2/2011	5/3/2011	5/3/2011	5/2/2011	5/2/2011	6/15/2011	6/15/2011	6/15/2011
PCB 54 (BZ)	ng/g	0.37 U	0.37 U	0.0076 J	2	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 55 (BZ)	ng/g	0.37 U	0.1 J	0.0096 U	21 Q	2.6	0.0098 U	0.0096 U	0.0095 U
PCB 56 (BZ)	ng/g	0.18 QJ	2.6	0.017	560	58	0.012	0.016	0.0044 SJ
PCB 57 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	4.5	0.49 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 58 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	1.9 J	0.21 QJ	0.0013 QJ	0.0096 U	0.0095 U
PCB 59 (BZ)	ng/g	0.044 QCJ	0.41 C	0.0089 CJ	95 C	12 C	0.0035 QCJ	0.0038 CJ	0.0009 QCJ
PCB 60 (BZ)	ng/g	0.076 J	1.1	0.0069 J	290	23	0.0047 QSJ	0.0065 SJ	0.0016 QJ
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	1.4 BC	11 BC	0.079 BC	2000 BC	240 BC	0.045 C	0.054 C	0.017 CJ
PCB 62 (BZ)	ng/g	0.044 QC59J	0.41 C59	0.0089 C59J	95 C59	12 C59	0.0035 QC59J	0.0038 C59J	0.0009 QC59J
PCB 63 (BZ)	ng/g	0.036 J	0.22 J	0.0034 J	45	5.5	0.0098 U	0.00075 QJ	0.0095 U
PCB 64 (BZ)	ng/g	0.27 J	2.4	0.018	530	58	0.016	0.02	0.0044 QJ
PCB 65 (BZ)	ng/g	0.8 BC44	5.8 BC44	0.42 BC44	1200 BC44	130 BC44	0.039 C44	0.044 C44	0.012 C44
PCB 66 (BZ)	ng/g	0.82 B	5.5 B	0.042 B	1100 B	120 B	0.024	0.027	0.0085 J
PCB 67 (BZ)	ng/g	0.37 U	0.13 J	0.00074 QJ	27	3.5	0.0098 U	0.0096 U	0.0095 U
PCB 68 (BZ)	ng/g	0.37 U	0.37 U	0.0038 J	2.7	0.6 J	0.0098 U	0.0096 U	0.0095 U
PCB 69 (BZ)	ng/g	0.51 C49	3.6 C49	0.17 C49	730 C49	85 C49	0.021 C49	0.023 C49	0.005 QC49J
PCB 70 (BZ)	ng/g	1.4 BC61	11 BC61	0.079 BC61	2000 BC61	240 BC61	0.045 C61	0.054 C61	0.017 C61J
PCB 71 (BZ)	ng/g	0.21 C40J	3.1 C40	0.038 C40	710 C40	75 C40	0.021 C40	0.026 C40	0.0047 C40J
PCB 72 (BZ)	ng/g	0.37 U	0.032 QJ	0.0096 U	5.1	0.92 J	0.0098 U	0.0096 U	0.0095 U
PCB 73 (BZ)	ng/g	0.37 U	0.16 QC43J	0.01 C43	45 C43	5.2 C43	0.0098 U	0.0011 QC43J	0.0095 U
PCB 74 (BZ)	ng/g	1.4 BC61	11 BC61	0.079 BC61	2000 BC61	240 BC61	0.045 C61	0.054 C61	0.017 C61J
PCB 75 (BZ)	ng/g	0.044 QC59J	0.41 C59	0.0089 C59J	95 C59	12 C59	0.0035 QC59J	0.0038 C59J	0.0009 QC59J
PCB 76 (BZ)	ng/g	1.4 BC61	11 BC61	0.079 BC61	2000 BC61	240 BC61	0.045 C61	0.054 C61	0.017 C61J
PCB 77 (BZ)	ng/g	0.37 U	0.43	0.0036 J	81	9.5	0.0018 J	0.0025 QJ	0.0095 U
PCB 78 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 79 (BZ)	ng/g	0.37 U	0.051 J	0.0009 J	6.5	0.91 QJ	0.0098 U	0.00058 QJ	0.0095 U
PCB 80 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 81 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	3.2	0.36 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 82 (BZ)	ng/g	0.052 QJ	0.92	0.0089 J	130	16	0.0058 J	0.0065 J	0.0095 U
PCB 83 (BZ)	ng/g	0.79 C	4.2 C	0.18 C	420 C	69 C	0.014 QC	0.017 C	0.0057 CJ
PCB 84 (BZ)	ng/g	0.2 QJ	2	0.017	230	32	0.012	0.01 Q	0.0029 QJ
PCB 85 (BZ)	ng/g	0.16 QCJ	1.2 C	0.027 C	160 C	22 C	0.0035 QCJ	0.0044 QCJ	0.0019 QCJ
PCB 86 (BZ)	ng/g	0.47 QC	4.9 C	0.096 C	510 C	80 C	0.018 QC	0.023 C	0.0082 QCJ
PCB 87 (BZ)	ng/g	0.47 QC86	4.9 C86	0.096 C86	510 C86	80 C86	0.018 QC86	0.023 C86	0.0082 QC86J
PCB 88 (BZ)	ng/g	0.093 QCJ	0.93 C	0.23 C	130 C	16 C	0.0072 CJ	0.0061 QCJ	0.0016 QCJ
PCB 89 (BZ)	ng/g	0.37 U	0.076 QJ	0.0096 U	22	1.7	0.0098 U	0.0096 U	0.0095 U
PCB 90 (BZ)	ng/g	1 C	7.7 C	0.32 C	600 C	140 C	0.031 QC	0.033 C	0.011 C
PCB 91 (BZ)	ng/g	0.093 QC88J	0.93 C88	0.23 C88	130 C88	16 C88	0.0072 C88J	0.0061 QC88J	0.0016 QC88J
PCB 92 (BZ)	ng/g	0.17 J	1.3	0.099	100	24	0.0063 J	0.0054 J	0.0095 U
PCB 93 (BZ)	ng/g	0.37 U	0.081 CJ	0.095 C	11 C	1.1 QCJ	0.0098 U	0.0096 U	0.0095 U
PCB 94 (BZ)	ng/g	0.37 U	0.37 U	0.047	5.7	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 95 (BZ)	ng/g	0.71	6	0.082	520	110	0.041	0.037 Q	0.01 Q
PCB 96 (BZ)	ng/g	0.37 U	0.37 U	0.023	12	1 J	0.0098 U	0.0096 U	0.0095 U
PCB 97 (BZ)	ng/g	0.47 QC86	4.9 C86	0.096 C86	510 C86	80 C86	0.018 QC86	0.023 C86	0.0082 QC86J
PCB 98 (BZ)	ng/g	0.37 U	0.21 CJ	0.027 C	37 C	3.9 C	0.0098 U	0.0096 U	0.0095 U
PCB 99 (BZ)	ng/g	0.79 C83	4.2 C83	0.18 C83	420 C83	69 C83	0.014 QC83	0.017 C83	0.0057 C83J
PCB 100 (BZ)	ng/g	0.37 U	0.081 C93J	0.095 C93	11 C93	1.1 QC93J	0.0098 U	0.0096 U	0.0095 U
PCB 101 (BZ)	ng/g	1 C90	7.7 C90	0.32 C90	600 C90	140 C90	0.031 QC90	0.033 C90	0.011 C90
PCB 102 (BZ)	ng/g	0.37 U	0.21 C98J	0.027 C98	37 C98	3.9 C98	0.0098 U	0.0096 U	0.0095 U
PCB 103 (BZ)	ng/g	0.37 U	0.37 U	0.041	4.2	1.2 J	0.0098 U	0.0096 U	0.0095 U
PCB 104 (BZ)	ng/g	0.37 U	0.37 U	0.0041 J	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 105 (BZ)	ng/g	0.29 J	2.3	0.057	250	47	0.0087 J	0.012	0.0046 J
PCB 106 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	0.23 QJ	1.5 U	0.0098 U	0.0096 U	0.0095 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-081-0.5/2.9	UTC-SD-082-0.0/0.5	UTC-SD-082-0.5/1.6	UTC-SD-083-0.5/2.2	UTC-SD-085-0.5/2.5	UTC-SD-090-0.0/0.9	UTC-SG-009-0.0/0.5	UTC-SG-020-0.0/0.5
	Sample ID	11CU06-22	11CU06-23	11CU06-24	11CU06-26	11CU06-30	11CU06-41	11CU01-87	11CU02-38B
	Interval	0.5 - 2.9	0 - 0.5	0.5 - 1.6	0.5 - 2.2	0.5 - 2.5	0 - 0.9	0 - 0.5	0 - 0.5
	Sample Date	6/15/2011	6/15/2011	6/15/2011	6/15/2011	6/15/2011	6/16/2011	5/2/2011	5/3/2011
PCB 54 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	1 QJ	0.43 U	0.074
PCB 55 (BZ)	ng/g	0.049 U	0.12 QJ	0.023 QJ	1.8 U	3.5 U	14	2.1 Q	0.25
PCB 56 (BZ)	ng/g	0.049 U	2	0.54	8.8	26	200	56	8.3
PCB 57 (BZ)	ng/g	0.049 U	0.39 U	0.0027 QJ	1.8 U	3.5 U	1.5 QJ	0.75 Q	0.065
PCB 58 (BZ)	ng/g	0.049 U	0.39 U	0.0026 J	1.8 U	1 QJ	0.7 J	0.62 Q	0.033 J
PCB 59 (BZ)	ng/g	0.049 U	0.53 C	0.11 C	2.8 C	5.6 C	42 C	12 C	1.3 C
PCB 60 (BZ)	ng/g	0.049 U	1	0.27	1.2 QJ	12	120	22	3.8
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	0.027 QCJ	8.3 C	2.1 C	79 C	210 C	910 C	220 BC	28 BC
PCB 62 (BZ)	ng/g	0.049 U	0.53 C59	0.11 C59	2.8 C59	5.6 C59	42 C59	12 C59	1.3 C59
PCB 63 (BZ)	ng/g	0.049 U	0.12 QJ	0.036 J	0.61 QJ	4.7	16	5.2	0.55
PCB 64 (BZ)	ng/g	0.0087 J	2.5	0.52	23	41	230	57	7.1
PCB 65 (BZ)	ng/g	0.018 QC44J	5.4 C44	1.1 C44	68 C44	120 C44	550 C44	140 BC44	16 BC44
PCB 66 (BZ)	ng/g	0.02 QJ	4.2	1.2	56	150	440	100 B	16 B
PCB 67 (BZ)	ng/g	0.049 U	0.11 J	0.029 J	1.8 U	0.65 QJ	13	4.5	0.42
PCB 68 (BZ)	ng/g	0.049 U	0.39 U	0.007 QJ	1.2 J	3.9	3.7	0.62	0.076
PCB 69 (BZ)	ng/g	0.015 C49J	3.3 C49	0.77 C49	65 C49	82 C49	360 C49	84 C49	9.5 C49
PCB 70 (BZ)	ng/g	0.027 QC61J	8.3 C61	2.1 C61	79 C61	210 C61	910 C61	220 BC61	28 BC61
PCB 71 (BZ)	ng/g	0.0092 C40J	3 C40	0.61 C40	19 QC40	32 C40	310 C40	76 C40	9.1 C40
PCB 72 (BZ)	ng/g	0.049 U	0.055 J	0.014 J	1.5 QJ	4.2	5.3	1	0.097
PCB 73 (BZ)	ng/g	0.049 U	0.12 QC43J	0.032 C43J	1.8 U	2 QC43J	17 C43	5.5 C43	0.46 QC43
PCB 74 (BZ)	ng/g	0.027 QC61J	8.3 C61	2.1 C61	79 C61	210 C61	910 C61	220 BC61	28 BC61
PCB 75 (BZ)	ng/g	0.049 U	0.53 C59	0.11 C59	2.8 C59	5.6 C59	42 C59	12 C59	1.3 C59
PCB 76 (BZ)	ng/g	0.027 QC61J	8.3 C61	2.1 C61	79 C61	210 C61	910 C61	220 BC61	28 BC61
PCB 77 (BZ)	ng/g	0.049 U	0.34 J	0.12	1.1 J	3.2 QJ	31	8.8	1.5
PCB 78 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 79 (BZ)	ng/g	0.049 U	0.066 J	0.013 J	0.41 J	2.1 QJ	3.7	1.2	0.11
PCB 80 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 81 (BZ)	ng/g	0.049 U	0.39 U	0.0042 J	1.8 U	3.5 U	1.1 QJ	0.14 J	0.049
PCB 82 (BZ)	ng/g	0.049 U	0.43 Q	0.17	1.8 QJ	28	58	13	1.6
PCB 83 (BZ)	ng/g	0.014 CJ	2.4 C	0.57 C	59 C	270 C	260 C	53 C	5.7 C
PCB 84 (BZ)	ng/g	0.049 U	1.6	0.31 Q	9.5 Q	52	110	27	3.2
PCB 85 (BZ)	ng/g	0.049 U	0.73 C	0.2 C	4.1 C	44 C	75 C	18 C	2 C
PCB 86 (BZ)	ng/g	0.013 QCJ	2.8 C	0.67 C	21 C	190 C	260 C	63 C	7.3 C
PCB 87 (BZ)	ng/g	0.013 QC86J	2.8 C86	0.67 C86	21 C86	190 C86	260 C86	63 C86	7.3 C86
PCB 88 (BZ)	ng/g	0.049 U	0.76 C	0.21 C	9.1 C	23 C	60 C	14 C	1.9 C
PCB 89 (BZ)	ng/g	0.049 U	0.39 U	0.021 J	1.8 U	3.5 U	8.9	1.5 Q	0.17
PCB 90 (BZ)	ng/g	0.03 CJ	4.4 C	1.2 C	73 C	470 C	400 C	110 C	11 C
PCB 91 (BZ)	ng/g	0.049 U	0.76 C88	0.21 C88	9.1 C88	23 C88	60 C88	14 C88	1.9 C88
PCB 92 (BZ)	ng/g	0.049 U	0.8 Q	0.33	21	96	75	19	1.9
PCB 93 (BZ)	ng/g	0.049 U	0.39 U	0.018 QCJ	3 C	2.9 QCJ	5.7 QC	1.3 QC	0.37 C
PCB 94 (BZ)	ng/g	0.049 U	0.39 U	0.01 QJ	1.8 U	3.5 U	2.5	0.5	0.14
PCB 95 (BZ)	ng/g	0.025 QJ	5	1.1	57	340	330	88	9.4
PCB 96 (BZ)	ng/g	0.049 U	0.39 U	0.013 J	1.8 U	3.5 U	5.2	1	0.14
PCB 97 (BZ)	ng/g	0.013 QC86J	2.8 C86	0.67 C86	21 C86	190 C86	260 C86	63 C86	7.3 C86
PCB 98 (BZ)	ng/g	0.049 U	0.16 QCJ	0.051 C	2.1 C	5.4 QC	17 C	3.4 C	0.41 C
PCB 99 (BZ)	ng/g	0.014 C83J	2.4 C83	0.57 C83	59 C83	270 C83	260 C83	53 C83	5.7 C83
PCB 100 (BZ)	ng/g	0.049 U	0.39 U	0.018 QC93J	3 C93	2.9 QC93J	5.7 QC93	1.3 QC93	0.37 C93
PCB 101 (BZ)	ng/g	0.03 C90J	4.4 C90	1.2 C90	73 C90	470 C90	400 C90	110 C90	11 C90
PCB 102 (BZ)	ng/g	0.049 U	0.16 QC98J	0.051 C98	2.1 C98	5.4 QC98	17 C98	3.4 C98	0.41 C98
PCB 103 (BZ)	ng/g	0.049 U	0.39 U	0.038 QJ	7	16	7.8	1	0.17
PCB 104 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.012 QJ
PCB 105 (BZ)	ng/g	0.011 J	1.4	0.33	8.7	180	150	36	4.3
PCB 106 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SG-027-0.0/0.5	UTC-SG-028-0.0/0.5	UTC-SG-029-0.0/0.5	UTC-SG-030-0.0/0.5	UTC-SG-031-0.0/0.5	UTC-SG-032-0.0/0.5	UTC-SG-033-0.0/0.5	UTC-SG-034-0.0/0.5
Sample ID		11CU03-11	11CU03-12	E5B11	E5B13	E5B15	E5B12	E5B23	E5B22
Interval		0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Sample Date		5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/6/2011	5/6/2011
PCB 54 (BZ)	ng/g	62 U	260 U	48 U	20 U	3.1	0.39 U	1.5 U	2 U
PCB 55 (BZ)	ng/g	62 U	260 U	7.2 QJ	2.4 QJ	3.3 Q	0.25 QJ	0.62 J	0.89 QJ
PCB 56 (BZ)	ng/g	9.3 J	28 QJ	43 QJ	7.4 J	33	2.4	11	9.5
PCB 57 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.21 QJ	0.39 U	1.5 U	2 U
PCB 58 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.37 QJ	0.047 QJ	0.41 QJ	0.32 QJ
PCB 59 (BZ)	ng/g	62 U	260 U	48 U	20 U	12 C	0.42 QC	2.5 C	2.3 QC
PCB 60 (BZ)	ng/g	7 J	26 QJ	61	2.8 QJ	48	1.1	3.8	5
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	93 BCJ	300 BCJ	580 BC	84 BC	400 BC	16 BC	64 BC	70 BC
PCB 62 (BZ)	ng/g	62 U	260 U	48 U	20 U	12 C59	0.42 QC59	2.5 C59	2.3 QC59
PCB 63 (BZ)	ng/g	62 U	260 U	48 U	20 U	18	0.26 J	1 QJ	0.77 J
PCB 64 (BZ)	ng/g	14 QJ	60 J	140	11 QJ	88	3.4	12	17
PCB 65 (BZ)	ng/g	36 BC44J	140 BC44J	360 C44	52 C44	220 C44	11 C44	38 C44	59 C44
PCB 66 (BZ)	ng/g	47 BJ	140 BJ	410	50	200	9.6	36	36
PCB 67 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.95	0.12 J	0.54 J	0.48 QJ
PCB 68 (BZ)	ng/g	62 U	260 U	6.4 QJ	20 U	4.5	0.66	0.72 J	1.2 J
PCB 69 (BZ)	ng/g	19 C49J	99 C49J	200 C49	52 C49	120 C49	8.4 C49	31 C49	53 C49
PCB 70 (BZ)	ng/g	93 BC61J	300 BC61J	580 BC61	84 BC61	400 BC61	16 BC61	64 BC61	70 BC61
PCB 71 (BZ)	ng/g	13 C40J	39 C40J	110 QC40	8.4 QC40J	56 C40	4.2 C40	11 C40	17 C40
PCB 72 (BZ)	ng/g	62 U	260 U	48 U	20 U	4.4	0.66	1.1 J	1.4 J
PCB 73 (BZ)	ng/g	62 U	260 U	18 QC43J	20 U	8.7 C43	0.22 C43J	1.3 QC43J	1.5 C43J
PCB 74 (BZ)	ng/g	93 BC61J	300 BC61J	580 BC61	84 BC61	400 BC61	16 BC61	64 BC61	70 BC61
PCB 75 (BZ)	ng/g	62 U	260 U	48 U	20 U	12 C59	0.42 QC59	2.5 C59	2.3 QC59
PCB 76 (BZ)	ng/g	93 BC61J	300 BC61J	580 BC61	84 BC61	400 BC61	16 BC61	64 BC61	70 BC61
PCB 77 (BZ)	ng/g	62 U	260 U	48 U	20 U	2.2	0.31 QJ	1.9	1.5 J
PCB 78 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.39 U	0.39 U	1.5 U	2 U
PCB 79 (BZ)	ng/g	62 U	260 U	48 U	20 U	1.5	0.2 J	0.59 QJ	0.58 J
PCB 80 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.39 U	0.39 U	1.5 U	2 U
PCB 81 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.73	0.39 U	1.5 U	2 U
PCB 82 (BZ)	ng/g	24 J	260 U	53 Q	12 QJ	14	1.8	8.8	9.1
PCB 83 (BZ)	ng/g	69 QC	100 QCJ	480 C	89 C	190 C	19 C	70 C	52 C
PCB 84 (BZ)	ng/g	22 J	36 QJ	72 Q	9.3 QJ	40	2.3	21	20
PCB 85 (BZ)	ng/g	32 CJ	260 U	68 QC	6.9 CJ	40 C	2.8 C	12 C	11 C
PCB 86 (BZ)	ng/g	150 C	120 QCJ	250 QC	60 QC	120 C	11 C	51 C	48 C
PCB 87 (BZ)	ng/g	150 C86	120 QC86J	250 QC86	60 QC86	120 C86	11 C86	51 C86	48 C86
PCB 88 (BZ)	ng/g	62 U	21 QCJ	39 QCJ	11 CJ	30 C	1.8 C	13 C	9.7 C
PCB 89 (BZ)	ng/g	62 U	260 U	48 U	20 U	1.2	0.39 U	0.84 QJ	0.87 J
PCB 90 (BZ)	ng/g	200 C	360 C	530 BC	100 BC	270 BC	17 BC	110 BC	99 BC
PCB 91 (BZ)	ng/g	62 U	21 QC88J	39 QC88J	11 C88J	30 C88	1.8 C88	13 C88	9.7 C88
PCB 92 (BZ)	ng/g	18 QJ	260 U	77 Q	11 QJ	65	4.4	21	19
PCB 93 (BZ)	ng/g	62 U	260 U	48 U	20 U	16 C	0.3 QCJ	7.4 C	1.7 QCJ
PCB 94 (BZ)	ng/g	62 U	260 U	48 U	20 U	2	0.39 U	1.5 U	2 U
PCB 95 (BZ)	ng/g	95	250 J	300	48	180	9	75	79
PCB 96 (BZ)	ng/g	62 U	260 U	48 U	20 U	1.7	0.39 U	0.64 J	2 U
PCB 97 (BZ)	ng/g	150 C86	120 QC86J	250 QC86	60 QC86	120 C86	11 C86	51 C86	48 C86
PCB 98 (BZ)	ng/g	62 U	260 U	48 U	20 U	5.1 C	0.15 QCJ	2.6 C	1.8 QCJ
PCB 99 (BZ)	ng/g	69 QC83	100 QC83J	480 C83	89 C83	190 C83	19 C83	70 C83	52 C83
PCB 100 (BZ)	ng/g	62 U	260 U	48 U	20 U	16 C93	0.3 QC93J	7.4 C93	1.7 QC93J
PCB 101 (BZ)	ng/g	200 C90	360 C90	530 BC90	100 BC90	270 BC90	17 BC90	110 BC90	99 BC90
PCB 102 (BZ)	ng/g	62 U	260 U	48 U	20 U	5.1 C98	0.15 QC98J	2.6 C98	1.8 QC98J
PCB 103 (BZ)	ng/g	62 U	260 U	48 U	20 U	11	0.41	3 Q	2.1 Q
PCB 104 (BZ)	ng/g	62 U	260 U	48 U	20 U	1.1	0.39 U	1.5 U	2 U
PCB 105 (BZ)	ng/g	410	74 QJ	460	98	82	8.5	23	68
PCB 106 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.22 J	17	0.36 QJ	2 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SG-035-0.0/0.5	UTC-SG-037-0.0/0.5	UTC-SG-038-0.0/0.5-R	UTC-SG-039-0.0/0.5	UTC-SG-040-0.0/0.5
Sample ID		E5B25	E5B20	E5B19	11CU03-17	E5B16
Interval		0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Sample Date		5/6/2011	5/6/2011	5/6/2011	5/6/2011	5/6/2011
PCB 54 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 55 (BZ)	ng/g	0.27 QJ	0.99 Q	0.47 U	1.5 U	0.39 U
PCB 56 (BZ)	ng/g	5.6	15	0.55	0.17 J	0.89
PCB 57 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 58 (BZ)	ng/g	0.092 QJ	0.7 Q	0.47 U	1.5 U	0.39 U
PCB 59 (BZ)	ng/g	1.2 CJ	4.5 C	0.13 QCJ	1.5 U	0.16 QCJ
PCB 60 (BZ)	ng/g	2.7	2.9	0.26 J	1.5 U	0.33 J
PCB 61 (TETRACHLORO 1,1'-BIPHENYL)	ng/g	38 BC	200 BC	4.2 BC	0.77 BCJ	5.6 BC
PCB 62 (BZ)	ng/g	1.2 C59J	4.5 C59	0.13 QC59J	1.5 U	0.16 QC59J
PCB 63 (BZ)	ng/g	0.53 QJ	2.7	0.47 U	1.5 U	0.077 QJ
PCB 64 (BZ)	ng/g	7.6	25	0.78	0.16 QJ	1.1
PCB 65 (BZ)	ng/g	25 C44	130 C44	2.1 C44	0.44 QBC44J	3.1 C44
PCB 66 (BZ)	ng/g	23	96	3.3	0.4 BJ	3.2
PCB 67 (BZ)	ng/g	0.26 QJ	1.6 Q	0.47 U	1.5 U	0.028 QJ
PCB 68 (BZ)	ng/g	1.5 J	4.5	0.081 J	1.5 U	0.39 U
PCB 69 (BZ)	ng/g	20 C49	130 C49	1.8 C49	0.2 QC49J	2.1 C49
PCB 70 (BZ)	ng/g	38 BC61	200 BC61	4.2 BC61	0.77 BC61J	5.6 BC61
PCB 71 (BZ)	ng/g	10 C40	22 C40	0.65 C40	1.5 U	1.2 C40
PCB 72 (BZ)	ng/g	1.6 J	6	0.47 U	1.5 U	0.062 QJ
PCB 73 (BZ)	ng/g	0.43 C43J	1.3 QC43	0.47 U	1.5 U	0.09 C43J
PCB 74 (BZ)	ng/g	38 BC61	200 BC61	4.2 BC61	0.77 BC61J	5.6 BC61
PCB 75 (BZ)	ng/g	1.2 C59J	4.5 C59	0.13 QC59J	1.5 U	0.16 QC59J
PCB 76 (BZ)	ng/g	38 BC61	200 BC61	4.2 BC61	0.77 BC61J	5.6 BC61
PCB 77 (BZ)	ng/g	0.86 QJ	2.1	0.13 QJ	1.5 U	0.16 J
PCB 78 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 79 (BZ)	ng/g	0.31 QJ	1.8	0.47 U	1.5 U	0.058 QJ
PCB 80 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 81 (BZ)	ng/g	0.2 QJ	0.38 U	0.47 U	1.5 U	0.39 U
PCB 82 (BZ)	ng/g	4.2	16	0.31 J	1.5 U	0.67
PCB 83 (BZ)	ng/g	45 C	200 C	5.3 C	1.5 U	4.2 C
PCB 84 (BZ)	ng/g	5.1	74	0.58 Q	1.5 U	1.3
PCB 85 (BZ)	ng/g	6.6 C	30 C	0.55 C	1.5 U	1.1 C
PCB 86 (BZ)	ng/g	24 C	120 C	1.8 C	1.5 U	3.5 C
PCB 87 (BZ)	ng/g	24 C86	120 C86	1.8 C86	1.5 U	3.5 C86
PCB 88 (BZ)	ng/g	4.2 C	37 C	0.53 C	1.5 U	0.72 QC
PCB 89 (BZ)	ng/g	1.8 U	2.2	0.47 U	1.5 U	0.39 U
PCB 90 (BZ)	ng/g	39 BC	270 BC	5.9 BC	0.49 QCJ	6.3 BC
PCB 91 (BZ)	ng/g	4.2 C88	37 C88	0.53 C88	1.5 U	0.72 QC88
PCB 92 (BZ)	ng/g	9	59	0.85	1.5 U	0.9
PCB 93 (BZ)	ng/g	0.56 QCJ	3.9 QC	0.1 QCJ	1.5 U	0.067 QCJ
PCB 94 (BZ)	ng/g	1.8 U	0.92 Q	0.47 U	1.5 U	0.39 U
PCB 95 (BZ)	ng/g	21	230	3 Q	0.32 J	4.7
PCB 96 (BZ)	ng/g	1.8 U	1.3	0.47 U	1.5 U	0.39 U
PCB 97 (BZ)	ng/g	24 C86	120 C86	1.8 C86	1.5 U	3.5 C86
PCB 98 (BZ)	ng/g	0.68 QCJ	7.3 C	0.47 U	1.5 U	0.17 QCJ
PCB 99 (BZ)	ng/g	45 C83	200 C83	5.3 C83	1.5 U	4.2 C83
PCB 100 (BZ)	ng/g	0.56 QC93J	3.9 QC93	0.1 QC93J	1.5 U	0.067 QC93J
PCB 101 (BZ)	ng/g	39 BC90	270 BC90	5.9 BC90	0.49 QC90J	6.3 BC90
PCB 102 (BZ)	ng/g	0.68 QC98J	7.3 C98	0.47 U	1.5 U	0.17 QC98J
PCB 103 (BZ)	ng/g	0.88 QJ	6.6	0.47 U	1.5 U	0.053 QJ
PCB 104 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 105 (BZ)	ng/g	20	35	0.91	0.16 QJ	1.9
PCB 106 (BZ)	ng/g	34	0.38 U	0.47 U	1.5 U	0.39 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-005-2.5/4.4	UTC-SD-013-0.5/2.5	UTC-SD-013-2.5/4.5	UTC-SD-015-2.5/4.5	UTC-SD-016-12.5/14.5	UTC-SD-016-16.5/18.6	UTC-SD-016-8.5/10.5	UTC-SD-017-12.5/14.5
	Sample ID	11CU02-77	11CU01-31	11CU01-32	11CU01-72	11CU01-67	11CU01-69	11CU01-64	11CU01-58
	Interval	2.5 - 4.4	0.5 - 2.5	2.5 - 4.5	2.5 - 4.5	12.5 - 14.5	16.5 - 18.6	8.5 - 10.5	12.5 - 14.5
	Sample Date	5/4/2011	4/26/2011	4/26/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/30/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	8.8	20	46	46	0.21 J	0.01 J	5.7	0.098 U
PCB 108 (BZ)/107 (IUPAC)	ng/g	4.9 C	11 C	24 C	25 C	0.48 U	0.097 U	3.2 C	0.098 U
PCB 109 (BZ)/108 (IUPAC)	ng/g	100 C86	210 C86	540 C86	500 C86	2 QC86	0.083 QC86J	58 C86	0.098 U
PCB 110 (BZ)	ng/g	160 BC	320 BC	760 BC	760 BC	3.7 BC	0.13 BC	93 BC	0.045 QBCJ
PCB 111 (BZ)	ng/g	0.076 J	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 112 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 113 (BZ)	ng/g	130 C90	270 C90	630 C90	690 C90	3.1 C90	0.12 C90	82 C90	0.098 U
PCB 114 (BZ)	ng/g	3.7	8.6	23	19	0.48 U	0.097 U	2.3	0.098 U
PCB 115 (BZ)	ng/g	160 BC110	320 BC110	760 BC110	760 BC110	3.7 BC110	0.13 BC110	93 BC110	0.045 QBC110J
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	29 C85	66 C85	180 C85	140 C85	0.53 C85	0.021 QC85J	16 C85	0.098 U
PCB 117 (BZ)	ng/g	29 C85	66 C85	180 C85	140 C85	0.53 C85	0.021 QC85J	16 C85	0.098 U
PCB 118 (BZ)	ng/g	130	280	620	630	3.8	0.12 Q	84	0.064 J
PCB 119 (BZ)	ng/g	100 C86	210 C86	540 C86	500 C86	2 QC86	0.083 QC86J	58 C86	0.098 U
PCB 120 (BZ)	ng/g	0.15 QJ	0.59 QJ	0.6 QJ	1 QJ	0.48 U	0.097 U	0.14 J	0.098 U
PCB 121 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 122 (BZ)	ng/g	2.1	5.2	13	11	0.1 J	0.097 U	1.3	0.098 U
PCB 123 (BZ)	ng/g	2.2 Q	5.2 Q	15	14	0.48 U	0.0042 QJ	1.6	0.098 U
PCB 124 (BZ)	ng/g	4.9 C108	11 C108	24 C108	25 C108	0.48 U	0.097 U	3.2 C108	0.098 U
PCB 125 (BZ)	ng/g	100 C86	210 C86	540 C86	500 C86	2 QC86	0.083 QC86J	58 C86	0.098 U
PCB 126 (BZ)	ng/g	0.28 J	0.66 QJ	1.9 J	1.4 J	0.48 U	0.097 U	0.25 J	0.098 U
PCB 127 (BZ)	ng/g	0.18 J	1.8 U	0.4 QJ	0.75 QJ	0.48 U	0.097 U	0.11 QJ	0.098 U
PCB 128 (BZ)	ng/g	15 C	29 C	47 C	79 C	0.48 QC	0.097 U	10 C	0.098 U
PCB 129 (BZ)	ng/g	99 BC	210 BC	310 BC	570 BC	4.3 BC	0.098 BC	74 BC	0.075 BCJ
PCB 130 (BZ)	ng/g	5.8	12	18	32	0.21 QJ	0.097 U	4.1	0.098 U
PCB 131 (BZ)	ng/g	1.4	3.6	4.4 Q	7.6 Q	0.48 U	0.097 U	1	0.098 U
PCB 132 (BZ)	ng/g	35	71	110	190	1.1	0.032 J	25	0.098 U
PCB 133 (BZ)	ng/g	1.2	2.3 Q	3.5	6.4	0.48 U	0.097 U	1	0.098 U
PCB 134 (BZ)	ng/g	5.7 C	12 C	18 C	32 C	0.17 QCJ	0.097 U	4 C	0.098 U
PCB 135 (BZ)	ng/g	25 C	58 C	81 C	180 C	0.89 QC	0.097 U	21 C	0.098 U
PCB 136 (BZ)	ng/g	11	23	34	68	0.39 J	0.097 U	8.2	0.098 U
PCB 137 (BZ)	ng/g	4.8	9.7	16	23	0.14 J	0.097 U	3.2	0.098 U
PCB 138 (BZ)	ng/g	99 BC129	210 BC129	310 BC129	570 BC129	4.3 BC129	0.098 BC129	74 BC129	0.075 BC129J
PCB 139 (BZ)	ng/g	1.6 C	3.5 C	5.6 C	8.7 C	0.48 U	0.097 U	1.2 C	0.098 U
PCB 140 (BZ)	ng/g	1.6 C139	3.5 C139	5.6 C139	8.7 C139	0.48 U	0.097 U	1.2 C139	0.098 U
PCB 141 (BZ)	ng/g	17	41	56	110	0.85	0.018 QJ	14	0.098 U
PCB 142 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 143 (BZ)	ng/g	5.7 C134	12 C134	18 C134	32 C134	0.17 QC134J	0.097 U	4 C134	0.098 U
PCB 144 (BZ)	ng/g	3.5	10	12	26	0.48 U	0.097 U	3.2	0.098 U
PCB 145 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 146 (BZ)	ng/g	12	26	36	68	0.33 QJ	0.097 U	9.1	0.098 U
PCB 147 (BZ)	ng/g	70 BC	160 C	210 C	410 C	2.8 C	0.057 QCJ	54 C	0.098 U
PCB 148 (BZ)	ng/g	0.092 QJ	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 149 (BZ)	ng/g	70 BC147	160 C147	210 C147	410 C147	2.8 C147	0.057 QC147J	54 C147	0.098 U
PCB 150 (BZ)	ng/g	0.41 U	1.8 U	2 U	0.46 J	0.48 U	0.097 U	0.39 U	0.098 U
PCB 151 (BZ)	ng/g	25 C135	58 C135	81 C135	180 C135	0.89 QC135	0.097 U	21 C135	0.098 U
PCB 152 (BZ)	ng/g	0.081 J	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 153 (BZ)	ng/g	70 BC	160 BC	220 BC	420 BC	3.4 BC	0.081 BCJ	55 BC	0.041 QBCJ
PCB 154 (BZ)	ng/g	0.62	1.4 J	1.6 QJ	3.2	0.48 U	0.097 U	0.49	0.098 U
PCB 155 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 156 (BZ)	ng/g	12 C	1.8 U	38 C	67 C	0.38 QCJ	0.011 QCJ	8.7 C	0.098 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-017-2.5/4.5	UTC-SD-018-10.5/12.3	UTC-SD-018-6.5/8.5	UTC-SD-021-0.0/0.5	UTC-SD-021-0.5/2.8	UTC-SD-029-0.0/0.5	UTC-SD-032-0.5/2.5	UTC-SD-032-2.5/4.5
Sample ID		11CU01-52	11CU01-49	11CU01-47	11CU06-42	11CU06-43	11CU01-02	11CU01-06	11CU01-07
Interval		2.5 - 4.5	10.5 - 12.3	6.5 - 8.5	0 - 0.5	0.5 - 2.8	0 - 0.5	0.5 - 2.5	2.5 - 4.5
Sample Date		4/30/2011	4/30/2011	4/30/2011	6/16/2011	6/16/2011	4/26/2011	4/26/2011	4/26/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	32	0.53	1.3 QJ	1.2	0.015	0.095	0.24 J	0.24 U
PCB 108 (BZ)/107 (IUPAC)	ng/g	16 C	0.37 QCJ	0.82 QCJ	0.83 QC	0.012 C	0.046 CJ	0.078 CJ	0.24 U
PCB 109 (BZ)/108 (IUPAC)	ng/g	350 C86	5.8 C86	17 C86	13 C86	0.17 C86	1.3 C86	2.1 C86	0.1 QC86J
PCB 110 (BZ)	ng/g	520 BC	9.6 BC	27 BC	23 C	0.32 C	2.1 C	4.7 C	0.38 C
PCB 111 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 112 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 113 (BZ)	ng/g	470 C90	7.9 C90	23 C90	20 C90	0.28 C90	1.6 C90	5.4 C90	0.44 C90
PCB 114 (BZ)	ng/g	12	0.26 J	0.75 QJ	0.43 QJ	0.0069 J	0.029 J	0.088 QJ	0.24 U
PCB 115 (BZ)	ng/g	520 BC110	9.6 BC110	27 BC110	23 C110	0.32 C110	2.1 C110	4.7 C110	0.38 C110
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	100 C85	1.5 C85	5.5 C85	3 C85	0.042 C85	0.34 C85	0.45 C85	0.24 U
PCB 117 (BZ)	ng/g	100 C85	1.5 C85	5.5 C85	3 C85	0.042 C85	0.34 C85	0.45 C85	0.24 U
PCB 118 (BZ)	ng/g	410	9.4	26	22	0.28	1.4	4.2	0.25
PCB 119 (BZ)	ng/g	350 C86	5.8 C86	17 C86	13 C86	0.17 C86	1.3 C86	2.1 C86	0.1 QC86J
PCB 120 (BZ)	ng/g	0.95 QJ	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.058 QJ	0.24 U
PCB 121 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 122 (BZ)	ng/g	7.3	0.12 QJ	0.3 J	0.23 QJ	0.0018 QJ	0.019 J	0.035 J	0.24 U
PCB 123 (BZ)	ng/g	7.2 Q	0.16 QJ	0.48 J	0.4 QJ	0.003 QJ	0.016 QJ	0.048 QJ	0.24 U
PCB 124 (BZ)	ng/g	16 C108	0.37 QC108J	0.82 QC108J	0.83 QC108	0.012 C108	0.046 C108J	0.078 C108J	0.24 U
PCB 125 (BZ)	ng/g	350 C86	5.8 C86	17 C86	13 C86	0.17 C86	1.3 C86	2.1 C86	0.1 QC86J
PCB 126 (BZ)	ng/g	1.1 J	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 127 (BZ)	ng/g	0.49 QJ	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 128 (BZ)	ng/g	50 C	1.3 C	2.9 C	3.6 C	0.052 C	0.17 C	0.57 QC	0.24 U
PCB 129 (BZ)	ng/g	390 BC	7.8 BC	21 BC	22 C	0.33 C	1.1 C	3.3 C	0.09 QCJ
PCB 130 (BZ)	ng/g	22	0.39 J	1 J	1.4	0.018	0.064	0.19 J	0.24 U
PCB 131 (BZ)	ng/g	5	0.49 U	1.5 U	0.39 J	0.0054 QJ	0.014 J	0.38 U	0.24 U
PCB 132 (BZ)	ng/g	130	2.5	6.6	7.2	0.097	0.41	1.1 Q	0.046 QJ
PCB 133 (BZ)	ng/g	5.7	0.15 J	1.5 U	0.2 QJ	0.0099 U	0.014 J	0.91 Q	0.042 J
PCB 134 (BZ)	ng/g	21 C	0.42 CJ	0.85 QCJ	1.1 C	0.016 C	0.062 C	0.16 CJ	0.24 U
PCB 135 (BZ)	ng/g	140 C	1.8 C	6.2 C	5.1 C	0.09 C	0.39 C	2.9 QC	0.19 CJ
PCB 136 (BZ)	ng/g	50	0.75	2 Q	2.3	0.031 Q	0.15	0.69	0.041 QJ
PCB 137 (BZ)	ng/g	12 Q	0.34 QJ	0.68 J	1.3	0.019	0.046 J	0.11 J	0.24 U
PCB 138 (BZ)	ng/g	390 BC129	7.8 BC129	21 BC129	22 C129	0.33 C129	1.1 C129	3.3 C129	0.09 QC129J
PCB 139 (BZ)	ng/g	6 C	0.49 U	0.23 QCJ	0.42 QCJ	0.0075 CJ	0.015 QCJ	0.15 CJ	0.24 U
PCB 140 (BZ)	ng/g	6 C139	0.49 U	0.23 QC139J	0.42 QC139J	0.0075 C139J	0.015 QC139J	0.15 C139J	0.24 U
PCB 141 (BZ)	ng/g	75	1.3	3.9	3.9	0.054	0.19	0.48	0.24 U
PCB 142 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 143 (BZ)	ng/g	21 C134	0.42 C134J	0.85 QC134J	1.1 C134	0.016 C134	0.062 C134	0.16 C134J	0.24 U
PCB 144 (BZ)	ng/g	17	0.31 J	0.82 J	0.68 Q	0.016	0.043 QJ	0.097 J	0.24 U
PCB 145 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 146 (BZ)	ng/g	57	0.92	2.3	2.4	0.041	0.14	3.5	0.22 J
PCB 147 (BZ)	ng/g	310 C	5.2 C	15 C	15 C	0.22 C	0.88 C	4.9 C	0.29 C
PCB 148 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.53	0.24 U
PCB 149 (BZ)	ng/g	310 C147	5.2 C147	15 C147	15 C147	0.22 C147	0.88 C147	4.9 C147	0.29 C147
PCB 150 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.039 QJ	0.24 U
PCB 151 (BZ)	ng/g	140 C135	1.8 C135	6.2 C135	5.1 C135	0.09 C135	0.39 C135	2.9 QC135	0.19 C135J
PCB 152 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 153 (BZ)	ng/g	310 BC	5.9 BC	17 BC	16 C	0.26 C	0.82 C	5.3 C	0.28 C
PCB 154 (BZ)	ng/g	3.2	0.49 U	1.5 U	0.11 QJ	0.0023 QJ	0.051 U	1.2	0.075 QJ
PCB 155 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 156 (BZ)	ng/g	40 C	1.1 C	2.1 QC	3.2 C	0.044 C	0.12 C	0.31 QCJ	0.24 U

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-032-2.5/4.5-R	UTC-SD-032-4.5/6.5	UTC-SD-034-0.5/2.5	UTC-SD-034-0.5/2.5-R	UTC-SD-035-0.0/0.9	UTC-SD-036-0.0/0.5	UTC-SD-036-0.5/2.5	UTC-SD-036-2.5/3.4
Sample ID		11CU01-08	11CU01-09	11CU01-12	11CU01-13	E5AB8	E5AB9	E5AC0	E5AC1
Interval		2.5 - 4.5	4.5 - 6.5	0.5 - 2.5	0.5 - 2.5	0 - 0.9	0 - 0.5	0.5 - 2.5	2.5 - 3.4
Sample Date		4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	0.24 U	0.39 U	0.077 J	0.075 J	390 U	370 U	120 J	390 U
PCB 108 (BZ)/107 (IUPAC)	ng/g	0.24 U	0.39 U	0.43 U	0.043 QCJ	390 U	370 U	100 CJ	120 QCJ
PCB 109 (BZ)/108 (IUPAC)	ng/g	0.12 C86J	0.39 U	1.7 C86	1.7 C86	140 QC86J	470 C86	1600 QC86	2500 C86
PCB 110 (BZ)	ng/g	0.33 C	0.052 QCJ	4.9 C	4.8 C	230 CJ	850 C	3900 C	5300 C
PCB 111 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 112 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 113 (BZ)	ng/g	0.41 C90	0.39 U	3.5 C90	3.7 C90	310 C90J	1000 C90	4800 C90	6500 C90
PCB 114 (BZ)	ng/g	0.24 U	0.39 U	0.044 QJ	0.049 J	390 U	370 U	400 U	390 U
PCB 115 (BZ)	ng/g	0.33 C110	0.052 QC110J	4.9 C110	4.8 C110	230 C110J	850 C110	3900 C110	5300 C110
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	0.24 U	0.39 U	0.4 QC85J	0.54 C85	390 U	370 U	410 QC85	400 QC85
PCB 117 (BZ)	ng/g	0.24 U	0.39 U	0.4 QC85J	0.54 C85	390 U	370 U	410 QC85	400 QC85
PCB 118 (BZ)	ng/g	0.25	0.044 QJ	5.3	5.6	150 QJ	650 Q	3000	4700
PCB 119 (BZ)	ng/g	0.12 C86J	0.39 U	1.7 C86	1.7 C86	140 QC86J	470 C86	1600 QC86	2500 C86
PCB 120 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 121 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 122 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 123 (BZ)	ng/g	0.029 QJ	0.39 U	0.43 U	0.028 QJ	390 U	370 U	53 QJ	390 U
PCB 124 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.043 QC108J	390 U	370 U	100 C108J	120 QC108J
PCB 125 (BZ)	ng/g	0.12 C86J	0.39 U	1.7 C86	1.7 C86	140 QC86J	470 C86	1600 QC86	2500 C86
PCB 126 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 127 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 128 (BZ)	ng/g	0.24 U	0.39 U	0.47 QC	0.51 C	110 CJ	290 QCJ	1900 C	5800 C
PCB 129 (BZ)	ng/g	0.12 CJ	0.39 U	4.4 C	4.4 C	540 C	2200 C	10000 C	22000 C
PCB 130 (BZ)	ng/g	0.24 U	0.39 U	0.097 QJ	0.11 J	390 U	370 U	120 QJ	350 J
PCB 131 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	170 QJ
PCB 132 (BZ)	ng/g	0.075 J	0.39 U	0.73	0.74	140 QJ	510	2100	3300
PCB 133 (BZ)	ng/g	0.057 QJ	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 134 (BZ)	ng/g	0.24 U	0.39 U	0.089 QCJ	0.11 CJ	390 U	370 U	470 QC	830 C
PCB 135 (BZ)	ng/g	0.14 QCJ	0.39 U	1 QC	1.1 C	390 QCJ	1300 C	8800 C	20000 C
PCB 136 (BZ)	ng/g	0.051 QJ	0.39 U	0.3 QJ	0.27 J	150 J	370 J	2100	3700
PCB 137 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.061 QJ	390 U	370 U	89 QJ	130 J
PCB 138 (BZ)	ng/g	0.12 C129J	0.39 U	4.4 C129	4.4 C129	540 C129	2200 C129	10000 C129	22000 C129
PCB 139 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 140 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 141 (BZ)	ng/g	0.24 U	0.39 U	0.52	0.6	190 J	660	3600	8000
PCB 142 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 143 (BZ)	ng/g	0.24 U	0.39 U	0.089 QC134J	0.11 C134J	390 U	370 U	470 QC134	830 C134
PCB 144 (BZ)	ng/g	0.24 U	0.39 U	0.073 QJ	0.089 QJ	390 U	150 QJ	1000	2200
PCB 145 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 146 (BZ)	ng/g	0.22 J	0.39 U	0.26 QJ	0.29 J	83 J	250 J	1100	2300
PCB 147 (BZ)	ng/g	0.32 C	0.39 U	2.6 C	2.6 C	750 C	2400 C	14000 C	34000 C
PCB 148 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 149 (BZ)	ng/g	0.32 C147	0.39 U	2.6 C147	2.6 C147	750 C147	2400 C147	14000 C147	34000 C147
PCB 150 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 151 (BZ)	ng/g	0.14 QC135J	0.39 U	1 QC135	1.1 C135	390 QC135J	1300 C135	8800 C135	20000 C135
PCB 152 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 153 (BZ)	ng/g	0.29 C	0.087 CJ	5.4 C	5.4 C	940 C	3000 C	23000 C	81000 C
PCB 154 (BZ)	ng/g	0.063 QJ	0.39 U	0.43 U	0.4 U	390 U	370 U	58 QJ	110 QJ
PCB 155 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 156 (BZ)	ng/g	0.24 U	0.39 U	0.28 CJ	0.3 CJ	390 U	210 CJ	480 C	840 QC

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-038-0.5/2.5	UTC-SD-038-0.5/2.5-R	UTC-SD-038-6.5/8.6	UTC-SD-038-6.5/8.6-R	UTC-SD-040-0.5/2.5	UTC-SD-043-0.5/2.5	UTC-SD-043-0.5/2.5-R	UTC-SD-043-2.5-3.3
	Sample ID	11CU01-18B	11CU01-19B	11CU01-22	11CU01-23	11CU01-15	11CU02-53	11CU02-54	E5AT1
	Interval	0.5 - 2.5	0.5 - 2.5	6.5 - 8.6	6.5 - 8.6	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	2.5 - 3.3
	Sample Date	4/27/2011	4/27/2011	4/27/2011	4/27/2011	4/26/2011	5/4/2011	5/4/2011	5/4/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	77 QJ	65 J	12 J	13 J	320	7.1 U	1.3 J	0.38 U
PCB 108 (BZ)/107 (IUPAC)	ng/g	49 QCJ	60 CJ	12 CJ	38 U	220 C	7.1 U	0.84 CJ	0.38 U
PCB 109 (BZ)/108 (IUPAC)	ng/g	1400 C86	910 C86	170 C86	170 C86	1500 C86	2.9 QC86J	6.7 QC86J	0.99 QC86
PCB 110 (BZ)	ng/g	2900 C	2000 C	340 C	360 C	3600 C	7.9 QC	24 BC	2.8 C
PCB 111 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 112 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 113 (BZ)	ng/g	3700 C90	2800 C90	600 C90	640 C90	1600 C90	6.4 QC90J	17 C90	2 BC90
PCB 114 (BZ)	ng/g	43 J	34 QJ	7.7 QJ	38 U	180	7.1 U	9.4 U	0.38 U
PCB 115 (BZ)	ng/g	2900 C110	2000 C110	340 C110	360 C110	3600 C110	7.9 QC110	24 BC110	2.8 C110
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	350 C85	200 QC85	45 QC85	50 C85	310 C85	7.1 U	1.7 QC85J	0.38 U
PCB 117 (BZ)	ng/g	350 C85	200 QC85	45 QC85	50 C85	310 C85	7.1 U	1.7 QC85J	0.38 U
PCB 118 (BZ)	ng/g	2700	1800	320	330	7600	18 Q	37	3.7
PCB 119 (BZ)	ng/g	1400 C86	910 C86	170 C86	170 C86	1500 C86	2.9 QC86J	6.7 QC86J	0.99 QC86
PCB 120 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 121 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 122 (BZ)	ng/g	190 U	150 U	30 U	38 U	86	7.1 U	9.4 U	0.38 U
PCB 123 (BZ)	ng/g	35 J	23 QJ	5.5 QJ	4.9 QJ	71 J	7.1 U	9.4 U	0.38 U
PCB 124 (BZ)	ng/g	49 QC108J	60 C108J	12 C108J	38 U	220 C108	7.1 U	0.84 C108J	0.38 U
PCB 125 (BZ)	ng/g	1400 C86	910 C86	170 C86	170 C86	1500 C86	2.9 QC86J	6.7 QC86J	0.99 QC86
PCB 126 (BZ)	ng/g	190 U	150 U	30 U	38 U	5.4 QJ	7.1 U	9.4 U	0.38 U
PCB 127 (BZ)	ng/g	190 U	150 U	30 U	38 U	16 J	7.1 U	9.4 U	0.38 U
PCB 128 (BZ)	ng/g	1000 C	670 QC	210 C	210 C	3600 C	5.6 QCJ	10 QC	1.5 QC
PCB 129 (BZ)	ng/g	7700 C	5700 C	1200 C	1300 C	16000 C	38 C	72 BC	7.8 C
PCB 130 (BZ)	ng/g	160 J	100 QJ	22 QJ	24 J	850	1.2 QJ	2.5 J	0.34 J
PCB 131 (BZ)	ng/g	54 QJ	150 U	30 U	38 U	94	7.1 U	9.4 U	0.38 U
PCB 132 (BZ)	ng/g	1800	1400	280	300	2700	5.3 J	12	1.3 Q
PCB 133 (BZ)	ng/g	190 U	35 J	30 U	38 U	68 J	7.1 U	9.4 U	0.38 U
PCB 134 (BZ)	ng/g	320 C	150 QC	47 C	48 C	320 C	7.1 U	9.4 U	0.38 U
PCB 135 (BZ)	ng/g	5300 C	4100 C	1500 C	1700 C	1000 C	4.9 CJ	10 C	0.83 QC
PCB 136 (BZ)	ng/g	1600	1200	400	430	250	2 J	2.6 QJ	0.34 J
PCB 137 (BZ)	ng/g	86 QJ	77 QJ	13 J	12 J	750	1.3 J	2.8 J	0.19 QJ
PCB 138 (BZ)	ng/g	7700 C129	5700 C129	1200 C129	1300 C129	16000 C129	38 C129	72 BC129	7.8 C129
PCB 139 (BZ)	ng/g	190 U	34 QCJ	30 U	38 U	92 C	7.1 U	9.4 U	0.38 U
PCB 140 (BZ)	ng/g	190 U	34 QC139J	30 U	38 U	92 C139	7.1 U	9.4 U	0.38 U
PCB 141 (BZ)	ng/g	2300	1800	460	510	2000	4.8 J	9.9	1.1 Q
PCB 142 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 143 (BZ)	ng/g	320 C134	150 QC134	47 C134	48 C134	320 C134	7.1 U	9.4 U	0.38 U
PCB 144 (BZ)	ng/g	650	540	170	180	170	7.1 U	9.4 U	0.38 U
PCB 145 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 146 (BZ)	ng/g	930	680	170	190	900	2.7 QJ	6.2 J	0.58 Q
PCB 147 (BZ)	ng/g	9500 C	7400 C	2500 C	2700 C	3300 C	15 C	28 BC	2.8 C
PCB 148 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 149 (BZ)	ng/g	9500 C147	7400 C147	2500 C147	2700 C147	3300 C147	15 C147	28 BC147	2.8 C147
PCB 150 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 151 (BZ)	ng/g	5300 C135	4100 C135	1500 C135	1700 C135	1000 C135	4.9 C135J	10 C135	0.83 QC135
PCB 152 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 153 (BZ)	ng/g	12000 C	9300 C	3000 C	3300 C	7200 C	31 BC	58 BC	5.5 BC
PCB 154 (BZ)	ng/g	190 U	22 QJ	30 U	38 U	15 QJ	7.1 U	9.4 U	0.38 U
PCB 155 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 156 (BZ)	ng/g	630 C	410 C	57 C	47 QC	4900 C	7.8 C	14 C	2 C

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-044-0.5/2.2	UTC-SD-047-0.0/0.5	UTC-SD-047-0.5/2.1	UTC-SD-048-0.0/0.5	UTC-SD-048-2.5/4.5	UTC-SD-048-6.5/8.4	UTC-SD-050-0.0/0.5	UTC-SD-050-4.5/6.6
Sample ID		11CU02-47	E5AX8	E5AY4	E5AW0	11CU02-65	E5AW4	E5B00	11CU03-05
Interval		0.5 - 2.2	0 - 0.5	0.5 - 2.1	0 - 0.5	2.5 - 4.5	6.5 - 8.4	0 - 0.5	4.5 - 6.6
Sample Date		5/3/2011	5/4/2011	5/4/2011	5/4/2011	5/4/2011	5/4/2011	5/5/2011	5/5/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	1.1 J	0.97	0.099 QJ	0.89	8.2	0.053	1.4 Q	0.069 J
PCB 108 (BZ)/107 (IUPAC)	ng/g	0.38 QCJ	0.29 CJ	0.4 U	0.21 CJ	0.96 CJ	0.05 U	0.21 CJ	0.41 U
PCB 109 (BZ)/108 (IUPAC)	ng/g	6.9 C86	6.7 QC86	0.69 QC86	5 C86	54 C86	0.25 C86	6.6 C86	0.37 QC86J
PCB 110 (BZ)	ng/g	19 BC	21 C	2.1 C	17 C	220 BC	0.85 C	29 C	1.1 BC
PCB 111 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.07 J	0.26 QJ	0.05 U	0.41 U	0.41 U
PCB 112 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.36	0.41 U	0.41 U
PCB 113 (BZ)	ng/g	24 C90	24 BC90	2 BC90	18 BC90	180 C90	0.66 BC90	20 BC90	0.89 C90
PCB 114 (BZ)	ng/g	0.17 QJ	0.4 U	0.4 U	0.14 QJ	1.2 J	0.012 QJ	0.26 J	0.41 U
PCB 115 (BZ)	ng/g	19 BC110	21 C110	2.1 C110	17 C110	220 BC110	0.85 C110	29 C110	1.1 BC110
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	1.6 C85J	0.98 QC85	0.094 QC85J	1.2 C85	8.8 C85	0.045 QC85J	1.7 C85	0.11 C85J
PCB 117 (BZ)	ng/g	1.6 C85J	0.98 QC85	0.094 QC85J	1.2 C85	8.8 C85	0.045 QC85J	1.7 C85	0.11 C85J
PCB 118 (BZ)	ng/g	21	14	1.1	7.5	110	0.47	13	0.7
PCB 119 (BZ)	ng/g	6.9 C86	6.7 QC86	0.69 QC86	5 C86	54 C86	0.25 C86	6.6 C86	0.37 QC86J
PCB 120 (BZ)	ng/g	0.18 QJ	0.51	0.4 U	0.3 J	3.1	0.016 QJ	0.42	0.41 U
PCB 121 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.086 J	0.49 J	0.05 U	0.41 U	0.41 U
PCB 122 (BZ)	ng/g	3.7 U	0.14 QJ	0.4 U	0.09 QJ	0.36 QJ	0.05 U	0.41 U	0.41 U
PCB 123 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.065 QJ	0.5 J	0.05 U	0.14 QJ	0.41 U
PCB 124 (BZ)	ng/g	0.38 QC108J	0.29 C108J	0.4 U	0.21 C108J	0.96 C108J	0.05 U	0.21 C108J	0.41 U
PCB 125 (BZ)	ng/g	6.9 C86	6.7 QC86	0.69 QC86	5 C86	54 C86	0.25 C86	6.6 C86	0.37 QC86J
PCB 126 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.013 QJ	0.41 U	0.41 U
PCB 127 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 128 (BZ)	ng/g	11 C	3 C	0.26 CJ	2.5 C	16 C	0.1 C	2.7 C	0.19 CJ
PCB 129 (BZ)	ng/g	75 BC	16 C	1.7 C	19 C	97 BC	0.44 C	17 C	0.95 BC
PCB 130 (BZ)	ng/g	2.8 J	1.3	0.17 J	1.6	8.1	0.038 QJ	1.5	0.084 J
PCB 131 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.19 J	1.9 U	0.05 U	0.41 U	0.41 U
PCB 132 (BZ)	ng/g	15	4.7	0.55	7.2	42	0.19	7.8	0.3 J
PCB 133 (BZ)	ng/g	0.76 J	0.99	0.14 QJ	0.96	22	0.071 Q	2.4	0.085 QJ
PCB 134 (BZ)	ng/g	1.8 CJ	1.1 C	0.11 QCJ	1.1 C	7.5 C	0.039 CJ	1.2 C	0.41 U
PCB 135 (BZ)	ng/g	27 C	9.4 C	0.88 C	15 C	110 QC	0.4 C	14 C	0.47 C
PCB 136 (BZ)	ng/g	7.3	4.3 Q	0.34 J	4.8	38	0.15	4.6	0.11 QJ
PCB 137 (BZ)	ng/g	1.7 J	0.43 Q	0.4 U	0.41	2.5	0.016 QJ	0.31 QJ	0.054 QJ
PCB 138 (BZ)	ng/g	75 BC129	16 C129	1.7 C129	19 C129	97 BC129	0.44 C129	17 C129	0.95 BC129
PCB 139 (BZ)	ng/g	0.54 QCJ	0.4 QCJ	0.4 U	0.78 C	6.2 C	0.031 QCJ	1 C	0.034 QCJ
PCB 140 (BZ)	ng/g	0.54 QC139J	0.4 QC139J	0.4 U	0.78 C139	6.2 C139	0.031 QC139J	1 C139	0.034 QC139J
PCB 141 (BZ)	ng/g	15	2.5	0.22 QJ	3.3	9.3	0.044 QJ	2.1	0.13 J
PCB 142 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 143 (BZ)	ng/g	1.8 C134J	1.1 C134	0.11 QC134J	1.1 C134	7.5 C134	0.039 C134J	1.2 C134	0.41 U
PCB 144 (BZ)	ng/g	3.5 J	0.67	0.4 U	1	2.1	0.024 J	0.56 Q	0.41 U
PCB 145 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 146 (BZ)	ng/g	12	6.7	0.86	6.6	88	0.29	9.3	0.5
PCB 147 (BZ)	ng/g	64 BC	25 C	2.2 C	27 C	240 BC	0.82 C	24 C	1 BC
PCB 148 (BZ)	ng/g	3.7 U	0.46 Q	0.4 U	0.39	15	0.06	1.2	0.41 U
PCB 149 (BZ)	ng/g	64 BC147	25 C147	2.2 C147	27 C147	240 BC147	0.82 C147	24 C147	1 BC147
PCB 150 (BZ)	ng/g	3.7 U	0.26 J	0.4 U	0.17 J	5.8	0.024 J	0.33 J	0.41 U
PCB 151 (BZ)	ng/g	27 C135	9.4 C135	0.88 C135	15 C135	110 QC135	0.4 C135	14 C135	0.47 C135
PCB 152 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 153 (BZ)	ng/g	100 BC	21 BC	2.2 BC	23 BC	170 BC	0.67 BC	18 BC	1 BC
PCB 154 (BZ)	ng/g	0.77 QJ	2.2 Q	0.31 J	2.1	42	0.15	3	0.11 J
PCB 155 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	0.35 QJ	0.05 U	0.41 U	0.41 U
PCB 156 (BZ)	ng/g	8.9 C	2.5 C	0.27 CJ	2 C	6.9 C	0.043 QCJ	1.8 QC	0.093 QCJ

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-054-6.5/9.2	UTC-SD-062-0.5/2.4	UTC-SD-063-0.5/2.2	UTC-SD-066-2.5/4.5	UTC-SD-067-4.5/6.5	UTC-SD-080-0.5/2.5	UTC-SD-080-0.5/2.5-R	UTC-SD-080-2.5/3.2
Sample ID		11CU02-03	11CU02-38	11CU02-45	11CU02-17	11CU02-23	11CU06-18	11CU06-19	11CU06-20
Interval		6.5 - 9.2	0.5 - 2.4	0.5 - 2.2	2.5 - 4.5	4.5 - 6.5	0.5 - 2.5	0.5 - 2.5	2.5 - 3.2
Sample Date		5/2/2011	5/3/2011	5/3/2011	5/2/2011	5/2/2011	6/15/2011	6/15/2011	6/15/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	0.067 J	0.41	0.018	37	9.7	0.0016 J	0.0013 QJ	0.0095 U
PCB 108 (BZ)/107 (IUPAC)	ng/g	0.023 QCJ	0.21 CJ	0.0033 CJ	19 C	4.4 C	0.0098 U	0.0011 QCJ	0.0095 U
PCB 109 (BZ)/108 (IUPAC)	ng/g	0.47 QC86	4.9 C86	0.096 C86	510 C86	80 C86	0.018 QC86	0.023 C86	0.0082 QC86J
PCB 110 (BZ)	ng/g	1 BC	8.3 BC	0.12 BC	720 BC	140 BC	0.045 C	0.047 C	0.016 C
PCB 111 (BZ)	ng/g	0.37 U	0.37 U	0.0014 QJ	0.36 J	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 112 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 113 (BZ)	ng/g	1 C90	7.7 C90	0.32 C90	600 C90	140 C90	0.031 QC90	0.033 C90	0.011 C90
PCB 114 (BZ)	ng/g	0.038 QJ	0.12 J	0.0036 J	17	2.7	0.0098 U	0.00075 J	0.0095 U
PCB 115 (BZ)	ng/g	1 BC110	8.3 BC110	0.12 BC110	720 BC110	140 BC110	0.045 C110	0.047 C110	0.016 C110
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	0.16 QC85J	1.2 C85	0.027 C85	160 C85	22 C85	0.0035 QC85J	0.0044 QC85J	0.0019 QC85J
PCB 117 (BZ)	ng/g	0.16 QC85J	1.2 C85	0.027 C85	160 C85	22 C85	0.0035 QC85J	0.0044 QC85J	0.0019 QC85J
PCB 118 (BZ)	ng/g	1.1	6.1	0.12	500	120	0.022	0.026	0.011
PCB 119 (BZ)	ng/g	0.47 QC86	4.9 C86	0.096 C86	510 C86	80 C86	0.018 QC86	0.023 C86	0.0082 QC86J
PCB 120 (BZ)	ng/g	0.37 U	0.37 U	0.004 J	1.1 J	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 121 (BZ)	ng/g	0.37 U	0.37 U	0.0014 QJ	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 122 (BZ)	ng/g	0.37 U	0.075 QJ	0.0096 U	9.8	1.5 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 123 (BZ)	ng/g	0.37 U	0.071 J	0.00063 QJ	11	1.3 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 124 (BZ)	ng/g	0.023 QC108J	0.21 C108J	0.0033 C108J	19 C108	4.4 C108	0.0098 U	0.0011 QC108J	0.0095 U
PCB 125 (BZ)	ng/g	0.47 QC86	4.9 C86	0.096 C86	510 C86	80 C86	0.018 QC86	0.023 C86	0.0082 QC86J
PCB 126 (BZ)	ng/g	0.37 U	0.02 QJ	0.00054 J	1.1 QJ	0.35 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 127 (BZ)	ng/g	0.37 U	0.37 U	0.00056 QJ	0.39 QJ	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 128 (BZ)	ng/g	0.29 CJ	1 C	0.073 C	50 C	23 C	0.004 CJ	0.0052 CJ	0.002 CJ
PCB 129 (BZ)	ng/g	1.1 BC	7.5 BC	0.61 BC	330 BC	220 BC	0.035 C	0.031 C	0.013 C
PCB 130 (BZ)	ng/g	0.37 U	0.41	0.032	20	11	0.0019 QJ	0.0096 U	0.0095 U
PCB 131 (BZ)	ng/g	0.37 U	0.087 J	0.0019 QJ	4.7	1.4 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 132 (BZ)	ng/g	0.31 J	2.5	0.079	120	66	0.0098 QJ	0.011	0.0037 J
PCB 133 (BZ)	ng/g	0.11 J	0.09 J	0.044	4	3.1	0.0098 U	0.0096 U	0.0095 U
PCB 134 (BZ)	ng/g	0.37 U	0.36 QCJ	0.029 C	18 C	9.9 C	0.0098 U	0.0096 U	0.0095 U
PCB 135 (BZ)	ng/g	0.39 QC	2.6 C	0.33 C	98 C	81 C	0.014 QC	0.013 C	0.004 QCJ
PCB 136 (BZ)	ng/g	0.13 J	0.92	0.081	40	28	0.004 QJ	0.0046 J	0.0095 U
PCB 137 (BZ)	ng/g	0.37 U	0.28 J	0.019	16	4.4 Q	0.0014 QJ	0.00094 QJ	0.0095 U
PCB 138 (BZ)	ng/g	1.1 BC129	7.5 BC129	0.61 BC129	330 BC129	220 BC129	0.035 C129	0.031 C129	0.013 C129
PCB 139 (BZ)	ng/g	0.37 U	0.097 CJ	0.013 C	5.4 C	2.2 C	0.0098 U	0.0096 U	0.0095 U
PCB 140 (BZ)	ng/g	0.37 U	0.097 C139J	0.013 C139	5.4 C139	2.2 C139	0.0098 U	0.0096 U	0.0095 U
PCB 141 (BZ)	ng/g	0.12 QJ	1.5	0.069	59	50	0.0051 J	0.006 J	0.0026 QJ
PCB 142 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 143 (BZ)	ng/g	0.37 U	0.36 QC134J	0.029 C134	18 C134	9.9 C134	0.0098 U	0.0096 U	0.0095 U
PCB 144 (BZ)	ng/g	0.37 U	0.29 J	0.0092 J	14	10	0.0098 U	0.0096 U	0.0095 U
PCB 145 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 146 (BZ)	ng/g	0.46	1.1	0.21	42	34	0.0043 QJ	0.0032 QJ	0.0019 QJ
PCB 147 (BZ)	ng/g	0.91 BC	5.9 BC	0.72 BC	230 BC	180 BC	0.032 C	0.028 C	0.0082 QCJ
PCB 148 (BZ)	ng/g	0.37 U	0.37 U	0.014	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 149 (BZ)	ng/g	0.91 BC147	5.9 BC147	0.72 BC147	230 BC147	180 BC147	0.032 C147	0.028 C147	0.0082 QC147J
PCB 150 (BZ)	ng/g	0.37 U	0.37 U	0.026	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 151 (BZ)	ng/g	0.39 QC135	2.6 C135	0.33 C135	98 C135	81 C135	0.014 QC135	0.013 C135	0.004 QC135J
PCB 152 (BZ)	ng/g	0.37 U	0.37 U	0.015	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 153 (BZ)	ng/g	1.3 BC	6 BC	0.6 BC	240 BC	210 BC	0.027 C	0.023 C	0.01 C
PCB 154 (BZ)	ng/g	0.37 U	0.071 QJ	0.078	2.5	1.6	0.0098 U	0.0096 U	0.0095 U
PCB 155 (BZ)	ng/g	0.37 U	0.37 U	0.00068 QJ	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 156 (BZ)	ng/g	0.13 QCJ	0.86 C	0.071 C	40 C	20 C	0.0031 CJ	0.0025 QCJ	0.0012 QCJ

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-081-0.5/2.9	UTC-SD-082-0.0/0.5	UTC-SD-082-0.5/1.6	UTC-SD-083-0.5/2.2	UTC-SD-085-0.5/2.5	UTC-SD-090-0.0/0.9	UTC-SG-009-0.0/0.5	UTC-SG-020-0.0/0.5
Sample ID		11CU06-22	11CU06-23	11CU06-24	11CU06-26	11CU06-30	11CU06-41	11CU01-87	11CU02-38B
Interval		0.5 - 2.9	0 - 0.5	0.5 - 1.6	0.5 - 2.2	0.5 - 2.5	0 - 0.9	0 - 0.5	0 - 0.5
Sample Date		6/15/2011	6/15/2011	6/15/2011	6/15/2011	6/15/2011	6/16/2011	5/2/2011	5/3/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	0.049 U	0.25 J	0.066	4.3	45	30	8	0.67
PCB 108 (BZ)/107 (IUPAC)	ng/g	0.049 U	0.067 QCJ	0.021 CJ	0.46 QCJ	13 C	13 C	3.4 C	0.33 C
PCB 109 (BZ)/108 (IUPAC)	ng/g	0.013 QC86J	2.8 C86	0.67 C86	21 C86	190 C86	260 C86	63 C86	7.3 C86
PCB 110 (BZ)	ng/g	0.026 QCJ	6 C	1.4 C	60 C	410 C	430 C	110 BC	14 BC
PCB 111 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	0.93 QJ	0.67 QJ	0.43 U	0.011 QJ
PCB 112 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 113 (BZ)	ng/g	0.03 C90J	4.4 C90	1.2 C90	73 C90	470 C90	400 C90	110 C90	11 C90
PCB 114 (BZ)	ng/g	0.049 U	0.071 J	0.011 QJ	0.75 QJ	10	8.3	2.1	0.23
PCB 115 (BZ)	ng/g	0.026 QC110J	6 C110	1.4 C110	60 C110	410 C110	430 C110	110 BC110	14 BC110
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	0.049 U	0.73 C85	0.2 C85	4.1 C85	44 C85	75 C85	18 C85	2 C85
PCB 117 (BZ)	ng/g	0.049 U	0.73 C85	0.2 C85	4.1 C85	44 C85	75 C85	18 C85	2 C85
PCB 118 (BZ)	ng/g	0.029 J	3.8	0.83	46	490	350	100	9.8
PCB 119 (BZ)	ng/g	0.013 QC86J	2.8 C86	0.67 C86	21 C86	190 C86	260 C86	63 C86	7.3 C86
PCB 120 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.9	7.6 Q	3.9	0.28 J	0.034 J
PCB 121 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	0.39 J	3.5 U	2 U	0.43 U	0.048 U
PCB 122 (BZ)	ng/g	0.049 U	0.39 U	0.0099 QJ	1.8 U	3.1 QJ	5.6	1.4	0.15
PCB 123 (BZ)	ng/g	0.049 U	0.056 QJ	0.011 QJ	0.32 QJ	5.3 Q	6.2	1.3	0.19
PCB 124 (BZ)	ng/g	0.049 U	0.067 QC108J	0.021 C108J	0.46 QC108J	13 C108	13 C108	3.4 C108	0.33 C108
PCB 125 (BZ)	ng/g	0.013 QC86J	2.8 C86	0.67 C86	21 C86	190 C86	260 C86	63 C86	7.3 C86
PCB 126 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	0.51 QJ	0.21 QJ	0.029 J
PCB 127 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	0.86 J	2 U	0.11 J	0.0083 J
PCB 128 (BZ)	ng/g	0.0094 QCJ	0.65 C	0.12 C	11 C	220 C	62 C	16 C	1.3 C
PCB 129 (BZ)	ng/g	0.057 C	4.7 C	0.98 C	56 C	1300 C	380 C	140 BC	11 BC
PCB 130 (BZ)	ng/g	0.049 U	0.28 J	0.056	5.1 Q	74	33	7.9	0.51
PCB 131 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	7.3 Q	4.7	1.1 Q	0.099
PCB 132 (BZ)	ng/g	0.014 J	1.4	0.39	20	290	120	45	3.5
PCB 133 (BZ)	ng/g	0.049 U	0.079 J	0.026 QJ	13	50	18	1.9	0.18
PCB 134 (BZ)	ng/g	0.049 U	0.21 QCJ	0.06 C	3.1 C	43 C	20 C	6.8 C	0.53 C
PCB 135 (BZ)	ng/g	0.025 QCJ	1.9 C	0.61 C	74 C	660 C	150 C	55 C	4 C
PCB 136 (BZ)	ng/g	0.049 U	0.63	0.2	14	170	48	18	1.3
PCB 137 (BZ)	ng/g	0.049 U	0.15 J	0.022 QJ	1.1 QJ	34	14	3.1 Q	0.29
PCB 138 (BZ)	ng/g	0.057 C129	4.7 C129	0.98 C129	56 C129	1300 C129	380 C129	140 BC129	11 BC129
PCB 139 (BZ)	ng/g	0.049 U	0.076 QCJ	0.022 CJ	4.5 C	18 C	11 C	1.4 QC	0.13 C
PCB 140 (BZ)	ng/g	0.049 U	0.076 QC139J	0.022 C139J	4.5 C139	18 C139	11 C139	1.4 QC139	0.13 C139
PCB 141 (BZ)	ng/g	0.011 J	0.81	0.16	6.6	260	55	29	2.1
PCB 142 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 143 (BZ)	ng/g	0.049 U	0.21 QC134J	0.06 C134	3.1 C134	43 C134	20 C134	6.8 C134	0.53 C134
PCB 144 (BZ)	ng/g	0.049 U	0.16 QJ	0.051 Q	1.5 QJ	62	17	12	0.53
PCB 145 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 146 (BZ)	ng/g	0.012 QJ	0.79	0.21	74	330	130	23	1.6
PCB 147 (BZ)	ng/g	0.049 C	4 C	1.1 C	96 C	1100 C	320 C	120 BC	9.6 BC
PCB 148 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	8.1	20	3.4 Q	0.43 U	0.022 J
PCB 149 (BZ)	ng/g	0.049 C147	4 C147	1.1 C147	96 C147	1100 C147	320 C147	120 BC147	9.6 BC147
PCB 150 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	0.87 J	3.5 U	0.69 QJ	0.43 U	0.03 J
PCB 151 (BZ)	ng/g	0.025 QC135J	1.9 C135	0.61 C135	74 C135	660 C135	150 C135	55 C135	4 C135
PCB 152 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.017 J
PCB 153 (BZ)	ng/g	0.057 C	3.9 C	0.84 C	120 C	1400 C	360 C	130 BC	8.9 BC
PCB 154 (BZ)	ng/g	0.049 U	0.39 U	0.024 QJ	29	57	21	1	0.15
PCB 155 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 156 (BZ)	ng/g	0.0068 CJ	0.4 C	0.071 C	3.7 C	210 C	45 C	12 C	0.99 C

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SG-027-0.0/0.5	UTC-SG-028-0.0/0.5	UTC-SG-029-0.0/0.5	UTC-SG-030-0.0/0.5	UTC-SG-031-0.0/0.5	UTC-SG-032-0.0/0.5	UTC-SG-033-0.0/0.5	UTC-SG-034-0.0/0.5
Sample ID		11CU03-11	11CU03-12	E5B11	E5B13	E5B15	E5B12	E5B23	E5B22
Interval		0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Sample Date		5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/6/2011	5/6/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	34 J	260 U	70	13 QJ	27	0.19 J	7.4	9.4 Q
PCB 108 (BZ)/107 (IUPAC)	ng/g	24 CJ	260 U	27 QCJ	3.3 QCJ	6.7 C	0.77 QC	2.4 C	5.1 C
PCB 109 (BZ)/108 (IUPAC)	ng/g	150 C86	120 QC86J	250 QC86	60 QC86	120 C86	11 C86	51 C86	48 C86
PCB 110 (BZ)	ng/g	400 BC	340 BC	750 C	160 C	290 C	22 C	120 C	130 C
PCB 111 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.86	0.13 QJ	0.45 QJ	2 U
PCB 112 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.39 U	0.39 U	1.5 U	2 U
PCB 113 (BZ)	ng/g	200 C90	360 C90	530 BC90	100 BC90	270 BC90	17 BC90	110 BC90	99 BC90
PCB 114 (BZ)	ng/g	15 J	260 U	15 QJ	5.1 QJ	18	0.54	1.9	4.2
PCB 115 (BZ)	ng/g	400 BC110	340 BC110	750 C110	160 C110	290 C110	22 C110	120 C110	130 C110
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	32 C85J	260 U	68 QC85	6.9 C85J	40 C85	2.8 C85	12 C85	11 C85
PCB 117 (BZ)	ng/g	32 C85J	260 U	68 QC85	6.9 C85J	40 C85	2.8 C85	12 C85	11 C85
PCB 118 (BZ)	ng/g	870	370	1100	260	280	25	94	170
PCB 119 (BZ)	ng/g	150 C86	120 QC86J	250 QC86	60 QC86	120 C86	11 C86	51 C86	48 C86
PCB 120 (BZ)	ng/g	62 U	260 U	11 J	20 U	4.8	0.84	1.5 QJ	1.3 QJ
PCB 121 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.46	0.39 U	0.31 J	2 U
PCB 122 (BZ)	ng/g	62 U	260 U	26 QJ	20 U	1.9	0.2 QJ	1.2 QJ	2 QJ
PCB 123 (BZ)	ng/g	8.2 J	260 U	8.5 QJ	20 U	4	4.4	0.77 QJ	1.8 QJ
PCB 124 (BZ)	ng/g	24 C108J	260 U	27 QC108J	3.3 QC108J	6.7 C108	0.77 QC108	2.4 C108	5.1 C108
PCB 125 (BZ)	ng/g	150 C86	120 QC86J	250 QC86	60 QC86	120 C86	11 C86	51 C86	48 C86
PCB 126 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.1 QJ	0.13 QJ	1.5 U	2 U
PCB 127 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.48	0.055 QJ	1.5 U	2 U
PCB 128 (BZ)	ng/g	440 C	140 CJ	480 C	120 C	66 C	12 C	25 C	87 C
PCB 129 (BZ)	ng/g	2000 BC	1400 BC	2200 C	550 C	380 C	64 C	180 C	450 C
PCB 130 (BZ)	ng/g	92	57 J	120	24 Q	29	4.6	12	24
PCB 131 (BZ)	ng/g	62 U	260 U	48 U	20 U	3.6	0.35 QJ	1.4 QJ	2.7 Q
PCB 132 (BZ)	ng/g	340	190 QJ	420	98	110	13	53	82
PCB 133 (BZ)	ng/g	62 U	260 U	28 QJ	20 U	21	1.4	9.3	5.5
PCB 134 (BZ)	ng/g	35 CJ	260 U	60 QC	14 QCJ	17 C	1.9 C	11 C	13 C
PCB 135 (BZ)	ng/g	170 C	270 C	310 C	51 C	150 C	8.9 C	79 C	74 C
PCB 136 (BZ)	ng/g	35 J	55 J	88	13 J	41	2.3	21	23
PCB 137 (BZ)	ng/g	84	260 U	85	20	15	2.7	6.5	18
PCB 138 (BZ)	ng/g	2000 BC129	1400 BC129	2200 C129	550 C129	380 C129	64 C129	180 C129	450 C129
PCB 139 (BZ)	ng/g	8.9 QCJ	260 U	22 QCJ	20 U	11 C	1.1 C	5.4 C	5.1 C
PCB 140 (BZ)	ng/g	8.9 QC139J	260 U	22 QC139J	20 U	11 C139	1.1 C139	5.4 C139	5.1 C139
PCB 141 (BZ)	ng/g	270	220 J	340	68 Q	57	7.8	33	62
PCB 142 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.59 Q	0.44	1.5 U	2 U
PCB 143 (BZ)	ng/g	35 C134J	260 U	60 QC134	14 QC134J	17 C134	1.9 C134	11 C134	13 C134
PCB 144 (BZ)	ng/g	20 J	52 J	36 J	20 U	12	1.2	9.3	9.3
PCB 145 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.17 J	0.39 U	1.5 U	2 U
PCB 146 (BZ)	ng/g	120	320	250	61	120	10	58	49
PCB 147 (BZ)	ng/g	500 BC	810 BC	780 C	170 C	300 C	21 C	160 C	170 C
PCB 148 (BZ)	ng/g	62 U	260 U	48 U	20 U	5.2	0.3 J	2.6 Q	0.96 J
PCB 149 (BZ)	ng/g	500 BC147	810 BC147	780 C147	170 C147	300 C147	21 C147	160 C147	170 C147
PCB 150 (BZ)	ng/g	62 U	260 U	48 U	20 U	1.6	0.27 J	0.95 QJ	2 U
PCB 151 (BZ)	ng/g	170 C135	270 C135	310 C135	51 C135	150 C135	8.9 C135	79 C135	74 C135
PCB 152 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.6	0.39 U	1.5 U	2 U
PCB 153 (BZ)	ng/g	1000 BC	1600 BC	1500 BC	320 BC	370 BC	40 BC	200 BC	260 BC
PCB 154 (BZ)	ng/g	62 U	27 QJ	24 J	5.9 QJ	25	1.2	11	5.6
PCB 155 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.24 QJ	0.39 U	1.5 U	2 U
PCB 156 (BZ)	ng/g	570 C	200 CJ	550 C	150 C	58 C	22 C	19 C	120 C

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SG-035-0.0/0.5	UTC-SG-037-0.0/0.5	UTC-SG-038-0.0/0.5-R	UTC-SG-039-0.0/0.5	UTC-SG-040-0.0/0.5
Sample ID		E5B25	E5B20	E5B19	11CU03-17	E5B16
Interval		0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Sample Date		5/6/2011	5/6/2011	5/6/2011	5/6/2011	5/6/2011
PCB 107 (BZ)/109 (IUPAC)	ng/g	10	18	0.29 QJ	1.5 U	0.31 QJ
PCB 108 (BZ)/107 (IUPAC)	ng/g	1.9 C	4 C	0.072 QCJ	1.5 U	0.2 CJ
PCB 109 (BZ)/108 (IUPAC)	ng/g	24 C86	120 C86	1.8 C86	1.5 U	3.5 C86
PCB 110 (BZ)	ng/g	51 C	310 C	7.3 C	0.43 QBCJ	7.1 C
PCB 111 (BZ)	ng/g	0.22 QJ	0.56	0.47 U	1.5 U	0.39 U
PCB 112 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 113 (BZ)	ng/g	39 BC90	270 BC90	5.9 BC90	0.49 QC90J	6.3 BC90
PCB 114 (BZ)	ng/g	1.2 QJ	2.2	0.47 U	1.5 U	0.1 QJ
PCB 115 (BZ)	ng/g	51 C110	310 C110	7.3 C110	0.43 QBC110J	7.1 C110
PCB 116 (PENTACHLORO 1,1'-BIPHENYL)	ng/g	6.6 C85	30 C85	0.55 C85	1.5 U	1.1 C85
PCB 117 (BZ)	ng/g	6.6 C85	30 C85	0.55 C85	1.5 U	1.1 C85
PCB 118 (BZ)	ng/g	58	190	7.1	0.39 QJ	6.5
PCB 119 (BZ)	ng/g	24 C86	120 C86	1.8 C86	1.5 U	3.5 C86
PCB 120 (BZ)	ng/g	2.1	3.4	0.099 QJ	1.5 U	0.39 U
PCB 121 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 122 (BZ)	ng/g	0.31 QJ	1.2	0.47 U	1.5 U	0.39 U
PCB 123 (BZ)	ng/g	1.8 U	1.4 Q	0.47 U	1.5 U	0.071 QJ
PCB 124 (BZ)	ng/g	1.9 C108	4 C108	0.072 QC108J	1.5 U	0.2 C108J
PCB 125 (BZ)	ng/g	24 C86	120 C86	1.8 C86	1.5 U	3.5 C86
PCB 126 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 127 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 128 (BZ)	ng/g	29 C	23 C	1.3 C	1.5 U	1 QC
PCB 129 (BZ)	ng/g	160 C	160 C	7.8 QC	0.64 QBCJ	6.5 C
PCB 130 (BZ)	ng/g	10	12	0.61 Q	1.5 U	0.36 QJ
PCB 131 (BZ)	ng/g	0.69 QJ	1.7	0.47 U	1.5 U	0.39 U
PCB 132 (BZ)	ng/g	31	77	1.8	0.26 QJ	1.9
PCB 133 (BZ)	ng/g	3 Q	10	0.33 QJ	1.5 U	0.12 QJ
PCB 134 (BZ)	ng/g	4.3 C	12 C	0.23 QCJ	1.5 U	0.38 CJ
PCB 135 (BZ)	ng/g	21 C	85 C	2.9 C	1.5 U	2.1 C
PCB 136 (BZ)	ng/g	5.4	29	0.75	1.5 U	0.78
PCB 137 (BZ)	ng/g	6.3	5.5	0.16 QJ	1.5 U	0.32 J
PCB 138 (BZ)	ng/g	160 C129	160 C129	7.8 QC129	0.64 QBC129J	6.5 C129
PCB 139 (BZ)	ng/g	2.5 C	6.1 C	0.47 U	1.5 U	0.094 QCJ
PCB 140 (BZ)	ng/g	2.5 C139	6.1 C139	0.47 U	1.5 U	0.094 QC139J
PCB 141 (BZ)	ng/g	19	18	0.73 Q	1.5 U	0.81 Q
PCB 142 (BZ)	ng/g	0.83 J	0.38 U	0.47 U	1.5 U	0.39 U
PCB 143 (BZ)	ng/g	4.3 C134	12 C134	0.23 QC134J	1.5 U	0.38 C134J
PCB 144 (BZ)	ng/g	2.2	4.6	0.47 U	1.5 U	0.19 QJ
PCB 145 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 146 (BZ)	ng/g	25	61	2.6	1.5 U	1.2
PCB 147 (BZ)	ng/g	52 C	160 C	6.9 C	0.51 BCJ	4.8 C
PCB 148 (BZ)	ng/g	0.61 J	3.4	0.47 U	1.5 U	0.39 U
PCB 149 (BZ)	ng/g	52 C147	160 C147	6.9 C147	0.51 BC147J	4.8 C147
PCB 150 (BZ)	ng/g	1.8 U	1.1	0.47 U	1.5 U	0.39 U
PCB 151 (BZ)	ng/g	21 C135	85 C135	2.9 C135	1.5 U	2.1 C135
PCB 152 (BZ)	ng/g	0.41 QJ	0.38 U	0.47 U	1.5 U	0.39 U
PCB 153 (BZ)	ng/g	96 BC	160 BC	13 BC	0.61 BCJ	5.8 BC
PCB 154 (BZ)	ng/g	2.7	12	0.31 J	1.5 U	0.093 QJ
PCB 155 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 156 (BZ)	ng/g	49 C	14 C	0.71 C	1.5 U	0.97 C

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-005-2.5/4.4	UTC-SD-013-0.5/2.5	UTC-SD-013-2.5/4.5	UTC-SD-015-2.5/4.5	UTC-SD-016-12.5/14.5	UTC-SD-016-16.5/18.6	UTC-SD-016-8.5/10.5	UTC-SD-017-12.5/14.5
Sample ID		11CU02-77	11CU01-31	11CU01-32	11CU01-72	11CU01-67	11CU01-69	11CU01-64	11CU01-58
Interval		2.5 - 4.4	0.5 - 2.5	2.5 - 4.5	2.5 - 4.5	12.5 - 14.5	16.5 - 18.6	8.5 - 10.5	12.5 - 14.5
Sample Date		5/4/2011	4/26/2011	4/26/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/30/2011
PCB 157 (BZ)	ng/g	12 C156	1.8 U	38 C156	67 C156	0.38 QC156J	0.011 QC156J	8.7 C156	0.098 U
PCB 158 (BZ)	ng/g	9.9	21	32	57	0.34 J	0.011 J	7.2	0.098 U
PCB 159 (BZ)	ng/g	0.63	1.6 J	1.8 J	3.9	0.48 U	0.097 U	0.46	0.098 U
PCB 160 (BZ)	ng/g	99 BC129	210 BC129	310 BC129	570 BC129	4.3 BC129	0.098 BC129	74 BC129	0.075 BC129J
PCB 161 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 162 (BZ)	ng/g	0.24 J	0.83 QJ	0.68 QJ	1.5 J	0.48 U	0.097 U	0.23 J	0.098 U
PCB 163 (BZ)	ng/g	99 BC129	210 BC129	310 BC129	570 BC129	4.3 BC129	0.098 BC129	74 BC129	0.075 BC129J
PCB 164 (BZ)	ng/g	6.1	13	19	36	0.22 J	0.097 U	4.6	0.098 U
PCB 165 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 166 (BZ)	ng/g	15 C128	29 C128	47 C128	79 C128	0.48 QC128	0.097 U	10 C128	0.098 U
PCB 167 (BZ)	ng/g	3.4	6.8	11	20	0.13 QJ	0.097 U	2.5	0.098 U
PCB 168 (BZ)	ng/g	70 BC153	160 BC153	220 BC153	420 BC153	3.4 BC153	0.081 BC153J	55 BC153	0.041 QBC153J
PCB 169 (BZ)	ng/g	0.41 U	0.16 QJ	2 U	2.1 U	0.48 U	0.097 U	0.11 QJ	0.098 U
PCB 170 (BZ)	ng/g	18	48	65	120	1	0.024 QJ	16	0.098 U
PCB 171 (BZ)	ng/g	4.7 C	13 C	17 C	37 C	0.2 QCJ	0.097 U	4.4 C	0.098 U
PCB 172 (BZ)	ng/g	2.6	6.9	9.7	19	0.15 QJ	0.097 U	2.5	0.098 U
PCB 173 (BZ)	ng/g	4.7 C171	13 C171	17 C171	37 C171	0.2 QC171J	0.097 U	4.4 C171	0.098 U
PCB 174 (BZ)	ng/g	16	43	59	130	1.1 Q	0.016 QJ	16	0.098 U
PCB 175 (BZ)	ng/g	0.56	1.8 QJ	1.9 QJ	4.6	0.48 U	0.097 U	0.55	0.098 U
PCB 176 (BZ)	ng/g	2	5.8	6.7	16	0.15 QJ	0.097 U	1.9	0.098 U
PCB 177 (BZ)	ng/g	8.6	24	32	69	0.51 Q	0.097 U	8.3	0.098 U
PCB 178 (BZ)	ng/g	3.2	9.5	11	23	0.23 QJ	0.097 U	3.3	0.098 U
PCB 179 (BZ)	ng/g	7.2	22	25	56	0.51	0.097 U	6.9	0.098 U
PCB 180 (BZ)	ng/g	36 BC	95 C	130 C	280 C	3 C	0.054 CJ	36 C	0.098 U
PCB 181 (BZ)	ng/g	0.11 J	1.8 U	0.5 J	0.94 J	0.48 U	0.097 U	0.052 QJ	0.098 U
PCB 182 (BZ)	ng/g	0.089 QJ	0.51 QJ	0.3 QJ	0.53 QJ	0.48 U	0.097 U	0.077 QJ	0.098 U
PCB 183 (BZ)	ng/g	11 C	32 C	40 C	88 C	1.1 C	0.097 U	11 C	0.098 U
PCB 184 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 185 (BZ)	ng/g	11 C183	32 C183	40 C183	88 C183	1.1 C183	0.097 U	11 C183	0.098 U
PCB 186 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 187 (BZ)	ng/g	20	51	67	150	1.9	0.031 J	19	0.041 J
PCB 188 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 189 (BZ)	ng/g	0.55	1.6 J	2.1	3.6	0.061 QJ	0.097 U	0.49	0.098 U
PCB 190 (BZ)	ng/g	2.9	7.8	11	23	0.17 QJ	0.097 U	2.8	0.098 U
PCB 191 (BZ)	ng/g	0.56	1.7 J	2.3	5	0.48 U	0.097 U	0.56	0.098 U
PCB 192 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 193 (BZ)	ng/g	36 BC180	95 C180	130 C180	280 C180	3 C180	0.054 C180J	36 C180	0.098 U
PCB 194 (BZ)	ng/g	7.8	25	32	51	1.3	0.012 QJ	7.6	0.098 U
PCB 195 (BZ)	ng/g	2.8	8.9	11	20	0.28 J	0.097 U	2.7	0.098 U
PCB 196 (BZ)	ng/g	3.8	10	15	28	0.64 Q	0.097 U	3.9	0.098 U
PCB 197 (BZ)	ng/g	0.22 J	0.57 QJ	0.87 QJ	1.8 J	0.48 U	0.097 U	0.26 J	0.098 U
PCB 198 (BZ)	ng/g	8.7 BC	24 C	35 C	63 C	4.6 C	0.024 QCJ	9.4 C	0.063 QCJ
PCB 199 (BZ)/200 (IUPAC)	ng/g	0.86	2.6	3.3	6.8 Q	0.089 QJ	0.097 U	0.88	0.098 U
PCB 200 (BZ)/201 (IUPAC)	ng/g	0.91	2.3 Q	3.5	6.7	0.31 J	0.097 U	1	0.098 U
PCB 201 (BZ)/199 (IUPAC)	ng/g	8.7 BC198	24 C198	35 C198	63 C198	4.6 C198	0.024 QC198J	9.4 C198	0.063 QC198J
PCB 202 (BZ)	ng/g	1.6	3.6 Q	6	11	1.5	0.097 U	1.7	0.098 U
PCB 203 (BZ)	ng/g	5	13	20	36	2	0.014 QJ	5.5	0.098 U
PCB 204 (BZ)	ng/g	0.41 U	1.8 U	2 U	2.1 U	0.48 U	0.097 U	0.39 U	0.098 U
PCB 205 (BZ)	ng/g	0.33 J	0.94 QJ	1.4 J	2.4	0.48 U	0.097 U	0.35 J	0.098 U
PCB 206 (BZ)	ng/g	3.6	7	13	17	15	0.046 QJ	3.8	0.16
PCB 207 (BZ)	ng/g	0.33 QJ	0.96 J	1.2 J	2 J	0.71	0.097 U	0.4	0.098 U
PCB 208 (BZ)	ng/g	0.95	1.6 J	2.8	3.7	5.8	0.019 J	1	0.063 J
PCB 209 -DECACHLOROBIPHENYL	ng/g	2.3	1.5 QJ	2.9	4.3	18	0.033 QJ	2.5	0.17 Q

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-017-2.5/4.5	UTC-SD-018-10.5/12.3	UTC-SD-018-6.5/8.5	UTC-SD-021-0.0/0.5	UTC-SD-021-0.5/2.8	UTC-SD-029-0.0/0.5	UTC-SD-032-0.5/2.5	UTC-SD-032-2.5/4.5
	Sample ID	11CU01-52	11CU01-49	11CU01-47	11CU06-42	11CU06-43	11CU01-02	11CU01-06	11CU01-07
	Interval	2.5 - 4.5	10.5 - 12.3	6.5 - 8.5	0 - 0.5	0.5 - 2.8	0 - 0.5	0.5 - 2.5	2.5 - 4.5
	Sample Date	4/30/2011	4/30/2011	4/30/2011	6/16/2011	6/16/2011	4/26/2011	4/26/2011	4/26/2011
PCB 157 (BZ)	ng/g	40 C156	1.1 C156	2.1 QC156	3.2 C156	0.044 C156	0.12 C156	0.31 QC156J	0.24 U
PCB 158 (BZ)	ng/g	36	0.83	2.1	2.6	0.034	0.096 Q	0.28 QJ	0.24 U
PCB 159 (BZ)	ng/g	3.3	0.49 U	1.5 U	0.15 J	0.0099 U	0.0077 J	0.054 QJ	0.24 U
PCB 160 (BZ)	ng/g	390 BC129	7.8 BC129	21 BC129	22 C129	0.33 C129	1.1 C129	3.3 C129	0.09 QC129J
PCB 161 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 162 (BZ)	ng/g	0.98 J	0.49 U	1.5 U	0.079 J	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 163 (BZ)	ng/g	390 BC129	7.8 BC129	21 BC129	22 C129	0.33 C129	1.1 C129	3.3 C129	0.09 QC129J
PCB 164 (BZ)	ng/g	25	0.41 J	1 QJ	1.3	0.021	0.07	0.21 J	0.24 U
PCB 165 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0039 J	0.051 U	0.38 U	0.24 U
PCB 166 (BZ)	ng/g	50 C128	1.3 C128	2.9 C128	3.6 C128	0.052 C128	0.17 C128	0.57 QC128	0.24 U
PCB 167 (BZ)	ng/g	12	0.24 J	0.67 QJ	0.84	0.011	0.034 J	0.08 QJ	0.24 U
PCB 168 (BZ)	ng/g	310 BC153	5.9 BC153	17 BC153	16 C153	0.26 C153	0.82 C153	5.3 C153	0.28 C153
PCB 169 (BZ)	ng/g	0.31 J	0.49 U	1.5 U	0.13 J	0.0025 QJ	0.051 U	0.38 U	0.24 U
PCB 170 (BZ)	ng/g	110	1.5	5.6	3.9	0.069	0.25	0.79 Q	0.24 U
PCB 171 (BZ)	ng/g	30 C	0.29 QCJ	1.2 CJ	1.2 QC	0.021 QC	0.056 QC	0.27 CJ	0.24 U
PCB 172 (BZ)	ng/g	18	0.2 QJ	0.76 QJ	0.63	0.0091 QJ	0.035 J	0.41	0.24 U
PCB 173 (BZ)	ng/g	30 C171	0.29 QC171J	1.2 C171J	1.2 QC171	0.021 QC171	0.056 QC171	0.27 C171J	0.24 U
PCB 174 (BZ)	ng/g	110	1.4	5	4.2	0.085	0.25	1.7	0.05 J
PCB 175 (BZ)	ng/g	4.2	0.49 U	1.5 U	0.56 U	0.0028 QJ	0.051 U	0.069 J	0.24 U
PCB 176 (BZ)	ng/g	13	0.49 U	0.48 QJ	0.48 QJ	0.0089 J	0.027 J	0.29 J	0.24 U
PCB 177 (BZ)	ng/g	60	0.66	2.7	2.1	0.035	0.12	1.3	0.056 QJ
PCB 178 (BZ)	ng/g	22	0.69	0.97 J	0.85	0.029	0.043 QJ	2.1	0.056 QJ
PCB 179 (BZ)	ng/g	50	0.68	2.3	2	0.039	0.11	1.7	0.079 J
PCB 180 (BZ)	ng/g	240 C	3.5 C	13 C	9.5 C	0.21 C	0.55 C	5.1 C	0.14 CJ
PCB 181 (BZ)	ng/g	0.56 QJ	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 182 (BZ)	ng/g	0.58 QJ	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.24 J	0.24 U
PCB 183 (BZ)	ng/g	73 C	1.1 C	3.6 C	3.2 C	0.075 C	0.17 C	1.7 C	0.043 QCJ
PCB 184 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 185 (BZ)	ng/g	73 C183	1.1 C183	3.6 C183	3.2 C183	0.075 C183	0.17 C183	1.7 C183	0.043 QC183J
PCB 186 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0045 J	0.051 U	0.38 U	0.24 U
PCB 187 (BZ)	ng/g	130	2.7	6.8	5.7	0.14	0.33	7.7	0.33
PCB 188 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 189 (BZ)	ng/g	2.9	0.074 J	1.5 U	0.15 QJ	0.0046 J	0.0078 QJ	0.38 U	0.24 U
PCB 190 (BZ)	ng/g	19	0.2 QJ	0.97 J	0.77	0.013	0.043 QJ	0.21 J	0.24 U
PCB 191 (BZ)	ng/g	4.3	0.49 U	1.5 U	0.14 J	0.0099 U	0.0078 QJ	0.38 U	0.24 U
PCB 192 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0099 U	0.051 U	0.38 U	0.24 U
PCB 193 (BZ)	ng/g	240 C180	3.5 C180	13 C180	9.5 C180	0.21 C180	0.55 C180	5.1 C180	0.14 C180J
PCB 194 (BZ)	ng/g	48	1.6	3.8	3.1	0.083	0.14	3.5	0.077 QJ
PCB 195 (BZ)	ng/g	18	0.31 J	0.96 J	0.9	0.019	0.055	0.76 Q	0.24 U
PCB 196 (BZ)	ng/g	25	0.96	2 Q	1.8	0.04	0.074	1.8	0.044 QJ
PCB 197 (BZ)	ng/g	1.5 QJ	0.49 U	0.19 J	0.15 QJ	0.0075 QJ	0.005 QJ	0.17 J	0.24 U
PCB 198 (BZ)	ng/g	55 C	3 QC	8.8 C	5.7 C	0.17 C	0.15 C	5.6 C	0.16 QCJ
PCB 199 (BZ)/200 (IUPAC)	ng/g	6.1	0.14 QJ	0.36 J	0.41 J	0.0092 QJ	0.015 J	0.4	0.24 U
PCB 200 (BZ)/201 (IUPAC)	ng/g	6	0.3 J	0.56 QJ	0.65	0.016	0.013 QJ	0.69	0.24 U
PCB 201 (BZ)/199 (IUPAC)	ng/g	55 C198	3 QC198	8.8 C198	5.7 C198	0.17 C198	0.15 C198	5.6 C198	0.16 QC198J
PCB 202 (BZ)	ng/g	9.1	1	2.5	1.3	0.038	0.024 J	1.6	0.057 J
PCB 203 (BZ)	ng/g	32	1.8	4.4	2.8	0.082	0.12	3.6	0.098 QJ
PCB 204 (BZ)	ng/g	1.9 U	0.49 U	1.5 U	0.56 U	0.0042 QJ	0.051 U	0.38 U	0.24 U
PCB 205 (BZ)	ng/g	2.3	0.49 U	0.15 QJ	0.56 U	0.0039 J	0.051 U	0.13 QJ	0.24 U
PCB 206 (BZ)	ng/g	15	7.9	23	8.6	0.33	0.065	7.6	0.15 QJ
PCB 207 (BZ)	ng/g	1.8 J	0.51	1.2 QJ	0.78 Q	0.016	0.0074 QJ	0.71	0.24 U
PCB 208 (BZ)	ng/g	3.2	3.1	9.1	3.2	0.083	0.012 J	2.1	0.24 U
PCB 209 -DECACHLOROBIPHENYL	ng/g	2.5	8.7	33	21	0.68	0.031 J	4.5	0.078 QJ

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-032-2.5/4.5-R	UTC-SD-032-4.5/6.5	UTC-SD-034-0.5/2.5	UTC-SD-034-0.5/2.5-R	UTC-SD-035-0.0/0.9	UTC-SD-036-0.0/0.5	UTC-SD-036-0.5/2.5	UTC-SD-036-2.5/3.4
	Sample ID	11CU01-08	11CU01-09	11CU01-12	11CU01-13	E5AB8	E5AB9	E5AC0	E5AC1
	Interval	2.5 - 4.5	4.5 - 6.5	0.5 - 2.5	0.5 - 2.5	0 - 0.9	0 - 0.5	0.5 - 2.5	2.5 - 3.4
	Sample Date	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011
PCB 157 (BZ)	ng/g	0.24 U	0.39 U	0.28 C156J	0.3 C156J	390 U	210 C156J	480 C156	840 QC156
PCB 158 (BZ)	ng/g	0.24 U	0.39 U	0.3 J	0.31 J	66 J	280 J	860	2000
PCB 159 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	640	2200
PCB 160 (BZ)	ng/g	0.12 C129J	0.39 U	4.4 C129	4.4 C129	540 C129	2200 C129	10000 C129	22000 C129
PCB 161 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 162 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 163 (BZ)	ng/g	0.12 C129J	0.39 U	4.4 C129	4.4 C129	540 C129	2200 C129	10000 C129	22000 C129
PCB 164 (BZ)	ng/g	0.24 U	0.39 U	0.23 J	0.19 QJ	390 U	210 J	590	1200
PCB 165 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 166 (BZ)	ng/g	0.24 U	0.39 U	0.47 QC128	0.51 C128	110 C128J	290 QC128J	1900 C128	5800 C128
PCB 167 (BZ)	ng/g	0.24 U	0.39 U	0.1 QJ	0.12 QJ	390 U	370 U	210 J	280 J
PCB 168 (BZ)	ng/g	0.29 C153	0.087 C153J	5.4 C153	5.4 C153	940 C153	3000 C153	23000 C153	81000 C153
PCB 169 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	810 Q	2300 Q
PCB 170 (BZ)	ng/g	0.24 U	0.39 U	0.79	0.84	420 Q	1800	8400	32000
PCB 171 (BZ)	ng/g	0.24 U	0.39 U	0.18 CJ	0.13 QCJ	72 QCJ	510 C	2900 C	9200 C
PCB 172 (BZ)	ng/g	0.24 U	0.39 U	0.13 J	0.1 J	390 U	330 J	1600 Q	5500
PCB 173 (BZ)	ng/g	0.24 U	0.39 U	0.18 C171J	0.13 QC171J	72 QC171J	510 C171	2900 C171	9200 C171
PCB 174 (BZ)	ng/g	0.062 QJ	0.39 U	0.91	0.96	830	2400	18000	69000
PCB 175 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	510 Q	1800
PCB 176 (BZ)	ng/g	0.24 U	0.39 U	0.091 QJ	0.089 J	86 QJ	300 J	2300	6500
PCB 177 (BZ)	ng/g	0.24 U	0.39 U	0.33 QJ	0.39 J	300 J	1100	6800	23000
PCB 178 (BZ)	ng/g	0.091 J	0.39 U	0.18 QJ	0.22 J	170 QJ	470	4000	13000
PCB 179 (BZ)	ng/g	0.079 J	0.39 U	0.51	0.53	520	1200	11000	32000
PCB 180 (BZ)	ng/g	0.14 CJ	0.39 U	3 C	3 C	3400 C	7000 C	64000 C	290000 C
PCB 181 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 182 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 183 (BZ)	ng/g	0.037 QCJ	0.39 U	0.81 C	0.73 QC	890 C	2400 C	21000 C	83000 C
PCB 184 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 185 (BZ)	ng/g	0.037 QC183J	0.39 U	0.81 C183	0.73 QC183	890 C183	2400 C183	21000 C183	83000 C183
PCB 186 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 187 (BZ)	ng/g	0.35	0.39 U	2	1.9	2200	4200	40000	150000
PCB 188 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 189 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	67 QJ	150 J	270 QJ
PCB 190 (BZ)	ng/g	0.24 U	0.39 U	0.13 J	0.12 J	160 QJ	510 Q	3100	12000
PCB 191 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.05 J	390 U	150 QJ	690	2300
PCB 192 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 193 (BZ)	ng/g	0.14 C180J	0.39 U	3 C180	3 C180	3400 C180	7000 C180	64000 C180	290000 C180
PCB 194 (BZ)	ng/g	0.092 QJ	0.39 U	1.2	1	2700	4400	36000	160000
PCB 195 (BZ)	ng/g	0.022 QJ	0.39 U	0.22 QJ	0.23 J	600	1100	9000	37000
PCB 196 (BZ)	ng/g	0.043 J	0.39 U	0.43	0.44	1400	2100	20000	88000
PCB 197 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	81 QJ	1400	5300
PCB 198 (BZ)	ng/g	0.15 QCJ	0.39 U	1.6 C	1.6 C	3300 C	5100 C	48000 C	170000 C
PCB 199 (BZ)/200 (IUPAC)	ng/g	0.24 U	0.39 U	0.082 QJ	0.1 QJ	280 J	490	4700	16000
PCB 200 (BZ)/201 (IUPAC)	ng/g	0.24 U	0.39 U	0.11 QJ	0.12 J	280 QJ	530	5400	18000
PCB 201 (BZ)/199 (IUPAC)	ng/g	0.15 QC198J	0.39 U	1.6 C198	1.6 C198	3300 C198	5100 C198	48000 C198	170000 C198
PCB 202 (BZ)	ng/g	0.052 J	0.39 U	0.39 J	0.4 J	560	900	10000	30000
PCB 203 (BZ)	ng/g	0.095 QJ	0.39 U	0.97	0.98	3000	4200	44000	170000
PCB 204 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	390 U	370 U	400 U	390 U
PCB 205 (BZ)	ng/g	0.24 U	0.39 U	0.43 U	0.4 U	170 J	230 J	1700	6900
PCB 206 (BZ)	ng/g	0.22 J	0.39 U	1.1	1.1	3600	4400	39000	110000
PCB 207 (BZ)	ng/g	0.24 U	0.39 U	0.12 J	0.073 QJ	310 J	440 Q	4500	18000
PCB 208 (BZ)	ng/g	0.042 J	0.39 U	0.24 J	0.21 J	700	770	8400	25000
PCB 209 -DECACHLOROBIPHENYL	ng/g	0.072 J	0.39 U	0.1 QJ	0.18 J	7500	8300	4200	10000

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

Station ID		UTC-SD-038-0.5/2.5	UTC-SD-038-0.5/2.5-R	UTC-SD-038-6.5/8.6	UTC-SD-038-6.5/8.6-R	UTC-SD-040-0.5/2.5	UTC-SD-043-0.5/2.5	UTC-SD-043-0.5/2.5-R	UTC-SD-043-2.5-3.3
Sample ID		11CU01-18B	11CU01-19B	11CU01-22	11CU01-23	11CU01-15	11CU02-53	11CU02-54	E5AT1
Interval		0.5 - 2.5	0.5 - 2.5	6.5 - 8.6	6.5 - 8.6	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	2.5 - 3.3
Sample Date		4/27/2011	4/27/2011	4/27/2011	4/27/2011	4/26/2011	5/4/2011	5/4/2011	5/4/2011
PCB 157 (BZ)	ng/g	630 C156	410 C156	57 C156	47 QC156	4900 C156	7.8 C156	14 C156	2 C156
PCB 158 (BZ)	ng/g	750	490	100	97 Q	2000	3 J	6.9 J	0.93
PCB 159 (BZ)	ng/g	220	170	63 Q	63	72 J	7.1 U	1.2 J	0.38 U
PCB 160 (BZ)	ng/g	7700 C129	5700 C129	1200 C129	1300 C129	16000 C129	38 C129	72 BC129	7.8 C129
PCB 161 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 162 (BZ)	ng/g	190 U	150 U	30 U	38 U	67 J	7.1 U	9.4 U	0.38 U
PCB 163 (BZ)	ng/g	7700 C129	5700 C129	1200 C129	1300 C129	16000 C129	38 C129	72 BC129	7.8 C129
PCB 164 (BZ)	ng/g	440	340	62	69	900	1.9 J	3 QJ	0.49 Q
PCB 165 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 166 (BZ)	ng/g	1000 C128	670 QC128	210 C128	210 C128	3600 C128	5.6 QC128J	10 QC128	1.5 QC128
PCB 167 (BZ)	ng/g	150 QJ	110 QJ	15 QJ	19 J	1100	1.3 QJ	3.4 J	0.43
PCB 168 (BZ)	ng/g	12000 C153	9300 C153	3000 C153	3300 C153	7200 C153	31 BC153	58 BC153	5.5 BC153
PCB 169 (BZ)	ng/g	190 U	150 U	30 U	38 U	15 QJ	7.1 U	9.4 U	0.38 U
PCB 170 (BZ)	ng/g	6500	5000	1000	1100	7000	25	56	7.2
PCB 171 (BZ)	ng/g	1700 C	1300 C	340 C	370 C	1100 C	3 CJ	7.7 CJ	1.3 C
PCB 172 (BZ)	ng/g	1000	760	190	170 Q	700	2 QJ	5.2 J	0.67 Q
PCB 173 (BZ)	ng/g	1700 C171	1300 C171	340 C171	370 C171	1100 C171	3 C171J	7.7 C171J	1.3 C171
PCB 174 (BZ)	ng/g	9700	7600	2500	2800	2600	14	26	2.9 Q
PCB 175 (BZ)	ng/g	260	210	77	91	68 J	7.1 U	9.4 U	0.38 U
PCB 176 (BZ)	ng/g	1100	900	370	390	160	7.1 U	1.2 QJ	0.22 QJ
PCB 177 (BZ)	ng/g	3900	3000	920	990	1500	5.7 J	11 Q	1.4 Q
PCB 178 (BZ)	ng/g	2000	1500	580	630	300	2.2 J	2.7 QJ	0.39 Q
PCB 179 (BZ)	ng/g	5600	4400	2000	2300	490	4.5 J	6.1 J	0.88
PCB 180 (BZ)	ng/g	30000 C	23000 C	6800 C	7500 C	12000 C	67 BC	140 BC	17 C
PCB 181 (BZ)	ng/g	190 U	150 U	30 U	38 U	52 J	7.1 U	9.4 U	0.38 U
PCB 182 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 183 (BZ)	ng/g	9000 C	6900 C	2700 C	3000 C	1800 C	10 QC	21 QC	3.3 C
PCB 184 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 185 (BZ)	ng/g	9000 C183	6900 C183	2700 C183	3000 C183	1800 C183	10 QC183	21 QC183	3.3 C183
PCB 186 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 187 (BZ)	ng/g	20000	16000	6200	6700	2400	22	36	4.2
PCB 188 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 189 (BZ)	ng/g	140 J	130 J	15 J	11 J	280	0.89 J	2.7 QJ	0.34 QJ
PCB 190 (BZ)	ng/g	1800	1500	320	350	1400	5.4 QJ	16	1.9
PCB 191 (BZ)	ng/g	310 Q	250	50 Q	43 Q	210	7.1 U	2 QJ	0.37 QJ
PCB 192 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 193 (BZ)	ng/g	30000 C180	23000 C180	6800 C180	7500 C180	12000 C180	67 BC180	140 BC180	17 C180
PCB 194 (BZ)	ng/g	21000	15000	3200	3500	7000	38	97	9.3
PCB 195 (BZ)	ng/g	4500	3300	880	930	2000	11	27	3.5
PCB 196 (BZ)	ng/g	8600	6600	2000	2200	2100	14	37	4.9
PCB 197 (BZ)	ng/g	460	340	140	120 Q	52 QJ	7.1 U	0.75 QJ	0.16 QJ
PCB 198 (BZ)	ng/g	28000 C	22000 C	5500 C	6200 C	4200 C	29 C	68 BC	9.2 C
PCB 199 (BZ)/200 (IUPAC)	ng/g	2400	1800	650	730	270	1.8 J	3.5 J	0.53 Q
PCB 200 (BZ)/201 (IUPAC)	ng/g	2500	1900	720	840	200	1.3 QJ	3 QJ	0.42 Q
PCB 201 (BZ)/199 (IUPAC)	ng/g	28000 C198	22000 C198	5500 C198	6200 C198	4200 C198	29 C198	68 BC198	9.2 C198
PCB 202 (BZ)	ng/g	5800	4600	1400	1700	270	2.7 J	4.8 QJ	0.74
PCB 203 (BZ)	ng/g	20000	15000	4200	4700	3100	28	67	8.3
PCB 204 (BZ)	ng/g	190 U	150 U	30 U	38 U	76 U	7.1 U	9.4 U	0.38 U
PCB 205 (BZ)	ng/g	850	600	120	140	410	2.2 QJ	8.2 J	1
PCB 206 (BZ)	ng/g	26000	19000	3400	3800	2900	27	76	7.1
PCB 207 (BZ)	ng/g	2400	1900	440	520	240	2.2 J	4.5 QJ	0.5
PCB 208 (BZ)	ng/g	5500	4200	810	920	310	2.9 J	8.4 J	0.82
PCB 209 -DECACHLOROBIPHENYL	ng/g	3500	2300	220	250	100	14	20	2.2

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-044-0.5/2.2	UTC-SD-047-0.0/0.5	UTC-SD-047-0.5/2.1	UTC-SD-048-0.0/0.5	UTC-SD-048-2.5/4.5	UTC-SD-048-6.5/8.4	UTC-SD-050-0.0/0.5	UTC-SD-050-4.5/6.6
	Sample ID	11CU02-47	E5AX8	E5AY4	E5AW0	11CU02-65	E5AW4	E5B00	11CU03-05
	Interval	0.5 - 2.2	0 - 0.5	0.5 - 2.1	0 - 0.5	2.5 - 4.5	6.5 - 8.4	0 - 0.5	4.5 - 6.6
	Sample Date	5/3/2011	5/4/2011	5/4/2011	5/4/2011	5/4/2011	5/4/2011	5/5/2011	5/5/2011
PCB 157 (BZ)	ng/g	8.9 C156	2.5 C156	0.27 C156J	2 C156	6.9 C156	0.043 QC156J	1.8 QC156	0.093 QC156J
PCB 158 (BZ)	ng/g	8.3	1.6	0.16 QJ	1.6	7.7	0.041 J	1.3	0.065 J
PCB 159 (BZ)	ng/g	1.4 J	0.22 QJ	0.4 U	0.35 QJ	1.1 QJ	0.05 U	0.2 QJ	0.41 U
PCB 160 (BZ)	ng/g	75 BC129	16 C129	1.7 C129	19 C129	97 BC129	0.44 C129	17 C129	0.95 BC129
PCB 161 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 162 (BZ)	ng/g	3.7 U	0.12 QJ	0.4 U	0.091 J	1.9 U	0.011 QJ	0.17 J	0.71 Q
PCB 163 (BZ)	ng/g	75 BC129	16 C129	1.7 C129	19 C129	97 BC129	0.44 C129	17 C129	0.95 BC129
PCB 164 (BZ)	ng/g	4.5	1.6	0.14 J	1.4	7.8	0.04 J	1.4	0.058 QJ
PCB 165 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	0.77 QJ	0.0059 J	0.41 U	0.41 U
PCB 166 (BZ)	ng/g	11 C128	3 C128	0.26 C128J	2.5 C128	16 C128	0.1 C128	2.7 C128	0.19 C128J
PCB 167 (BZ)	ng/g	2.9 J	0.69	0.072 QJ	0.53 Q	2.2 Q	0.017 QJ	0.58	0.41 U
PCB 168 (BZ)	ng/g	100 BC153	21 BC153	2.2 BC153	23 BC153	170 BC153	0.67 BC153	18 BC153	1 BC153
PCB 169 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.19 J	1.9 U	0.0073 QJ	0.41 U	0.41 U
PCB 170 (BZ)	ng/g	41	7.4	0.74 Q	9.9	26	0.14	6	0.55 Q
PCB 171 (BZ)	ng/g	13 C	1.8 C	0.19 QCJ	3 C	8.1 C	0.057 C	1.6 C	0.41 U
PCB 172 (BZ)	ng/g	6.3	1.2 Q	0.17 QJ	2	9.6	0.048 J	1.4	0.41 U
PCB 173 (BZ)	ng/g	13 C171	1.8 C171	0.19 QC171J	3 C171	8.1 C171	0.057 C171	1.6 C171	0.41 U
PCB 174 (BZ)	ng/g	46	6.2	0.71	11	41	0.16 Q	6.6	0.43
PCB 175 (BZ)	ng/g	2 J	0.34 QJ	0.4 U	0.58	2.1	0.016 QJ	0.31 QJ	0.41 U
PCB 176 (BZ)	ng/g	6	0.97 Q	0.093 QJ	1.7	9.4	0.043 J	1 Q	0.059 QJ
PCB 177 (BZ)	ng/g	21	3.9	0.5	7.3	38	0.16	5.2	0.28 J
PCB 178 (BZ)	ng/g	9.5	2.7	0.3 J	3.2	55	0.21 Q	4.4	0.2 J
PCB 179 (BZ)	ng/g	24	4	0.42 Q	6.8	62	0.18	5.5	0.25 QJ
PCB 180 (BZ)	ng/g	160 BC	18 C	1.8 C	29 C	110 BC	0.44 C	17 C	1.3 BC
PCB 181 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.1 QJ	0.48 QJ	0.03 J	0.41 U	0.41 U
PCB 182 (BZ)	ng/g	0.55 J	0.33 QJ	0.4 U	0.17 QJ	3.9	0.018 J	0.35 QJ	0.41 U
PCB 183 (BZ)	ng/g	56 C	5.1 C	0.62 C	8.7 C	34 C	0.19 C	5.5 C	0.39 CJ
PCB 184 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 185 (BZ)	ng/g	56 C183	5.1 C183	0.62 C183	8.7 C183	34 C183	0.19 C183	5.5 C183	0.39 C183J
PCB 186 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 187 (BZ)	ng/g	100	14	1.7	20	200	0.7	19	1.1
PCB 188 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	2.3	0.05 U	0.12 QJ	0.41 U
PCB 189 (BZ)	ng/g	1.6 J	0.44 Q	0.4 U	0.38	0.81 J	0.05 U	0.29 J	0.41 U
PCB 190 (BZ)	ng/g	10	1.6	0.16 QJ	2.3	5.7	0.044 QJ	1.2	0.12 J
PCB 191 (BZ)	ng/g	2.3 J	0.68	0.4 U	0.5	1.1 J	0.05 U	0.24 QJ	0.41 U
PCB 192 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 193 (BZ)	ng/g	160 BC180	18 C180	1.8 C180	29 C180	110 BC180	0.44 C180	17 C180	1.3 BC180
PCB 194 (BZ)	ng/g	92	10	0.86	11	80	0.31	9.9	0.68
PCB 195 (BZ)	ng/g	22	3.4	0.31 J	3.4	19	0.098	2.8 Q	0.24 QJ
PCB 196 (BZ)	ng/g	43	5.4	0.44	6.1	35	0.15	5.1	0.3 QJ
PCB 197 (BZ)	ng/g	3.2 J	0.25 QJ	0.4 U	0.44	3.1	0.009 QJ	0.34 QJ	0.41 U
PCB 198 (BZ)	ng/g	100 BC	13 C	1.3 C	14 C	120 BC	0.52 C	15 C	0.87 BC
PCB 199 (BZ)/200 (IUPAC)	ng/g	9.7	1.1	0.093 J	1.4	9	0.047 J	1.3	0.082 QJ
PCB 200 (BZ)/201 (IUPAC)	ng/g	12	1.5	0.14 J	1.6	15	0.079	1.7	0.099 J
PCB 201 (BZ)/199 (IUPAC)	ng/g	100 BC198	13 C198	1.3 C198	14 C198	120 BC198	0.52 C198	15 C198	0.87 BC198
PCB 202 (BZ)	ng/g	22	2.9	0.23 J	2.7	35	0.2	3.7	0.13 QJ
PCB 203 (BZ)	ng/g	86	8.9	0.86	9.7	67	0.33	9.4	0.54 Q
PCB 204 (BZ)	ng/g	3.7 U	0.4 U	0.4 U	0.38 U	1.9 U	0.05 U	0.41 U	0.41 U
PCB 205 (BZ)	ng/g	4.2	0.62 Q	0.4 U	0.63	2.9	0.031 QJ	0.44	0.055 QJ
PCB 206 (BZ)	ng/g	95	11	0.97	8.5	93	0.56	13	0.68
PCB 207 (BZ)	ng/g	17	1.5	0.12 QJ	0.95	9.8	0.06	1.4	0.11 J
PCB 208 (BZ)	ng/g	25	2.7	0.2 J	1.6	22	0.15	3.4	0.13 QJ
PCB 209 -DECACHLOROBIPHENYL	ng/g	83	88	1.8	3.9	50	0.65	12	0.56

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-054-6.5/9.2	UTC-SD-062-0.5/2.4	UTC-SD-063-0.5/2.2	UTC-SD-066-2.5/4.5	UTC-SD-067-4.5/6.5	UTC-SD-080-0.5/2.5	UTC-SD-080-0.5/2.5-R	UTC-SD-080-2.5/3.2
	Sample ID	11CU02-03	11CU02-38	11CU02-45	11CU02-17	11CU02-23	11CU06-18	11CU06-19	11CU06-20
	Interval	6.5 - 9.2	0.5 - 2.4	0.5 - 2.2	2.5 - 4.5	4.5 - 6.5	0.5 - 2.5	0.5 - 2.5	2.5 - 3.2
	Sample Date	5/2/2011	5/3/2011	5/3/2011	5/2/2011	5/2/2011	6/15/2011	6/15/2011	6/15/2011
PCB 157 (BZ)	ng/g	0.13 QC156J	0.86 C156	0.071 C156	40 C156	20 C156	0.0031 C156J	0.0025 QC156J	0.0012 QC156J
PCB 158 (BZ)	ng/g	0.13 J	0.75	0.043	34	20	0.0028 J	0.003 J	0.0013 QJ
PCB 159 (BZ)	ng/g	0.37 U	0.065 J	0.014	2.2	2.6	0.0098 U	0.0096 U	0.0095 U
PCB 160 (BZ)	ng/g	1.1 BC129	7.5 BC129	0.61 BC129	330 BC129	220 BC129	0.035 C129	0.031 C129	0.013 C129
PCB 161 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 162 (BZ)	ng/g	0.37 U	0.37 U	0.001 QJ	1 J	0.48 J	0.0098 U	0.0096 U	0.0095 U
PCB 163 (BZ)	ng/g	1.1 BC129	7.5 BC129	0.61 BC129	330 BC129	220 BC129	0.035 C129	0.031 C129	0.013 C129
PCB 164 (BZ)	ng/g	0.055 J	0.5	0.04	20	15	0.0021 QJ	0.0017 QJ	0.0095 U
PCB 165 (BZ)	ng/g	0.37 U	0.37 U	0.0067 J	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 166 (BZ)	ng/g	0.29 C128J	1 C128	0.073 C128	50 C128	23 C128	0.004 C128J	0.0052 C128J	0.002 C128J
PCB 167 (BZ)	ng/g	0.049 QJ	0.25 J	0.021	11	6.3	0.0009 QJ	0.00085 QJ	0.0095 U
PCB 168 (BZ)	ng/g	1.3 BC153	6 BC153	0.6 BC153	240 BC153	210 BC153	0.027 C153	0.023 C153	0.01 C153
PCB 169 (BZ)	ng/g	0.37 U	0.37 U	0.00051 QJ	0.24 QJ	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 170 (BZ)	ng/g	0.27 J	2.2	0.45	80	82	0.0057 QJ	0.0066 J	0.0038 J
PCB 171 (BZ)	ng/g	0.096 CJ	0.62 C	0.1 C	22 C	23 C	0.0018 QCJ	0.0096 U	0.0095 U
PCB 172 (BZ)	ng/g	0.1 J	0.34 J	0.075	13	13	0.0098 U	0.0096 U	0.0095 U
PCB 173 (BZ)	ng/g	0.096 C171J	0.62 C171	0.1 C171	22 C171	23 C171	0.0018 QC171J	0.0096 U	0.0095 U
PCB 174 (BZ)	ng/g	0.29 QJ	2.3	0.38	77	86	0.0074 J	0.0085 J	0.0038 J
PCB 175 (BZ)	ng/g	0.37 U	0.063 QJ	0.012	3.1	2.4	0.0098 U	0.0096 U	0.0095 U
PCB 176 (BZ)	ng/g	0.041 QJ	0.25 J	0.043	9.2	11	0.0098 U	0.0015 J	0.0095 U
PCB 177 (BZ)	ng/g	0.3 J	1.1	0.23	41	45	0.0041 J	0.0041 J	0.0095 U
PCB 178 (BZ)	ng/g	0.52	0.45	0.13	15	16	0.0098 U	0.0096 U	0.0095 U
PCB 179 (BZ)	ng/g	0.27 J	0.98	0.24	32	37	0.0039 J	0.0037 QJ	0.0016 QJ
PCB 180 (BZ)	ng/g	1.1 BC	4.9 BC	1.1 BC	180 BC	190 BC	0.018 C	0.017 C	0.01 C
PCB 181 (BZ)	ng/g	0.098 J	0.37 U	0.0018 QJ	0.52 QJ	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 182 (BZ)	ng/g	0.37 U	0.37 U	0.009 J	0.45 QJ	0.39 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 183 (BZ)	ng/g	0.32 CJ	1.5 C	0.26 C	53 C	60 C	0.0049 CJ	0.0049 CJ	0.0024 QCJ
PCB 184 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 185 (BZ)	ng/g	0.32 C183J	1.5 C183	0.26 C183	53 C183	60 C183	0.0049 C183J	0.0049 C183J	0.0024 QC183J
PCB 186 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 187 (BZ)	ng/g	1.6	2.7	0.68	92	98	0.0079 QJ	0.0099	0.0054 J
PCB 188 (BZ)	ng/g	0.37 U	0.37 U	0.005 J	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 189 (BZ)	ng/g	0.37 U	0.05 J	0.016	2.1	2.2	0.0098 U	0.0096 U	0.0095 U
PCB 190 (BZ)	ng/g	0.12 QJ	0.4	0.086	14	16	0.0013 J	0.0096 U	0.0095 U
PCB 191 (BZ)	ng/g	0.37 U	0.081 J	0.016	3.2	3.2	0.0098 U	0.0096 U	0.0095 U
PCB 192 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 193 (BZ)	ng/g	1.1 BC180	4.9 BC180	1.1 BC180	180 BC180	190 BC180	0.018 C180	0.017 C180	0.01 C180
PCB 194 (BZ)	ng/g	0.89	1.2	0.4	41	42	0.0042 J	0.0059 J	0.0042 QJ
PCB 195 (BZ)	ng/g	0.24 J	0.41	0.14	14	16	0.0018 J	0.0012 QJ	0.0095 U
PCB 196 (BZ)	ng/g	0.38	0.65	0.17	22	22	0.0022 QJ	0.0025 QJ	0.0095 U
PCB 197 (BZ)	ng/g	0.37 U	0.036 QJ	0.011	1.1 J	1 QJ	0.0098 U	0.0096 U	0.0095 U
PCB 198 (BZ)	ng/g	1.8 BC	1.4 BC	0.36 BC	49 BC	46 BC	0.004 QCJ	0.0052 QCJ	0.0045 QCJ
PCB 199 (BZ)/200 (IUPAC)	ng/g	0.092 QJ	0.12 QJ	0.038	4.7	4.2 Q	0.0098 U	0.0096 U	0.0095 U
PCB 200 (BZ)/201 (IUPAC)	ng/g	0.21 J	0.13 J	0.039	5.1	4.5	0.0098 U	0.0096 U	0.0095 U
PCB 201 (BZ)/199 (IUPAC)	ng/g	1.8 BC198	1.4 BC198	0.36 BC198	49 BC198	46 BC198	0.004 QC198J	0.0052 QC198J	0.0045 QC198J
PCB 202 (BZ)	ng/g	0.56	0.23 J	0.06	8.5	7.4 Q	0.00067 J	0.0017 J	0.0095 U
PCB 203 (BZ)	ng/g	0.86 Q	0.9	0.22	30	27	0.0029 J	0.0051 J	0.0044 QJ
PCB 204 (BZ)	ng/g	0.37 U	0.37 U	0.0096 U	2 U	1.5 U	0.0098 U	0.0096 U	0.0095 U
PCB 205 (BZ)	ng/g	0.071 J	0.068 J	0.018	1.9 J	1.9 Q	0.0098 U	0.0096 U	0.0095 U
PCB 206 (BZ)	ng/g	2.4	0.71	0.12	21	14	0.0037 J	0.0048 J	0.0051 J
PCB 207 (BZ)	ng/g	0.2 QJ	0.14 J	0.014	3.2	1.6	0.0098 U	0.0096 U	0.0095 U
PCB 208 (BZ)	ng/g	0.58	0.2 J	0.02	5.6	2.2 Q	0.0098 U	0.0096 U	0.0095 U
PCB 209 -DECACHLOROBIPHENYL	ng/g	1	6.1	0.011	200	19	0.0036 QJ	0.0062 J	0.0031 QJ

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SD-081-0.5/2.9	UTC-SD-082-0.0/0.5	UTC-SD-082-0.5/1.6	UTC-SD-083-0.5/2.2	UTC-SD-085-0.5/2.5	UTC-SD-090-0.0/0.9	UTC-SG-009-0.0/0.5	UTC-SG-020-0.0/0.5
	Sample ID	11CU06-22	11CU06-23	11CU06-24	11CU06-26	11CU06-30	11CU06-41	11CU01-87	11CU02-38B
	Interval	0.5 - 2.9	0 - 0.5	0.5 - 1.6	0.5 - 2.2	0.5 - 2.5	0 - 0.9	0 - 0.5	0 - 0.5
	Sample Date	6/15/2011	6/15/2011	6/15/2011	6/15/2011	6/15/2011	6/16/2011	5/2/2011	5/3/2011
PCB 157 (BZ)	ng/g	0.0068 C156J	0.4 C156	0.071 C156	3.7 C156	210 C156	45 C156	12 C156	0.99 C156
PCB 158 (BZ)	ng/g	0.0057 J	0.42	0.08	4.6	120	39	12	0.95
PCB 159 (BZ)	ng/g	0.049 U	0.39 U	0.0077 QJ	1.4 QJ	27	4.8	1.4	0.11
PCB 160 (BZ)	ng/g	0.057 C129	4.7 C129	0.98 C129	56 C129	1300 C129	380 C129	140 BC129	11 BC129
PCB 161 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 162 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	8.7 Q	1.6 J	0.43 U	0.015 QJ
PCB 163 (BZ)	ng/g	0.057 C129	4.7 C129	0.98 C129	56 C129	1300 C129	380 C129	140 BC129	11 BC129
PCB 164 (BZ)	ng/g	0.049 U	0.3 QJ	0.07 Q	3.7	79	27	9.1	0.74
PCB 165 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	0.5 QJ	1.3 J	2 U	0.43 U	0.011 J
PCB 166 (BZ)	ng/g	0.0094 QC128J	0.65 C128	0.12 C128	11 C128	220 C128	62 C128	16 C128	1.3 C128
PCB 167 (BZ)	ng/g	0.049 U	0.14 J	0.026 J	1.6 J	52	14	4.3	0.32
PCB 168 (BZ)	ng/g	0.057 C153	3.9 C153	0.84 C153	120 C153	1400 C153	360 C153	130 BC153	8.9 BC153
PCB 169 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	2 QJ	5.3 Q	0.22 J	0.048 U
PCB 170 (BZ)	ng/g	0.028 J	1.4	0.22	27	690	120	48	3.2
PCB 171 (BZ)	ng/g	0.049 U	0.45 C	0.062 QC	9.3 C	180 C	37 C	13 C	0.84 C
PCB 172 (BZ)	ng/g	0.049 U	0.25 J	0.044 J	13	120	27	7.7	0.47
PCB 173 (BZ)	ng/g	0.049 U	0.45 C171	0.062 QC171	9.3 C171	180 C171	37 C171	13 C171	0.84 C171
PCB 174 (BZ)	ng/g	0.035 J	1.4	0.25	49	900	130	52	3.2
PCB 175 (BZ)	ng/g	0.049 U	0.053 QJ	0.0097 QJ	2.8 Q	29	7.1	1.8	0.1
PCB 176 (BZ)	ng/g	0.049 U	0.19 QJ	0.027 QJ	10	110	20	6.1	0.36
PCB 177 (BZ)	ng/g	0.014 QJ	0.73 Q	0.14	39	430	82	27	1.7
PCB 178 (BZ)	ng/g	0.049 U	0.28 J	0.053	41	230	41	10	0.61
PCB 179 (BZ)	ng/g	0.021 J	0.63	0.13	50	500	82	22	1.4
PCB 180 (BZ)	ng/g	0.092 C	3.6 C	0.54 C	170 C	2500 C	370 C	110 BC	6.8 BC
PCB 181 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	2.9 QJ	0.89 QJ	0.43 U	0.013 J
PCB 182 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	4.9 Q	14 Q	6.6	0.43 U	0.02 J
PCB 183 (BZ)	ng/g	0.023 QCJ	1.2 C	0.18 C	48 C	740 C	120 C	34 C	2.1 C
PCB 184 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 185 (BZ)	ng/g	0.023 QC183J	1.2 C183	0.18 C183	48 C183	740 C183	120 C183	34 C183	2.1 C183
PCB 186 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 187 (BZ)	ng/g	0.06 Q	2.1	0.38	210	1700	290	61	3.9
PCB 188 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	0.47 J	3.5 U	2 U	0.43 U	0.048 U
PCB 189 (BZ)	ng/g	0.049 U	0.39 U	0.0057 QJ	0.85 QJ	23	5.2	1.4	0.09
PCB 190 (BZ)	ng/g	0.0059 QJ	0.32 J	0.052	9.2	190	27	8.6	0.56
PCB 191 (BZ)	ng/g	0.049 U	0.057 QJ	0.0091 QJ	1.7 QJ	32	6.4	1.8	0.12
PCB 192 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 193 (BZ)	ng/g	0.092 C180	3.6 C180	0.54 C180	170 C180	2500 C180	370 C180	110 BC180	6.8 BC180
PCB 194 (BZ)	ng/g	0.044 J	1.4	0.15	130	1400	220	23	1.3
PCB 195 (BZ)	ng/g	0.01 QJ	0.33 QJ	0.046 J	28	370	56	8.6	0.52
PCB 196 (BZ)	ng/g	0.02 J	0.53 Q	0.068	65	700	110	12	0.65
PCB 197 (BZ)	ng/g	0.049 U	0.39 U	0.006 J	5.2	38	8.1	0.58 Q	0.041 J
PCB 198 (BZ)	ng/g	0.047 QCJ	1.6 C	0.18 C	190 C	1900 C	280 C	25 BC	1.4 BC
PCB 199 (BZ)/200 (IUPAC)	ng/g	0.049 U	0.11 QJ	0.016 J	16	170	23	2.8	0.15
PCB 200 (BZ)/201 (IUPAC)	ng/g	0.0043 QJ	0.2 J	0.014 QJ	24	180	31	2.8	0.15
PCB 201 (BZ)/199 (IUPAC)	ng/g	0.047 QC198J	1.6 C198	0.18 C198	190 C198	1900 C198	280 C198	25 BC198	1.4 BC198
PCB 202 (BZ)	ng/g	0.01 QJ	0.22 J	0.023 QJ	46	360	58	4	0.22
PCB 203 (BZ)	ng/g	0.039 J	1.1	0.11	140	1300	200	15	0.79
PCB 204 (BZ)	ng/g	0.049 U	0.39 U	0.05 U	1.8 U	3.5 U	2 U	0.43 U	0.048 U
PCB 205 (BZ)	ng/g	0.0037 QJ	0.082 QJ	0.0077 QJ	5.4	69	11	0.98 Q	0.067
PCB 206 (BZ)	ng/g	0.04 J	1.2	0.11	190	1300	210	5.8	0.36
PCB 207 (BZ)	ng/g	0.049 U	0.13 J	0.0079 QJ	21	130	26	0.62	0.041 J
PCB 208 (BZ)	ng/g	0.049 U	0.21 J	0.02 J	39	260	47	1.2 Q	0.084
PCB 209 -DECACHLOROBIPHENYL	ng/g	0.015 J	1.1	0.12 Q	25	97	68	1.4	0.11

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SG-027-0.0/0.5	UTC-SG-028-0.0/0.5	UTC-SG-029-0.0/0.5	UTC-SG-030-0.0/0.5	UTC-SG-031-0.0/0.5	UTC-SG-032-0.0/0.5	UTC-SG-033-0.0/0.5	UTC-SG-034-0.0/0.5
	Sample ID	11CU03-11	11CU03-12	E5B11	E5B13	E5B15	E5B12	E5B23	E5B22
	Interval	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
	Sample Date	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/5/2011	5/6/2011	5/6/2011
PCB 157 (BZ)	ng/g	570 C156	200 C156J	550 C156	150 C156	58 C156	22 C156	19 C156	120 C156
PCB 158 (BZ)	ng/g	250	170 J	250	65	37	6.6	17	50
PCB 159 (BZ)	ng/g	13 QJ	260 U	25 J	20 U	4.6	0.51 Q	2.2 Q	3 Q
PCB 160 (BZ)	ng/g	2000 BC129	1400 BC129	2200 C129	550 C129	380 C129	64 C129	180 C129	450 C129
PCB 161 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.39 U	0.39 U	1.5 U	2 U
PCB 162 (BZ)	ng/g	8.3 QJ	260 U	11 QJ	20 U	1.6	1.1	0.74 QJ	2.1
PCB 163 (BZ)	ng/g	2000 BC129	1400 BC129	2200 C129	550 C129	380 C129	64 C129	180 C129	450 C129
PCB 164 (BZ)	ng/g	120	75 J	120 Q	32 Q	27	4.3	13	26
PCB 165 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.52	0.39 U	0.49 QJ	2 U
PCB 166 (BZ)	ng/g	440 C128	140 C128J	480 C128	120 C128	66 C128	12 C128	25 C128	87 C128
PCB 167 (BZ)	ng/g	130	57 QJ	150	35	16	5.7	6.2	27
PCB 168 (BZ)	ng/g	1000 BC153	1600 BC153	1500 BC153	320 BC153	370 BC153	40 BC153	200 BC153	260 BC153
PCB 169 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.15 QJ	0.097 QJ	1.2 J	0.32 QJ
PCB 170 (BZ)	ng/g	780	1600	830	210	170	28	72	170
PCB 171 (BZ)	ng/g	120 C	340 C	150 QC	34 C	41 C	5.3 C	26 C	35 C
PCB 172 (BZ)	ng/g	76	170 J	110	26	28	3.4	15	21
PCB 173 (BZ)	ng/g	120 C171	340 C171	150 QC171	34 C171	41 C171	5.3 C171	26 C171	35 C171
PCB 174 (BZ)	ng/g	380	750	570	110	150	14	80	99
PCB 175 (BZ)	ng/g	8 J	260 U	20 J	5.2 J	7.3	0.64	3.9 Q	3.7
PCB 176 (BZ)	ng/g	22 QJ	66 J	53	7.7 QJ	20	1.3	13	10
PCB 177 (BZ)	ng/g	190	340	300	60	89	8.3	53	56
PCB 178 (BZ)	ng/g	43 J	120 QJ	99	16 J	47	2.5	27	18
PCB 179 (BZ)	ng/g	92	190 J	250	30 Q	88	4	45	34
PCB 180 (BZ)	ng/g	1500 BC	5100 BC	1900 C	390 C	450 C	55 C	230 C	330 C
PCB 181 (BZ)	ng/g	62 U	260 U	48 U	20 U	2.1	0.35 J	1 J	1.9 J
PCB 182 (BZ)	ng/g	62 U	260 U	9.6 QJ	2.8 QJ	6.4	0.26 QJ	3.1 Q	2 U
PCB 183 (BZ)	ng/g	270 C	1000 C	420 C	73 C	130 C	11 C	76 C	74 C
PCB 184 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.43	0.39 U	1.5 U	2 U
PCB 185 (BZ)	ng/g	270 C183	1000 C183	420 C183	73 C183	130 C183	11 C183	76 C183	74 C183
PCB 186 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.39 U	0.39 U	1.5 U	2 U
PCB 187 (BZ)	ng/g	420	1400	800	140	320	17	160	130
PCB 188 (BZ)	ng/g	62 U	260 U	48 U	20 U	1.1	0.043 QJ	1.5 U	2 U
PCB 189 (BZ)	ng/g	34 J	79 QJ	32 QJ	8 QJ	6.7	1.8	3.2	6.9 Q
PCB 190 (BZ)	ng/g	170	500	180	42 Q	38	6.5	18	35
PCB 191 (BZ)	ng/g	19 QJ	94 J	28 QJ	10 QJ	8	1.3	5.1	5.6 Q
PCB 192 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.39 U	0.39 U	1.5 U	2 U
PCB 193 (BZ)	ng/g	1500 BC180	5100 BC180	1900 C180	390 C180	450 C180	55 C180	230 C180	330 C180
PCB 194 (BZ)	ng/g	1100	3300	990	210	360	33	120	160
PCB 195 (BZ)	ng/g	300	870	260 Q	59	100	9.6	36	50
PCB 196 (BZ)	ng/g	310	1400	460	92	140	13	66	67
PCB 197 (BZ)	ng/g	10 J	51 QJ	17 QJ	2 QJ	8.4	0.5	5.1	3.4
PCB 198 (BZ)	ng/g	660 BC	2400 BC	1000 C	200 C	370 C	27 C	160 C	150 C
PCB 199 (BZ)/200 (IUPAC)	ng/g	44 J	120 J	95	16 J	32	2	14	13
PCB 200 (BZ)/201 (IUPAC)	ng/g	31 J	130 J	77	13 QJ	36	1.8	18	11
PCB 201 (BZ)/199 (IUPAC)	ng/g	660 BC198	2400 BC198	1000 C198	200 C198	370 C198	27 C198	160 C198	150 C198
PCB 202 (BZ)	ng/g	54 J	240 J	140	21	71	2.7	32	17
PCB 203 (BZ)	ng/g	490	2900	690	140	250	20	110	100
PCB 204 (BZ)	ng/g	62 U	260 U	48 U	20 U	0.19 J	0.076 QJ	1.5 U	2 U
PCB 205 (BZ)	ng/g	58 J	280	49	13 J	19	2 Q	7.5	9.1
PCB 206 (BZ)	ng/g	530	3600	570	130	320	19	110	88
PCB 207 (BZ)	ng/g	32 QJ	550	65	12 QJ	32	2	14	9.6
PCB 208 (BZ)	ng/g	57 J	730	91	22	56	2.9	25	14
PCB 209 -DECACHLOROBIPHENYL	ng/g	32 J	7800	120	110	180	9.6	1200	44

TABLE A-7

PCB Congener Data: April-June, 2011 Sediment Sampling (ng/g)

Upper Trenton Channel, Wyandotte, Michigan

	Station ID	UTC-SG-035-0.0/0.5	UTC-SG-037-0.0/0.5	UTC-SG-038-0.0/0.5-R	UTC-SG-039-0.0/0.5	UTC-SG-040-0.0/0.5
	Sample ID	E5B25	E5B20	E5B19	11CU03-17	E5B16
	Interval	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
	Sample Date	5/6/2011	5/6/2011	5/6/2011	5/6/2011	5/6/2011
PCB 157 (BZ)	ng/g	49 C156	14 C156	0.71 C156	1.5 U	0.97 C156
PCB 158 (BZ)	ng/g	15	11	0.56	1.5 U	0.66
PCB 159 (BZ)	ng/g	1.1 J	1.1	0.47 U	1.5 U	0.066 QJ
PCB 160 (BZ)	ng/g	160 C129	160 C129	7.8 QC129	0.64 QBC129J	6.5 C129
PCB 161 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 162 (BZ)	ng/g	2.4	0.61	0.47 U	1.5 U	0.39 U
PCB 163 (BZ)	ng/g	160 C129	160 C129	7.8 QC129	0.64 QBC129J	6.5 C129
PCB 164 (BZ)	ng/g	10	12	0.59 Q	1.5 U	0.37 QJ
PCB 165 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 166 (BZ)	ng/g	29 C128	23 C128	1.3 C128	1.5 U	1 QC128
PCB 167 (BZ)	ng/g	13	4.4	0.36 J	1.5 U	0.29 J
PCB 168 (BZ)	ng/g	96 BC153	160 BC153	13 BC153	0.61 BC153J	5.8 BC153
PCB 169 (BZ)	ng/g	0.13 QJ	0.38 U	0.07 QJ	1.5 U	0.029 QJ
PCB 170 (BZ)	ng/g	67	28	2.8	1.5 U	1.8
PCB 171 (BZ)	ng/g	12 C	8.2 C	0.61 C	1.5 U	0.47 C
PCB 172 (BZ)	ng/g	8.2	7.1	0.51	1.5 U	0.33 J
PCB 173 (BZ)	ng/g	12 C171	8.2 C171	0.61 C171	1.5 U	0.47 C171
PCB 174 (BZ)	ng/g	32	37	2.7 Q	0.32 J	1.7
PCB 175 (BZ)	ng/g	1.4 J	1.7	0.15 J	1.5 U	0.075 J
PCB 176 (BZ)	ng/g	2.7	5.9	0.33 J	1.5 U	0.18 QJ
PCB 177 (BZ)	ng/g	19	27	1.5	1.5 U	0.99
PCB 178 (BZ)	ng/g	5.7	15	0.99	1.5 U	0.59 Q
PCB 179 (BZ)	ng/g	9.2	27	1.4	1.5 U	1.2
PCB 180 (BZ)	ng/g	130 C	87 C	9.2 C	0.49 BCJ	6.2 C
PCB 181 (BZ)	ng/g	0.79 J	0.38 U	0.47 U	1.5 U	0.39 U
PCB 182 (BZ)	ng/g	0.85 QJ	2.4	0.47 U	1.5 U	0.39 U
PCB 183 (BZ)	ng/g	25 C	27 C	2.2 C	1.5 U	1.8 C
PCB 184 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 185 (BZ)	ng/g	25 C183	27 C183	2.2 C183	1.5 U	1.8 C183
PCB 186 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 187 (BZ)	ng/g	39	83	6.7	0.27 QJ	4.8
PCB 188 (BZ)	ng/g	1.8 U	0.44	0.47 U	1.5 U	0.39 U
PCB 189 (BZ)	ng/g	4.3	1	0.47 U	1.5 U	0.14 J
PCB 190 (BZ)	ng/g	14	6.3	0.64	1.5 U	0.42
PCB 191 (BZ)	ng/g	2.7	1.5	0.47 U	1.5 U	0.1 QJ
PCB 192 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 193 (BZ)	ng/g	130 C180	87 C180	9.2 C180	0.49 BC180J	6.2 C180
PCB 194 (BZ)	ng/g	76	38	4.2	1.5 U	3.7
PCB 195 (BZ)	ng/g	22	11	0.83	1.5 U	0.8
PCB 196 (BZ)	ng/g	28	21	1.7	1.5 U	1.8
PCB 197 (BZ)	ng/g	1.3 J	1.7	0.11 J	1.5 U	0.1 J
PCB 198 (BZ)	ng/g	60 C	61 C	6.2 C	1.5 U	6.1 C
PCB 199 (BZ)/200 (IUPAC)	ng/g	4.5	5.1	0.37 QJ	1.5 U	0.41
PCB 200 (BZ)/201 (IUPAC)	ng/g	4	6.5	0.48	1.5 U	0.59
PCB 201 (BZ)/199 (IUPAC)	ng/g	60 C198	61 C198	6.2 C198	1.5 U	6.1 C198
PCB 202 (BZ)	ng/g	6	13	1.5 Q	1.5 U	1.6
PCB 203 (BZ)	ng/g	45	36	3.5	1.5 U	3.9 Q
PCB 204 (BZ)	ng/g	1.8 U	0.38 U	0.47 U	1.5 U	0.39 U
PCB 205 (BZ)	ng/g	4.5	2	0.15 QJ	1.5 U	0.14 QJ
PCB 206 (BZ)	ng/g	44	40	3.6	1.5 U	6.8
PCB 207 (BZ)	ng/g	4.5	4	0.44 J	1.5 U	0.62
PCB 208 (BZ)	ng/g	6.7	8.6	0.93 Q	1.5 U	1.7
PCB 209 -DECACHLOROBIPHENYL	ng/g	22	28	19	0.18 QJ	3.6

TABLE A-8
Summary of PCB Aroclor and PCB Congener Data - 2011 (ug/kg
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB Aroclor, TOTAL	PCB Congener, TOTAL
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	71 UJ	71 UJ	71 UJ	71 UJ	480 J	460 J	71 UJ	71 UJ	71 UJ	940	3,698
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	96 U	96 U	96 U	96 U	4100	2500	96 U	96 U	96 U	6,600	4,294
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	54 U	54 U	54 U	54 U	54 U	54 U	54 U	54 U	54 U	ND	1.88
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	ND	3.89
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	55 U	ND	130
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	50 U	50 U	50 U	50 U	170 NJ	50 U	50 U	50 U	50 U	170	234
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	ND	412
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	56 U	56 U	56 U	56 U	660	56 U	56 U	56 U	56 U	660	789
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	54 U	54 U	54 U	54 U	970 J	1000	54 U	54 U	54 U	1,970	2,628
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	120 U	120 U	120 U	120 U	4700	1900 J	120 U	120 U	120 U	6,600	10,532
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	65 U	65 U	65 U	65 U	7300 J	5100	65 U	65 U	65 U	12,400	15,739
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	240 U	240 U	240 U	240 U	10000	3700 J	240 U	240 U	240 U	13,700	22,884
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	130 U	130 U	130 U	130 U	8900 NJ	5700	130 U	130 U	130 U	14,600	27,556
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND	0.34
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND	0.98
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND	1.08
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND	1.37
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	ND	3.05
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	57 U	ND	7.38
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	ND	7.65
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND	50.5
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	ND	145
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND	259
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	ND	273
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	ND	17,478
Wye Street	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	880 U	880 U	880 U	880 U	880 U	880 U	880 U	880 U	880 U	ND	28,641
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	45000 U	45000 U	45000 U	45000 U	45000 U	45000 U	45000 U	45000 U	45000 U	ND	40,148
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	48000 U	48000 U	48000 U	48000 U	48000 U	48000 U	48000 U	48000 U	48000 U	ND	46,615
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	ND	68,017
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	590 U	590 U	590 U	590 U	590 U	590 U	590 U	590 U	590 U	ND	75,138
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	460000 U	460000 U	460000 U	460000 U	460000 U	460000 U	460000 U	460000 U	460000 U	ND	77,135
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	46000 U	ND	130,900
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	49000 U	49000 U	49000 U	49000 U	49000 U	49000 U	49000 U	49000 U	49000 U	ND	244,666
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	ND	324,323
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	54000 U	54000 U	54000 U	54000 U	54000 U	54000 U	54000 U	54000 U	54000 U	ND	537,996
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	510000 U	510000 U	510000 U	510000 U	510000 U	510000 U	510000 U	510000 U	510000 U	ND	1,845,155
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	47 R	47 R	47 R	47 R	47 R	47 R	47 R	47 R	47 R	NC-R	24.6
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	ND	38.7
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	39 R	39 R	39 R	39 R	39 R	39 R	39 R	39 R	39 R	NC-R	66.1
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	ND	172
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	56 R	56 R	56 R	56 R	56 R	56 R	56 R	56 R	56 R	NC-R	499
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	54 R	54 R	54 R	54 R	54 R	54 R	54 R	54 R	54 R	NC-R	625
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	230 R	230 R	230 R	230 R	230 R	230 R	230 R	230 R	230 R	NC-R	718
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	ND	781
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	410 U	410 U	410 U	410 U	410 U	410 U	410 U	410 U	410 U	ND	981
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	ND	1,837
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	1900 U	1900 U	1900 U	1900 U	1900 U	1900 U	1900 U	1900 U	1900 U	ND	1,850
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	460 U	460 U	460 U	460 U	460 U	460 U	460 U	460 U	460 U	ND	2,236
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	4600 U	ND	4,778
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	ND	4,911
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	52 R	52 R	52 R	52 R	52 R	52 R	52 R	52 R	52 R	NC-R	5,345
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	49 R	49 R	49 R	49 R	49 R	49 R	49 R	49 R	49 R	NC-R	4,218

TABLE A-8

Summary of PCB Aroclor and PCB Congener Data - 2011 (ug/kg

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	PCB Aroclor, TOTAL	PCB Congener, TOTAL
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	ND	5,831
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U	ND	10,640
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	ND	33,778
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	ND	149
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	39 U	ND	32.7
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	59 U	59 U	59 U	59 U	59 U	59 U	59 U	59 U	59 U	ND	9.18
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	56 UJ	ND	42.4
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	620 U	620 U	620 U	620 U	620 U	620 U	620 U	620 U	620 U	ND	169
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	ND	182
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	ND	4,283
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	42 U	42 U	42 U	42 U	42 U	42 U	42 U	42 U	42 U	ND	11.7
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	45 U	ND	180
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	62 UJ	62 UJ	62 UJ	62 UJ	640 J	590 R	62 UJ	62 UJ	62 UJ	640	4,502
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	68 U	68 U	68 U	68 U	17000	11000	68 U	68 U	68 U	28,000	21,067

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

NC-R - total PCB sum not calculated because Aroclor data rejected.

Field duplicates identified with a "-R" or "X" in the Sample ID

Rejected results not included in summary statistics

-- parameter not analyzed

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	--	--	9.3	110	--	4.5	--	75	--	89	--	120	--
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	--	--	8	92	--	5.8	--	49	--	140	--	120	--
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	--	--	9.4	130	--	6.8	--	82	--	180	--	160	--
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	--	--	8.7	110	--	8.5	--	63	--	260	--	220	--
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	--	--	4	37	--	0.67	--	10	--	46	--	55	--
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	--	--	6.1	62	--	0.23	--	13	--	18	--	9.4	--
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	--	--	9.8	160	--	6.6	--	180	--	140	--	240	--
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	--	--	19	150	--	12	--	140	--	140	--	170	--
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	--	--	20	180	--	18	--	320	--	210	--	230	--
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	--	--	12	160	--	16	--	140	--	210	--	230	--
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	--	--	12	140	--	13	--	99	--	140	--	170	--
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	--	--	13	180	--	25	--	150	--	210	--	220	--
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	--	--	2.2	57	--	0.52	--	19	--	27	--	14	--
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	--	--	7	78	--	0.21	--	16	--	20	--	8.9	--
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	--	--	11	330	--	17	--	490	--	220	--	440	--
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	--	--	12	210	--	14	--	330	--	180	--	320	--
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	--	--	7.5	91	--	5.5	--	53	--	100	--	120	--
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	--	--	5.9	60	--	0.29	--	15	--	19	--	9	--
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	7170	1.7 J	8.6 J	94.3 J	0.67 J	4.1	102000	31.3 J	4.8 J	208	16600	236 J	11100
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	7030	1.6 J	10.1 J	85.9 J	0.68 J	2.7	85900	30 J	6.4 UJ	151	18400	163 J	14000
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	7010	1.4 J	9 J	83.1 J	0.74 UJ	2.1	112000	25.1 J	7.4 UJ	96.9	14500	99.2 J	20800
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	6320	5.8 J	17.5 J	109 J	1 J	13.6	88600	98.6 J	6.3 UJ	135	36300	163 J	10000
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	7230	6.1 J	16.2 J	119 J	1.1 J	12.5	122000	70.6 J	8.3 UJ	132	29100	161 J	10800
Wyandotte Power	SD-002	UTC-SD-002-0.0/0.5	17-Jun-11	0 - 0.5	7120	1.4 J	7.4 J	50.5 J	0.67 J	2.2	84300	32.3 J	5.9 J	34	19500	33.9 J	10500
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	9420	0.67 J	7.6	71.1	0.73	1.3	97800	16.3 J	9.3	20.9	20300	9.5 J	17800
Wyandotte Power	SD-003	UTC-SD-003-0.0/0.5	17-Jun-11	0 - 0.5	9420	5.2 J	15.3	164	1.3	11.1	146000	207 J	7.9	173	46200	210 J	13500
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	7350	8.1 J	16.7	151	1.1	10.4	128000	120 J	6.5	121	46600	160 J	11000
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	8220	1.1 J	7.2	64	0.76	2.1	103000	22.9 J	7.9	29.8	25900	22.9 J	15400
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	10200 J	24 R	15.3	251 J	2 U	8.7 J	122000 J	307 J-	11.1 J	177 J-	54200 J	266 J	14300 J
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	10300 J	1.6 J-	20.3	211 J	1.8 U	20.1 J	136000 J	208 J-	9.7 J	221 J-	46200 J	243 J	17100 J
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	10200 J	2.1 J-	17.7	216 J	1.9 U	34.3 J	136000 J	188 J-	9.5 J	287 J-	38700 J	293 J	20200 J
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	10900 J	22 R	12.8	138 J	1.8 U	4.7 J	143000 J	44 J-	7.5 J	236 J-	27600 J	220 J	21300 J
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	10200 J	21 R	13.1	122 J	1.7 U	3.1 J	139000 J	32.8 J-	7.2 J	190 J-	25600 J	213 J	21500 J
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	9460 J	20 R	14.7	120 J	1.7 U	3.1 J	123000 J	30.3 J-	7.7 J	215 J-	26600 J	255 J	19900 J
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	12100 J	22 R	15.1	291 J	1.8 U	10.6 J	68800 J	360 J-	13 J	192 J-	57200 J	355 J	17700 J
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	15800 J	24 R	16	374 J	2 U	13.2 J	54600 J	621 J-	15.2 J	240 J-	53900 J	336 J	21200 J
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	10100 J	19 R	11.2	226 J	1.6 U	8.4 J	73100 J	309 J-	10.7 J	165 J-	50900 J	243 J	17000 J
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	6720 J	17 R	11.5	130 J	1.4 U	5.2 J	140000 J	117 J-	7.2 J	101 J-	35600 J	119 J	14800 J
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	8210	3.1 J	14.2	120	1.2	7.3	122000	103 J	7.4	124	51200	124 J	12300
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	8890	0.78 J	7.8	84.6	0.68	1.6	97000	15.4 J	8.6	20.9	19400	8.9 J	16900
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	5920 J	18 R	9.3	152 J	1.5 U	4.8 J	78700 J	155 J-	8.1 J	120 J-	48400 J	164 J	12700 J
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	8570 J	17 R	7.8	151 J	1.4 U	2.5 J	118000 J	82 J-	6.9 J	67 J-	37800 J	95.7 J	13400 J
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	6680 J	18 J-	11.3	134 J	1.5 U	3.7 J	117000 J	116 J-	7.2 J	110 J-	42000 J	138 J	12400 J
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	2970 J	15 R	3.2	19.8 J	1.2 U	0.25 J	28900 J	8.7 J-	3.6 J	8.6 J-	8070 J	15.1 J	7940 J
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	6880 J	14 R	8.3	61 J	1.2 U	0.92 J	106000 J	29.9 J-	7.6 J	32 J-	28600 J	46.9 J	14500 J
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	8920 J	14 R	8.1	56.6 J	1.2 U	0.49 J	99100 J	15.7 J-	8.8 J	27.3 J-	21000 J	16.1 J	18700 J
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	6160 J	15 R	5.3	48.9 J	1.3 U	0.44 J	78400 J	11.6 J-	5.2 J	35.4 J-	13900 J	36.2 J	15800 J
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	5720	0.45 J	6.4	44.2	0.54 U	0.85	49900	10.9 J	5.9	16.1	14200	13.4 J	11400
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	8380 J-	37 UJ	14 J-	141 J+	0.63 J-	6.9 J-	158000 J-	114 J-	8.8 J-	155 J+	29200 J-	173 J-	14600 J-
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	12900 J-	37 UJ	15.5 J-	270 J+	0.63 J-	10.6 J-	67700 J-	448 J-	12.8 J-	212 J+	53800 J-	254 J-	16600 J-
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	10500 J-	33 UJ	12.7 J-	173 J+	0.62 J-	6 J-	96500 J-	207 J-	10.4 J-	126 J+	50300 J-	227 J-	13400 J-
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	8490 J-	37 UJ	8.9 J-	123 J+	0.46 J-	4.1 J-	63400 J-	133 J-	11.1 J-	196 J+	41000 J-	132 J-	13500 J-
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	5970 J-	73.8 J-	4.6 R	92 UJ	0.35 J-	2.9 J-	62100 J-	43.8 J-	2.5 J-	30 J+	38400 J-	4.7 J-	9940 J-
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	7470 J-	32 UJ	8 J-	110 UJ	0.48 J-	0.91 J-	59600 J-	37.8 J-	8.7 J-	39.9 J+	30800 J-	46.4 J-	11800 J-
			Surface	Min	5720	0.5	6.4	44	0.27	0.9	49900	11	2.5	16	14200	5	9940
				Max	12900	73.8	15.5	330	1.30	17.0	158000	490	13.0	260	57200	440	17700
				Average	8430	15.8	11.0	145	0.70	6.2	92467	159	8.4	134	38640	174	13189
				Median	8210	16.0	9.6	123	0.63	6.0	84300	114	8.1	140	41000	173	13400
				Standard Deviation	2208	20.7	3.2	86	0.29	4.2	33041	146	2.9	75	14563	117	2163
			Subsurface	Min	2970	0.7	2.2	20	0.60	0.2	28900	9	3.2	9	8070	9	7940
				Max	15800	18.0	20.3	374	1.10	34.3	143000	621	15.2	287	53900	336	21500
				Average	8541	4.6	10.7	120	0.82	7.7	108229	101	7.3	119	29975	133	16155
				Median	8570	1.9	10.1	109	0.76	4.7	112000	49	7.5	121	27600	138	16900
				Standard Deviation	2720	5.4	5.1	73	0.17	8.6	30151	133	3.0	87	12740	106	4329

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	--	0.98	--	--	0.8	0.87	--	--	--	310
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	--	0.96	--	--	0.45	1	--	--	--	310
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	--	1.6	--	--	0.47	1.8	--	--	--	410
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	--	2.2	--	--	0.63	1.6	--	--	--	710
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	--	0.53	--	--	0.2 U	0.25	--	--	--	120
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	--	0.05 U	--	--	0.21	0.1 U	--	--	--	45
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	--	1.1	--	--	0.81	2.5	--	--	--	610
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	--	1.2	--	--	1.4	2.6	--	--	--	410
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	--	0.97	--	--	1.4	4.6	--	--	--	600
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	--	1.7	--	--	0.61	2.2	--	--	--	590
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	--	1.2	--	--	0.82	1.4	--	--	--	450
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	--	1.2	--	--	0.8	2.1	--	--	--	640
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	--	0.08	--	--	0.66	0.15	--	--	--	57
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	--	0.05 U	--	--	0.23	0.1 U	--	--	--	52
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	--	2	--	--	1.5	8.1	--	--	--	910
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	--	1.8	--	--	1.4	5	--	--	--	770
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	--	1.1	--	--	0.6	1.1	--	--	--	310
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	--	0.05 U	--	--	0.39	0.1	--	--	--	51
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	267 J	2.1 J-	28.3 J	991 J	2.2 J	1.2	754	2.1 U	14.8 J	627
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	282 J	1.9 J-	21.6 J	978 J	2.7 J	0.68 J	643 U	3.2 U	15.6 J	373
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	284 J	1.6 J-	17.8 J	820 J	2.8 J	0.17 J	740 U	3.7 U	14.2 J	243
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	519 J	1.1 J-	37.8 J	824 J	5	0.72 J	627 U	3.1 U	17.4 J	521
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	431 J	0.93 J-	40.6 J	985 J	4.1 J	0.19 J	829 U	4.1 U	15.6 J	405
Wyandotte Power	SD-002	UTC-SD-002-0.0/0.5	17-Jun-11	0 - 0.5	324 J	0.13 J-	28.1 J	1250 J	2.6 J	1 U	508 U	2.5 U	15.9 J	110
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	405	0.01 J	27.1	1630	2.5 J	0.91 U	457 U	2.3 U	20.6	79.8
Wyandotte Power	SD-003	UTC-SD-003-0.0/0.5	17-Jun-11	0 - 0.5	520	0.79	110	1110	5.8	1.3 J	1020	3.9 U	21.5	590
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	473	0.93	65.1	846	5.1	0.26 J	647	2.7 U	16.9	458
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	429	0.09 J	26.3	1290	2.7 J	0.97 U	483 U	2.4 U	17.8	101
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	620	0.75 J-	153	2000 UJ	3.2 J	7	695 J	10 U	29 J	691 J
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	666	1.3 J-	86.7	1850 J	3.7 J	6.3	970 J	9.2 U	25.7 J	750 J
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	554	1.6 J-	79.2	1900 UJ	3 J	5.3	1040 J	9.7 U	23.2 J	900 J
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	457	0.35 J-	36	1950 J	3.1 J	3.7 U	972 J	9.2 U	22.8 J	573 J
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	438	0.82 J-	32	1810 J	3.2 J	3.5 U	980 J	8.7 U	21.4 J	490 J
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	433	0.7 J-	31.5	1700 J	2.2 J	3.3 U	809 J	8.3 U	21.6 J	594 J
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	813	0.73 J-	187	2340 J	3.7 J	8.6	443 J	0.56 J	32.4 J	853 J
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	721	1.7 J-	293	3260 J	2.1 J	10.5	498 J	0.54 J	38.4 J	988 J
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	615	0.69 J-	157	1920 J	2.5 J	7.4	480 J	8.1 U	26.1 J	679 J
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	468	0.14 UJ	68.6	1400 UJ	3 J	3.8	714 J	7 U	16.7 J	331 J
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	602	0.89	46.2	1090	4.9	1.2 U	610 U	3.1 U	19.4	389
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	394	0.02 J	25.8	1540	2.6 J	1 U	512 U	2.6 U	19.3	79.7
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	575	1.2 J-	106	1500 UJ	1.9 J	5.1	4580 J	7.4 U	17.9 J	524 J
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	551	0.9 J-	59.2	1400 UJ	2.8 J	3.6	496 J	7.2 U	18.7 J	272 J
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	464	0.69 J-	82.6	1500 UJ	2.2 J	4.5	520 J	7.3 U	18.3 J	410 J
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	175	0.17 J-	9.3 J	1200 UJ	8.7 U	2.5 U	229 J	6.2 U	12 UJ	32.2 J
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	441	0.12 UJ	31.8	1650 J	2.2 J	2.4 U	403 J	6 U	17.5 J	123 J
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	449	0.19 J-	24.6	2220 J	2.1 J	2.4 U	349 J	6 U	21.2 J	68.1 J
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	311	0.43 J-	13.3	1300 UJ	1.3 J	2.5 U	368 J	6.3 U	15.7 J	77.6 J
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	341	0.1 J	16.7	967	1.9 J	1.1 U	541 U	2.7 U	14.2	47.8
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	712 J-	0.62 J-	53.1 J-	3100 UJ	1.8 J-	3.2 J-	799 J-	16 R	20.8 J-	461 J+
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	748 J-	0.28 J-	221 J-	3100 UJ	3.5 J-	8.5 J-	471 J-	16 R	33.2 J-	806 J+
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	623 J-	0.54 J-	120 J-	2800 UJ	2.5 J-	5.6 J-	631 J-	0.8 J-	27.1 J-	594 J+
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	747 J-	0.58 J-	87.3 J-	3100 UJ	1.4 J-	4.4 J-	454 J-	15 J-	27 J-	425 J+
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	593 J-	1.3 J-	40.4 J-	2300 UJ	16 R	3 J-	319 J-	13 J-	17.7 J-	199 J+
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	519 J-	0.27 J-	30.8 J-	2600 UJ	18 J-	1.9 J-	355 J-	13 R	21.7 J-	203 J+
			Surface	Min	267	0.06	16.7	750	0.63	0.5	254	0.56	14.2	48
				Max	813	2.20	221.0	2340	18.00	8.6	4580	15.00	33.2	910
				Average	563	0.87	84.0	1310	3.30	3.5	784	4.02	22.0	483
				Median	593	0.75	53.1	1250	2.20	2.5	454	1.75	20.8	524
				Standard Deviation	164	0.65	63.9	388	3.92	2.9	1074	4.86	6.3	263
			Subsurface	Min	175	0.01	9.3	600	0.10	0.1	229	0.54	6.0	32
				Max	721	1.90	293.0	3260	8.70	10.5	1040	4.85	38.4	988
				Average	454	0.78	57.0	1343	2.26	2.0	536	2.69	19.6	369
				Median	449	0.90	36.0	985	2.50	1.2	415	3.00	18.7	373
				Standard Deviation	131	0.65	65.6	713	1.91	2.4	294	1.42	6.5	285

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	--	--	7.4	48	--	0.2 U	--	15	--	18	--	8	--
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	--	--	6.7	51	--	0.26	--	14	--	17	--	7.5	--
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	--	--	6.5	56	--	0.24	--	14	--	19	--	9.2	--
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	--	--	6.5	52	--	0.22	--	14	--	18	--	8.2	--
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	--	--	6.4	58	--	0.65	--	26	--	28	--	32	--
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	--	--	6.7	48	--	0.38	--	20	--	22	--	16	--
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	--	--	6.7	67	--	0.26	--	16	--	19	--	11	--
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	--	--	6.8	69	--	0.3	--	17	--	19	--	9	--
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	--	--	6.3	140	--	4.1	--	170	--	78	--	130	--
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	--	--	6.4	160	--	5.1	--	170	--	86	--	150	--
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	--	--	5.5	120	--	2.1	--	75	--	44	--	100	--
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	--	--	8.5	190	--	14	--	250	--	140	--	250	--
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	--	--	10	300	--	17	--	470	--	200	--	330	--
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	--	--	10	260	--	14	--	290	--	150	--	310	--
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	--	--	8.7	230	--	8.8	--	230	--	120	--	220	--
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	--	--	8.5	140	--	21	--	93	--	140	--	170	--
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	--	--	7.4	130	--	7.5	--	54	--	170	--	160	--
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	--	--	6.4	92	--	2.8	--	27	--	73	--	75	--
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	--	--	6.5	77	--	1.8	--	51	--	60	--	92	--
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	--	--	6.9	82	--	1.8	--	53	--	36	--	33	--
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	--	--	7.1	69	--	0.25	--	16	--	21	--	9.9	--
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	--	--	10	150	--	11	--	73	--	150	--	490	--
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	--	--	6.5	62	--	1.1	--	19	--	33	--	65	--
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	--	--	5.7	55	--	0.21	--	13	--	17	--	8.6	--
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	--	--	11	260	--	13	--	380	--	180	--	330	--
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	--	--	11	220	--	9.5	--	250	--	270	--	240	--
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	--	--	10	210	--	8.4	--	240	--	160	--	220	--
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	--	--	12	160	--	13	--	190	--	230	--	300	--
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	--	--	10	160	--	11	--	90	--	170	--	220	--
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	--	--	10	170	--	8.4	--	82	--	170	--	220	--
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	--	--	9.8	180	--	8.3	--	54	--	220	--	360	--
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	--	--	9.3	160	--	5.2	--	180	--	87	--	190	--
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	--	--	8.2	97	--	1.2	--	31	--	30	--	520	--
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	--	--	8.7	120	--	3.3	--	100	--	70	--	110	--
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	--	--	11	210	--	9.3	--	83	--	130	--	290	--
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	9980 J-	22 UJ	7.8 J-	74.4 J+	0.45 J-	0.43 J-	85100 J-	17.1 J-	10.8 J-	23.2 J+	20700 J-	10.1 J-	17000 J-
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	9460 J-	21 UJ	9.2 J-	71 UJ	0.42 J-	0.4 J-	98400 J-	16 J-	9.9 J-	21.6 J+	19300 J-	9.6 J-	22800 J-
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	2980 J-	22 UJ	4 J-	75 UJ	0.14 J-	0.16 J-	33700 J-	7.1 J-	3.8 J-	10.5 J+	9480 J-	14.3 J-	10200 J-
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	2960 J-	21 UJ	4.3 J-	70 UJ	0.12 J-	0.2 J-	53300 J-	6.2 J-	3.9 J-	9.3 J+	10200 J-	10.4 J-	15300 J-
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	7050	20 R	11.4	145	0.57 J	6.8	70100	177	10 J	129 J+	49500	227	12700
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	6890	0.81 J-	13.2	207	0.73 J	7	94600	233	11.3 J	149 J+	45300	213	11400
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	9890	23 R	13.8	273	0.7 J	8.7	105000	339	11 J	187 J+	48900	254	15300
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	8120	0.74 J-	15	276	0.67 J	5.6	172000	239	8.5 J	138 J+	37100	233	14500
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	7900	24 R	15.5	253	0.66 J	7.1	166000	278	8.9 J	165 J+	41300	240	14200
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	7350	17 R	8.5	97.6	0.52 J	2.3	58200	229	7.3 J	61.6 J+	46700	130	14200
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	9050	16 R	6.9	117	0.5 J	1.3 J	47300	63	8.3 J	35.7 J+	26800	67.2	11000
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	6690 J-	30 UJ	9 J-	109 J+	0.49 J-	3.9 J-	52400 J-	96.5 J-	9.4 J-	96.1 J+	46300 J-	136 J-	13900 J-
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	9460 J-	35 UJ	14.7 J-	253 J+	0.53 J-	10.7 J-	60800 J-	380 J-	10.7 J-	201 J+	41100 J-	310 J-	15900 J-
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	14700 J-	35 UJ	19.9 J-	413 J+	0.88 J-	15.6 J-	61600 J-	561 J-	14.7 J-	249 J+	61600 J-	426 J-	20300 J-
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	11800 J-	33 UJ	16.3 J-	277 J+	0.84 J-	13.6 J-	58100 J-	373 J-	13.3 J-	211 J+	50800 J-	357 J-	17000 J-
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	12500 J-	33 UJ	17.3 J-	274 J+	0.88 J-	9.7 J-	136000 J-	347 J-	12.9 J-	198 J+	57900 J-	287 J-	20700 J-
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	10800 J-	33 R	10.6 J-	129 J-	0.6 J-	5.1 J-	56100 J-	127 J-	27 UJ	100 J-	47400 J-	156 J-	20300 J-
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	12500 J-	37 R	14.6 J-	369 J-	0.69 J-	14.4 J-	60500 J-	567 J-	31 UJ	274 J-	59800 J-	369 J-	19300 J-
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	9400 J-	30 UJ	18.3 J-	197 J+	0.74 J-	21.1 J-	110000 J-	158 J-	10.1 J-	249 J+	58700 J-	249 J-	18200 J-
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	10400 J-	30 UJ	20.1 J-	231 J+	0.81 J-	21 J-	95100 J-	156 J-	11 J-	246 J+	58800 J-	300 J-	17600 J-
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	11300 J-	32 UJ	16.8 J-	207 J+	0.78 J-	29.6 J-	148000 J-	165 J-	10.8 J-	251 J+	40500 J-	268 J-	21600 J-
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	9600 J-	30 UJ	15.2 J-	142 J+	0.54 J-	3.9 J-	105000 J-	47.8 J-	8.2 J-	208 J+	24900 J-	502 J-	17400 J-
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	4990 J-	24 UJ	10.4 J-	81 UJ	0.28 J-	0.73 J-	69200 J-	16.2 J-	5.3 J-	68.6 J+	14000 J-	138 J-	12100 J-
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	16500 J-	35 R	18 J-	409 J-	0.93 J-	15.6 J-	68500 J-	547 J-	30 UJ	256 J-	64300 J-	404 J-	26600 J-
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	12700 J-	34 R	17.7 J-	331 J-	0.95 J-	10.3 J-	186000 J-	410 J-	28 UJ	223 J-	57200 J-	311 J-	19600 J-
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	13000 J-	34 R	18.4 J-	351 J-	1.1 J-	19.8 J-	75400 J-	597 J-	28 UJ	297 J-	67200 J-	424 J-	19200 J-
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	10400 J-	30 R	17.6 J-	200 J-	0.87 J-	7.5 J-	163000 J-	173 J-	25 UJ	152 J-	54100 J-	169 J-	14600 J-
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	12200 J-	38 R	12.3 J-	112 J-	0.65 J-	2.9 J-	55700 J-	84.8 J-	31 UJ	86 J-	50000 J-	87.7 J-	20800 J-
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	7190 J-	27 R	9.3 J-	127 J-	0.53 J-	3.6 J-	58000 J-	98.1 J-	23 UJ	100 J-	54600 J-	148 J-	15600 J-
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	9590 J-	33 R	15 J-	174 J-	0.69 J-	17.1 J-	147000 J-	117 J-	27 UJ	216 J-	35000 J-	231 J-	19000 J-
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	11000 J-	0.77 J-	17.4 J-	200 J-	0.79 J-	18.9 J-	167000 J-	132 J-	27 UJ	274 J-	40500 J-	252 J-	21900 J-
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	8490 J-	27 R	14.5 J-	191 J-	0.52 J-	3.9 J-	118000 J-	41.9 J-	23 UJ	325 J-	26600 J-	345 J-	18400 J-

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	--	0.05 U	--	--	0.29	0.1 U	--	--	--	48
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	--	0.05 U	--	--	0.28	0.1 U	--	--	--	52
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	--	0.05 U	--	--	0.24	0.1 U	--	--	--	49
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	--	0.05 U	--	--	0.32	0.1 U	--	--	--	46
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	--	0.29	--	--	0.45	0.18	--	--	--	110
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	--	0.06	--	--	0.33	0.13	--	--	--	81
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	--	0.05 U	--	--	0.31	0.1 U	--	--	--	64
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	--	0.05 U	--	--	0.32	0.1 U	--	--	--	67
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	--	0.52	--	--	0.64	1.9	--	--	--	280
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	--	0.54	--	--	0.67	2.4	--	--	--	310
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	--	0.32	--	--	0.44	1.4	--	--	--	200
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	--	0.98	--	--	0.91	6.3	--	--	--	560
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	--	1.2	--	--	1	7.7	--	--	--	750
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	--	1.3	--	--	0.95	5.8	--	--	--	620
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	--	1	--	--	0.74	3.8	--	--	--	440
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	--	1.5	--	--	0.76	1.7	--	--	--	460
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	--	1.5	--	--	0.5	1.7	--	--	--	370
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	--	0.64	--	--	0.32	0.76	--	--	--	230
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	--	0.32	--	--	0.5	0.73	--	--	--	280
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	--	0.45	--	--	0.52	0.52	--	--	--	120
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	--	0.05 U	--	--	0.28	0.1 U	--	--	--	70
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	--	1.9	--	--	0.92	2.5	--	--	--	470
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	--	0.75	--	--	0.36	0.32	--	--	--	91
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	--	0.05 U	--	--	0.29	0.1 U	--	--	--	49
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	--	1.7	--	--	1.2	6.1	--	--	--	750
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	--	0.9	--	--	1.1	3.9	--	--	--	570
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	--	0.98	--	--	1.2	3.2	--	--	--	540
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	--	0.96	--	--	1.1	3.2	--	--	--	610
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	--	1.9	--	--	0.7	3.1	--	--	--	720
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	--	2.4	--	--	0.75	3.8	--	--	--	750
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	--	3.3	--	--	1	7.4	--	--	--	1200
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	--	0.8	--	--	1.4	1.9	--	--	--	370
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	--	0.39	--	--	0.9	0.29	--	--	--	210
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	--	0.45	--	--	0.97	1.4	--	--	--	290
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	--	1.5	--	--	1	1.9	--	--	--	590
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	441 J-	0.12 UJ	28.6 J-	2460 J-	1.1 J-	1.2 J-	308 J-	9 J-	24.1 J-	62.2 J+
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	467 J-	0.12 UJ	26 J-	2490 J-	1.7 J-	1.1 J-	331 J-	8.9 J-	23.2 J-	49.8 J+
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	249 J-	0.16 J-	8.5 J-	1900 UJ	13 J-	0.14 J-	225 J-	9.4 R	9.6 J-	36.4 J+
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	460 J-	0.12 UJ	9 J-	1800 UJ	12 J-	0.22 J-	256 J-	8.8 R	9.6 J-	46.3 J+
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	624	0.86	108	1700 UJ	3 J	6.9 J	963 J	8.3 U	21	638
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	539	0.91	130	1800 UJ	3.6 J	6.7 J	749 J	8.8 U	24.3	542
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	525	1.1	149	1900 UJ	3.6 J	8.2 J	1440 J	9.7 U	26.1	649
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	511	1.1	107	2000 UJ	4.1 J	5.6 J	1280 J	9.9 U	20.5	499
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	553	0.92	124	2000 UJ	4 J	6.9 J	887 J	10 U	20.6	595
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	514	0.34	42.9	1400 UJ	4.4 J	5.1 J	808 J	7.1 U	60.4	283
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	916	0.17	31.8	1960 J	2.1 J	2.8 J	503 J	6.8 U	28.1	156
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	687 J-	0.17 UJ	64.1 J-	2500 UJ	1.5 J-	5 J-	326 J-	12 U	21.9 J-	453 J+
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	564 J-	0.43 J-	205 J-	2900 UJ	2.1 J-	7.7 J-	496 J-	15 R	25.8 J-	794 J+
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	782 J-	1.5 J-	237 J-	2900 UJ	4 J-	12.5 J-	554 J-	1.2 J-	38.6 J-	1030 J+
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	616 J-	1.2 J-	184 J-	2800 UJ	1.6 J-	9.2 J-	487 J-	14 J-	31.7 J-	912 J+
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	642 J-	0.18 UJ	169 J-	2800 UJ	3.7 J-	8.4 J-	745 J-	14 J-	32.2 J-	694 J+
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	746 J+	0.62 J-	75.4 J-	2700 UJ	1.9 J-	6.3 J-	1090 J-	14 R	30.2 J-	439 J-
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	699 J+	0.91 J-	269 J-	3100 UJ	3.6 J-	12.3 J-	1060 J-	15 R	30.7 J-	995 J-
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	917 J-	0.17 UJ	78.4 J-	2500 UJ	3.4 J-	6.8 J-	753 J-	0.88 J-	26.6 J-	936 J+
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	819 J-	0.44 J-	80.8 J-	2500 UJ	1.8 J-	6.7 J-	658 J-	13 J-	29.4 J-	977 J+
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	624 J-	0.54 J-	74.7 J-	2600 UJ	3.1 J-	5.2 J-	988 J-	13 U	27.8 J-	824 J+
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	401 J-	1 J-	33.1 J-	2500 UJ	2.2 J-	3.3 J-	803 J-	13 R	22.6 J-	723 J+
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	274 J-	0.38 J-	14.5 J-	2000 UJ	14 J-	1.1 J-	461 J-	10 U	13.4 J-	265 J+
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	836 J+	1.6 J-	234 J-	3000 UJ	4.7 J-	13.9 J-	1290 J-	15 J-	39 J-	981 J-
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	697 J+	0.97 J-	171 J-	2800 UJ	5.7 J-	9.8 J-	1630 J-	14 J-	30.5 J-	769 J-
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	732 J+	1.5 J-	258 J-	2800 UJ	4.1 J-	14.2 J-	1320 J-	14 J-	34.8 J-	1080 J-
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	611 J+	1 J-	89.9 J-	2500 UJ	3.5 J-	6.9 J-	1610 J-	13 R	26.4 J-	481 J-
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	922 J+	0.26 J-	53 J-	3100 UJ	3.1 J-	5.6 J-	1220 J-	16 R	34.2 J-	381 J-
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	741 J+	0.5 J-	64.4 J-	2300 UJ	1.6 J-	5.9 J-	914 J-	11 R	22.8 J-	497 J-
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	623 J+	1.7 J-	61.1 J-	2700 UJ	3.4 J-	5.3 J-	1640 J-	14 J-	20.9 J-	739 J-
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	702 J+	1.5 J-	65.9 J-	2700 UJ	5 J-	6 J-	1780 J-	14 R	23.6 J-	825 J-
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	410 J+	2.5 J-	38.5 J-	2300 UJ	3.1 J-	5.3 J-	1520 J-	11 R	20.9 J-	945 J-

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	9210 J-	28 R	17 J-	148 J-	0.57 J-	2.2 J-	123000 J-	32.3 J-	23 UJ	257 J-	27700 J-	269 J-	20600 J-
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	11700 J-	33 R	16.6 J-	297 J-	0.95 J-	12.7 J-	86300 J-	408 J-	28 UJ	232 J-	71000 J-	386 J-	19800 J-
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	11000 J-	34 J-	13.6 J-	323 J-	0.72 J-	10.1 J-	119000 J-	404 J-	28 UJ	209 J-	54700 J-	309 J-	16700 J-
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	9090 J-	33 R	14.7 J-	226 J-	0.74 J-	7 J-	146000 J-	259 J-	27 UJ	169 J-	47100 J-	218 J-	13900 J-
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	10400 J-	2.8 J-	21 J-	226 J-	0.84 J-	17.7 J-	103000 J-	171 J-	25 UJ	246 J-	63400 J-	302 J-	17400 J-
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	9470	23 R	9.7	111	0.51 J	3.7	45000	83.6	9.9 J	78.6 J+	45500	83.2	16100
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	10400	24 R	10.3	136	0.68 J	6.4	46100	96.9	11.9 J	96.3 J+	46200	121	17000
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	8700 J-	90.2 J-	4.8 R	175 J-	0.55 J-	17.1 J-	115000 J-	109 J-	24 UJ	154 J-	35800 J-	176 J-	17100 J-
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	9050	21 R	9.4	152	0.55 J	4.9	63900	132	9.6 J	96.9 J+	42000	128	16000
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	9790	0.28 J-	8.3	131	0.59 J	4.5	51900	90.4	9.8 J	81.2 J+	41300	111	17900
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	9010 J-	30 R	12.3 J-	248 J-	0.67 J-	7.4 J-	124000 J-	287 J-	25 UJ	169 J-	48800 J-	236 J-	14500 J-
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	9180 J-	17.3 J-	17.3 J-	326 J-	2.6 J-	8.7 J-	128000 J-	292 J-	26.6 J-	173 J-	49400 J-	226 J-	16600 J-
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	9800 J-	31 J-	15.5 J-	146 J-	0.6 J-	5.4 J-	146000 J-	57.1 J-	26 UJ	249 J-	27300 J-	250 J-	18900 J-
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	9680	3.5 J-	18.2	214	0.75 J	26.6	123000	146	11.3 J	238 J+	50600	276	17300
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	8060	0.97 J-	10.5	138	0.64 J	11.3	91300	80	8.3 J	168 J+	30100	156	13600
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	7360	0.26 J-	12.2	113	0.5 J	2.8	121000	36.7	6.6 J	177 J+	25200	171	15500
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	7340	16 R	10.8	63.8	0.38 J	0.89 J	95200	16.1	7.1 J	65.6 J+	20800	71.6	14600
Bishop Park	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	5030	0.23 J-	8.9	102	0.45 J	4.6	90700	88.7	7.1 J	90.9 J+	50300	126	12600
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	9100	5.1 J-	15.7	186	0.71 J	23.6	128000	130	9.6 J	228 J+	39000	230	17200
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	8130	0.52 J-	12.4	142	0.58 J	5.1	119000	55	8.1 J	164 J+	29000	175	17000
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	4240 J-	21 R	6.1 J-	24 J-	0.21 J-	0.24 J-	110000 J-	7.7 J-	4.7 J-	17.3 J-	20700 J-	30.9 J-	13500 J-
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	4170 J-	22 R	10.8 J-	50.4 J-	0.36 J-	0.54 J-	79500 J-	19.5 J-	6.7 J-	32 J-	22000 J-	25.2 J-	15200 J-
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	3580 J-	14 R	14.2 J-	39.2 J-	0.28 J-	1.2 U	117000 J-	20 J-	7.7 J-	38.6 J-	32300 J-	31.8 J-	8700 J-
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	4220 J-	15 R	6.5 J-	45.8 J-	0.33 J-	1.3 U	44600 J-	34 J-	6.8 J-	39.9 J-	31600 J-	38.5 J-	9590 J-
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	4270 J-	15 R	13.3 J-	64.4 J-	0.4 J-	1.2 U	55400 J-	26.2 J-	8.6 J-	33.4 J-	31100 J-	37.8 J-	7130 J-
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	3620 J-	18 R	8.2 J-	61.8 J-	0.69 J-	1.5 U	35300 J-	30.6 J-	7.4 J-	43 J-	21200 J-	46.4 J-	5460 J-
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	3820 J-	17 R	7.1 J-	53.9 J-	0.4 J-	1.4 U	50200 J-	37.5 J-	8.1 J-	33.8 J-	39000 J-	55.9 J-	7400 J-
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	2910 J-	15 R	7 J-	37.6 J-	0.29 J-	1.3 U	44200 J-	30.8 J-	6.5 J-	24.7 J-	32900 J-	41.9 J-	6700 J-
			Surface	Min	2980	0.2	4.0	24	0.14	0.1	33700	7	3.8	11	9480	8	5460
				Max	12200	15.0	18.2	260	0.75	26.6	123000	380	15.5	238	50600	490	20800
				Average	6421	8.1	9.1	101	0.46	4.7	68353	90	8.7	74	36140	115	13064
				Median	5030	11.0	8.5	98	0.45	2.3	56100	73	8.1	62	39000	88	13500
				Standard Deviation	2982	6.1	2.9	58	0.17	6.6	28021	89	3.0	56	13437	114	4516
			Subsurface	Min	2960	0.3	4.3	35	0.12	0.2	46100	6	3.9	9	10200	8	11000
				Max	16500	90.2	21.0	413	2.60	29.6	186000	597	26.6	325	71000	520	26600
				Average	9768	14.4	12.3	188	0.72	8.4	104487	180	11.5	158	42716	222	17289
				Median	9530	12.0	12.1	180	0.69	7.5	105000	130	11.5	169	43650	230	17050
				Standard Deviation	2484	19.1	4.4	97	0.37	6.8	37766	167	3.7	87	15780	129	3231

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	429 J+	2.3 J-	25.8 J-	2300 UJ	2.9 J-	4.2 J-	1460 J-	12 R	22.3 J-	798 J-
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	803 J+	1.8 J-	204 J-	2800 UJ	2.5 J-	11.8 J-	1220 J-	14 J-	33.1 J-	1000 J-
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	588 J+	1.1 J-	165 J-	2800 UJ	2.1 J-	9.6 J-	1280 J-	14 J-	28.2 J-	758 J-
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	581 J+	0.81 J-	102 J-	2700 UJ	2.5 J-	7.2 J-	1240 J-	14 R	23.8 J-	563 J-
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	909 J+	1.4 J-	86.1 J-	2500 UJ	4.4 J-	7.9 J-	1430 J-	12 J-	31.5 J-	1030 J-
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	688	0.36	51.3	1900 UJ	3.2 J	5.6 J	861 J	9.4 U	26.2	355
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	735	0.47	62.8	2000 UJ	2 J	8.7 J	234 J	9.8 U	29.4	422
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	548 J+	1.6 J-	62 J-	2400 UJ	17 R	5.2 J-	1350 J-	8.8 J-	19.6 J-	592 J-
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	582	0.5	79.3	1800 UJ	2.7 J	6 J	612 J	8.8 U	25.1	375
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	580	0.49	61	1820 J	3.2 J	5.4 J	1390 J	8.8 U	24.9	329
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	550 J+	0.96 J-	124 J-	2500 UJ	3.5 J-	7.2 J-	1090 J-	13 J-	24.2 J-	609 J-
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	558 J+	1.6 J-	128 J-	3430 J-	15 J-	11.4 J-	3120 J-	8.3 J-	42.9 J-	590 J-
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	514 J+	2 J-	37.8 J-	2600 UJ	2.4 J-	4.7 J-	1550 J-	13 R	22.1 J-	718 J-
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	793	1.4	79.3	1900 UJ	3.6 J	6.7 J	817 J	9.5 U	26.4	859
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	442	1.8	47.7	1700 UJ	2.7 J	3.7 J	1030 J	8.6 U	19.1	471
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	409	1.5	26.7	1600 UJ	3.1 J	3.3 J	1310 J	7.9 U	17.5	489
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	385	0.54	20.5	1440 J	3 J	2.1 J	769 J	6.7 U	19.4	200
Bishop Park	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	655	0.42	62.7	1300 UJ	3.1 J	5.3 J	687 J	6.7 U	17.3	397
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	557	1.6	67.7	1700 UJ	3.1 J	5.2 J	1310 J	8.4 U	22.7	717
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	433	1.3	36.8	1500 UJ	3 J	3.5 J	973 J	7.5 U	20.3	430
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	355 J-	0.12 UJ	19.9 J-	1700 UJ	2.4 J-	1.7 J-	239 J-	8.6 R	11 J-	38 J-
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	715 J-	0.13 J+	26.3 J-	1900 UJ	2.3 J-	2 J-	266 J-	9.3 J-	11.5 J-	135 J-
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	770 J-	0.18 J-	34.9 J-	459 J-	2.5 J-	2.6 J-	412 J-	0.33 J-	12.9 J-	156 J-
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	480 J-	0.19 J-	29.4 J-	657 J-	1.7 J-	2.8 J-	411 J-	6.4 U	14.6 J-	163 J-
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	830 J-	0.23 J-	45.7 J-	573 J-	2.1 J-	2.6 J-	462 J-	0.44 J-	19.7 J-	199 J-
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	405 J-	0.24 J-	27.7 J-	584 J-	2.2 J-	1.9 J-	503 J-	7.5 R	18.7 J-	181 J-
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	635 J-	0.28 J-	36.5 J-	558 J-	1.8 J-	5.5 J-	448 J-	7 U	14.2 J-	222 J-
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	500 J-	0.17 J-	30.6 J-	328 J-	1.6 J-	2.7 J-	446 J-	0.36 J-	11.7 J-	170 J-
			Surface	Min	249	0.03	8.5	459	0.24	0.1	225	0.33	9.6	36
				Max	922	1.90	108.0	2460	13.00	6.9	1220	9.30	60.4	859
				Average	618	0.50	46.7	958	2.12	3.1	591	4.09	22.0	301
				Median	655	0.29	42.9	850	1.70	2.5	462	3.85	19.7	280
				Standard Deviation	184	0.53	25.1	488	2.37	2.4	315	3.00	12.1	218
			Subsurface	Min	274	0.03	9.0	750	0.28	0.1	234	1.20	9.6	46
				Max	917	3.30	269.0	3430	15.00	14.2	3120	15.00	42.9	1200
				Average	598	1.02	103.5	1334	2.87	5.3	1098	8.44	25.9	559
				Median	573	0.98	80.1	1275	2.45	5.2	1155	7.40	24.7	590
				Standard Deviation	158	0.71	74.9	482	2.96	3.8	538	4.64	6.8	315

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Residential Area	C12	C12 0-1_20061221	21-Dec-06	0 - 1	--	--	6.2	110	--	3.6	--	140	--	46	--	150	--
Residential Area	C12	C12 1-3_20061221	21-Dec-06	1 - 3	--	--	11	230	--	12	--	600	--	220	--	390	--
Residential Area	C12	C12 3-5_20061221	21-Dec-06	3 - 5	--	--	10	180	--	10	--	350	--	220	--	280	--
Residential Area	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	--	--	8.5	110	--	7.2	--	150	--	110	--	190	--
Residential Area	C9	C9 0-1_20070710	10-Jul-07	0 - 1	--	--	7.8	93	--	6.7	--	87	--	83	--	150	--
Residential Area	D2	D2 0-1_20061221	21-Dec-06	0 - 1	--	--	6.5	57	--	0.27	--	14	--	17	--	8.1	--
Residential Area	D3	D3 0-1_20061221	21-Dec-06	0 - 1	--	--	6.2	58	--	0.28	--	14	--	17	--	17	--
Residential Area	D4	D4 0-1_20070711	11-Jul-07	0 - 1	--	--	6.9	50	--	0.32	--	17	--	23	--	16	--
Residential Area	D4	D4 1-2_20070711	11-Jul-07	1 - 2	--	--	6.8	68	--	0.2 U	--	16	--	21	--	11	--
Residential Area	D5	D5 0-1_20070710	10-Jul-07	0 - 1	--	--	6.7	80	--	1.2	--	34	--	39	--	140	--
Residential Area	D5	D5 1-3_20070710	10-Jul-07	1 - 3	--	--	7.4	91	--	0.78	--	25	--	36	--	88	--
Residential Area	D6	D6 0-1_20070710	10-Jul-07	0 - 1	--	--	6.2	62	--	0.22	--	16	--	17	--	18	--
Residential Area	E1	E1 0-1_20061221	21-Dec-06	0 - 1	--	--	6.9	60	--	1.1	--	15	--	24	--	590	--
Residential Area	E1	E1 1-3_20061221	21-Dec-06	1 - 3	--	--	6.6	53	--	0.38	--	15	--	25	--	20	--
Residential Area	E2	E2 0-1_20061222	22-Dec-06	0 - 1	--	--	6.7	52	--	0.26	--	14	--	17	--	9.7	--
Residential Area	E2	E2 1-3_20061222	22-Dec-06	1 - 3	--	--	6.4	50	--	0.26	--	14	--	17	--	8.3	--
Residential Area	E21	E21 0-1_20061221	21-Dec-06	0 - 1	--	--	7.1	58	--	0.37	--	19	--	25	--	15	--
Residential Area	E3	E3 0-1_20070710	10-Jul-07	0 - 1	--	--	6.4	65	--	0.35	--	15	--	17	--	9.3	--
Residential Area	E3	E31-3_20070710	10-Jul-07	1 - 3	--	--	10	55	--	0.27	--	14	--	18	--	9.2	--
Residential Area	E6	E6 0-1_20070711	11-Jul-07	0 - 1	--	--	7.3	67	--	0.21	--	16	--	21	--	18	--
Residential Area	E6	E6 1-3_20070711	11-Jul-07	1 - 3	--	--	5.1	83	--	0.2 U	--	16	--	18	--	50	--
			Surface	Min			6.2	50		0.2		14		17		8	
				Max			8.5	110		7.2		150		110		590	
				Average			6.8	69		1.3		39		31		98	
				Median			6.7	61		0.3		16		22		18	
				Standard Deviation			0.6	21		2.1		50		27		168	
			Subsurface	Min			5.1	50		0.1		14		17		8	
				Max			11.0	230		12.0		600		220		390	
				Average			7.9	101		3.0		131		72		107	
				Median			7.4	83		0.4		16		25		50	
				Standard Deviation			2.1	67		5.0		222		92		146	

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Residential Area	C12	C12 0-1_20061221	21-Dec-06	0 - 1	--	0.17	--	--	0.42	1.2	--	--	--	300
Residential Area	C12	C12 1-3_20061221	21-Dec-06	1 - 3	--	0.68	--	--	1.1	5.7	--	--	--	910
Residential Area	C12	C12 3-5_20061221	21-Dec-06	3 - 5	--	1.5	--	--	1.1	4.6	--	--	--	1000
Residential Area	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	--	0.64	--	--	1.1	3.1	--	--	--	530
Residential Area	C9	C9 0-1_20070710	10-Jul-07	0 - 1	--	0.77	--	--	0.91	1.7	--	--	--	360
Residential Area	D2	D2 0-1_20061221	21-Dec-06	0 - 1	--	0.05 U	--	--	0.2 U	0.1 U	--	--	--	53
Residential Area	D3	D3 0-1_20061221	21-Dec-06	0 - 1	--	0.05 U	--	--	0.27	0.1 U	--	--	--	55
Residential Area	D4	D4 0-1_20070711	11-Jul-07	0 - 1	--	0.1	--	--	0.35	0.1	--	--	--	68
Residential Area	D4	D4 1-2_20070711	11-Jul-07	1 - 2	--	0.05 U	--	--	0.25	0.1 U	--	--	--	54
Residential Area	D5	D5 0-1_20070710	10-Jul-07	0 - 1	--	0.47	--	--	0.66	0.43	--	--	--	190
Residential Area	D5	D5 1-3_20070710	10-Jul-07	1 - 3	--	0.2	--	--	0.59	0.23	--	--	--	120
Residential Area	D6	D6 0-1_20070710	10-Jul-07	0 - 1	--	0.05 U	--	--	0.37	0.1 U	--	--	--	46
Residential Area	E1	E1 0-1_20061221	21-Dec-06	0 - 1	--	0.12	--	--	0.21	0.16	--	--	--	61
Residential Area	E1	E1 1-3_20061221	21-Dec-06	1 - 3	--	0.1	--	--	0.2 U	0.1	--	--	--	59
Residential Area	E2	E2 0-1_20061222	22-Dec-06	0 - 1	--	0.05 U	--	--	0.24	0.1 U	--	--	--	46
Residential Area	E2	E2 1-3_20061222	22-Dec-06	1 - 3	--	0.05 U	--	--	0.2 U	0.1 U	--	--	--	49
Residential Area	E21	E21 0-1_20061221	21-Dec-06	0 - 1	--	0.18	--	--	0.31	0.13	--	--	--	72
Residential Area	E3	E3 0-1_20070710	10-Jul-07	0 - 1	--	0.05 U	--	--	0.33	0.1 U	--	--	--	79
Residential Area	E3	E31-3_20070710	10-Jul-07	1 - 3	--	0.05 U	--	--	0.52	0.1 U	--	--	--	58
Residential Area	E6	E6 0-1_20070711	11-Jul-07	0 - 1	--	0.05 U	--	--	0.26	0.1 U	--	--	--	59
Residential Area	E6	E6 1-3_20070711	11-Jul-07	1 - 3	--	0.09	--	--	0.39	0.1 U	--	--	--	76
			Surface	Min		0.03			0.10	0.1				46
				Max		0.77			1.10	3.1				530
				Average		0.16			0.39	0.5				130
				Median		0.06			0.32	0.1				65
				Standard Deviation		0.23			0.26	0.9				147
			Subsurface	Min		0.03			0.10	0.1				49
				Max		1.50			1.10	5.7				1000
				Average		0.33			0.52	1.4				291
				Median		0.10			0.52	0.1				76
				Standard Deviation		0.52			0.40	2.4				411

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	--	--	7.5	84	--	2.2	--	49	--	52	--	73	--
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	--	--	7.9	120	--	3.4	--	57	--	81	--	210	--
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	--	--	6.5	110	--	4.6	--	71	--	120	--	150	--
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	--	--	7.4	180	--	3.1	--	29	--	74	--	560	--
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	--	--	9.9	74	--	1.7	--	20	--	63	--	83	--
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	--	--	16	230	--	32	--	210	--	250	--	340	--
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	--	--	15	210	--	22	--	160	--	210	--	310	--
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	--	--	12	230	--	14	--	120	--	170	--	330	--
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	--	--	6.9	52	--	0.47	--	14	--	19	--	18	--
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	--	--	6	61	--	0.3	--	15	--	19	--	14	--
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	--	--	6.6	59	--	0.24	--	14	--	20	--	10	--
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	--	--	6.3	98	--	0.26	--	16	--	19	--	10	--
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	--	--	22	94	--	0.24	--	14	--	20	--	13	--
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	--	--	7.2	42	--	0.34	--	13	--	19	--	13	--
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	--	--	9.6	140	--	4.6	--	38	--	230	--	280	--
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	--	12	120	--	1.5	--	26	--	180	--	190	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	--	--	12	140	--	1.4	--	24	--	160	--	180	--
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	--	--	5.7	77	--	0.89	--	13	--	48	--	190	--
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	--	5.9	64	--	0.25	--	13	--	17	--	10	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	--	--	5.4	89	--	0.24	--	13	--	20	--	14	--
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	--	--	14	160	--	24	--	140	--	190	--	200	--
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	--	--	19	130	--	24	--	140	--	200	--	180	--
South Works	G3	G3 0-1_12/21/2006	21-Dec-06	0 - 1	--	--	9.3	49	--	3.4	--	60	--	48	--	55	--
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	--	--	13	180	--	31	--	160	--	250	--	290	--
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	--	--	11	180	--	19	--	150	--	210	--	210	--
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	--	--	7.1	89	--	0.34	--	17	--	25	--	21	--
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	--	--	9.4	42	--	0.47	--	22	--	22	--	88	--
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	--	--	7.4	160	--	0.34	--	15	--	22	--	28	--
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	--	--	7.3	270	--	0.32	--	7	--	12	--	12	--
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	--	--	4	810	--	0.45	--	5.4	--	14	--	21	--
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	--	--	8.3	83	--	2.1	--	42	--	76	--	58	--
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	--	--	4.3	65	--	0.88	--	16	--	29	--	33	--
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	--	--	2.7	39	--	0.21	--	7.1	--	30	--	19	--
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	--	--	1.9	33	--	0.21	--	6.2	--	26	--	17	--
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	--	--	2.2	52	--	0.2 U	--	6.8	--	23	--	16	--
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	--	--	3.2	69	--	0.2 U	--	7.6	--	21	--	18	--
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	--	--	2.5	64	--	0.2 U	--	7.2	--	22	--	18	--
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	--	--	5.9	49	--	0.35	--	11	--	47	--	28	--
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	--	--	1.7	22	--	0.2 U	--	4.4	--	16	--	8.1	--
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	--	--	3.2	34	--	0.2 U	--	5.1	--	18	--	22	--
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	--	--	4.4	56	--	0.2 U	--	8.2	--	20	--	18	--
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	--	--	3.7	56	--	0.2 U	--	8	--	20	--	15	--
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	--	--	10	61	--	0.27	--	8.4	--	28	--	22	--
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	--	--	6.5	66	--	0.2 U	--	12	--	18	--	7.9	--
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	--	--	12	41	--	0.67	--	9.5	--	23	--	9.9	--

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	--	0.33	--	--	0.69	1.3	--	--	--	280
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	--	0.99	--	--	0.59	1.5	--	--	--	300
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	--	0.42	--	--	0.67	1	--	--	--	470
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	--	0.55	--	--	0.45	0.51	--	--	--	270
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	--	0.58	--	--	0.2 U	0.37	--	--	--	120
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	--	1.1	--	--	1.2	2.8	--	--	--	890
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	--	1.6	--	--	1.1	2.5	--	--	--	770
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	--	1.4	--	--	0.9	1.8	--	--	--	620
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	--	0.11	--	--	0.41	0.12	--	--	--	61
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	--	0.05 U	--	--	0.26	0.1 U	--	--	--	52
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	--	0.05 U	--	--	0.34	0.1 U	--	--	--	46
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	--	0.05 U	--	--	0.3	0.1 U	--	--	--	68
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	--	0.05 U	--	--	0.38	0.1 U	--	--	--	52
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	--	0.05 U	--	--	0.32	0.1 U	--	--	--	51
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	--	2.3	--	--	0.61	1.9	--	--	--	590
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	1.9	--	--	0.54	1.7	--	--	--	450
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	--	1.7	--	--	0.51	1.5	--	--	--	390
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	--	0.33	--	--	0.27	0.38	--	--	--	180
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	0.05 U	--	--	0.2 U	0.1 U	--	--	--	42
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	--	0.05 U	--	--	0.24	0.11	--	--	--	45
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	--	2.5	--	--	0.79	1.9	--	--	--	470
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	--	1.7	--	--	1.1	2.1	--	--	--	480
South Works	G3	G3 0-1_12/21/2006	21-Dec-06	0 - 1	--	0.25	--	--	0.69	0.73	--	--	--	120
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	--	1.8	--	--	1	2.2	--	--	--	730
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	--	2.6	--	--	0.57	2.2	--	--	--	580
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	--	0.05 U	--	--	0.29	0.1	--	--	--	64
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	--	0.3	--	--	0.61	0.21	--	--	--	72
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	--	0.46	--	--	0.2 U	0.2	--	--	--	45
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	--	1.1	--	--	0.2 U	0.11	--	--	--	36
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	--	0.85	--	--	0.27	0.12	--	--	--	39
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	--	1.2	--	--	0.75	0.58	--	--	--	140
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	--	0.83	--	--	0.56	0.21	--	--	--	84
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	--	0.51	--	--	0.44	0.15	--	--	--	48
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	--	0.44	--	--	0.57	0.12	--	--	--	49
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	--	0.52	--	--	0.42	0.13	--	--	--	36
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	--	0.27	--	--	0.35	0.12	--	--	--	38
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	--	0.49	--	--	0.4	0.13	--	--	--	45
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	--	0.68	--	--	0.25	0.13	--	--	--	44
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	--	0.26	--	--	0.2 U	0.1 U	--	--	--	24
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	--	0.57	--	--	0.2 U	0.1 U	--	--	--	38
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	--	0.81	--	--	0.28	0.13	--	--	--	50
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	--	0.26	--	--	0.2 U	0.13	--	--	--	32
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	--	1.2	--	--	0.71	0.35	--	--	--	65
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	--	0.05 U	--	--	0.5	0.1 U	--	--	--	44
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	--	0.05 U	--	--	1.1	0.11	--	--	--	76

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	--	--	9.7	110	--	0.68	--	20	--	20	--	57	--
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	--	--	10	150	--	2	--	75	--	79	--	200	--
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	--	--	10	65	--	0.61	--	20	--	28	--	37	--
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	--	--	7.4	81	--	0.67	--	27	--	62	--	68	--
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	--	--	6.2	72	--	0.42	--	12	--	67	--	63	--
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	--	--	6.3	58	--	0.38	--	16	--	44	--	42	--
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	--	--	5.7	93	--	0.32	--	9.9	--	30	--	24	--
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	--	--	5.9	62	--	0.2 U	--	14	--	19	--	8.4	--
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	--	--	6.2	59	--	0.24	--	14	--	18	--	8.6	--
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	--	--	7.1	76	--	0.3	--	14	--	18	--	16	--
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	--	--	6.7	58	--	0.33	--	13	--	17	--	15	--
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	--	--	11	130	--	5.4	--	130	--	92	--	190	--
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	--	--	9.1	75	--	4.7	--	93	--	83	--	92	--
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	--	--	8.6	89	--	6	--	48	--	63	--	100	--
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	4430	1.2 J	5.3 J	35.4 J	0.56 UJ	1.8	65100	21.2 J	5.6 UJ	21.8	10300	38.9 J	6440
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	7670	0.73 J	6.7 J	54.8 J	0.64	1.2 J	125000 J	14.5 J	7.1	19.3	17800 J	14.1	36800
South Works	SD-023	UTC-SD-023-0.0/0.5	16-Jun-11	0 - 0.5	5960	1.8 J	29 J	74.2 J	0.78	5 J	90300 J	70.4 J	7.5 U	120	16900 J	122	6720
South Works	SD-023	UTC-SD-023-0.5/2.5	16-Jun-11	0.5 - 2.5	5800	0.75 J	10.6 J	80.7 J	0.67	1.9 J	238000 J	20.3 J	5.2 U	55.6	12800 J	48.7	9790
South Works	SD-023	UTC-SD-023-2.5/4.0	16-Jun-11	2.5 - 4	8630	0.77 J	7.3 J	64.8 J	0.68	1.2 J	97500 J	14.7 J	8.5	20.5	19000 J	9.1	15700
South Works	SD-023	UTC-SD-023-2.5/4.0-R	16-Jun-11	2.5 - 4	8340	0.7 J	8.5 J	58.4 J	0.65	1.2 J	117000 J	13.8 J	8.1	20.4	18700 J	10.8	17300
South Works	SD-025	UTC-SD-025-0.0/0.5	16-Jun-11	0 - 0.5	7340	0.43 J	4.6	62.2	0.85	0.67	278000	8.6 J	6.1 U	30.7	8510	23.2 J	11600
South Works	SD-025	UTC-SD-025-0.5/1.7	16-Jun-11	0.5 - 1.7	6220	0.37 J	4.3	52.1	0.72	0.6 U	251000	7.4 J	6 U	23.4	7310	24 J	10300
South Works	SD-026	UTC-SD-026-0.0/0.6	16-Jun-11	0 - 0.6	8030	0.44 J	5.2 J	81.1 J	0.79	0.78 J	323000 J	12.6 J	3.6 U	11.7	8890 J	13.3	26600
South Works	SD-026	UTC-SD-026-0.6/1.3	16-Jun-11	0.6 - 1.3	3540	0.35 J	2.1	42.6	0.69 U	0.69 U	386000	10.6 J	6.9 U	3.4 J	5660	2.6 J	4740
South Works	SD-027	UTC-SD-027-0.0/0.5	17-Jun-11	0 - 0.5	3890	0.56 J	8.7 J	26.8 J	0.47 UJ	0.74	89200	6.8 J	4.9 J	11.3	11500	6.5 J	10100
South Works	SD-027	UTC-SD-027-0.5/2.5	17-Jun-11	0.5 - 2.5	4610	0.44 J	5 J	35.2 J	0.46 UJ	0.6	62000	7.9 J	5 J	12.6	10800	6 J	8770
South Works	SD-027	UTC-SD-027-0.5/2.5-R	17-Jun-11	0.5 - 2.5	5250	0.49 J	5.1 J	39.1 J	0.46 UJ	0.72	75200	9 J	5.5 J	11.4	12100	6 J	9410
South Works	SD-027	UTC-SD-027-2.5/3.5	17-Jun-11	2.5 - 3.5	5470	0.53 J	5.5 J	38.9 J	0.42 UJ	0.71	65000	9.4 J	5.2 J	12.5	12300	6.1 J	10000
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	8350	0.9 J	7.2	61	0.66	1.1	119000	15.2 J	7.8	19	17900	12.9 J	17500
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	8970	0.74 J	7.4	64	0.7	1.2	96800	15.3 J	8.7	19.4	20200	9.4 J	17000
			Surface	Min	3890	0.4	4.6	27	0.24	0.3	65100	7	1.8	11	8510	7	6440
				Max	8350	1.8	29.0	230	0.85	32.0	323000	210	7.8	250	17900	560	26600
				Average	6333	0.9	9.1	94	0.60	4.7	160767	46	4.0	70	12333	103	13160
				Median	6650	0.7	7.4	81	0.72	0.8	104650	21	3.4	31	10900	55	10850
				Standard Deviation	1881	0.5	4.8	52	0.27	9.0	110496	53	2.1	75	4078	132	7719
			Subsurface	Min	3540	0.4	1.7	22	0.21	0.1	65000	4	2.6	3	5660	3	4740
				Max	8970	0.8	22.0	810	0.72	24.0	386000	160	8.7	210	20200	330	36800
				Average	6444	0.6	7.5	101	0.52	2.7	169250	30	5.5	50	13396	63	14418
				Median	6010	0.6	6.6	65	0.66	0.4	121000	14	5.4	23	12550	19	10150
				Standard Deviation	1849	0.2	4.3	124	0.22	5.8	112148	41	2.4	58	5308	87	9947

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	--	15	--	--	0.75	0.15	--	--	--	140
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	--	85	--	--	0.86	0.61	--	--	--	120
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	--	16	--	--	0.64	0.17	--	--	--	65
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	--	2.1	--	--	0.57	0.38	--	--	--	150
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	--	0.96	--	--	0.74	0.38	--	--	--	130
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	--	0.2	--	--	0.63	0.27	--	--	--	110
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	--	0.37	--	--	0.6	0.15	--	--	--	61
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	--	0.05 U	--	--	0.5	0.1 U	--	--	--	43
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	--	0.54	--	--	0.41	0.1 U	--	--	--	46
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	--	0.29	--	--	0.63	0.1 U	--	--	--	59
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	--	0.05 U	--	--	0.5	0.1 U	--	--	--	49
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	--	9.5	--	--	0.97	1.5	--	--	--	340
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	--	3.7	--	--	0.86	1.3	--	--	--	210
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	--	1	--	--	0.92	0.7	--	--	--	180
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	175 J	0.07 J-	14.5 J	745 J	1.7 J	1.1 U	743	2.8 U	16.7 J	70.3
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	429 J-	0.11 U	21.5	1390	2 J	0.84 U	596	2.1 U	18.3 J	48.4 J
South Works	SD-023	UTC-SD-023-0.0/0.5	16-Jun-11	0 - 0.5	205 J-	0.65	30.4	751 U	3.1 J	0.68 J	3270	3.8 U	13.3 J	287 J
South Works	SD-023	UTC-SD-023-0.5/2.5	16-Jun-11	0.5 - 2.5	280 J-	0.3	17	572	2 J	1 U	5620	2.6 U	9.8 J	130 J
South Works	SD-023	UTC-SD-023-2.5/4.0	16-Jun-11	2.5 - 4	384 J-	0.11 U	24.6	1580	2.2 J	0.96 U	3750	2.4 U	18.9 J	50.3 J
South Works	SD-023	UTC-SD-023-2.5/4.0-R	16-Jun-11	2.5 - 4	386 J-	0.11 U	23.6	1560	2.4 J	1.1 U	4140	2.8 U	18.6 J	65.1 J
South Works	SD-025	UTC-SD-025-0.0/0.5	16-Jun-11	0 - 0.5	252	1.8	9.1	613 U	1.6 J	1.2 U	12300	3.1 U	8.3	74.5
South Works	SD-025	UTC-SD-025-0.5/1.7	16-Jun-11	0.5 - 1.7	241	1.7	7.9	603 U	1.1 J	1.2 U	12600	3 U	6.9	66.5
South Works	SD-026	UTC-SD-026-0.0/0.6	16-Jun-11	0 - 0.6	430 J-	0.19 J	10	460	1.4 J	0.71 U	6540	1.8 U	13.2 J	37.4 J
South Works	SD-026	UTC-SD-026-0.6/1.3	16-Jun-11	0.6 - 1.3	467	0.04 J	5.5 U	693 U	1.3 J	1.4 U	4390	3.5 U	6.9 U	9.2
South Works	SD-027	UTC-SD-027-0.0/0.5	17-Jun-11	0 - 0.5	241 J	0.01 J-	14.8 J	916 J	1.8 J	0.94 U	472 U	2.4 U	9.3 J	91
South Works	SD-027	UTC-SD-027-0.5/2.5	17-Jun-11	0.5 - 2.5	235 J	0.1 UJ	14 J	982 J	1.2 J	0.91 U	456 U	2.3 U	10.9 J	29.3
South Works	SD-027	UTC-SD-027-0.5/2.5-R	17-Jun-11	0.5 - 2.5	249 J	0.11 UJ	14.6 J	1100 J	1.6 J	0.92 U	458 U	2.3 U	12.1 J	35.8
South Works	SD-027	UTC-SD-027-2.5/3.5	17-Jun-11	2.5 - 3.5	245 J	0.11 UJ	15.2 J	1110 J	1.8 J	0.84 U	420 U	2.1 U	12.7 J	32
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	355	0.03 J	24	1440	2.5 J	0.97 U	486 U	2.4 U	20.6	50.5
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	389	0.12 U	26	1640	2.5 J	1.2 U	613 U	3.1 U	20.4	55.6
			Surface	Min	175	0.01	9.1	307	0.10	0.1	236	0.90	8.3	37
				Max	430	15.00	30.4	1440	3.10	2.8	12300	1.90	20.6	890
				Average	276	1.60	17.1	707	0.93	0.7	3889	1.36	13.6	212
				Median	247	0.46	14.7	603	0.69	0.5	2007	1.30	13.3	91
				Standard Deviation	97	3.25	8.4	427	0.69	0.7	4789	0.34	4.6	230
			Subsurface	Min	241	0.03	2.8	302	0.10	0.1	210	1.05	3.5	9
				Max	467	85.00	26.0	1640	2.50	2.5	12600	1.75	20.4	770
				Average	336	3.03	16.2	1005	0.76	0.5	3511	1.34	12.8	136
				Median	333	0.50	16.1	1105	0.57	0.2	2368	1.35	12.4	54
				Standard Deviation	92	13.19	8.0	537	0.63	0.7	4287	0.25	6.1	179

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	--	--	7.7	150	--	2.1	--	28	--	250	--	270	--
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	--	9.1	460	--	5.4	--	68	--	410	--	280	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	--	--	9.7	500	--	5.2	--	64	--	420	--	520	--
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	--	--	6.8	140	--	1.1	--	16	--	170	--	110	--
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	--	6.1	75	--	0.68	--	12	--	140	--	77	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	--	--	7	83	--	0.76	--	14	--	110	--	95	--
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	--	--	4.8	65	--	0.47	--	10	--	69	--	66	--
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	--	--	6.7	61	--	0.46	--	11	--	68	--	65	--
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	6800 J	7.2 UJ	8.2	45.7 J	0.4 J	0.4 J	114000	13.4	7.5 J	16.9 J	16000 J	22 J	20800 J
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	7740 J	7.5 UJ	9.4	67.1 J	0.47 J	0.52 J	113000	15.8	8.2 J	20.2 J	19600 J	17.5 J	13000 J
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	11500 J-	15 R	8.2 J-	69.8 J-	0.54 J-	0.46 J-	108000 J-	16.1 J-	9 J-	18.4 J-	23700 J-	9.9 J-	20200 J-
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	12300 J-	15 R	6.9 J-	77.8 J-	0.52 J-	0.42 J-	93700 J-	17.8 J-	9.6 J-	21.6 J-	23400 J-	10.7 J-	19500 J-
Wye Street	SD-031	UTC-SD-031-0.0/0.5	26-Apr-11	0 - 0.5	3110 J	7.2 UJ	7.3	57.5 J	0.16 J	2.7	164000	8.5	6 UJ	41.1 J	9220 J	42.9 J	41100 J
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	8560 J	9.8 UJ	12.1	89.3 J	0.58 J	1.1	170000	18.9	8.2 UJ	116 J	18100 J	108 J	12300 J
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	8570 J	12 UJ	13.4	4770 J	0.57 J	4	249000	46.5	9.6 UJ	237 J	20200 J	105 J	15900 J
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	8610 J	1.1 J	14.2	3840 J	0.61 J	9.3	217000	74.7	9.2 UJ	235 J	23600 J	124 J	15800 J
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	6610 J	10 UJ	11.3	2000 J	0.42 J	4.9	254000	33.9	8.4 UJ	274 J	13600 J	119 J	14000 J
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	6510 J	10 UJ	10.6	1560 J	0.44 J	4.8	221000	32.7	8.3 UJ	138 J	13800 J	109 J	14000 J
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	7190 J	12 UJ	11	1200 J	0.42 J	3.7	217000	32.2	10 UJ	166 J	14700 J	177 J	14600 J
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	6860 J	9.7 UJ	11.6	129 J	0.37 J	1.5	4100 U	19.6	8.1 UJ	140 J	14800 J	148 J	19600 J
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	11900 J-	15 R	8.5 J-	110 J-	0.59 J-	0.66 J-	117000 J-	19.7 J-	10.5 J-	25.7 J-	24600 J-	359 J-	23600 J-
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	9920 J-	14 R	10 J-	66.8 J-	0.49 J-	0.47 J-	167000 J-	14.4 J-	8.5 J-	18.8 J-	20800 J-	33.3 J-	17200 J-
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	9220 J	7.3 UJ	8.2	75.7 J	0.42 J	0.4 J	77300	16.2	9.4 J	18.8 J	20300 J	9.5 J	17100 J
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	9220 J	7.2 UJ	8.8	77.5 J	0.41 J	0.36 J	88900	15.8	9.7 J	19.4 J	20800 J	8.9 J	16900 J
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	9220 J	7.1 UJ	8.4	76 J	0.4 J	0.38 J	95100	15.9	10 J	20.8 J	21200 J	9.2 J	17000 J
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	5940 J	3.6 J	16.3	249 J	0.42 J	1.6	354000	19.5	6.8 UJ	213 J	17500 J	287 J	13900 J
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	4490 J	2.2 J	10	187 J	0.46 J	1.4	135000	20.1	6.6 UJ	110 J	14100 J	63.7 J	5750 J
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	8080 J	79.4 J	12.6	2570 J	0.64 J	3.7	197000	42.8	8.3 UJ	130 J	20300 J	156 J	10100 J
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	7120 J	11.7 J	16.7	1440 J	0.5 J	2.8	189000	28.4	7.8 UJ	273 J	21600 J	161 J	9480 J
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	9440 J-	15 R	8.6 J-	65.9 J-	0.47 J-	1.2 U	108000 J-	17.2 J-	9.2 J-	19.9 J-	20900 J-	8.5 J-	19100 J-
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	11000 J-	15 R	9.1 J-	80.1 J-	0.53 J-	1.2 U	94800 J-	22.8 J-	10.6 J-	21 J-	24600 J-	8.9 J-	20600 J-
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	4650 J-	8.1 UJ	12.3 J-	111 J-	0.55 J-	1.6 J-	114000 J-	30.2 J-	6.5 J-	54.9 J-	19700 J-	209 J-	5790 J-
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	6250 J-	19.8 J-	17.7 J-	136 J-	0.53 J-	4.3 J-	224000 J-	43.2 J-	5.7 J-	566 J-	22700 J-	221 J-	7580 J-
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	6460 J-	8.7 UJ	16.4 J-	138 J-	0.52 J-	2.8 J-	209000 J-	43.2 J-	5.8 J-	147 J-	22200 J-	170 J-	7690 J-
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	7730 J-	32 J-	16.2 J-	2510 J-	0.53 J-	4.5 J-	215000 J-	51.6 J-	5.4 J-	164 J-	20000 J-	173 J-	11600 J-
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	9660 J-	11 UJ	13.7 J-	462 J-	0.49 J-	2.9 J-	226000 J-	32.1 J-	6.5 J-	188 J-	19300 J-	194 J-	15600 J-
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	7330 J-	11 UJ	12.1 J-	109 J-	0.39 J-	1 J-	214000 J-	18.6 J-	5.4 J-	126 J-	15900 J-	121 J-	15000 J-
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	7710 J-	11 UJ	11.9 J-	104 J-	0.4 J-	1 J-	217000 J-	19.5 J-	5.6 J-	121 J-	16500 J-	123 J-	15700 J-
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	6850 J-	16 R	10.6 J-	116 J-	0.46 J-	0.28 J-	194000 J-	13.1 J-	5.1 J-	28.1 J-	18200 J-	25.9 J-	15000 J-
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	10200 J-	15 R	8.9 J-	79.3 J-	0.57 J-	0.24 J-	124000 J-	16.1 J-	9.1 J-	21.1 J-	24400 J-	9.3 J-	20800 J-
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	10700 J-	14 R	8.5 J-	76.5 J-	0.56 J-	0.32 J-	103000 J-	16.7 J-	10.4 J-	21.1 J-	24700 J-	6.9 J-	22600 J-
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	6490 J	8.8 UJ	12.9	2750 J	0.58 J	2.2	178000	28.2	7.4 UJ	180 J	17300 J	98.3 J	10700 J
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	7930 J	8.6 UJ	13.2	3930 J	0.65 J	1.8	252000	17.8	7.1 UJ	164 J	13800 J	102 J	10100 J
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	7970 J-	11 UJ	14.8 J-	209 J-	0.55 J-	8.9 J-	77000 J-	276 J-	9.6 J-	177 J-	36500 J-	294 J-	12000 J-
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	7480 J-	11 UJ	13.1 J-	227 J-	0.74 J-	4.7 J-	123000 J-	121 J-	7.7 J-	167 J-	31000 J-	176 J-	10500 J-
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	7940 J-	15 R	12 J-	54.6 J-	0.43 J-	1.2 U	85000 J-	15.2 J-	9.8 J-	20.2 J-	20900 J-	16.1 J-	15700 J-
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	8960 J-	15 R	7.1 J-	61.8 J-	0.42 J-	1.2 U	80200 J-	15.4 J-	8.8 J-	17.3 J-	19500 J-	8.7 J-	16300 J-
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	9650 J-	15 R	7.8 J-	71.5 J-	0.48 J-	1.2 U	89900 J-	17.4 J-	10.1 J-	19.6 J-	20800 J-	9.2 J-	16800 J-
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	9820 J-	15 R	10.2 J-	71.7 J-	0.46 J-	1.2 U	85500 J-	17.5 J-	10.9 J-	21.9 J-	21500 J-	9.3 J-	18500 J-
Wye Street	SD-073	UTC-SD-073-0.0/0.5	14-Jun-11	0 - 0.5	5320 J	0.34 J	5.4	35.3 J	0.51 U	0.82	62100 J	10.2 J	5.3 J-	11.2 J	12000 J	7.3	13800 J
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	7030 J	0.59 J	5.9	51.8 J	0.54 J-	0.99	64400 J	12.2 J	7 J-	14.3 J	14700 J	7.5	12300 J

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	--	67	--	--	0.75	0.34	--	--	--	150
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	23	--	--	0.96	0.91	--	--	--	360
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	--	12	--	--	1	0.9	--	--	--	250
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	--	2.5	--	--	0.69	0.47	--	--	--	180
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	1.8	--	--	0.82	0.48	--	--	--	190
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	--	1.6	--	--	0.93	0.51	--	--	--	200
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	--	0.78	--	--	0.76	0.43	--	--	--	160
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	--	0.78	--	--	0.73	0.35	--	--	--	140
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	371 J	0.95	22.8 J	1490	1.7 J	1.5	224 J	3 U	18.4 J	56.8 J
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	386 J	0.5	26.2 J	1810	2.2 J	1.8	325 J	3.1 U	18.5 J	72.9 J
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	446 J-	0.12 U	26.9 J-	2540 J-	2.6 J-	2 J-	489 J-	6 U	22.4 J-	55.3 J-
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	434 J-	0.12 U	27.8 J-	2510 J-	2.4 J-	1.7 J-	483 J-	6.2 U	25.1 J-	47.5 J-
Wye Street	SD-031	UTC-SD-031-0.0/0.5	26-Apr-11	0 - 0.5	331 J	1.1	14.6 J	495 J	3 J	1.2 J	724	3 U	6.4 J	111 J
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	341 J	1.1	21.1 J	1240	3.2 J	2.2	2510	4.1 U	17.4 J	262 J
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	537 J	3.3	47.2 J	1420	4.2 J	2.6	2250	4.8 U	17.9 J	294 J
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	505 J	2.4	54.7 J	1390	4.2 J	3.5	3790	4.6 U	19 J	388 J
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	341 J	0.88	25.7 J	859	4.5 J	2	4870	4.2 U	12.3 J	339 J
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	322 J	0.96	25 J	802 J	4.2 J	1.8	4960	4.2 U	11.7 J	319 J
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	375 J	1.4	25.7 J	1180	4 J	2.8	6130	5 U	14.1 J	436 J
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	353 J	1.4	19.4 J	1300	3.7 J	2.1	4910	4.1 U	14.3 J	352 J
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	586 J-	1.3 J-	32.6 J-	2640 J-	2 J-	2 J-	487 J-	6.3 U	24.2 J-	80.5 J-
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	446 J-	0.12 U	26.3 J-	2260 J-	2.8 J-	1.7 J-	469 J-	5.9 U	20.6 J-	47.4 J-
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	427 J	0.0092 J	26.1 J	2280	2 J	1.8	305 J	3 U	22.8 J	55.1 J
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	413 J	0.0098 J	26.3 J	2230	2 J	1.8	330 J	3 U	22.1 J	50.5 J
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	428 J	0.0097 J	26.7 J	2170	1.8 J	1.9	326 J	3 U	22.2 J	49.5 J
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	294 J	47.4	39.9 J	576 J	3.9 J	1.6	764	3.4 U	13.8 J	118 J
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	238 J	9.5	22.6 J	501 J	2.2 J	1.5	649 J	3.3 U	10.8 J	103 J
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	378 J	23.1	29.7 J	1010	3.8 J	2.3	1080	4.2 U	15.1 J	284 J
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	442 J	9.9	44.8 J	932	3.8 J	2.3	893	3.9 U	15.1 J	187 J
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	488 J-	0.12 U	26.1 J-	2050 J-	2.6 J-	1.9 J-	505 J-	0.41 J-	24 J-	48.2 J-
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	444 J-	0.12 U	33.2 J-	2520 J-	2.4 J-	2.3 J-	494 J-	0.32 J-	24.7 J-	53 J-
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	265 J-	7.2 J-	51.1 J-	670 U	2.4 J-	2 J-	443 J-	3.4 R	12.9 J-	159 J-
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	297 J-	45.8 J-	55.4 J-	914 J-	3.1 J-	2.6 J-	825 J-	3.7 R	14.4 J-	219 J-
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	337 J-	54.5 J-	40.6 J-	991 J-	3.5 J-	2.4 J-	865 J-	3.6 R	15.9 J-	218 J-
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	398 J-	19.9 J-	49.7 J-	1130 J-	4.3 J-	2.4 J-	1380 J-	4.5 R	16.3 J-	283 J-
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	420 J-	1.3 J-	27.6 J-	1770 J-	3.9 J-	3 J-	1850 J-	4.7 R	20.1 J-	485 J-
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	360 J-	1.2 J-	17 J-	1090 J-	3.2 J-	2 J-	1670 J-	4.5 R	15.6 J-	273 J-
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	364 J-	1.1 J-	19.4 J-	1150 J-	3.7 J-	2.1 J-	1800 J-	4.5 R	15.8 J-	284 J-
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	331 J-	0.61 J-	18.4 J-	1310 J-	3.1 J-	1.5 J-	1390 J-	6.7 R	15.1 J-	83.5 J-
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	440 J-	0.12 U	26.1 J-	2400 J-	3.1 J-	2 J-	562 J-	6.1 J-	23.5 J-	52.1 J-
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	476 J-	0.12 U	30.5 J-	2600 J-	2.3 J-	2.1 J-	473 J-	6 J-	24 J-	57.8 J-
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	338 J	2.2	37 J	718 J	3.5 J	2.1	1120	3.7 U	14.2 J	318 J
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	325 J	1.7	27.2 J	835	3.7 J	1.9	1410	3.6 U	12.7 J	200 J
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	452 J-	11.5 J-	148 J-	1310 J-	2.5 J-	6.3 J-	595 J-	4.4 U	23.4 J-	594 J-
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	392 J-	20.1 J-	78.9 J-	1260 J-	3 J-	3.8 J-	1080 J-	4.6 R	22.6 J-	347 J-
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	405 J-	0.12 U	29.8 J-	1900 J-	1.9 J-	1.9 J-	424 J-	6.1 J-	20.3 J-	69 J-
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	384 J-	0.12 U	25.6 J-	2080 J-	1.8 J-	1.7 J-	462 J-	0.32 J-	20.7 J-	47.6 J-
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	466 J-	0.12 U	29.6 J-	2240 J-	2.4 J-	1.6 J-	452 J-	6.1 U	23.8 J-	53.8 J-
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	462 J-	0.12 U	31.1 J-	2230 J-	1.6 J-	1.9 J-	496 J-	0.64 J-	23.8 J-	57.5 J-
Wye Street	SD-073	UTC-SD-073-0.0/0.5	14-Jun-11	0 - 0.5	254 J	0.11 U	15.4 J	1230 J	1.8 J	1 U	509 U	2.5 U	12.9 J	41 J
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	304 J	0.11 U	19.2 J	1520 J	1.8 J	0.91 U	453 U	2.3 U	15.9 J	43.2 J

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	6470 J	0.43 J	5.6	46.3 J	0.53 J-	0.94	60300 J	12 J	6.2 J-	14.4 J	13600 J	7.9	10900 J
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	7250 J	0.61 J	6	52.2 J	0.58 J-	1	66300 J	13 J	6.7 J-	14.1 J	15300 J	12.5	12800 J
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	7670 J	0.41 J	6.3	55.8 J	0.59 J-	1.1	64300 J	13.4 J	7.2 J-	16.1 J	15400 J	8	13100 J
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	6490 J	0.43 J	5.5	48.6 J	0.49 J-	0.94	63000 J	11.6 J	6.2 J-	13.5 J	14200 J	7	11200 J
Wye Street	SD-075	UTC-SD-075-0.0/0.5	14-Jun-11	0 - 0.5	6950 J	0.48 J	5.7	41.7 J	0.54 J-	0.97	61500 J	11.8 J	6.4 J-	13.6 J	14500 J	7.6	11700 J
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	8240 J	0.5 J	7.1	57.8 J	0.64 J-	1.2	69300 J	14.1 J	7.7 J-	16.6 J	17000 J	9	13400 J
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	5100 J	0.3 J	8.6	40.1 J	0.44 J-	0.9	57200 J	9.2 J	5.8 J-	13.3 J	13300 J	7.8	8790 J
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	5420 J	0.39 J	4.8	43.1 J	0.49 U	0.77	47500 J	9.8 J	5.1 J-	11.3 J	11700 J	6.4	9780 J
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	3910 J	0.32 J	3.8	30.9 J	0.42 U	0.56	38600 J	6.9 J	4.2 U	9.3 J	8800 J	5.3	6810 J
Wye Street	SD-078	UTC-SD-078-0.0/0.5	14-Jun-11	0 - 0.5	6570 J	0.36 J	5.8	42.7 J	0.53 J-	0.93	56100 J	11.6 J	6.4 J-	14.7 J	13800 J	8.2	10400 J
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	5810 J	0.3 J	5.2	45.8 J	0.46 U	0.86	48100 J	10.4 J	5.8 J-	12 J	12900 J	7.1	9730 J
Wye Street	SD-079	UTC-SD-079-0.0/0.5	14-Jun-11	0 - 0.5	5630 J	0.33 J	4.8	44 J	0.47 J-	0.81	77800 J	10.1 J	5.3 J-	11.6 J	11900 J	6.4	10500 J
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	6470 J	0.42 J	5.5	46.9 J	0.54 J-	0.95	51700 J	11.3 J	6.3 J-	16.5 J	13700 J	7.4	10900 J
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	5520 J	0.31 J	4.8	41.6 J	0.46 J-	0.88	74900 J	10.2 J	5.6 J-	12.3 J	12700 J	9.3	11000 J
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	6390 J	0.51 J	5.8	46.9 J	0.51 J-	0.89	57800 J	11.5 J	6.2 J-	14.4 J	13500 J	7.4	11100 J
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	6630 J	0.53 J	6	48.4 J	0.52 J-	0.97	56700 J	11.7 J	7 J-	13.7 J	14200 J	7.6	11200 J
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	6530 J	0.62 J	5.6	48.4 J	0.5 J-	0.88	31900 J	11.2 J	6.1 J-	15.1 J	13900 J	7.3	11600 J
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	9600	0.76 J	8.6 J	67.5 J	0.75	1.3 J	91600 J	16.4 J	10.1	21.1	21100 J	18	16900
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	9540	0.45 J	8 J	70.4 J	0.78	1.4 J	96600 J	16.1 J	9.4	20.3	21300 J	9.7	17300
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	4720 J	0.3 J	5.3	36.1 J	0.62 U	0.69	44100 J	8.7 J	6.2 U	10.4 J	10900 J	6	8320 J
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	4420 J-	7.4 R	18.1 J-	48.4 J-	0.54 J-	1 J-	170000 J-	17.7 J-	6.8 J-	22.4 J-	22100 J-	49.9 J-	12900 J-
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	5720 J-	8.5 U	9.8 J-	76.4 J-	0.63 J-	1 J-	81300 J-	30.5 J-	9.5 J-	29.5 J-	27800 J-	38.5 J-	10800 J-
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	4320 J-	7.4 R	6.9 J-	37.3 J-	0.36 J-	0.39 J-	42600 J-	13.7 J-	6.3 J-	25.8 J-	18300 J-	69.5 J-	5180 J-
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	6130 J-	7.6 R	8.9 J-	49.7 J-	0.48 J-	0.56 J-	93600 J-	16.9 J-	8 J-	21 J-	21500 J-	22.9 J-	13300 J-
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	9740 J-	7.6 R	12.5 J-	78.9 J-	0.79 J-	0.68 J-	127000 J-	17.2 J-	9.5 J-	26.9 J-	20800 J-	22 J-	12000 J-
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	3710 J-	8.1 R	13 J-	42.2 J-	0.35 J-	0.69 J-	114000 J-	15.1 J-	7.7 J-	46.5 J-	20900 J-	22.9 J-	17400 J-
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	5170 J-	9 U	15.7 J-	97.2 J-	0.6 J-	1.6 J-	132000 J-	26.3 J-	7.7 J-	44.3 J-	22900 J-	89 J-	6610 J-
			Surface	Min	3110	0.3	3.8	31	0.16	0.3	38600	7	2.1	9	8800	5	5180
				Max	11900	6.0	18.1	4770	0.79	8.9	354000	276	10.5	250	36500	359	41100
				Average	6719	2.5	9.6	318	0.49	1.4	114073	26	6.8	56	18497	71	13904
				Median	6480	3.6	8.6	67	0.49	0.9	108000	16	6.5	22	18950	23	12950
				Standard Deviation	2262	2.0	3.7	957	0.14	1.6	66454	47	2.3	73	5748	101	6947
			Subsurface	Min	4720	0.3	4.8	36	0.23	0.2	2050	9	3.1	10	10900	6	7690
				Max	12300	79.4	17.7	3930	0.75	9.3	254000	121	10.9	566	31000	520	22600
				Average	8037	7.8	9.4	558	0.51	1.9	126092	25	6.9	105	18475	82	14059
				Median	7720	3.6	8.8	78	0.53	1.0	94950	17	6.6	22	18700	33	13250
				Standard Deviation	1783	16.6	3.6	1051	0.12	2.0	73289	23	2.3	125	4776	102	4015

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	278 J	0.12 U	18 J	1410 J	1.8 J	0.89 U	443 U	2.2 U	15.2 J	47.3 J
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	323 J	0.11 U	19 J	1610 J	2.1 J	1 U	505 U	2.5 U	16.7 J	46.8 J
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	315 J	0.11 U	20.3 J	1650 J	2.1 J	0.89 U	446 U	2.2 U	17.6 J	48.8 J
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	344 J	0.12 U	17.7 J	1410 J	1.7 J	0.9 U	448 U	2.2 U	15.3 J	43.8 J
Wye Street	SD-075	UTC-SD-075-0.0/0.5	14-Jun-11	0 - 0.5	289 J	0.11 U	18.4 J	1520 J	1.6 J	0.86 U	432 U	2.2 U	16.2 J	46.1 J
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	339 J	0.12 U	21.8 J	1800 J	2.2 J	0.88 U	438 U	2.2 U	18.7 J	52.8 J
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	257 J	0.12 U	17 J	1190 J	1.9 J	0.87 U	433 U	2.2 U	12.4 J	48.4 J
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	240 J	0.11 U	14.7 J	1240 J	1.7 J	0.97 U	486 U	2.4 U	13.1 J	43.3 J
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	182 J	0.12 U	10.7 J	962 J	1.5 J	0.85 U	423 U	2.1 U	10 J	42 J
Wye Street	SD-078	UTC-SD-078-0.0/0.5	14-Jun-11	0 - 0.5	281 J	0.11 U	18.4 J	1440 J	1.9 J	0.94 U	471 U	2.4 U	15.2 J	47.3 J
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	251 J	0.11 U	16.5 J	1330 J	1.6 J	0.91 U	456 U	2.3 U	14 J	48.8 J
Wye Street	SD-079	UTC-SD-079-0.0/0.5	14-Jun-11	0 - 0.5	265 J	0.12 U	15.7 J	1240 J	1.5 J	0.93 U	463 U	2.3 U	13.3 J	38.3 J
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	270 J	0.12 U	17.9 J	1370 J	2 J	0.99 U	494 U	2.5 U	15.3 J	44.7 J
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	277 J	0.12 U	16.4 J	1210 J	1.3 J	0.89 U	445 U	2.2 U	13.2 J	41.4 J
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	279 J	0.12 U	17.6 J	1370 J	1.5 J	0.85 U	423 U	2.1 U	14.8 J	45.1 J
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	287 J	0.12 U	18.5 J	1400 J	1.7 J	0.88 U	470	2.2 U	15.4 J	43.5 J
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	290 J	0.12 U	17.8 J	1390 J	1.8 J	0.87 U	433 U	2.2 U	14.9 J	49.7 J
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	392 J-	0.12 U	28.3	1720	2.5 J	0.88 U	442 U	2.2 U	20.9 J	51.4 J
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	407 J-	0.12 U	27.5	1740	2.5 J	0.96 U	478 U	2.4 U	21.3 J	64 J
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	217 J	0.12 U	13.9 J	1130 J	1.4 J	1.2 U	616 U	3.1 U	11.7 J	41 J
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	698 J-	0.54 J-	33.6 J-	667 J-	3.3 J-	2.1 J-	265 J-	3.1 U	13.8 J-	135 J-
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	554 J-	1.1 J-	29.9 J-	869 J-	2.6 J-	2.6 J-	260 J-	3.6 R	15.7 J-	174 J-
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	327 J-	3 J-	22.3 J-	471 J-	1 J-	1.3 J-	159 J-	3.1 R	12.5 J-	95.5 J-
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	453 J-	0.4 J-	27.1 J-	1290 J-	1.9 J-	1.8 J-	189 J-	3.2 R	15.9 J-	101 J-
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	454 J-	0.44 J-	29 J-	1770 J-	2.4 J-	1.6 J-	764 J-	3.2 R	17.4 J-	101 J-
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	344 J-	0.9 J-	27.9 J-	720 J-	2.1 J-	1.7 J-	170 J-	3.4 U	11.1 J-	85.3 J-
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	445 J-	6.1 J-	86.3 J-	930 J-	2.8 J-	2.1 J-	325 J-	3.8 R	14.2 J-	168 J-
			Surface	Min	182	0.01	10.7	335	0.75	0.3	159	0.41	6.4	38
				Max	698	67.00	148.0	2640	4.20	6.3	2250	6.10	24.2	594
				Average	374	5.33	31.9	1297	2.28	1.5	489	1.75	16.0	114
				Median	341	0.54	26.2	1310	2.20	1.6	315	1.50	15.2	81
				Standard Deviation	118	14.37	26.3	616	0.78	1.1	442	1.12	4.5	112
			Subsurface	Min	217	0.01	13.9	835	0.69	0.4	219	0.32	11.7	41
				Max	505	54.50	78.9	2600	4.50	3.8	6130	6.10	25.1	485
				Average	369	4.56	28.7	1563	2.51	1.5	1228	1.88	17.8	163
				Median	370	0.06	26.2	1380	2.40	1.7	489	1.50	16.5	58
				Standard Deviation	75	10.79	14.1	537	1.12	1.0	1563	1.39	4.1	137

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	5510 J	7.4 UJ	10.3	117 J	0.45 J	1.6	102000	27.8	7.9 J	42.9 J	27300 J	58 J	9140 J
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	10700 J-	15 R	7.9 J-	76 J-	0.54 J-	0.73 J-	96500 J-	16.9 J-	8.9 J-	22.3 J-	20800 J-	15.7 J-	19500 J-
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	12100 J-	15 R	9.8 J-	82.3 J-	0.59 J-	0.51 J-	112000 J-	16.8 J-	9.3 J-	20 J-	24400 J-	10.9 J-	20900 J-
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	12600 J-	15 R	9.2 J-	80.9 J-	0.62 J-	0.45 J-	107000 J-	17.7 J-	9.2 J-	30 J-	25100 J-	13.9 J-	22800 J-
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	12700 J-	15 R	11.3 J-	80 J-	0.59 J-	0.56 J-	94700 J-	18.4 J-	11.3 J-	23.5 J-	25600 J-	11.1 J-	20900 J-
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	11600 J-	15 R	8.6 J-	83.3 J-	0.62 J-	0.28 J-	112000 J-	17.6 J-	10.6 J-	21 J-	26600 J-	7.1 J-	24400 J-
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	9980 J-	15 R	7.1 J-	84.2 J-	0.56 J-	0.25 J-	103000 J-	16.4 J-	9.7 J-	20.4 J-	23400 J-	12.3 J-	21300 J-
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	10400 J-	12 UJ	15 J-	217 J-	0.95 J-	8.4 J-	119000 J-	226 J-	10.6 J-	275 J-	34800 J-	216 J-	13200 J-
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	7610 J-	8.8 UJ	34 J-	178 J-	0.53 J-	24.8 J-	93100 J-	182 J-	20.9 J-	279 J-	103000 J-	206 J-	11000 J-
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	8530 J-	10 UJ	25.9 J-	208 J-	0.78 J-	5.3 J-	128000 J-	137 J-	10.4 J-	350 J-	43900 J-	830 J-	26700 J-
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	8770 J-	8.2 UJ	10.9 J-	96.5 J-	0.43 J-	2.2 J-	90000 J-	81.1 J-	10.1 J-	58.4 J-	26100 J-	61.6 J-	16700 J-
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	6960 J	17 R	11.2	305 J	1.4 U	2 J	186000 J	17.7 J-	5.4 J	103 J-	21200 J	99.2 J	12800 J
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	8430 J-	0.36 J-	62.6 J-	81.3 J-	0.43 J-	0.97 J-	95900 J-	15.6 J-	18.2 J-	26.6 J-	28200 J-	54.6 J-	16600 J-
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	10700 J-	20 R	14.2 J-	446 J-	0.67 J-	3.1 J-	163000 J-	36.3 J-	6.7 J-	291 J-	28100 J-	246 J-	17500 J-
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	8720 J-	19 R	12.9 J-	135 J-	0.54 J-	2.1 J-	151000 J-	29 J-	6.1 J-	242 J-	24700 J-	218 J-	18200 J-
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	9210 J-	20 R	17.2 J-	528 J-	0.73 J-	8.4 J-	183000 J-	82.3 J-	6.7 J-	185 J-	35400 J-	177 J-	14400 J-
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	8670 J	3.2 J-	16.7	937 J	1.8 U	26.6 J	157000 J	163 J-	8.5 J	253 J-	30700 J	271 J	15300 J
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	7720 J	16 R	11.5	228 J	1.3 U	1.4 J	147000 J	18.8 J-	7.1 J	103 J-	20500 J	85.8 J	16200 J
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	7880 J-	10 UJ	15.4 J-	162 J-	0.55 J-	7.5 J-	218000 J-	93 J-	7.2 J-	107 J-	30400 J-	132 J-	12800 J-
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	8630 J-	11 UJ	18.6 J-	201 J-	0.69 J-	12.1 J-	167000 J-	130 J-	8.9 J-	158 J-	46900 J-	251 J-	15000 J-
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	10600 J-	10 UJ	13.3 J-	123 J-	0.55 J-	2.5 J-	170000 J-	32.3 J-	7.9 J-	241 J-	24600 J-	245 J-	15800 J-
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	6700 J-	10 UJ	12.9 J-	1360 J-	0.53 J-	7.4 J-	224000 J-	56.2 J-	6.2 J-	189 J-	24500 J-	161 J-	13300 J-
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	9020 J-	11 UJ	13.6 J-	320 J-	0.54 J-	3.6 J-	187000 J-	37.3 J-	7.2 J-	279 J-	23600 J-	260 J-	14800 J-
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	6980 J-	10 UJ	14 J-	143 J-	0.46 J-	2.5 J-	170000 J-	29.8 J-	5.9 J-	272 J-	21400 J-	250 J-	13700 J-
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	5700 J-	8.3 UJ	10.4 J-	105 J-	0.39 J-	1 J-	127000 J-	14.5 J-	5 J-	118 J-	17400 J-	109 J-	12200 J-
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	8330 J-	20 R	12.4 J-	336 J-	0.56 J-	2.4 J-	233000 J-	23.2 J-	5 J-	197 J-	19300 J-	193 J-	16200 J-
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	8930 J-	22 R	20.6 J-	517 J-	0.69 J-	8.5 J-	205000 J-	144 J-	7.9 J-	229 J-	31300 J-	319 J-	12900 J-
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	7680	0.92 J	9.2 J	59.4 J	0.83	1.4 J	108000 J	16.6 J	7.8	21.3	19500 J	16.1	15200
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	8010	0.65 J	8.9 J	62.2 J	0.67	1.3 J	112000 J	14.2 J	8.5	19.4	19700 J	10.4	16000
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	9070	5 J	13.6 J	325 J	1	14.1 J	199000 J	83 J	7.1 U	160	28600 J	185	14400
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	7280	2.6 J	10.6 J	197 J	0.78	10.5 J	157000 J	58.8 J	6.5 U	149	22200 J	128	12800
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	8290	0.65 J	8.8 J	48.5 J	0.73	1.2 J	100000 J	16.1 J	8.1	19	18500 J	11.2	15500
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	9650	0.63 J	7.9 J	66 J	0.76	1.3 J	101000 J	16.9 J	9.3	21.5	20300 J	9.7	16900
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	8590	5.3 J	16 J	157 J	0.99	12.3 J	229000 J	162 J	7.1	163	28000 J	156	13600
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	7930	3.7 J	11.9 J	119 J	0.84	11.9 J	253000 J	135 J	7.1 U	116	23200 J	123	13500
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	7930	0.59 J	8.3 J	60.5 J	0.63	1.2 J	97300 J	13.7 J	8.7	18.7	18600 J	9.2	15200
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	9090	0.63 J	8.9 J	66.5 J	0.69	1.2 J	96600 J	15.7 J	9.7	20.7	20100 J	9.5	17300
Arkema	SD-086	UTC-SD-086-0.0/0.5	15-Jun-11	0 - 0.5	9360	0.52 J	7.9 J	55.8 J	0.71	1.2 J	104000 J	16 J	9.1	20.2	20300 J	9	18200
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	8860	0.72 J	9.2 J	67.5 J	0.72	1.4 J	98800 J	15.5 J	8.7	22	20200 J	9.5	16500
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	4580	0.39 J	5 J	24.4 J	0.5 UJ	0.62	64300	8.3 J	5 UJ	12.9	10900	6.6 J	7990
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	3870	0.27 J	3.7 J	29.8 J	0.46 UJ	0.6	35900	6.6 J	4.6 UJ	8.1	8420	7.3 J	6770
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	5030	0.48 J	5.2 J	37 J	0.43 UJ	0.63	77900	8.7 J	4.8 J	10.4	10800	5.3 J	9630
Arkema	SD-088	UTC-SD-088-0.0/0.5	15-Jun-11	0 - 0.5	3800	0.34 J	4.2 J	40.8 J	0.49 UJ	0.69	38600	9.2 J	4.9 UJ	8.9	8990	232 J	6710
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	5500	0.39 J	4.5 J	38.8 J	0.53 UJ	0.67	50400	9.6 J	5.3 UJ	12.4	11800	6.3 J	9340
Arkema	SD-089	UTC-SD-089-0.0/0.5	15-Jun-11	0 - 0.5	4110	0.45 J	4.1 J	32.1 J	0.52 UJ	0.53	45400	7.3 J	5.2 UJ	8.3	9260	5.4 J	7690
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	5550	0.55 J	5 J	38.8 J	0.48 UJ	0.74	50900	9.7 J	4.9 J	10.8	12000	6.2 J	9580
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	4820	1.8 J	11.7 J	148 J	0.89 J	6.8	133000	183 J	4.6 UJ	112	43700	158 J	5330
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	5680 J-	9.3 R	9.5 J-	99.7 J-	0.65 J-	1.7 J-	57800 J-	53.4 J-	9.9 J-	80.3 J-	33100 J-	76.8 J-	10700 J-
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	4930 J-	8.7 R	9.3 J-	85 J-	0.5 J-	1.3 J-	50700 J-	48.6 J-	8.5 J-	51.1 J-	37000 J-	76.7 J-	9060 J-
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	5100 J-	9.2 R	8.5 J-	87.3 J-	0.45 J-	1.4 J-	58900 J-	46 J-	9.5 J-	57.3 J-	41200 J-	64 J-	10200 J-
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	7790 J-	7.5 R	10.2 J-	46.7 J-	0.45 J-	2.5 J-	113000 J-	17.2 J-	8.8 J-	22.3 J-	23200 J-	16.8 J-	14300 J-
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	5440 J-	8.6 U	21.5 J-	253 J-	0.59 J-	8.9 J-	62300 J-	77.1 J-	8.7 J-	333 J-	43400 J-	227 J-	7400 J-
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	5640 J-	8.1 UJ	26.5 J+	106 J-	0.51 J-	7.2 J-	54300 J-	85.6 J-	8.6 J-	332 J-	48800 J-	499 J-	6220 J-
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	4160 J-	8.1 R	9.2 J-	70.5 J-	0.48 J-	3.9 J-	49900 J-	37.5 J-	7.8 J-	90.3 J-	31500 J-	125 J-	7090 J-
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	5940 J-	9.7 UJ	15.4 J+	146 J-	0.53 J-	7.1 J-	85000 J-	107 J-	9.9 J-	194 J-	33100 J-	228 J-	7590 J-
			Surface	Min	3800	0.3	4.1	24	0.25	0.3	38600	7	2.3	8	8990	5	5330
				Max	11600	6.0	34.0	1360	1.00	24.8	233000	226	20.9	333	103000	499	24400
				Average	7151	3.0	12.0	191	0.60	4.8	117135	61	7.6	111	29679	123	12338
				Median	7285	4.0	10.3	108	0.56	2.2	103000	37	7.9	85	27650	112	12800
				Standard Deviation	2278	2.2	6.4	262	0.21	5.6	62338	62	3.8	101	17934	113	4598
			Subsurface	Min	5030	0.4	4.5	37	0.23	0.3	50400	9	2.7	10	10800	6	9340
				Max	12700	5.5	62.6	937	0.90	26.6	253000	163	18.2	350	46900	830	26700
				Average	8462	2.6	13.7	178	0.59	4.2	130096	49	7.9	115	24142	134	15779
				Median	8650	2.6	11.1	101	0.63	1.4	119500	19	8.2	81	23300	74	15550
				Standard Deviation	1864	2.1	11.1	202	0.18	5.9	48280	51	3.1	108	8485	177	3991

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	438 J	3.7	35.7 J	897	2.3 J	2.7	1440	3.1 U	14.9 J	207 J
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	390 J-	0.14 J-	27.4 J-	2220 J-	1.7 J-	1.8 J-	570 J-	6.2 R	23 J-	90.3 J-
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	467 J-	0.61 J-	27.9 J-	2450 J-	2.7 J-	2 J-	492 J-	6.2 R	22.6 J-	60 J-
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	451 J-	0.12 U	27.7 J-	2630 J-	2.7 J-	2 J-	571 J-	6.2 U	24.3 J-	52.1 J-
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	456 J-	0.12 U	33.5 J-	2780 J-	1.6 J-	2.1 J-	487 J-	6.1 U	25.6 J-	63.9 J-
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	497 J-	0.26 J-	30.8 J-	2760 J-	2.4 J-	2.1 J-	517 J-	6.3 J-	24.9 J-	58.6 J-
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	499 J-	0.12 U	28.8 J-	2270 J-	2.1 J-	1.9 J-	638 J-	6.1 J-	21.5 J-	55.4 J-
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	468 J-	14.1 J-	115 J-	1660 J-	4.3 J-	6.1 J-	942 J-	4.8 U	27.1 J-	439 J-
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	819 J-	1.4 J-	186 J-	1250 J-	2.9 J-	11.8 J-	1640 J-	0.8 J-	23.7 J-	939 J-
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	806 J-	16.2 J-	130 J-	1250 J-	3.5 J-	5.9 J-	716 J-	0.48 J-	21.2 J-	347 J-
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	480 J-	0.84 J-	62.8 J-	1950 J-	2.5 J-	3.4 J-	1270 J-	3.4 U	20.6 J-	176 J-
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	334	1.7 J-	33	1400 UJ	3.9 J	2.8 U	3700 J	6.9 U	14 UJ	216 J
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	415 J-	0.18 J-	34.3 J-	1930 J-	4.3 UJ	2.7 J-	1840 J-	3.1 R	21.2 J-	63.3 J-
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	415 J-	1.6 J-	50.6 J-	1700 J-	4.6 J-	4.4 J-	3230 J-	8.5 R	19.2 J-	654 J-
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	388 J-	1 J-	27.9 J-	1600 UJ	3.2 J-	3.5 J-	4020 J-	8.1 U	16.4 J-	556 J-
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	453 J-	6.4 J-	69 J-	1700 UJ	4.4 J-	4.4 J-	5230 J-	0.61 J-	16.7 J-	521 J-
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	459	0.45 J-	82.7	1800 UJ	3.3 J	3.9	3800 J	8.9 U	19.8 J	738 J
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	394	0.13 UJ	22.8	1510 J	3.2 J	2.7 U	1860 J	6.7 U	17.4 J	229 J
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	508 J-	3.9 J-	47.1 J-	1140 J-	3.5 J-	4 J-	2940 J-	4.3 R	18.8 J-	343 J-
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	656 J-	6.2 J-	72.5 J-	1340 J-	3.9 J-	5.9 J-	4020 J-	4.7 U	24.5 J-	600 J-
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	425 J-	1.7 J-	31.5 J-	1990 J-	3.3 J-	3.9 J-	4170 J-	4.4 U	23.7 J-	554 J-
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	419 J-	2.2 J-	61.1 J-	894 J-	5.8 UJ	3.4 J-	1790 J-	4.1 R	14.6 J-	423 J-
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	402 J-	2.6 J-	42.5 J-	1590 J-	6.3 UJ	4.1 J-	2020 J-	4.5 R	20.1 J-	681 J-
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	380 J-	2.6 J-	25.9 J-	1080 J-	5.9 UJ	3.7 J-	2330 J-	4.2 R	15.3 J-	622 J-
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	326 J-	1.1 J-	16.2 J-	846 J-	4.8 UJ	2 J-	1730 J-	3.5 R	13.4 J-	249 J-
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	402 J-	0.52 J-	32.7 J-	1700 UJ	4.3 J-	2.5 J-	2980 J-	8.5 R	12.5 J-	492 J-
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	458 J-	9.5 J-	80.7 J-	1900 UJ	4.8 J-	5.5 J-	2370 J-	9.4 R	19.7 J-	586 J-
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	403 J-	0.41	26.9	1360	2.7 J	1 U	503 U	2.5 U	17.6 J	73.3 J
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	461 J-	0.09 J	25.1	1430	2.5 J	0.83 U	413 U	2.1 U	17.5 J	72.5 J
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	496 J-	3.1	76.3	1050	4.4 J	0.75 J	1560	3.5 U	18.8 J	471 J
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	359 J-	2.2	42.7	968	3.2 J	0.37 J	1210	3.2 U	16 J	376 J
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	383 J-	0.17	26.7	1530	2.6 J	1.1 U	530 U	2.7 U	18.6 J	59.5 J
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	399 J-	0.02 J	27.5	1710	2.4 J	0.88 U	440 U	2.2 U	21.1 J	53.2 J
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	407 J-	10	81.2	878	3.9 J	1.5	1960	3.5 U	18.4 J	416 J
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	387 J-	13	77.7	798	3.9 J	0.99 J	2330	3.6 U	15.5 J	328 J
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	397 J-	0.11 U	23.8	1440	2.3 J	0.94 U	623	2.3 U	17.1 J	56.3 J
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	384 J-	0.12 U	27.5	1660	2.4 J	0.92 U	719	2.3 U	20.2 J	53.4 J
Arkema	SD-086	UTC-SD-086-0.0/0.5	15-Jun-11	0 - 0.5	412 J-	0.12 U	26.3	1670	2.6 J	0.98 U	490 U	2.4 U	20.5 J	56.5 J
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	423 J-	0.11 U	25.5	1620	2.6 J	1 U	523	2.6 U	19.8 J	63 J
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	256 J	0.12 J-	13.3 J	938 J	1.4 J	1 U	500 U	2.5 U	10.6 J	37.1
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	169 J	0.1 UJ	10.4 J	869 J	1.2 J	0.91 U	457 U	2.3 U	9.7 J	38.6
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	230 J	0.1 UJ	13.8 J	1040 J	1.6 J	0.86 U	430 U	2.1 U	11.8 J	38.4
Arkema	SD-088	UTC-SD-088-0.0/0.5	15-Jun-11	0 - 0.5	181 J	0.03 J-	10.9 J	838 J	1.3 J	0.98 U	727	2.5 U	9.6 J	93.8
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	232 J	0.1 UJ	14.8 J	1140 J	1.4 J	1.1 U	1060	2.6 U	13.8 J	35.2
Arkema	SD-089	UTC-SD-089-0.0/0.5	15-Jun-11	0 - 0.5	196 J	0.01 J-	11.3 J	918 J	1.3 J	1 U	523 U	2.6 U	10 J	28.7
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	246 J	0.12 UJ	15.1 J	1140 J	1.9 J	0.96 U	478 U	2.4 U	13.7 J	39.4
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	298 J	6.4 J-	117 J	569 J	5.1	1.4	694	2.3 U	15.5 J	510
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	591 J-	1.1 J-	44.4 J-	820 J-	2 J-	6.9 J-	225 J-	3.9 R	19.3 J-	319 J-
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	529 J-	1.2 J-	35.9 J-	647 J-	1.9 J-	3.3 J-	417 J-	3.6 R	16.5 J-	290 J-
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	703 J-	1.1 J-	38.3 J-	746 J-	3 J-	3.8 J-	174 J-	3.8 R	19.9 J-	262 J-
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	495 J-	0.56 J-	27.5 J-	1740 J-	2.6 J-	2.1 J-	204 J-	3.1 R	21.1 J-	199 J-
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	428 J-	2.9 J-	80.8 J-	725 J-	2.2 J-	12.2 J-	552 J-	3.6 U	16.1 J-	427 J-
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	415 J-	2.2 J+	136 J-	744 J-	1.3 J-	5.1 J-	636 J-	3.4 U	16.9 J-	308 J+
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	370 J-	1.8 J-	38.4 J-	443 J-	1.9 J-	3 J-	157 J-	3.4 R	13.7 J-	199 J-
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	440 J-	6.5 J+	77.6 J-	810 UJ	1.3 J-	3.6 J-	648 J-	4 R	18.5 J-	344 J+
			Surface	Min	181	0.01	10.9	405	1.30	0.5	157	0.80	7.0	29
				Max	819	14.10	186.0	2760	5.10	12.2	3700	6.30	27.1	939
				Average	434	2.50	54.1	1130	2.81	3.1	1103	1.90	17.4	294
				Median	417	1.30	37.1	908	2.60	2.3	642	1.35	18.5	276
				Standard Deviation	136	3.39	42.6	562	1.12	3.1	1066	1.37	4.9	220
			Subsurface	Min	230	0.02	13.8	798	1.40	0.4	207	0.48	11.8	35
				Max	806	16.20	130.0	2780	4.80	5.9	5230	6.10	25.6	738
				Average	422	2.51	41.6	1447	2.82	2.4	1709	2.11	18.8	278
				Median	409	0.53	28.4	1385	2.65	2.0	1240	1.60	19.8	203
				Standard Deviation	117	4.30	28.2	554	0.85	1.9	1456	1.43	3.7	248

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	8750 J-	37 U	12.3 J-	149 J-	0.52 J-	2.5 J-	176000 J-	31.6 J-	6 J-	259 J-	22600 J-	248 J-	14900 J-
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	7730 J-	31 U	12.7 J-	120 J-	0.45 J-	1.4 J-	157000 J-	22.2 J-	5.6 J-	175 J-	21300 J-	175 J-	14900 J-
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	10800 J-	1.4 J-	13.4 J-	334 J-	0.76 J-	26.3 J-	130000 J-	165 J-	8.3 J-	208 J-	35000 J-	213 J-	16600 J-
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	9300 J-	33 U	14 J-	1200 J-	0.69 J-	10 J-	174000 J-	103 J-	6.7 J-	200 J-	31100 J-	193 J-	15800 J-
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	5870 J-	23 R	9 J-	54.2 J-	0.28 J-	0.6 J-	122000 J-	11.9 J-	6 J-	24.2 J-	13400 J-	24.6 J-	19800 J-
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	8720 J-	38 U	15.1 J-	178 J-	0.74 J-	9.7 J-	105000 J-	220 J-	10.5 J-	285 J-	37100 J-	245 J-	11200 J-
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	8330 J-	35 U	18.6 J-	239 J-	0.71 J-	11.5 J-	205000 J-	295 J-	7.8 J-	277 J-	42400 J-	319 J-	13300 J-
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	7090 J-	2.2 J-	14 J-	155 J-	0.49 J-	9.6 J-	180000 J-	209 J-	6.6 J-	177 J-	28800 J-	175 J-	11100 J-
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	8360 J-	32 U	13.3 J-	498 J-	0.56 J-	15.8 J-	153000 J-	123 J-	7.2 J-	181 J-	32400 J-	207 J-	13700 J-
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	7160 J-	29 U	13.4 J-	258 J-	0.49 J-	16.5 J-	141000 J-	119 J-	6.7 J-	159 J-	29100 J-	187 J-	11700 J-
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	7050 J-	32 U	13 J-	239 J-	0.45 J-	3.5 J-	180000 J-	31.4 J-	6.1 J-	226 J-	18200 J-	226 J-	13100 J-
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	6520 J-	30 U	11.8 J-	398 J-	0.45 J-	3.6 J-	197000 J-	31.6 J-	5.5 J-	188 J-	16600 J-	223 J-	12200 J-
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	9480 J-	22 R	8.4 J-	69 J-	0.43 J-	0.5 J-	78500 J-	17.9 J-	10.5 J-	23.9 J-	18800 J-	12.2 J-	15500 J-
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	11800 J-	22 R	8 J-	84 J-	0.55 J-	0.34 J-	106000 J-	16.5 J-	9.6 J-	19.5 J-	23300 J-	10 J-	19500 J-
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	8230 J-	25 R	8.9 J-	69.3 J-	0.4 J-	0.78 J-	94700 J-	22.5 J-	8.5 J-	115 J-	19600 J-	104 J-	14500 J-
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	9030 J-	21 U	7.2 J-	64.2 J-	0.41 J-	0.44 J-	90800 J-	15.8 J-	9.2 J-	18.8 J-	18200 J-	10 J-	16100 J-
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	8830 J-	22 R	6.6 J-	67.9 J-	0.4 J-	0.37 J-	82900 J-	15.2 J-	8.9 J-	17.6 J-	19200 J-	8.4 J-	16100 J-
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	8230 J-	11 UJ	16.7 J-	294 J-	0.59 J-	19.3 J-	198000 J-	128 J-	7.9 J-	193 J-	36000 J-	234 J-	11700 J-
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	9010 J-	14 UJ	20.6 J-	258 J-	0.56 J-	18 J-	212000 J-	203 J-	8.1 J-	196 J-	35500 J-	276 J-	11700 J-
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	8390 J-	11 UJ	15.2 J-	199 J-	0.57 J-	13.9 J-	180000 J-	87.9 J-	7.6 J-	264 J-	29100 J-	267 J-	13800 J-
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	6710 J-	10 R	13.1 J-	125 J-	0.43 J-	2.9 J-	175000 J-	28.4 J-	6.1 J-	261 J-	21800 J-	253 J-	13600 J-
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	9960 J-	7.3 R	7.9 J-	86 J-	0.48 J-	0.61 U	96300 J-	16 J-	9.6 J-	19.5 J-	21600 J-	9.3 J-	17800 J-
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	10300 J-	7.2 R	8.6 J-	71.4 J-	0.48 J-	0.6 U	90800 J-	17 J-	10.2 J-	21.3 J-	22400 J-	9.4 J-	17500 J-
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	7970 J-	11 R	15.2 J-	204 J-	0.65 J-	13.8 J-	124000 J-	248 J-	9.4 J-	211 J-	39600 J-	254 J-	11700 J-
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	6660 J-	8 R	7.7 J-	73.7 J-	0.38 J-	2.5 J-	62900 J-	53.9 J-	6.5 J-	66.5 J-	17600 J-	57.2 J-	9190 J-
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	13500 J-	13 R	19 J-	383 J-	0.72 J-	30 J-	55900 J-	589 J-	14.1 J-	266 J-	56100 J-	486 J-	18000 J-
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	11300 J-	13 R	17.2 J-	341 J-	0.74 J-	24 J-	56800 J-	506 J-	13.3 J-	249 J-	58000 J-	439 J-	14700 J-
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	11700 J-	12 R	16.4 J-	248 J-	0.7 J-	24 J-	76700 J-	339 J-	11.7 J-	200 J-	49500 J-	397 J-	14300 J-
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	13100 J-	15 R	21.3 J-	310 J-	0.85 J-	27.5 J-	122000 J-	431 J-	14.2 J-	246 J-	65100 J-	454 J-	17300 J-
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	9290 J-	10 UJ	15.3 J-	215 J-	0.65 J-	11 J-	101000 J-	228 J-	9.9 J-	153 J-	38500 J-	301 J-	10400 J-
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	8600 J-	11 R	17.7 J-	210 J-	0.69 J-	17.8 J-	139000 J-	287 J-	10.2 J-	202 J-	48500 J-	342 J-	12300 J-
Firestone	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	7250 J-	10 R	14.6 J-	125 J-	0.46 J-	2.4 J-	164000 J-	32.5 J-	6.8 J-	365 J-	25600 J-	299 J-	15800 J-
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	7320 J-	12 U	14.7 J-	148 J-	0.59 J-	6.6 J-	171000 J-	109 J-	7.8 J-	174 J-	30300 J-	201 J-	10500 J-
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	10100 J-	12 U	13.8 J-	161 J-	0.63 J-	3.5 J-	138000 J-	43.9 J-	9.2 J-	347 J-	28100 J-	353 J-	15100 J-
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	8660 J-	11 U	12.5 J-	146 J-	0.55 J-	3.4 J-	142000 J-	41.3 J-	8.1 J-	332 J-	26000 J-	320 J-	14500 J-
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	6650 J-	11 U	12.7 J-	133 J-	0.45 J-	1.9 J-	189000 J-	25 J-	6.2 J-	230 J-	20400 J-	208 J-	14500 J-
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	6180 J-	9.8 U	13.9 J-	1440 J-	0.58 J-	5.7 J-	190000 J-	55.6 J-	6.9 J-	185 J-	29400 J-	339 J-	13900 J-
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	10600 J-	16 R	6.7 J-	77.4 J-	0.51 J-	1.1 J-	41900 J-	40.2 J-	9.7 J-	63.2 J-	23500 J-	36.9 J-	14600 J-
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	5890 J-	7.2 R	7.1 J+	52.2 J-	0.34 J-	0.68 J-	66100 J-	23.8 J-	7.8 J-	22.1 J-	21500 J-	22 J-	19200 J-
			Surface	Min	5890	1.4	6.7	52	0.34	0.3	41900	16	5.5	20	16600	9	10500
				Max	13500	19.0	20.6	1440	0.76	30.0	212000	589	14.1	365	56100	486	19200
				Average	8569	8.9	13.2	264	0.55	8.6	138406	117	8.4	196	29324	221	14347
				Median	8230	6.0	13.8	161	0.56	3.6	142000	44	8.1	196	28100	234	14500
				Standard Deviation	1978	6.2	3.9	322	0.12	9.5	54309	144	2.0	99	9844	124	2592
			Subsurface	Min	5870	2.2	6.6	54	0.28	0.3	56800	12	5.6	18	13400	8	9190
				Max	13100	17.5	21.3	1200	0.85	27.5	205000	506	14.2	277	65100	454	19800
				Average	8801	11.6	12.7	228	0.54	8.1	129300	132	8.5	148	29900	183	14615
				Median	8600	15.5	13.1	155	0.49	3.5	122000	54	7.8	177	23300	193	14700
				Standard Deviation	1860	5.9	4.3	263	0.15	8.6	45805	152	2.5	100	14508	149	2833

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	389 J-	2 J+	31.5 J-	3000 UJ	3.3 J-	3 J-	2260 J-	15 R	19.3 J-	627 J-
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	341 J-	0.36 J+	20.6 J-	2600 UJ	3.9 J-	2.5 J-	2510 J-	13 R	17.2 J-	422 J-
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	476 J-	1.4 J+	73.5 J-	3000 UJ	4.7 J-	5.5 J-	1070 J-	15 J-	26.1 J-	690 J-
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	435 J-	0.47 J+	65 J-	2700 UJ	5.6 J-	4.4 J-	1400 J-	14 R	20.7 J-	488 J-
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	426 J-	0.19 J+	17.8 J-	2000 UJ	4.2 J-	1.5 J-	382 J-	9.8 R	14.7 J-	66.2 J-
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	576 J-	18.4 J+	108 J-	3200 UJ	3.3 J-	6.3 J-	1120 J-	16 R	27 J-	659 J-
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	499 J-	13.5 J+	103 J-	3000 UJ	7.6 J-	7.5 J-	2600 J-	15 J-	21.1 J-	721 J-
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	422 J-	1 UJ	80.6 J-	3000 UJ	4.9 J-	5.8 J-	2930 J-	15 J-	17.6 J-	533 J-
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	468 J-	3.4 J+	68 J-	2700 UJ	4.1 J-	4.8 J-	2950 J-	13 R	21.2 J-	669 J-
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	415 J-	3.7 J+	58.9 J-	2400 UJ	4.4 J-	4.7 J-	2650 J-	12 R	18 J-	579 J-
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	342 J-	1.8 J+	30.7 J-	2600 UJ	4 J-	2.4 J-	3720 J-	13 J-	16.3 J-	605 J-
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	353 J-	1.2 J+	29.5 J-	2500 UJ	3.8 J-	2.8 J-	3780 J-	13 R	14.3 J-	546 J-
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	426 J-	0.12 UJ	29.5 J-	2360 J-	2.1 J-	1.2 J-	310 J-	9 R	25.5 J-	70.9 J-
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	401 J-	0.12 UJ	27.1 J-	2850 J-	2.7 J-	1.6 J-	392 J-	9 R	24 J-	91.1 J-
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	420 J-	1.2 J+	26.3 J-	2100 UJ	2.6 J-	1.9 J-	574 J-	10 J-	20.2 J-	272 J-
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	391 J-	0.12 UJ	25.7 J-	2240 J-	2.1 J-	1.4 J-	310 J-	8.8 J-	22.3 J-	54.1 J-
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	397 J-	0.12 UJ	24.7 J-	1960 J-	2.2 J-	1.7 J-	310 J-	9 R	19.7 J-	42.4 J-
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	535 J-	2.5 J-	74 J-	1310 J-	6.3 UJ	5.6 J-	1730 J-	4.5 R	20.8 J-	686 J-
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	502 J-	2.5 J-	90.4 J-	1450 J-	7.9 UJ	7.1 J-	2030 J-	5.7 R	22.5 J-	702 J-
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	446 J-	0.64 J-	57.6 J-	1270 J-	6.7 UJ	4.9 J-	1530 J-	4.8 R	19.3 J-	822 J-
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	360 J-	2.1 J-	26.2 J-	919 J-	5.8 UJ	3.7 J-	1610 J-	4.2 R	15.4 J-	690 J-
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	426 J-	0.12 R	27 J-	2340 J-	4.2 UJ	1.8 J-	196 J-	3 R	23.3 J-	53.9 J-
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	427 J-	0.12 UJ	28.4 J-	2380 J-	4.2 UJ	2.1 J-	200 J-	3 R	24.6 J-	53.1 J-
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	471 J-	10.4 J-	113 J-	1100 J-	6.7 UJ	7.3 J-	862 J-	4.8 UJ	23.1 J-	729 J-
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	278 J-	1.5 J-	33.1 J-	929 J-	4.7 UJ	2.3 J-	357 J-	3.3 UJ	16.3 J-	164 J-
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	731 J-	2.8 J-	234 J-	2390 J-	7.7 UJ	13.4 J-	378 J-	5.5 R	34.9 J-	1330 J-
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	679 J-	12.2 J-	203 J-	1870 J-	7.5 UJ	11.6 J-	454 J-	5.4 UJ	29.5 J-	1260 J-
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	571 J-	11.1 J-	175 J-	1920 J-	7 UJ	8.8 J-	630 J-	5 R	29.5 J-	1150 J-
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	725 J-	13.7 J-	231 J-	2040 J-	8.8 UJ	11.3 J-	930 J-	6.3 R	34.7 J-	1400 J-
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	470 J-	8.8 J-	108 J-	1400 J-	6.1 UJ	6.5 J-	902 J-	4.3 R	23.6 J-	672 J-
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	500 J-	9.9 J-	125 J-	1350 J-	6.5 UJ	8.2 J-	934 J-	4.6 J-	23.3 J-	1060 J-
Firestone	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	409 J-	2.5 J-	28.2 J-	1130 J-	3.1 J-	4.2 J-	1220 J-	4.2 R	18.8 J-	823 J-
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	435 J-	13.4 J-	60.9 J-	1200 J-	3.4 J-	4.2 J-	1200 J-	4.9 R	19.7 J-	384 J-
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	460 J-	1.3 J-	44.7 J-	1740 J-	3.4 J-	3.8 J-	1000 J-	5.1 R	24.2 J-	905 J-
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	445 J-	1.6 J-	39.4 J-	1310 J-	2.7 J-	4.3 J-	1020 J-	4.8 R	20.3 J-	849 J-
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	394 J-	1.3 J-	23.4 J-	930 J-	3.5 J-	3.2 J-	1480 J-	4.6 R	16.2 J-	553 J-
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	506 J-	0.81 J-	68.4 J-	764 J-	4 J-	3.6 J-	1240 J-	4.1 R	14.9 J-	359 J-
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	629 J-	0.39 J-	31.9 J-	2170 J-	1.7 J-	2.3 J-	243 J-	6.5 R	28 J-	170 J-
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	579 J-	0.32 J+	22.5 J-	1250 J-	1.5 J-	1.9 J-	210 J-	3 R	19.8 J-	88.9 J+
			Surface	Min	353	0.12	22.5	764	1.50	1.8	196	2.40	14.3	54
				Max	731	18.40	234.0	2390	4.70	13.4	3780	15.00	34.9	1330
				Average	488	3.70	64.0	1451	3.22	4.6	1213	9.13	21.9	563
				Median	471	1.60	44.7	1310	3.35	4.2	1120	10.00	20.8	627
				Standard Deviation	98	5.21	53.2	474	0.84	2.9	900	6.34	5.2	322
			Subsurface	Min	278	0.06	17.8	919	2.10	1.2	200	1.65	14.7	42
				Max	725	13.70	231.0	2850	7.60	11.6	3720	15.00	34.7	1400
				Average	444	3.67	68.7	1625	3.62	4.5	1302	8.68	21.4	520
				Median	426	0.64	33.1	1400	3.35	3.7	930	8.80	21.1	533
				Standard Deviation	107	5.07	61.8	545	1.41	3.3	1116	5.78	5.0	423

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM,	COBALT	COPPER	IRON	LEAD	MAGNESIUM
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	8610 J-	24 R	15.4 J-	151 J-	0.53 J-	6.1 J-	131000 J-	136 J-	8.4 J-	128 J-	33500 J-	184 J-	13800 J-
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	16800 J-	17 R	5.8 J-	108 J-	0.87 J-	1.4 U	21500 J-	31.9 J-	13.2 J-	26.2 J-	27100 J-	20.9 J-	10700 J-
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	8060 J-	15 R	7.2 J-	47.7 J-	0.36 J-	1.3 U	71100 J-	16.3 J-	8 J-	15 J-	17600 J-	8.2 J-	23900 J-
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	11600 J-	15 R	6.1 J-	67.3 J-	0.62 J-	0.24 J-	80200 J-	20.6 J-	10.3 J-	18.1 J-	22700 J-	6.7 J-	28400 J-
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	5630 J-	15 R	7 J-	41.8 J-	0.33 J-	1.2 U	114000 J-	10.7 J-	5.1 J-	10.5 J-	17000 J-	6.8 J-	46800 J-
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	7480 J-	14 R	7.6 J-	63.5 J-	0.51 J-	1.2 U	109000 J-	15.7 J-	8.2 J-	17.3 J-	16100 J-	7.2 J-	29400 J-
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	6940 J-	21 U	8.8 J-	50.8 J-	0.34 J-	0.51 J-	93100 J-	13.7 J-	9.4 J-	15.8 J-	15300 J-	9.2 J-	21100 J-
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	7260 J	20 R	9.5	119 J	0.37 J	1.1 J	102000 J	17.1 J	7.2 J	29.3 J	16600 J	20.4 J	21400 J
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	9610 J	21 R	11.5	75.9 J	0.49 J	0.54 J	113000 J	16.8 J	10.3 J	22.5 J	21600 J	10.3 J	28100 J
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	14100 J	39 R	19.4	295 J	0.9 J	18.7	96900 J	427 J	13.6 J	209 J	62300 J	465 J	16500 J
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	13200 J	37 R	18.5	269 J	0.82 J	14.6	110000 J	398 J	12.5 J	203 J	53900 J	338 J	17300 J
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	13400 J	34 R	18.2	326 J	0.89 J	13.8	142000 J	423 J	13.7 J	211 J	60400 J	341 J	20000 J
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	10400 J	32 R	14.9	217 J	0.68 J	8.9	129000 J	262 J	9.9 J	137 J	39800 J	251 J	14700 J
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	11000 J	21 R	10.1	63.4 J	0.53 J	0.54 J	94100 J	20.4 J	9.6 J	17.8 J	21300 J	9.2 J	26600 J
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	17800 J	40 R	15.2	152 J	0.92 J	45.9	58200 J	145 J	14.1 J	112 J	48000 J	152 J	26500 J
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	11400 J	39 U	9.6	161 J	0.67 J	14.6	77000 J	191 J	10.6 J	136 J	45600 J	211 J	15300 J
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	15000 J	36 R	17.1	313 J	0.85 J	21.7	57200 J	465 J	14.6 J	262 J	63200 J	385 J	22200 J
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	13800 J	37 R	16.5	366 J	0.75 J	19.6	57500 J	535 J	14.8 J	270 J	54900 J	405 J	18700 J
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	14900 J	36 R	19.3	437 J	0.88 J	28.7	54800 J	860 J	14.6 J	333 J	61600 J	483 J	19800 J
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	16200 J	37 J-	20.5	514 J	0.88 J	29.6	57200 J	979 J	15.6 J	367 J	66000 J	524 J	19900 J
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	8230 J-	21 J-	12.7 J-	175 J-	0.66 J-	9 J-	107000 J-	210 J-	9.1 J-	155 J-	44100 J-	240 J-	12800 J-
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	8800 J-	15 R	6.2 J-	49 J-	0.4 J-	1.3 U	82000 J-	18.4 J-	9 J-	17 J-	18300 J-	9.6 J-	22100 J-
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	8730 J-	15 R	6.2 J-	42.8 J-	0.38 J-	1.2 U	77500 J-	17.9 J-	8 J-	17.9 J-	17100 J-	8 J-	19700 J-
			Surface	Min	5630	10.5	7.0	42	0.33	0.5	58200	11	5.1	11	15300	7	12800
				Max	17800	21.0	19.4	295	0.92	45.9	131000	427	14.1	209	62300	465	46800
				Average	9910	15.8	12.2	130	0.58	11.6	95900	137	9.7	92	33971	152	23057
				Median	8230	15.8	12.7	151	0.53	6.1	96900	136	9.1	112	33500	152	21100
				Standard Deviation	4376	7.4	4.7	92	0.26	16.5	24927	150	3.2	79	18288	168	11648
			Subsurface	Min	7480	19.5	5.8	43	0.38	0.2	21500	16	8.0	17	16100	7	10700
				Max	16800	37.0	20.5	514	0.89	29.6	142000	979	15.6	367	66000	524	29400
				Average	11959	18.8	12.1	191	0.67	9.1	86229	243	11.5	124	37714	181	20936
				Median	11500	19.5	10.8	140	0.68	5.0	81100	111	10.5	83	33450	116	19950
				Standard Deviation	2875	18.5	5.4	146	0.18	9.9	32484	289	2.6	120	19063	189	5622

Notes:

J = estimated value

J - = estimated value, biased low

J+ = estimated value, biased high

R = rejected value

U= result not detected below reporting limit shown

Summary statistics calculated using 1/2 the RL for non-detected results

Field duplicates identified with a "-R" or "X" in the Sample ID

Summary statistics calculated using the the best result of field duplicates (either highest result of two detected values or the detected result if on result was a detect and the other a non-detect)

Rejected results not included in summary statistics

-- parameter not analyzed

TABLE A-9

Metals Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	2250 J-	4.9 J-	106 J-	1510 J-	4.9 J-	4.5 J-	1100 J-	10 R	23.5 J-	1700 J-
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	606 J-	0.15 J-	40.3 J-	1660 J-	0.95 J-	2.3 J-	521 J-	6.9 U	35.7 J-	121 J-
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	395 J-	0.13 U	22.7 J-	1490 J-	0.88 J-	1.2 J-	476 J-	6.4 R	23.7 J-	40.7 J-
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	379 J-	0.12 U	29.6 J-	2530 J-	0.88 J-	1.8 J-	457 J-	6.2 R	30.6 J-	55.3 J-
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	1010 J-	0.12 U	15.5 J-	1400 J-	3.9 J-	1.6 J-	479 J-	6.1 U	17.6 J-	26.3 J-
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	400 J-	0.12 U	21.7 J-	1620 J-	2.3 J-	1.6 J-	428 J-	6 U	23.8 J-	41.2 J-
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	339 J-	0.12 UJ	23.6 J-	1800 UJ	2.7 J-	1.2 J-	243 J-	8.8 J-	20.7 J-	40.2 J-
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	343 J+	0.0086 J+	23.7 J	1740 J	1.7 J	1.9 J	313 J	8.5 U	20 J	76.5 J
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	423 J+	0.0055 J+	30.4 J	2280 J	1.6 J	2.1 J	301 J	8.6 U	26.8 J	94.4 J
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	769 J+	18.7 J+	227 J	3300 UJ	4.2 J	11.5	694 J	0.9 J	37.8 J	1310 J
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	621 J+	8.1 J+	203 J	3100 UJ	2.7 J	10	743 J	15 U	34.8 J	933 J
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	705 J+	7.2 J+	186 J	2800 UJ	3.7 J	10	1000 J	14 U	34.6 J	893 J
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	609 J+	8 J+	116 J	2700 UJ	2.7 J	6.7	750 J	13 U	29.1 J	623 J
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	410 J+	0.12 U	26.8 J	2670 J	1.8 J	1.8 J	298 J	8.9 U	28.4 J	59.6 J
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	753 J+	0.76 J+	77.3 J	3370 J	2.5 J	7.1	493 J	17 U	45 J	586 J
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	665 J+	0.74 J+	107 J	3300 UJ	23 U	1.7 J	604 J	16 U	32.4 J	586 J
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	774 J+	1.4 J+	260 J	3000 UJ	3.3 J	14.8	440 J	15 U	39.9 J	1040 J
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	722 J+	1.3 J+	282 J	3100 UJ	2.6 J	14.5	406 J	15 U	35.9 J	1040 J
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	751 J+	2.4 J+	342 J	3000 UJ	2.9 J	15.5	454 J	15 U	38.1 J	1390 J
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	808 J+	2.2 J+	394 J	3100 UJ	3.1 J	17.8	505 J	15 U	41.3 J	1500 J
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	682 J-	9.7 J-	101 J-	1270 J-	2.8 J-	6.3 J-	876 J-	0.48 J-	26.3 J-	752 J-
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	425 J-	0.13 U	25.8 J-	1800 J-	1.7 J-	1.5 J-	483 J-	6.3 U	23.9 J-	49.2 J-
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	351 J-	0.12 U	24.2 J-	1920 J-	1.7 J-	1.4 J-	427 J-	6.1 U	24.5 J-	40.4 J-
			Surface	Min	339	0.06	15.5	900	0.88	1.2	243	0.48	17.6	26
				Max	2250	18.70	227.0	3370	4.90	11.5	1100	8.80	45.0	1700
				Average	885	4.89	81.9	1656	3.13	4.8	623	4.35	27.8	636
				Median	753	0.76	77.3	1490	2.80	4.5	493	3.05	23.7	586
				Standard Deviation	644	7.08	74.5	793	1.33	3.8	289	4.05	9.9	669
			Subsurface	Min	351	0.01	21.7	1350	0.88	1.4	298	3.00	23.8	40
				Max	808	8.10	394.0	2670	23.00	17.8	1000	8.00	41.3	1500
				Average	564	2.11	124.8	1788	3.72	6.3	527	5.61	31.6	505
				Median	608	0.45	73.7	1635	2.45	2.2	470	6.50	31.5	354
				Standard Deviation	161	3.15	121.2	416	5.61	6.0	191	2.04	5.7	502

Notes:

J = estimated value

J - = estimated value, biased low

J+ = estimated value, biased high

R = rejected value

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Summary statistics calculated using 1/2 the RL for non-detected results

Field duplicates identified with a "-R" or "X" in the Sample ID

Summary statistics calculated using the the best result of field duplicates (either highest result of two detected values or the detected result if on result was a detect and the other a non-detect)

Rejected results not included in summary statistics

-- parameter not analyzed

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
North Works	SG-001	UTC-SG-001-0.0/0.5	30-Apr-11	0 - 0.5	--	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	6000 U	3100 U	3100 U	3100 U	3100 U	--	3100 U	6000 U	3100 U	3100 U	--	6000 U	6000 U	3100 U
North Works	SG-002	UTC-SG-002-0.0/0.5	30-Apr-11	0 - 0.5	--	440 U	440 U	440 U	440 U	440 U	440 U	860 U	440 U	440 U	440 U	440 U	--	440 U	860 U	440 U	440 U	--	860 U	860 U	440 U
North Works	SG-003	UTC-SG-003-0.0/0.5	30-Apr-11	0 - 0.5	--	220 U	220 U	220 U	220 U	220 U	220 U	440 U	220 U	220 U	220 U	220 U	--	220 U	440 U	220 U	220 U	--	440 U	440 U	220 U
North Works	SG-003	UTC-SG-003-0.0/0.5-R	30-Apr-11	0 - 0.5	--	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	4600 U	2400 U	2400 U	2400 U	2400 U	--	2400 U	4600 U	2400 U	2400 U	--	4600 U	4600 U	2400 U
North Works	SG-005	UTC-SG-005-0.0/0.5	30-Apr-11	0 - 0.5	--	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	2200 U	1200 U	1200 U	1200 U	1200 U	--	1200 U	2200 U	1200 U	1200 U	--	2200 U	2200 U	1200 U
North Works	SG-006	UTC-SG-006-0.0/0.5	30-Apr-11	0 - 0.5	--	230 U	230 U	230 U	230 U	230 U	230 U	440 U	230 U	230 U	230 U	230 U	--	230 U	440 U	230 U	230 UJ	--	440 U	440 U	230 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
North Works	SG-001	UTC-SG-001-0.0/0.5	30-Apr-11	0 - 0.5	3100 U	3100 U	3100 U	3100 U	6000 U	6000 U	3100 U	3100 U	--	3100 U	--	3100 U	3100 U	3100 U	3100 UJ	3100 U	3100 U	3100 U	3100 U	1200 J	3100 U
North Works	SG-002	UTC-SG-002-0.0/0.5	30-Apr-11	0 - 0.5	440 U	440 U	440 U	440 U	860 U	860 U	440 U	440 U	--	440 U	--	440 U	440 U	440 U	440 UJ	440 U	440 U	440 U	440 U	170 J	440 U
North Works	SG-003	UTC-SG-003-0.0/0.5	30-Apr-11	0 - 0.5	220 U	220 U	220 U	99 J	440 U	440 U	100 J	220 U	--	220 U	--	220 U	93 J	220 U	220 UJ	220 U	220 U	220 U	110 J	230	220 U
North Works	SG-003	UTC-SG-003-0.0/0.5-R	30-Apr-11	0 - 0.5	2400 U	2400 U	2400 U	750 J	4600 U	4600 U	1000 J	2400 U	--	2400 U	--	2400 U	2400 U	2400 U	2400 UJ	2400 U	2400 U	2400 U	2400 U	1700 J	2400 U
North Works	SG-005	UTC-SG-005-0.0/0.5	30-Apr-11	0 - 0.5	1200 U	1200 U	1200 U	1200 U	2200 U	2200 U	1200 U	1200 U	--	1200 U	--	1200 U	1200 U	1200 U	1200 UJ	1200 U	1200 U	1200 U	1200 U	1300	1200 U
North Works	SG-006	UTC-SG-006-0.0/0.5	30-Apr-11	0 - 0.5	230 U	230 UJ	230 U	100 J	440 U	440 U	230 U	230 U	--	230 U	--	230 U	230 U	230 U	230 UJ	230 U	230 U	230 U	230 U	120 J	230 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
North Works	SG-001	UTC-SG-001-0.0/0.5	30-Apr-11	0 - 0.5	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	--	3100 U	3100 U	6000 U	3100 U
North Works	SG-002	UTC-SG-002-0.0/0.5	30-Apr-11	0 - 0.5	440 U	440 U	440 U	440 U	440 U	440 U	440 U	440 U	440 U	--	440 U	440 U	860 U	440 U
North Works	SG-003	UTC-SG-003-0.0/0.5	30-Apr-11	0 - 0.5	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	--	220 U	220 U	440 U	220 U
North Works	SG-003	UTC-SG-003-0.0/0.5-R	30-Apr-11	0 - 0.5	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	--	2400 U	2400 U	4600 U	2400 U
North Works	SG-005	UTC-SG-005-0.0/0.5	30-Apr-11	0 - 0.5	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	--	1200 U	1200 U	2200 U	1200 U
North Works	SG-006	UTC-SG-006-0.0/0.5	30-Apr-11	0 - 0.5	230 U	230 U	230 U	230 U	230 U	230 UJ	230 U	230 U	230 U	--	230 U	230 U	440 U	230 U

TABLE A-10

SVOC Data (µg/kg)

Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	560 U	--	--	920 U	920 U	920 U	920 U	4700 U	700 U	700 U	560 U	920 U	820	920 U	1400 U	920 U	--	570	1400 U	4700 U	560 U
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	6200 U	--	--	10000 U	10000 U	10000 U	10000 U	53000 U	7800 U	7800 U	6200 U	10000 U	2300	10000 U	16000 U	10000 U	--	21000 U	16000 U	53000 U	6200 U
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	7500 U	--	--	12000 U	12000 U	12000 U	12000 U	64000 U	9300 U	9300 U	7500 U	12000 U	3200	12000 U	19000 U	12000 U	--	25000 U	19000 U	64000 U	7500 U
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	7900 U	--	--	13000 U	13000 U	13000 U	13000 U	67000 U	9900 U	9900 U	7900 U	13000 U	4500	13000 U	20000 U	13000 U	--	26000 U	20000 U	67000 U	7900 U
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	560 U	--	--	930 U	930 U	930 U	930 U	4800 U	700 U	700 U	560 U	930 U	1500	930 U	1400 U	930 U	--	1900 U	1400 U	4800 U	560 U
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	240 U	--	--	400 U	400 U	400 U	400 U	2000 U	300 U	300 U	240 U	400 U	100	400 U	600 U	400 U	--	790 U	600 U	2000 U	240 U
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	7100 U	--	--	12000 U	12000 U	12000 U	12000 U	60000 U	8900 U	8900 U	7100 U	12000 U	8900 U	12000 U	18000 U	12000 U	--	23000 U	18000 U	60000 U	7100 U
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	7700 U	--	--	13000 U	13000 U	13000 U	13000 U	66000 U	9600 U	9600 U	7700 U	13000 U	9600 U	13000 U	19000 U	13000 U	--	25000 U	19000 U	66000 U	7700 U
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	7500 U	--	--	12000 U	12000 U	12000 U	12000 U	64000 U	9400 U	9400 U	7500 U	12000 U	9400 U	12000 U	19000 U	12000 U	--	25000 U	19000 U	64000 U	7500 U
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	6800 U	--	--	11000 U	11000 U	11000 U	11000 U	58000 U	8500 U	8500 U	6800 U	11000 U	8500 U	11000 U	17000 U	11000 U	--	22000 U	17000 U	58000 U	6800 U
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	750 U	--	--	1200 U	1200 U	1200 U	1200 U	6400 U	940 U	940 U	750 U	1200 U	450	1200 U	1900 U	1200 U	--	2500 U	1900 U	6400 U	750 U
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	730 U	--	--	1200 U	1200 U	1200 U	1200 U	62000 U	9200 U	9200 U	7300 U	1200 U	1200	1200 U	18000 U	1200 U	--	2400 U	18000 U	6200 U	730 U
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	610 U	--	--	1000 U	1000 U	1000 U	1000 U	5100 U	760 U	760 U	610 U	1000 U	760 U	1000 U	1500 U	1000 U	--	2000 U	1500 U	5100 U	610 U
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	810 U	--	--	1300 U	1300 U	1300 U	1300 U	6900 U	1000 U	1000 U	810 U	1300 U	800	1300 U	2000 U	1300 U	--	2700 U	2000 U	6900 U	810 U
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	740 U	--	--	1200 U	1200 U	1200 U	1200 U	6300 U	930 U	930 U	740 U	1200 U	880	1200 U	1900 U	1200 U	--	2500 U	1900 U	6300 U	740 U
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	630 U	--	--	1000 U	1000 U	1000 U	1000 U	5400 U	790 U	790 U	630 U	1000 U	1100	1000 U	1600 U	1000 U	--	2100 U	1600 U	5400 U	630 U
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	470 U	--	--	780 U	780 U	780 U	780 U	4000 U	590 U	590 U	470 U	780 U	590 U	780 U	1200 U	780 U	--	1600 U	1200 U	4000 U	470 U
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	--	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	7200 U	3700 U	3700 U	3700 U	3700 U	--	3700 U	7200 U	3700 U	3700 U	--	7200 U	7200 U	3700 U
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	12000 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	12000 U	6200 U	6200 U	--	12000 U	12000 U	6200 U
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	12000 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	12000 U	6200 U	6200 U	--	12000 U	12000 U	6200 U
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	--	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	4800 U	2500 U	2500 U	2500 U	2500 U	--	2500 U	4800 U	2500 U	2500 U	--	4800 U	4800 U	2500 U
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	--	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	2600 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	2600 U	1400 U	1400 U	--	2600 U	2600 U	1400 U
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	--	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	2800 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	2800 U	1400 U	1400 U	--	2800 U	2800 U	1400 U
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	--	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	10000 U	5200 U	5200 U	5200 U	5200 U	--	5200 U	10000 U	5200 U	5200 U	--	10000 U	10000 U	5200 U
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	--	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	2700 UJ	1400 U	1400 U	1400 U	1400 U	--	1400 U	2700 UJ	1400 U	1400 U	--	2700 UJ	2700 U	1400 U
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	--	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	5300 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	5300 U	2700 U	2700 U	--	5300 U	5300 U	2700 U
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	--	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	4900 U	2500 U	2500 U	2500 U	2500 U	--	2500 U	4900 U	2500 U	2500 U	--	4900 U	4900 U	2500 U
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	--	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	9600 U	5000 U	5000 U	5000 U	5000 U	--	5000 U	9600 U	5000 U	5000 U	--	9600 U	9600 U	5000 U
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	--	5300 U	5300 U	5300 U	5300 U	5300 U	5300 U	10000 U	5300 U	5300 U	5300 U	5300 U	--	5300 U	10000 U	5300 U	5300 U	--	10000 U	10000 U	5300 U
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	--	4800 U	4800 U	4800 U	4800 U	4800 U	4800 U	9400 U	4800 U	4800 U	4800 U	4800 U	--	4800 U	9400 U	4800 U	4800 U	--	9400 U	9400 U	4800 U
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	--	360 U	360 U	360 U	360 U	360 U	360 U	700 U	360 U	360 U	360 U	360 U	--	360 U	700 U	360 U	360 U	--	700 U	700 U	360 U
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	--	400 U	400 U	400 U	400 U	400 U	400 U	770 U	400 U	400 U	400 U	400 U	--	400 U	770 U	400 U	400 U	--	770 U	770 U	400 U
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	--	200 U	200 U	200 U	200 U	200 U	200 U	380 U	200 U	200 U	200 U	200 U	--	200 U	380 U	200 U	200 U	--	380 U	380 U	200 U
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	--	830 U	830 U	830 U	830 U	830 U	830 U	1600 U	830 U	830 U	830 U	830 U	--	830 U	1600 U	830 U	830 U	--	1600 U	1600 U	830 U
Wyandotte Power	SG-007	UTC-SG-007-0.0/0.5	30-Apr-11	0 - 0.5	--	280 U	280 U	280 U	280 U	280 U	280 U	550 U	280 U	280 U	280 U	280 U	--	280 U	550 U	280 U	280 U	--	550 U	550 U	280 U
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	--	350 U	350 U	350 U	350 U	350 U	350 U	670 U	350 U	350 U	350 U	350 U	--	350 U	670 U	350 U	350 U	--	670 U	670 U	350 U
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	--	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	5300 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	5300 U	2700 U	2700 U	--	5300 U	5300 U	2700 U
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	--	660 U	660 U	660 U	660 U	660 U	660 U	1300 U	660 U	660 U	660 U	660 U	--	660 U	1300 U	660 U	660 U	--	1300 U	1300 U	660 UJ
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	--	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	6100 U	3100 U	3100 U	3100 U	3100 U	--	3100 U	6100 U	3100 U	3100 U	--	6100 U	6100 U	3100 U
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	--	510 U	510 U	510 U	510 U	510 U	510 U	990 U	510 U	510 U	510 U	510 U	--	510 U	990 U	510 U	510 U	--	990 U	990 U	510 U
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	--	270 U	270 U	270 U	270 U	270 U	270 U	520 U	270 U	270 U	270 U	270 U	--	270 U	520 U	270 U	270 U	--	520 U	520 U	270 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	560 U	--	280 U	--	1400 U	4700 U	--	--	560 U	--	7000 U	700 U	--	560 U	280 U	280 U	1600	--	450	1100	700 U
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	6200 U	--	3100 U	--	16000 U	53000 U	--	--	6200 U	--	78000 U	7800 U	--	6200 U	3100 U	3100 U	7800 U	--	7800 U	1700	7800 U
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	7500 U	--	3700 U	--	19000 U	64000 U	--	--	7500 U	--	93000 U	9300 U	--	7500 U	3700 U	3700 U	9300 U	--	9300 U	9300 U	9300 U
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	7900 U	--	3900 U	--	20000 U	67000 U	--	--	7900 U	--	99000 U	9900 U	--	7900 U	3900 U	3900 U	9900 U	--	9900 U	2500	9900 U
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	560 U	--	280 U	--	1400 U	4800 U	--	--	560 U	--	7000 U	700 U	--	560 U	280 U	280 U	700 U	--	340	740	700 U
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	240 U	--	120 U	--	600 U	2000 U	--	--	240 U	--	3000 U	300 U	--	240 U	120 U	120 U	300 U	--	300 U	300 U	300 U
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	7100 U	--	3600 U	--	18000 U	60000 U	--	--	7100 U	--	89000 U	8900 U	--	7100 U	3600 U	3600 U	8900 U	--	8900 U	8900 U	8900 U
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	7700 U	--	3900 U	--	19000 U	66000 U	--	--	7700 U	--	96000 U	9600 U	--	7700 U	3900 U	3900 U	9600 U	--	9600 U	9600 U	9600 U
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	7500 U	--	3800 U	--	19000 U	64000 U	--	--	7500 U	--	94000 U	9400 U	--	7500 U	3800 U	3800 U	9400 U	--	9400 U	9400 U	9400 U
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	6800 U	--	3400 U	--	17000 U	58000 U	--	--	6800 U	--	85000 U	8500 U	--	6800 U	3400 U	3400 U	8500 U	--	8500 U	8500 U	8500 U
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	750 U	--	380 U	--	1900 U	6400 U	--	--	750 U	--	9400 U	940 U	--	750 U	380 U	380 U	940 U	--	940 U	940 U	940 U
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	730 U	--	3700 U	--	18000 U	62000 U	--	--	730 U	--	9200 U	920 U	--	730 U	370 U	370 U	920 U	--	920 U	9200 U	9200 U
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	610 U	--	300 U	--	1500 U	5100 U	--	--	610 U	--	7600 U	760 U	--	610 U	300 U	300 U	760 U	--	760 U	760 U	760 U
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	810 U	--	410 U	--	2000 U	6900 U	--	--	810 U	--	10000 U	1000 U	--	810 U	410 U	410 U	12000	--	1000 U	1000 U	1000 U
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	740 U	--	370 U	--	1900 U	6300 U	--	--	740 U	--	9300 U	930 U	--	740 U	370 U	370 U	5700	--	930 U	930 U	930 U
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	630 U	--	320 U	--	1600 U	5400 U	--	--	630 U	--	7900 U	790 U	--	630 U	320 U	320 U	790 U	--	790 U	580	790 U
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	470 U	--	240 U	--	1200 U	4000 U	--	--	470 U	--	5900 U	590 U	--	470 U	240 U	240 U	590 U	--	590 U	590 U	590 U
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	3700 U	3700 U	3700 U	3700 U	7200 U	7200 U	3700 U	3700 U	--	3700 U	--	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	6200 U	6200 U	6200 U	6200 U	12000 U	12000 U	6200 U	6200 U	--	6200 U	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	6200 U	6200 U	6200 U	6200 U	12000 U	12000 U	6200 U	6200 U	--	6200 U	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	2500 U	2500 U	2500 U	2500 U	4800 U	4800 U	2500 U	2500 U	--	2500 U	--	2500 U	880 J	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	1800 J	2500 U
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	1400 U	1400 U	1400 U	1400 U	2600 U	2600 U	1400 U	1400 U	--	1400 U	--	1400 U	530 J	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1000 J	1400 U
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	1400 U	1400 U	1400 U	1400 U	2800 U	2800 U	1400 U	1400 U	--	1400 U	--	1400 U	570 J	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1100 J	1400 U
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	5200 U	5200 U	5200 U	5200 U	10000 U	10000 U	5200 U	5200 U	--	5200 U	--	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	1400 U	1400 U	1400 U	1400 U	2700 UJ	2700 UJ	1400 U	1400 U	--	1400 U	--	1400 U	1400 U	1400 U	1400 U	1400 U	11000	1400 U	1400 U	1400 U	1400 U
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	2700 U	2700 U	2700 U	2700 U	5300 U	5300 U	2700 U	2700 U	--	2700 U	--	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	2500 U	2500 U	2500 U	2500 U	4900 U	4900 U	2500 U	2500 U	--	2500 U	--	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	5000 U	5000 U	5000 U	5000 U	9600 U	9600 U	5000 U	5000 U	--	5000 U	--	5000 U	5000 U	5000 U	5000 U	5000 U	5000	5000 U	5000 U	5000 U	5000 U
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	5300 U	5300 U	5300 U	5300 U	10000 U	10000 U	5300 U	5300 U	--	5300 U	--	5300 U	5300 U	5300 U	5300 U	5300 U	3000 J	5300 U	5300 U	5300 U	5300 U
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	4800 U	4800 U	4800 U	4800 U	9400 U	9400 U	4800 U	4800 U	--	4800 U	--	4800 U	4800 U	4800 U	4800 U	4800 U	3200 J	4800 U	4800 U	4800 U	4800 U
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	360 U	360 U	360 U	360 U	700 U	700 U	360 U	360 U	--	360 U	--	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	400 U	400 U	400 U	400 U	770 U	770 U	400 U	400 U	--	400 U	--	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	180 J	400 U
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	380 U	380 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	85 J	160 J	200 U
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	830 U	830 U	830 U	830 U	1600 U	1600 U	830 U	830 U	--	830 U	--	830 U	830 U	830 U	830 U	830 U	830 U	830 U	830 U	280 J	830 U
Wyandotte Power	SG-007	UTC-SG-007-0.0/0.5	30-Apr-11	0 - 0.5	280 U	280 U	280 U	190 J	550 U	550 U	280 U	280 U	--	280 U	--	280 U	350	280 U	280 UJ	280 U	280 U	280 U	280 U	150 J	280 U
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	350 U	350 U	350 U	190 J	670 U	670 U	350 U	350 U	--	350 U	--	350 U	120 J	350 U	350 UJ	350 U	350 U	350 U	350 U	190 J	350 U
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	2700 U	2700 U	2700 U	2700 U	5300 U	5300 U	2700 U	2700 U	--	2700 U	--	2700 U	2700 U	2700 U	2700 UJ	2700 U	16000	2700 U	2700 U	2700 U	2700 U
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	660 U	660 U	660 UJ	660 U	1300 U	1300 U	660 U	660 U	--	660 U	--	660 UJ	660 UJ	660 U	660 UJ	660 U	660 UJ	660 UJ	660 UJ	660 UJ	660 UJ
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	3100 U	3100 U	3100 U	1900 J	6100 U	6100 U	3100 U	3100 U	--	3100 U	--	3100 U	3100 U	3100 U	3100 UJ	3100 U	22000	3100 U	3100 U	3100 U	3100 U
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	510 U	510 U	510 U	510 U	990 U	990 U	510 U	510 U	--	510 U	--	510 U	510 U	510 U	510 UJ	510 U	510 U	510 U	230 J	190 J	510 U
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	270 U	270 U	270 U	85 J	520 U	520 U	270 U	270 U	--	270 U	--	270 U	270 U	270 U	270 U	270 U	270 U	270 U	150 J	110 J	270 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	700 U	700 U	700 U	560 U	280 U	2800 U	280 U	280 U	560 U	700 U	560 U	560 U	4700 U	920 U
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	7800 U	7800 U	7800 U	6200 U	3100 U	31000 U	3100 U	3100 U	6200 U	7800 U	6200 U	6200 U	53000 U	10000 U
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	9300 U	9300 U	9300 U	7500 U	3700 U	37000 U	3700 U	3700 U	7500 U	9300 U	7500 U	7500 U	64000 U	12000 U
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	9900 U	9900 U	9900 U	7900 U	3900 U	39000 U	3900 U	3900 U	7900 U	9900 U	7900 U	7900 U	67000 U	13000 U
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	700 U	700 U	700 U	560 U	280 U	2800 U	280 U	280 U	560 U	700 U	560 U	560 U	4800 U	930 U
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	300 U	300 U	300 U	240 U	120 U	1200 U	120 U	120 U	240 U	300 U	240 U	240 U	2000 U	400 U
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	8900 U	8900 U	8900 U	7100 U	3600 U	36000 U	3600 U	3600 U	7100 U	8900 U	7100 U	7100 U	60000 U	12000 U
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	9600 U	9600 U	9600 U	7700 U	3900 U	39000 U	3900 U	3900 U	7700 U	9600 U	7700 U	7700 U	66000 U	13000 U
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	9400 U	9400 U	9400 U	7500 U	3800 U	38000 U	3800 U	3800 U	7500 U	9400 U	7500 U	7500 U	64000 U	12000 U
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	8500 U	8500 U	8500 U	6800 U	3400 U	34000 U	3400 U	3400 U	6800 U	8500 U	6800 U	6800 U	58000 U	11000 U
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	940 U	940 U	940 U	750 U	380 U	3800 U	380 U	380 U	750 U	940 U	750 U	750 U	6400 U	1200 U
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	9200 U	920 U	920 U	730 U	370 U	3700 U	370 U	370 U	730 U	920 U	730 U	730 U	6200 U	1200 U
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	760 U	760 U	760 U	610 U	300 U	3000 U	300 U	300 U	610 U	760 U	610 U	610 U	5100 U	1000 U
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	1000 U	1000 U	1000 U	810 U	410 U	4100 U	410 U	410 U	810 U	1000 U	810 U	810 U	6900 U	1300 U
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	930 U	930 U	930 U	740 U	370 U	3700 U	370 U	370 U	740 U	930 U	740 U	740 U	6300 U	1200 U
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	790 U	790 U	790 U	630 U	320 U	3200 U	320 U	320 U	630 U	790 U	630 U	630 U	5400 U	1000 U
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	590 U	590 U	590 U	470 U	240 U	2400 U	240 U	240 U	470 U	590 U	470 U	470 U	4000 U	780 U
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	3700 U	--	3700 U	3700 U	7200 U	3700 U
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	12000 U	6200 U
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	12000 U	6200 U
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	--	2500 U	2500 U	4800 U	2500 U
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	1400 U	2600 U	1400 U
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	1400 U	2800 U	1400 U
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	5200 U	--	5200 U	5200 U	10000 U	5200 U
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	1400 U	2700 U	1400 U
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	2700 U	5300 U	2700 U
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	--	2500 U	2500 U	4900 U	2500 U
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	--	5000 U	5000 U	9600 U	5000 U
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	5300 U	5300 U	5300 U	5300 U	5300 U	5300 U	5300 U	5300 U	5300 U	--	5300 U	5300 U	10000 U	5300 U
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	4800 U	4800 U	4800 U	4800 U	4800 U	4800 U	4800 U	4800 U	4800 U	--	4800 U	4800 U	9400 U	4800 U
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	--	360 U	360 U	700 U	360 U
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	--	400 U	400 U	770 U	400 U
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	380 U	200 U
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	830 U	830 U	830 U	830 U	830 U	830 U	830 U	830 U	830 U	--	830 U	830 U	1600 U	830 U
Wyandotte Power	SG-007	UTC-SG-007-0.0/0.5	30-Apr-11	0 - 0.5	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	--	280 U	280 U	550 U	280 U
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	350 U	670 U	350 U
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	2700 U	5300 U	2700 U
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	660 UJ	660 UJ	660 UJ	660 U	660 U	660 U	660 U	660 U	660 U	--	660 U	660 U	1300 U	660 U
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	--	3100 U	3100 U	6100 U	3100 U
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	--	510 U	510 U	990 U	510 U
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U	--	270 U	270 U	520 U	270 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	260 U	--	--	420 U	420 U	420 U	420 U	2200 U	320 U	320 U	260 U	420 U	320 U	420 U	640 U	420 U	--	850 U	640 U	2200 U	260 U
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	240 U	--	--	400 U	400 U	400 U	400 U	2000 U	300 U	300 U	240 U	400 U	300 U	400 U	600 U	400 U	--	790 U	600 U	2000 U	240 U
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	470 U	--	--	780 U	780 U	780 U	780 U	4000 U	590 U	590 U	470 U	780 U	590 U	780 U	1200 U	780 U	--	1600 U	1200 U	4000 U	470 U
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	480 U	--	--	790 U	790 U	790 U	790 U	4000 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4000 U	480 U
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	510 U	--	--	840 U	840 U	840 U	840 U	4300 U	630 U	630 U	510 U	840 U	310	840 U	1300 U	840 U	--	1700 U	1300 U	4300 U	510 U
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	500 U	--	--	820 U	820 U	820 U	820 U	4200 U	620 U	620 U	500 U	820 U	290	820 U	1200 U	820 U	--	1600 U	1200 U	4200 U	500 U
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	650 U	--	--	1100 U	1100 U	1100 U	1100 U	5500 U	810 U	810 U	650 U	1100 U	290	1100 U	1600 U	1100 U	--	2100 U	1600 U	5500 U	650 U
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	670 U	--	--	1100 U	1100 U	1100 U	1100 U	5700 U	840 U	840 U	670 U	1100 U	290	1100 U	1700 U	1100 U	--	2200 U	1700 U	5700 U	670 U
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	620 U	--	--	1000 U	1000 U	1000 U	1000 U	5200 U	770 U	770 U	620 U	1000 U	370	1000 U	1500 U	1000 U	--	2000 U	1500 U	5200 U	620 U
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	8500 U	--	--	14000 U	14000 U	14000 U	14000 U	72000 U	11000 U	11000 U	8500 U	14000 U	11000 U	14000 U	21000 U	14000 U	--	28000 U	21000 U	72000 U	8500 U
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	840 U	--	--	1400 U	1400 U	1400 U	1400 U	7100 U	1000 U	1000 U	840 U	1400 U	1200	1400 U	2100 U	1400 U	--	1200	2100 U	71000 U	8400 U
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	780 U	--	--	1300 U	1300 U	1300 U	1300 U	6600 U	970 U	970 U	780 U	1300 U	1400	1300 U	1900 U	1300 U	--	2400	1900 U	66000 U	7800 U
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	700 U	--	--	1200 U	1200 U	1200 U	1200 U	6000 U	880 U	880 U	700 U	1200 U	1100	1200 U	1800 U	1200 U	--	1700	1800 U	6000 U	700 U
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	7400 U	--	--	12000 U	12000 U	12000 U	12000 U	63000 U	9200 U	9200 U	7400 U	12000 U	1900	12000 U	18000 U	12000 U	--	24000 U	18000 U	63000 U	7400 U
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	7100 U	--	--	12000 U	12000 U	12000 U	12000 U	60000 U	8900 U	8900 U	7100 U	12000 U	8900 U	12000 U	18000 U	12000 U	--	23000 U	18000 U	60000 U	7100 U
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	27000 U	--	--	44000 U	44000 U	44000 U	44000 U	230000 U	34000 U	34000 U	27000 U	44000 U	34000 U	44000 U	67000 U	44000 U	--	89000 U	67000 U	230000 U	27000 U
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	550 U	--	--	910 U	910 U	910 U	910 U	4700 U	690 U	690 U	550 U	910 U	560	910 U	1400 U	910 U	--	1800 U	1400 U	4700 U	550 U
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	510 U	--	--	840 U	840 U	840 U	840 U	4300 U	630 U	630 U	510 U	840 U	630 U	840 U	1300 U	840 U	--	1700 U	1300 U	4300 U	510 U
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	7200 U	--	--	12000 U	12000 U	12000 U	12000 U	61000 U	9000 U	9000 U	7200 U	12000 U	9000 U	12000 U	18000 U	12000 U	--	24000 U	18000 U	61000 U	7200 U
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	5100 U	--	--	8500 U	8500 U	8500 U	8500 U	44000 U	6400 U	6400 U	5100 U	8500 U	6400 U	8500 U	13000 U	8500 U	--	17000 U	13000 U	44000 U	5100 U
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	7600 U	--	--	13000 U	13000 U	13000 U	13000 U	65000 U	9600 U	9600 U	7600 U	13000 U	9600 U	13000 U	19000 U	13000 U	--	25000 U	19000 U	65000 U	7600 U
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	7200 U	--	--	12000 U	12000 U	12000 U	12000 U	62000 U	9100 U	9100 U	7200 U	12000 U	9100 U	12000 U	18000 U	12000 U	--	24000 U	18000 U	62000 U	7200 U
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	7600 U	--	--	13000 U	13000 U	13000 U	13000 U	64000 U	9500 U	9500 U	7600 U	13000 U	9500 U	13000 U	19000 U	13000 U	--	25000 U	19000 U	64000 U	7600 U
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	7100 U	--	--	12000 U	12000 U	12000 U	12000 U	60000 U	8800 U	8800 U	7100 U	12000 U	8800 U	12000 U	18000 U	12000 U	--	23000 U	18000 U	60000 U	7100 U
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	7400 U	--	--	12000 U	12000 U	12000 U	12000 U	63000 U	9300 U	9300 U	7400 U	12000 U	2200	12000 U	19000 U	12000 U	--	24000 U	19000 U	63000 U	7400 U
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	7600 U	--	--	13000 U	13000 U	13000 U	13000 U	65000 U	9600 U	9600 U	7600 U	13000 U	2300	13000 U	19000 U	13000 U	--	25000 U	19000 U	65000 U	7600 U
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	6900 U	--	--	11000 U	11000 U	11000 U	11000 U	59000 U	8700 U	8700 U	6900 U	11000 U	4200	11000 U	17000 U	11000 U	--	23000 U	17000 U	59000 U	6900 U
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	6700 U	--	--	11000 U	11000 U	11000 U	11000 U	57000 U	8400 U	8400 U	6700 U	11000 U	8400 U	11000 U	17000 U	11000 U	--	22000 U	17000 U	57000 U	6700 U
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	570 U	--	--	940 U	940 U	940 U	940 U	4800 U	710 U	710 U	570 U	940 U	410	940 U	1400 U	940 U	--	1900 U	1400 U	4800 U	570 U
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	6800 U	--	--	11000 U	11000 U	11000 U	11000 U	58000 U	8500 U	8500 U	6800 U	11000 U	8500 U	11000 U	17000 U	11000 U	--	22000 U	17000 U	58000 U	6800 U
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	7000 U	--	--	12000 U	12000 U	12000 U	12000 U	59000 U	8700 U	8700 U	7000 U	12000 U	8700 U	12000 U	17000 U	12000 U	--	23000 U	17000 U	59000 U	7000 U
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	--	210 U	210 U	210 U	210 U	210 U	210 U	400 U	210 U	210 U	210 U	210 U	--	210 U	400 U	210 U	210 U	--	400 U	400 U	210 U
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	--	190 U	190 U	190 U	190 U	190 U	190 U	370 U	190 U	190 U	190 U	190 U	--	190 U	370 U	190 U	190 U	--	370 U	370 U	190 U
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	--	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	2500 U	1300 U	1300 U	1300 U	1300 U	--	1300 U	2500 U	1300 U	1300 U	--	2500 U	2500 U	1300 U
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	--	300 U	300 U	300 U	300 U	300 U	300 U	590 U	300 U	300 U	300 U	300 U	--	300 U	590 U	300 U	300 U	--	590 U	590 U	300 U
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	--	3200 U	3200 UJ	3200 U	3200 U	3200 U	3200 U	6100 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	6100 U	3200 U	3200 U	--	6100 U	6100 U	3200 U
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	--	3100 U	3100 UJ	3100 U	3100 U	3100 U	3100 U	6100 U	3100 U	3100 U	3100 U	3100 U	--	3100 U	6100 U	3100 U	3100 U	--	6100 U	6100 U	3100 U
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	--	2500 U	2500 UJ	2500 U	2500 U	2500 U	2500 U	4800 U	2500 U	2500 U	2500 U	2500 U	--	2500 U	4800 U	2500 U	2500 U	--	4800 U	4800 U	2500 U
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	--	2300 U	2300 UJ	2300 U	2300 U	2300 U	2300 U	4400 U	2300 U	2300 U	2300 U	2300 U	--	2300 U	4400 U	2300 U	2300 U	--	4400 U	4400 U	2300 U
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	--	3200 U	3200 UJ	3200 U	3200 U	3200 U	3200 U	6100 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	6100 U	3200 U	3200 U	--	6100 U	6100 U	3200 U
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	--	350 U	350 U	350 U	350 U	350 U	89 J	680 U	350 U	350 U	350 U	350 U	--	350 U	680 U	350 U	350 U	--	680 U	680 U	350 U
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	--	280 U	280 U	280 U	280 U	280 U	180 J	540 U	280 U	280 U	280 U	280 U	--	280 U	540 U	280 U	280 U	--	540 U	540 U	280 U
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	--	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	2100 U	1100 U	1100 U	1100 U	1100 U	--	1100 U	2100 U	1100 U	1100 U	--	2100 U	2100 U	1100 U
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	--	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	6500 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	6500 U	3400 U	3400 U	--	6500 U	6500 U	3400 U
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	--	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	6500 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	6500 U	3400 U	3400 U	--	6500 U	6500 U	3400 U
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	--	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	12000 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	12000 U	6100 U	6100 U	--	12000 U	12000 U	6100 U
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	--	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	12000 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	12000 U	6100 U	6100 U	--	12000 U	12000 U	6100 U
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	--	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	5800 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	5800 U	3000 U	3000 U	--	5800 U	5800 U	3000 U
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	--	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	6300 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	6300 U	3200 U	3200 U	--	6300 U	6300 U	3200 U
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	--	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	11000 U	5500 U	5500 U	5500 U	5500 U	--	5500 U	11000 U	5500 U	5500 U	--	11000 U	11000 U	5500 U
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	--	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	10000 U	5400 U	5400 U	5400 U	5400 U	--	5400 U	10000 U	5400 U	5400 U	--	10000 U	10000 U	5400 U
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	--	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	5500 U	2900 U	2900 U	2900 U	2900 U	--	2900 U	5500 U	2900 U	2900 U	--	5500 U	5500 U	2900 U
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	--	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	5800 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	5800 U	3000 U	3000 U	--	5800 U	5800 U	3000 U
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	--	970 U	970 U	970 U	970 U	970 U	970 U	1900 U	970 U	970 U	970 U	970 U	--	970 U	1900 U	970 U	970 U	--	1900 U	1900 U	970 U
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	--	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	12000 U	6300 U	6300 U	6300 U	6300 U	--	6300 U	12000 U	6300 U	6300 U	--	12000 U	12000 U	6300 U
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	--	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	13000 U	6700 U	6700 U	6700 U	6700 U	--	6700 U	13000 U	6700 U	6700 U	--	13000 U	13000 U	6700 U
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	12000 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	12000 U	6200 U	6200 U	--	12000 U	12000 U	6200 U
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	--	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	5500 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	5500 U	2800 U	2800 U	--	5500 U	5500 U	2800 U
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	--	350 U	350 U	350 U	350 U	350 U	350 U	670 U	350 U	350 U	350 U	350 U	--	350 U	670 U	350 U	350 U	--	670 U	670 U	350 U
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	--	680 U	680 U	680 U	680 U	680 U	680 U	1300 U	680 U	680 U	680 U	680 U	--	680 U	1300 U	680 U	680 UJ	--	1300 U	1300 U	680 U
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	--	820 U	820 U	820 U	820 U	820 U	820 U	1600 U	820 U	820 U	820 U	820 U	--	820 U	1600 U	820 U	820 U	--	1600 U	1600 U	820 U
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	--	380 U	380 U	380 U	380 U	380 U	380 U	740 U	380 U	380 U	380 U	380 U	--	380 U	740 U	380 U	380 U	--	740 U	740 U	380 U
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	--	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	4300 U	2200 U	2200 U	2200 U	2200 U	--	2200 U	4300 U	2200 U	2200 U	--	4300 U	4300 U	2200 U
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	--	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	4000 U	2000 U	2000 U	2000 U	2000 U	--	2000 U	4000 U	2000 U	2000 U	--	4000 U	4000 U	2000 U
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	--	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	2700 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	2700 U	1400 U	1400 U	--	2700 U	2700 U	1400 U
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	--	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	2500 U	1300 U	1300 U	1300 U	1300 U	--	1300 U	2500 U	1300 U	1300 U	--	2500 U	2500 U	1300 U
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	--	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	4800 U	2500 U	2500 U	2500 U	2500 U	--	2500 U	4800 U	2500 U	2500 U	--	4800 U	4800 U	2500 U
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	--	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	3000 U	1500 U	1500 U	1500 U	1500 U	--	1500 U	3000 U	1500 U	1500 U	--	3000 U	3000 U	1500 U
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	--	310 U	310 U	310 U	310 U	310 U	310 U	610 U	310 U	310 U	310 U	310 U	--	310 U	610 U	310 U	310 U	--	610 U	610 U	310 U
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	--	530 U	530 U	530 U	530 U	530 U	530 U	1000 U	530 U	530 U	530 U	530 U	--	530 U	1000 U	530 U	530 U	--	1000 U	1000 U	530 U
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	--	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	2500 U	1300 U	1300 U	1300 U	1300 U	--	1300 U	2500 U	1300 U	1300 U	--	2500 U	2500 U	1300 U
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	--	580 U	580 U	580 U	580 U	580 U	580 U	1100 U	580 U	580 U	580 U	580 U	--	580 U	1100 U	580 U	580 U	--	1100 U	1100 U	580 U
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	--	630 U	630 U	630 U	630 U	630 U	630 U	1200 U	630 U	630 U	630 U	630 U	--	630 U	1200 U	630 U	630 U	--	1200 U	1200 U	630 U
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	--	510 U	510 U	510 U	510 U	510 U	510 U	980 U	510 U	510 U	510 U	510 U	--	510 U	980 U	510 U	510 U	--	980 U	980 U	510 U
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	--	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	2200 U	1100 U	1100 U	1100 U	1100 U	--	1100 U	2200 U	1100 U	1100 U	--	2200 U	2200 U	1100 U
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	--	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	3900 U	2000 U	2000 U	2000 U	2000 U	--	2000 U	3900 U	2000 U	2000 U	--	3900 U	3900 U	2000 U
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	--	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	4700 U	2400 U	2400 U	2400 U	2400 U	--	2400 U	4700 U	2400 U	2400 U	--	4700 U	4700 U	2400 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	260 U	-- --	130 U	--	640 U	2200 U	--	--	260 U	--	3200 U	320 U	--	260 U	130 U	130 U	320 U		320 U	320 U	320 U
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	240 U	-- --	120 U	--	600 U	2000 U	--	--	240 U	--	3000 U	300 U	--	240 U	120 U	120 U	300 U		300 U	300 U	300 U
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	470 U	-- --	240 U	--	1200 U	4000 U	--	--	470 U	--	5900 U	590 U	--	470 U	240 U	240 U	590 U		590 U	590 U	590 U
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	480 U	-- --	240 U	--	1200 U	4000 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U		600 U	600 U	600 U
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	510 U	-- --	250 U	--	1300 U	4300 U	--	--	510 U	--	6300 U	630 U	--	510 U	250 U	250 U	2500		630 U	630 U	630 U
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	500 U	-- --	250 U	--	1200 U	4200 U	--	--	500 U	--	6200 U	620 U	--	500 U	250 U	250 U	620 U		350	330	620 U
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	480 U	-- --	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U		600 U	600 U	600 U
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	480 U	-- --	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U		600 U	600 U	600 U
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	650 U	-- --	320 U	--	1600 U	5500 U	--	--	650 U	--	8100 U	8100 U	--	650 U	320 U	320 U	9000		810 U	160	810 U
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	670 U	-- --	340 U	--	1700 U	5700 U	--	--	670 U	--	8400 U	840 U	--	670 U	340 U	340 U	3900		840 U	840 U	840 U
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	620 U	-- --	310 U	--	1500 U	5200 U	--	--	620 U	--	7700 U	770 U	--	620 U	310 U	310 U	2100		770 U	210	770 U
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	8500 U	-- --	4200 U	--	21000 U	72000 U	--	--	8500 U	--	110000 U	11000 U	--	8500 U	4200 U	4200 U	43000		11000 U	11000 U	11000 U
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	840 U	-- --	420 U	--	2100 U	7100 U	--	--	8400 U	--	10000 U	10000 U	--	840 U	420 U	420 U	34000		10000 U	1000 U	1000 U
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	780 U	-- --	390 U	--	1900 U	6600 U	--	--	7800 U	--	9700 U	9700 U	--	780 U	390 U	390 U	17000		9700 U	970 U	970 U
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	700 U	-- --	350 U	--	1800 U	6000 U	--	--	700 U	--	8800 U	8800 U	--	700 U	350 U	350 U	7500		880 U	430	880 U
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	7400 U	-- --	3700 U	--	18000 U	63000 U	--	--	7400 U	--	92000 U	9200 U	--	7400 U	3700 U	3700 U	9200 U		9200 U	1800	9200 U
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	7100 U	-- --	3600 U	--	18000 U	60000 U	--	--	7100 U	--	89000 U	8900 U	--	7100 U	3600 U	3600 U	8900 U		8900 U	8900 U	8900 U
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	27000 U	-- --	13000 U	--	67000 U	230000 U	--	--	27000 U	--	340000 U	34000 U	--	27000 U	13000 U	13000 U	34000 U		34000 U	34000 U	34000 U
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	550 U	-- --	280 U	--	1400 U	4700 U	--	--	550 U	--	6900 U	690 U	--	550 U	280 U	280 U	2100		690 U	430	690 U
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	510 U	-- --	250 U	--	1300 U	4300 U	--	--	510 U	--	6300 U	630 U	--	510 U	250 U	250 U	1100		630 U	630 U	630 U
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	480 U	-- --	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	1400		600 U	600 U	600 U
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	7200 U	-- --	3600 U	--	18000 U	61000 U	--	--	7200 U	--	90000 U	9000 U	--	7200 U	3600 U	3600 U	9000 U		9000 U	9000 U	9000 U
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	5100 U	-- --	2600 U	--	13000 U	44000 U	--	--	5100 U	--	64000 U	6400 U	--	5100 U	2600 U	2600 U	6400 U		6400 U	6400 U	6400 U
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	480 U	-- --	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U		600 U	600 U	600 U
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	7600 U	-- --	3800 U	--	19000 U	65000 U	--	--	7600 U	--	96000 U	9600 U	--	7600 U	3800 U	3800 U	14000		9600 U	9600 U	9600 U
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	7200 U	-- --	3600 U	--	18000 U	62000 U	--	--	7200 U	--	91000 U	9100 U	--	7200 U	3600 U	3600 U	9100 U		9100 U	9100 U	9100 U
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	7600 U	-- --	3800 U	--	19000 U	64000 U	--	--	7600 U	--	95000 U	9500 U	--	7600 U	3800 U	3800 U	9500 U		9500 U	9500 U	9500 U
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	7100 U	-- --	3500 U	--	18000 U	60000 U	--	--	7100 U	--	88000 U	8800 U	--	7100 U	3500 U	3500 U	12000		8800 U	8800 U	8800 U
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	7400 U	-- --	3700 U	--	19000 U	63000 U	--	--	7400 U	--	93000 U	9300 U	--	7400 U	3700 U	3700 U	9300 U		9300 U	9300 U	9300 U
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	7600 U	-- --	3800 U	--	19000 U	65000 U	--	--	7600 U	--	96000 U	9600 U	--	7600 U	3800 U	3800 U	9600 U		9600 U	9600 U	9600 U
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	6900 U	-- --	3500 U	--	17000 U	59000 U	--	--	6900 U	--	87000 U	8700 U	--	6900 U	3500 U	3500 U	8700 U		8700 U	8700 U	8700 U
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	6700 U	-- --	3400 U	--	17000 U	57000 U	--	--	6700 U	--	84000 U	8400 U	--	6700 U	3400 U	3400 U	14000		8400 U	8400 U	8400 U
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	570 U	-- --	280 U	--	1400 U	4800 U	--	--	570 U	--	7100 U	710 U	--	570 U	280 U	280 U	1100		1500	850	710 U
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	6800 U	-- --	3400 U	--	17000 U	58000 U	--	--	6800 U	--	85000 U	8500 U	--	6800 U	3400 U	3400 U	8500 U		8500 U	8500 U	8500 U
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	7000 U	-- --	3500 U	--	17000 U	59000 U	--	--	7000 U	--	87000 U	8700 U	--	7000 U	3500 U	3500 U	8700 U		8700 U	8700 U	8700 U
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	210 U	210 U	210 U	210 U	400 U	400 U	210 U	210 U	--	210 U	--	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	190 U	190 U	190 U	190 U	370 U	370 U	190 U	190 U	--	190 U	--	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	1300 U	1300 U	1300 U	1300 U	2500 U	2500 U	1300 U	1300 U	--	1300 U	--	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	300 U	300 U	300 U	300 U	590 U	590 U	300 U	300 U	--	300 U	--	300 U	150 J	300 UJ	300 UJ	300 UJ	300 U	300 U	300 U	150 J	300 U
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	3200 U	3200 U	3200 U	3200 U	6100 U	6100 U	3200 U	3200 U	--	3200 U	--	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	3100 U	3100 U	3100 U	3100 U	6100 U	6100 U	3100 U	3100 U	--	3100 U	--	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	2500 U	2500 U	2500 U	2500 U	4800 U	4800 U	2500 U	2500 U	--	2500 U	--	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	2300 U	2300 U	2300 U	2300 U	4400 U	4400 U	2300 U	2300 U	--	2300 U	--	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	3200 U	3200 U	3200 U	3200 U	6100 U	6100 U	3200 U	3200 U	--	3200 U	--	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	350 U	89 J	350 U	350 U	680 U	680 U	350 U	350 U	--	350 U	--	160 J	350 U	350 U	350 U	350 U	2400	350 U	350 U	350 U	350 U
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	280 U	280 U	280 U	100 J	540 U	540 U	280 U	280 U	--	280 U	--	160 J	280 U	280 U	280 U	280 U	2100	280 U	130 J	280 U	280 U
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	1100 U	1100 U	1100 U	1100 U	2100 U	2100 U	1100 U	1100 U	--	1100 U	--	410 J	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	3400 U	3400 U	3400 U	3400 U	6500 U	6500 U	3400 U	3400 U	--	3400 U	--	3400 U	3400 U	3400 U	3400 U	3400 U	28000	3400 U	3400 U	3400 U	3400 U
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	3400 U	3400 U	3400 U	3400 U	6500 U	6500 U	3400 U	3400 U	--	3400 U	--	3400 U	3400 U	3400 U	3400 U	3400 U	18000	3400 U	3400 U	3400 U	3400 U
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	6100 U	6100 U	6100 U	6100 U	12000 U	12000 U	6100 U	6100 U	--	6100 U	--	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	6100 U	6100 U	6100 U	6100 U	12000 U	12000 U	6100 U	6100 U	--	6100 U	--	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	3000 U	3000 U	3000 U	3000 U	5800 U	5800 U	3000 U	3000 U	--	3000 U	--	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	3200 U	3200 U	3200 U	3200 U	6300 U	6300 U	3200 U	3200 U	--	3200 U	--	3200 U	3200 U	3200 U	3200 U	3200 U	19000	3200 U	3200 U	3200 U	3200 U
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	5500 U	5500 U	5500 U	5500 U	11000 U	11000 U	5500 U	5500 U	--	5500 U	--	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	5400 U	5400 U	5400 U	5400 U	10000 U	10000 U	5400 U	5400 U	--	5400 U	--	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	2900 U	2900 U	2900 U	2900 U	5500 U	5500 U	2900 U	2900 U	--	2900 U	--	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	3000 U	3000 U	3000 U	3000 U	5800 U	5800 U	3000 U	3000 U	--	3000 U	--	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	1200 J	1200 J	3000 U
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	970 U	970 U	970 U	970 U	1900 U	1900 U	970 U	970 U	--	970 U	--	970 U	970 U	970 U	970 U	970 U	970 U	970 U	430 J	350 J	970 U
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	6300 U	6300 U	6300 U	6300 U	12000 U	12000 U	6300 U	6300 U	--	6300 U	--	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	6700 U	6700 U	6700 U	6700 U	13000 U	13000 U	6700 U	6700 U	--	6700 U	--	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	6200 U	6200 U	6200 U	6200 U	12000 U	12000 U	6200 U	6200 U	--	6200 U	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	2800 U	2800 U	2800 U	2800 U	5500 U	5500 U	2800 U	2800 U	--	2800 U	--	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	350 U	350 U	350 U	120 J	670 U	670 U	350 U	350 U	--	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	680 U	680 UJ	680 U	250 J	1300 U	1300 U	680 U	680 U	--	680 U	--	430 J	680 U	680 U	680 U	680 U	3700	680 U	680 U	230 J	680 U
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	820 U	820 U	820 U	820 U	1600 U	1600 U	820 U	820 U	--	820 U	--	820 U	820 U	820 U	820 U	820 U	820 U	820 U	820 U	340 J	820 U
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	380 U	380 U	380 U	380 U	740 U	740 U	380 U	380 U	--	380 U	--	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	210 J	380 U
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	2200 U	2200 U	2200 U	2200 U	4300 U	4300 U	2200 U	2200 U	--	2200 U	--	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	2000 U	2000 U	2000 U	2000 U	4000 U	4000 U	2000 U	2000 U	--	2000 U	--	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	1400 U	1400 U	1400 U	1400 U	2700 U	2700 U	1400 U	1400 U	--	1400 U	--	1400 U	1400 U	1400 U	1400 U	1400 U	12000	1400 U	1400 U	1400 U	1400 U
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	1300 U	1300 U	1300 U	1300 U	2500 U	2500 U	1300 U	1300 U	--	1300 U	--	1300 U	1300 U	1300 U	1300 U	1300 U	6400	1300 U	1300 U	1300 U	1300 U
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	2500 U	2500 U	2500 U	2500 U	4800 U	4800 U	2500 U	2500 U	--	2500 U	--	2500 U	2500 U	2500 U	2500 UJ	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	1500 U	1500 U	1500 U	1500 U	3000 U	3000 U	1500 U	1500 U	--	1500 U	--	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	630 J	870 J	1500 U
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	310 U	310 U	310 U	140 J	610 U	610 U	310 U	310 U	--	310 U	--	310 U	310 U	310 U	310 U	310 U	2900	310 U	310 U	310 U	310 U
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	530 U	530 U	530 U	230 J	1000 U	1000 U	530 U	530 U	--	530 U	--	530 U	530 U	530 U	530 U	530 U	3900	530 U	530 U	530 U	530 U
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	1300 U	1300 U	1300 U	1300 U	2500 U	2500 U	1300 U	1300 U	--	1300 U	--	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	510 J	1300 U
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	580 U	580 U	580 U	210 J	1100 U	1100 U	580 U	580 U	--	580 U	--	580 U	580 U	580 U	580 U	580 U	4500	580 U	580 U	580 U	580 U
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	630 U	630 U	630 U	180 J	1200 U	1200 U	630 U	630 U	--	630 U	--	630 U	630 U	630 U	630 U	630 U	3900	630 U	630 U	630 U	630 U
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	510 U	510 U	510 U	150 J	980 U	980 U	510 U	510 U	--	510 U	--	510 U	510 U	510 U	510 U	510 U	2900	510 U	510 U	210 J	510 U
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	1100 U	1100 U	1100 U	1100 U	2200 U	2200 U	1100 U	1100 U	--	1100 U	--	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	420 J	590 J	1100 U
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	2000 U	2000 U	2000 U	2000 U	3900 U	3900 U	2000 U	2000 U	--	2000 U	--	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	770 J	2000 U
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	2400 U	2400 U	2400 U	2400 U	4700 U	4700 U	2400 U	2400 U	--	2400 U	--	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	900 J	2400 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIE NE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	320 U	320 U	320 U	260 U	130 U	1300 U	130 U	130 U	260 U	320 U	260 U	260 U	2200 U	420 U
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	300 U	300 U	300 U	240 U	120 U	1200 U	120 U	120 U	240 U	300 U	240 U	240 U	2000 U	400 U
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	590 U	590 U	590 U	470 U	240 U	2400 U	240 U	240 U	470 U	590 U	470 U	470 U	4000 U	780 U
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4000 U	790 U
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	630 U	630 U	630 U	510 U	250 U	2500 U	250 U	250 U	510 U	630 U	510 U	510 U	4300 U	840 U
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	620 U	620 U	620 U	500 U	250 U	2500 U	250 U	250 U	500 U	620 U	500 U	500 U	4200 U	820 U
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	810 U	810 U	8100 U	650 U	320 U	3200 U	320 U	320 U	650 U	810 U	650 U	650 U	5500 U	1100 U
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	840 U	840 U	840 U	670 U	340 U	3400 U	340 U	340 U	670 U	840 U	670 U	670 U	5700 U	1100 U
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	770 U	770 U	770 U	620 U	310 U	3100 U	310 U	310 U	620 U	770 U	620 U	620 U	5200 U	1000 U
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	11000 U	11000 U	11000 U	8500 U	4200 U	42000 U	4200 U	4200 U	8500 U	11000 U	8500 U	8500 U	72000 U	14000 U
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	1000 U	10000 U	10000 U	8400 U	420 U	4200 U	420 U	420 U	840 U	1000 U	840 U	8400 U	71000 U	1400 U
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	970 U	9700 U	9700 U	7800 U	390 U	3900 U	390 U	390 U	780 U	970 U	780 U	7800 U	66000 U	1300 U
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	880 U	390	8800 U	700 U	350 U	3500 U	350 U	350 U	700 U	880 U	700 U	700 U	6000 U	1200 U
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	9200 U	9200 U	9200 U	7400 U	3700 U	37000 U	3700 U	3700 U	7400 U	9200 U	7400 U	7400 U	63000 U	12000 U
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	8900 U	8900 U	8900 U	7100 U	3600 U	36000 U	3600 U	3600 U	7100 U	8900 U	7100 U	7100 U	60000 U	12000 U
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	34000 U	34000 U	34000 U	27000 U	13000 U	130000 U	13000 U	13000 U	27000 U	34000 U	27000 U	27000 U	230000 U	44000 U
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	690 U	690 U	690 U	550 U	280 U	2800 U	280 U	280 U	550 U	690 U	550 U	550 U	4700 U	910 U
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	630 U	630 U	630 U	510 U	250 U	2500 U	250 U	250 U	510 U	630 U	510 U	510 U	4300 U	840 U
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	9000 U	9000 U	9000 U	7200 U	3600 U	36000 U	3600 U	3600 U	7200 U	9000 U	7200 U	7200 U	61000 U	12000 U
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	6400 U	6400 U	6400 U	5100 U	2600 U	26000 U	2600 U	2600 U	5100 U	6400 U	5100 U	5100 U	44000 U	8500 U
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	9600 U	9600 U	9600 U	7600 U	3800 U	38000 U	3800 U	3800 U	7600 U	9600 U	7600 U	7600 U	65000 U	13000 U
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	9100 U	9100 U	9100 U	7200 U	3600 U	36000 U	3600 U	3600 U	7200 U	9100 U	7200 U	7200 U	62000 U	12000 U
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	9500 U	9500 U	9500 U	7600 U	3800 U	38000 U	3800 U	3800 U	7600 U	9500 U	7600 U	7600 U	64000 U	13000 U
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	8800 U	8800 U	8800 U	7100 U	3500 U	35000 U	3500 U	3500 U	7100 U	8800 U	7100 U	7100 U	60000 U	12000 U
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	9300 U	9300 U	9300 U	7400 U	3700 U	37000 U	3700 U	3700 U	7400 U	9300 U	7400 U	7400 U	63000 U	12000 U
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	9600 U	9600 U	9600 U	7600 U	3800 U	38000 U	3800 U	3800 U	7600 U	9600 U	7600 U	7600 U	65000 U	13000 U
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	8700 U	8700 U	8700 U	6900 U	3500 U	35000 U	3500 U	3500 U	6900 U	8700 U	6900 U	6900 U	59000 U	11000 U
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	8400 U	8400 U	8400 U	6700 U	3400 U	34000 U	3400 U	3400 U	6700 U	8400 U	6700 U	6700 U	57000 U	11000 U
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	710 U	710 U	710 U	570 U	280 U	2800 U	280 U	280 U	570 U	710 U	570 U	570 U	4800 U	940 U
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	8500 U	8500 U	8500 U	6800 U	3400 U	34000 U	3400 U	3400 U	6800 U	8500 U	6800 U	6800 U	58000 U	11000 U
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	8700 U	8700 U	8700 U	7000 U	3500 U	35000 U	3500 U	3500 U	7000 U	8700 U	7000 U	7000 U	59000 U	12000 U
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	--	210 U	210 U	400 U	210 U
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	--	190 U	190 U	370 U	190 U
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	--	1300 U	1300 U	2500 U	1300 U
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	300 U	350	300 U	300 U	300 U	300 U	300 U	300 U	300 U	--	300 U	300 U	590 U	300 U
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	3200 U	6100 U	3200 U
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	--	3100 U	3100 U	6100 U	3100 U
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	--	2500 U	2500 U	4800 U	2500 U
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	--	2300 U	2300 U	4400 U	2300 U
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	3200 U	6100 U	3200 U
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	350 U	680 U	350 U
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	280 U	130 J	280 U	280 U	280 U	280 U	280 U	280 U	280 U	--	280 U	280 U	540 U	280 U
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	--	1100 U	1100 U	2100 U	1100 U
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	3400 U	6500 U	3400 U
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	3400 U	6500 U	3400 U
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	6100 U	12000 U	6100 U
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	6100 U	12000 U	6100 U
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	3000 U	5800 U	3000 U
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	3200 U	6300 U	3200 U
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	5500 U	--	5500 U	5500 U	11000 U	5500 U
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	--	5400 U	5400 U	10000 U	5400 U
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	--	2900 U	2900 U	5500 U	2900 U
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	3000 U	5800 U	3000 U
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	970 U	970 U	970 U	970 U	970 U	970 U	970 U	970 U	970 U	--	970 U	970 U	1900 U	970 U
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	6300 U	--	6300 U	6300 U	12000 U	6300 U
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	--	6700 U	6700 U	13000 U	6700 U
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	12000 U	6200 U
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	2800 U	5500 U	2800 U
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	350 U	670 U	350 U
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	680 U	680 U	680 U	680 U	680 U	680 UJ	680 U	680 U	680 U	--	680 U	680 U	1300 U	680 U
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	820 U	820 U	820 U	820 U	820 U	820 U	820 U	820 U	820 U	--	820 U	820 U	1600 U	820 U
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	--	380 U	380 U	740 U	380 U
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	--	2200 U	2200 U	4300 U	2200 U
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	--	2000 U	2000 U	4000 U	2000 U
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	1400 U	2700 U	1400 U
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	--	1300 U	1300 U	2500 U	1300 U
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	--	2500 U	2500 U	4800 U	2500 U
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	--	1500 U	1500 U	3000 U	1500 U
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	310 U	310 U	120 J	310 U	310 U	310 U	310 U	310 U	310 U	--	310 U	310 U	610 U	310 U
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	530 U	530 U	530 U	530 U	530 U	530 U	530 U	530 U	530 U	--	530 U	530 U	1000 U	530 U
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	--	1300 U	1300 U	2500 U	1300 U
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	--	580 U	580 U	1100 U	580 U
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	--	630 U	630 U	1200 U	630 U
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	--	510 U	510 U	980 U	510 U
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	1100 U	--	1100 U	1100 U	2200 U	1100 U
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	--	2000 U	2000 U	3900 U	2000 U
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	--	2400 U	2400 U	4700 U	2400 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	--	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	6100 U	3100 U	3100 U	3100 U	3100 U	--	3100 U	6100 U	3100 U	3100 U	--	6100 U	6100 U	3100 U
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	--	7100 U	7100 U	7100 U	7100 U	7100 U	7100 U	14000 U	7100 U	7100 U	7100 U	7100 U	--	7100 U	14000 U	7100 U	7100 U	--	14000 U	14000 U	7100 U
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	--	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	5900 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	5900 U	3000 U	3000 U	--	5900 U	5900 U	3000 U
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	--	200 U	200 U	200 U	200 U	200 U	200 U	400 U	200 U	200 U	200 U	200 U	--	200 U	400 U	200 U	200 U	--	400 U	400 U	200 U
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	--	400 U	400 U	400 U	400 U	400 U	400 U	780 U	400 U	400 U	400 U	400 U	--	400 U	780 U	400 U	400 U	--	780 U	780 U	400 U
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	--	5600 U	5600 U	5600 U	5600 U	5600 U	5600 U	11000 U	5600 U	5600 U	5600 U	5600 U	--	5600 U	11000 U	5600 U	5600 U	--	11000 U	11000 U	5600 U
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	--	210 U	210 U	210 U	210 U	210 U	210 U	400 U	210 U	210 U	210 U	210 U	--	210 U	400 U	210 U	210 U	--	400 U	400 U	210 U
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	--	200 U	200 U	200 U	200 U	200 U	200 U	380 U	200 U	200 U	200 U	200 U	--	200 U	380 U	200 U	200 U	--	380 U	380 U	200 U
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	--	950 U	950 U	950 U	950 U	950 U	950 U	1900 U	950 U	950 U	950 U	950 U	--	950 U	1900 U	950 U	950 U	--	1900 U	1900 U	950 U
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	--	440 U	440 U	440 U	440 U	440 U	440 U	860 U	440 U	440 U	440 U	440 U	--	440 U	860 U	440 U	440 U	--	860 U	860 U	440 U
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	--	450 U	450 U	450 U	450 U	450 U	450 U	880 U	450 U	450 U	450 U	450 U	--	450 U	880 U	450 U	450 U	--	880 U	880 U	450 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	3100 U	3100 U	3100 U	3100 U	6100 U	6100 U	3100 U	3100 U	--	3100 U	--	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	1800 J	3100 U
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	7100 U	7100 U	7100 U	7100 U	14000 U	14000 U	7100 U	7100 U	--	7100 U	--	7100 U	7100 U	7100 U	7100 U	7100 U	7100 U	7100 U	7100 U	2600 J	7100 U
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	3000 U	3000 U	3000 U	3000 U	5900 U	5900 U	3000 U	3000 U	--	3000 U	--	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	200 U	200 U	200 U	200 U	400 U	400 U	79 J	200 U	--	200 U	--	200 U	200 U	200 U	200 UJ	200 U	200 U	200 U	200 U	200 U	200 U
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	400 U	400 U	400 U	400 U	780 U	780 U	400 U	400 U	--	400 U	--	400 U	400 U	400 U	400 UJ	400 U	400 U	400 U	400 U	160 J	400 U
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	5600 U	5600 U	5600 U	5600 U	11000 U	11000 U	5600 U	5600 U	--	5600 U	--	5600 U	5600 U	5600 U	5600 U	5600 U	5600 U	5600 U	5600 U	5300 J	5600 U
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	210 U	210 U	210 U	210 U	400 U	400 U	210 U	210 U	--	210 U	--	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	98 J	210 U
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	200 U	200 U	200 U	200 U	380 U	380 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	110 J	200 U
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	950 U	950 U	950 U	950 U	1900 U	1900 U	950 U	950 U	--	950 U	--	950 U	950 U	950 U	950 U	950 U	950 U	950 U	950 U	950 U	950 U
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	440 U	440 U	440 U	440 U	860 U	860 U	440 U	440 U	--	440 U	--	440 U	440 U	440 U	440 U	440 U	440 U	440 U	220 J	180 J	440 U
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	450 U	450 U	450 U	450 U	880 U	880 U	450 U	450 U	--	450 U	--	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	3100 U	--	3100 U	3100 U	6100 U	3100 U
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	7100 U	7100 U	7100 U	7100 U	7100 U	7100 U	7100 U	7100 U	7100 U	--	7100 U	7100 U	14000 U	7100 U
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	3000 U	5900 U	3000 U
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	400 U	200 U
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	--	400 U	400 U	780 U	400 U
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	5600 U	5600 U	5600 U	5600 U	5600 U	5600 U	5600 U	5600 U	5600 U	--	5600 U	5600 U	11000 U	5600 U
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	--	210 U	210 U	400 U	210 U
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	380 U	200 U
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	950 U	950 U	950 U	950 U	950 U	950 U	950 U	950 U	950 U	--	950 U	950 U	1900 U	950 U
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	440 U	440 U	440 U	440 U	440 U	440 U	440 U	440 U	440 U	--	440 U	440 U	860 U	440 U
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U	450 U	--	450 U	450 U	880 U	450 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
Residential	C12	C12 0-1_20061221	21-Dec-06	0 - 1	5400 U	--	--	8900 U	8900 U	8900 U	8900 U	46000 U	6800 U	6800 U	5400 U	8900 U	6800 U	8900 U	14000 U	8900 U	--	18000 U	14000 U	46000 U	5400 U
Residential	C12	C12 1-3_20061221	21-Dec-06	1 - 3	6400 U	--	--	11000 U	11000 U	11000 U	11000 U	54000 U	8000 U	8000 U	6400 U	11000 U	1600	11000 U	16000 U	11000 U	--	21000 U	16000 U	54000 U	6400 U
Residential	C12	C12 3-5_20061221	21-Dec-06	3 - 5	7100 U	--	--	12000 U	12000 U	12000 U	12000 U	60000 U	8900 U	8900 U	7100 U	12000 U	8900 U	12000 U	18000 U	12000 U	--	23000 U	18000 U	60000 U	7100 U
Residential	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	7700 U	--	--	13000 U	13000 U	13000 U	13000 U	66000 U	9700 U	9700 U	7700 U	13000 U	9700 U	13000 U	19000 U	13000 U	--	26000 U	19000 U	66000 U	7700 U
Residential	C9	C9 0-1_20070710	10-Jul-07	0 - 1	680 U	--	--	1100 U	1100 U	1100 U	1100 U	5800 U	850 U	850 U	680 U	1100 U	470	1100 U	1700 U	1100 U	--	2200 U	1700 U	58000 U	6800 U
Residential	D2	D2 0-1_20061221	21-Dec-06	0 - 1	240 U	--	--	390 U	390 U	390 U	390 U	2000 U	300 U	300 U	240 U	390 U	300 U	390 U	600 U	390 U	--	790 U	600 U	2000 U	240 U
Residential	D3	D3 0-1_20061221	21-Dec-06	0 - 1	480 U	--	--	800 U	800 U	800 U	800 U	4100 U	600 U	600 U	480 U	800 U	600 U	800 U	1200 U	800 U	--	1600 U	1200 U	4100 U	480 U
Residential	D4	D4 0-1_20070711	11-Jul-07	0 - 1	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	250	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Residential	D4	D4 1-2_20070711	11-Jul-07	1 - 2	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Residential	D5	D5 0-1_20070710	10-Jul-07	0 - 1	5800 U	--	--	9600 U	9600 U	9600 U	9600 U	49000 U	7300 U	7300 U	5800 U	9600 U	7300 U	9600 U	15000 U	9600 U	--	19000 U	15000 U	49000 U	5800 U
Residential	D5	D5 1-3_20070710	10-Jul-07	1 - 3	520 U	--	--	850 U	850 U	850 U	850 U	4400 U	650 U	650 U	520 U	850 U	650 U	850 U	1300 U	850 U	--	1700 U	1300 U	4400 U	520 U
Residential	D6	D6 0-1_20070710	10-Jul-07	0 - 1	470 U	--	--	770 U	770 U	770 U	770 U	4000 U	590 U	590 U	470 U	770 U	590 U	770 U	1200 U	770 U	--	1500 U	1200 U	4000 U	470 U
Residential	E1	E1 0-1_20061221	21-Dec-06	0 - 1	480 U	--	--	800 U	800 U	800 U	800 U	4100 U	600 U	600 U	480 U	800 U	600 U	800 U	1200 U	800 U	--	1600 U	1200 U	4100 U	480 U
Residential	E1	E1 1-3_20061221	21-Dec-06	1 - 3	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Residential	E2	E2 0-1_20061222	22-Dec-06	0 - 1	240 U	--	--	400 U	400 U	400 U	400 U	2100 U	300 U	300 U	240 U	400 U	300 U	400 U	600 U	400 U	--	800 U	600 U	2100 U	240 U
Residential	E2	E2 1-3_20061222	22-Dec-06	1 - 3	240 U	--	--	400 U	400 U	400 U	400 U	2000 U	300 U	300 U	240 U	400 U	300 U	400 U	600 U	400 U	--	790 U	600 U	2000 U	240 U
Residential	E21	E21 0-1_20061221	21-Dec-06	0 - 1	490 U	--	--	810 U	810 U	810 U	810 U	4200 U	620 U	620 U	490 U	810 U	150	810 U	1200 U	810 U	--	1600 U	1200 U	4200 U	490 U
Residential	E3	E3 0-1_20070710	10-Jul-07	0 - 1	470 U	--	--	780 U	780 U	780 U	780 U	4000 U	590 U	590 U	470 U	780 U	590 U	780 U	1200 U	780 U	--	1600 U	1200 U	4000 U	470 U
Residential	E3	E31-3_20070710	10-Jul-07	1 - 3	470 U	--	--	780 U	780 U	780 U	780 U	4000 U	590 U	590 U	470 U	780 U	590 U	780 U	1200 U	780 U	--	1600 U	1200 U	4000 U	470 U
Residential	E6	E6 0-1_20070711	11-Jul-07	0 - 1	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
Residential	E6	E6 1-3_20070711	11-Jul-07	1 - 3	510 U	--	--	850 U	850 U	850 U	850 U	4400 U	640 U	640 U	510 U	850 U	640 U	850 U	1300 U	850 U	--	1700 U	1300 U	4400 U	510 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
Residential	C12	C12 0-1_20061221	21-Dec-06	0 - 1	5400 U	--	2700 U	--	14000 U	46000 U	--	--	5400 U	--	68000 U	6800 U	--	5400 U	2700 U	2700 U	5900	--	6800 U	6800 U	6800 U
Residential	C12	C12 1-3_20061221	21-Dec-06	1 - 3	6400 U	--	3200 U	--	16000 U	54000 U	--	--	6400 U	--	80000 U	8000 U	--	6400 U	3200 U	3200 U	31000	--	8000 U	8000 U	8000 U
Residential	C12	C12 3-5_20061221	21-Dec-06	3 - 5	7100 U	--	3600 U	--	18000 U	60000 U	--	--	7100 U	--	89000 U	89000 U	--	7100 U	3600 U	3600 U	89000 U	--	8900 U	8900 U	8900 U
Residential	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	7700 U	--	3900 U	--	19000 U	66000 U	--	--	7700 U	--	97000 U	9700 U	--	7700 U	3900 U	3900 U	8100	--	9700 U	9700 U	9700 U
Residential	C9	C9 0-1_20070710	10-Jul-07	0 - 1	680 U	--	340 U	--	1700 U	5800 U	--	--	6800 U	--	8500 U	850 U	--	680 U	340 U	340 U	7400	--	8500 U	850 U	850 U
Residential	D2	D2 0-1_20061221	21-Dec-06	0 - 1	240 U	--	120 U	--	600 U	2000 U	--	--	240 U	--	3000 U	300 U	--	240 U	120 U	120 U	300 U	--	300 U	300 U	300 U
Residential	D3	D3 0-1_20061221	21-Dec-06	0 - 1	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
Residential	D4	D4 0-1_20070711	11-Jul-07	0 - 1	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
Residential	D4	D4 1-2_20070711	11-Jul-07	1 - 2	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	2000	--	600 U	600 U	600 U
Residential	D5	D5 0-1_20070710	10-Jul-07	0 - 1	5800 U	--	2900 U	--	15000 U	49000 U	--	--	5800 U	--	73000 U	7300 U	--	5800 U	2900 U	2900 U	7300 U	--	7300 U	7300 U	7300 U
Residential	D5	D5 1-3_20070710	10-Jul-07	1 - 3	520 U	--	260 U	--	1300 U	4400 U	--	--	520 U	--	6500 U	650 U	--	520 U	260 U	260 U	2700	--	650 U	650 U	650 U
Residential	D6	D6 0-1_20070710	10-Jul-07	0 - 1	470 U	--	230 U	--	1200 U	4000 U	--	--	470 U	--	5900 U	590 U	--	470 U	230 U	230 U	590 U	--	590 U	590 U	590 U
Residential	E1	E1 0-1_20061221	21-Dec-06	0 - 1	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
Residential	E1	E1 1-3_20061221	21-Dec-06	1 - 3	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
Residential	E2	E2 0-1_20061222	22-Dec-06	0 - 1	240 U	--	120 U	--	600 U	2100 U	--	--	240 U	--	3000 U	300 U	--	240 U	120 U	120 U	300 U	--	300 U	300 U	300 U
Residential	E2	E2 1-3_20061222	22-Dec-06	1 - 3	240 U	--	120 U	--	600 U	2000 U	--	--	240 U	--	3000 U	300 U	--	240 U	120 U	120 U	300 U	--	300 U	300 U	300 U
Residential	E21	E21 0-1_20061221	21-Dec-06	0 - 1	490 U	--	250 U	--	1200 U	4200 U	--	--	490 U	--	6200 U	620 U	--	490 U	250 U	250 U	620 U	--	620 U	110	620 U
Residential	E3	E3 0-1_20070710	10-Jul-07	0 - 1	470 U	--	240 U	--	1200 U	4000 U	--	--	470 U	--	5900 U	590 U	--	470 U	240 U	240 U	590 U	--	590 U	590 U	590 U
Residential	E3	E31-3_20070710	10-Jul-07	1 - 3	470 U	--	240 U	--	1200 U	4000 U	--	--	470 U	--	5900 U	590 U	--	470 U	240 U	240 U	7800	--	590 U	590 U	590 U
Residential	E6	E6 0-1_20070711	11-Jul-07	0 - 1	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
Residential	E6	E6 1-3_20070711	11-Jul-07	1 - 3	510 U	--	260 U	--	1300 U	4400 U	--	--	510 U	--	6400 U	640 U	--	510 U	260 U	260 U	640 U	--	640 U	640 U	640 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
Residential	C12	C12 0-1_20061221	21-Dec-06	0 - 1	6800 U	6800 U	6800 U	5400 U	2700 U	27000 U	2700 U	2700 U	5400 U	6800 U	5400 U	5400 U	46000 U	8900 U
Residential	C12	C12 1-3_20061221	21-Dec-06	1 - 3	8000 U	8000 U	8000 U	6400 U	3200 U	32000 U	3200 U	3200 U	6400 U	8000 U	6400 U	6400 U	54000 U	11000 U
Residential	C12	C12 3-5_20061221	21-Dec-06	3 - 5	8900 U	8900 U	89000 U	7100 U	3600 U	36000 U	3600 U	3600 U	7100 U	8900 U	7100 U	7100 U	60000 U	12000 U
Residential	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	9700 U	9700 U	9700 U	7700 U	3900 U	39000 U	3900 U	3900 U	7700 U	9700 U	7700 U	7700 U	66000 U	13000 U
Residential	C9	C9 0-1_20070710	10-Jul-07	0 - 1	850 U	8500 U	850 U	6800 U	340 U	3400 U	340 U	340 U	680 U	850 U	680 U	6800 U	58000 U	1100 U
Residential	D2	D2 0-1_20061221	21-Dec-06	0 - 1	300 U	300 U	300 U	240 U	120 U	1200 U	120 U	120 U	240 U	300 U	240 U	240 U	2000 U	390 U
Residential	D3	D3 0-1_20061221	21-Dec-06	0 - 1	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	800 U
Residential	D4	D4 0-1_20070711	11-Jul-07	0 - 1	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Residential	D4	D4 1-2_20070711	11-Jul-07	1 - 2	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Residential	D5	D5 0-1_20070710	10-Jul-07	0 - 1	7300 U	7300 U	7300 U	5800 U	2900 U	29000 U	2900 U	2900 U	5800 U	7300 U	5800 U	5800 U	49000 U	9600 U
Residential	D5	D5 1-3_20070710	10-Jul-07	1 - 3	650 U	650 U	650 U	520 U	260 U	2600 U	260 U	260 U	520 U	650 U	520 U	520 U	4400 U	850 U
Residential	D6	D6 0-1_20070710	10-Jul-07	0 - 1	590 U	590 U	590 U	470 U	230 U	2300 U	230 U	230 U	470 U	590 U	470 U	470 U	4000 U	770 U
Residential	E1	E1 0-1_20061221	21-Dec-06	0 - 1	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	800 U
Residential	E1	E1 1-3_20061221	21-Dec-06	1 - 3	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Residential	E2	E2 0-1_20061222	22-Dec-06	0 - 1	300 U	300 U	300 U	240 U	120 U	1200 U	120 U	120 U	240 U	300 U	240 U	240 U	2100 U	400 U
Residential	E2	E2 1-3_20061222	22-Dec-06	1 - 3	300 U	300 U	300 U	240 U	120 U	1200 U	120 U	120 U	240 U	300 U	240 U	240 U	2000 U	400 U
Residential	E21	E21 0-1_20061221	21-Dec-06	0 - 1	620 U	620 U	620 U	490 U	250 U	2500 U	250 U	250 U	490 U	620 U	490 U	490 U	4200 U	810 U
Residential	E3	E3 0-1_20070710	10-Jul-07	0 - 1	590 U	590 U	590 U	470 U	240 U	2400 U	240 U	240 U	470 U	590 U	470 U	470 U	4000 U	780 U
Residential	E3	E31-3_20070710	10-Jul-07	1 - 3	590 U	590 U	590 U	470 U	240 U	2400 U	240 U	240 U	470 U	590 U	470 U	470 U	4000 U	780 U
Residential	E6	E6 0-1_20070711	11-Jul-07	0 - 1	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
Residential	E6	E6 1-3_20070711	11-Jul-07	1 - 3	640 U	640 U	640 U	510 U	260 U	2600 U	260 U	260 U	510 U	640 U	510 U	510 U	4400 U	850 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	4400 U	--	--	7300 U	7300 U	7300 U	7300 U	38000 U	5500 U	5500 U	4400 U	7300 U	5500 U	7300 U	11000 U	7300 U	--	15000 U	11000 U	38000 U	4400 U
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	6300 U	--	--	10000 U	10000 U	10000 U	10000 U	54000 U	7900 U	7900 U	6300 U	10000 U	7900 U	10000 U	16000 U	10000 U	--	21000 U	16000 U	54000 U	6300 U
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	680 U	--	--	1100 U	1100 U	1100 U	1100 U	5800 U	850 U	850 U	680 U	1100 U	330	1100 U	1700 U	1100 U	--	2200 U	1700 U	5800 U	680 U
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	5800 U	--	--	9600 U	9600 U	9600 U	9600 U	49000 U	7300 U	7300 U	5800 U	9600 U	7300 U	9600 U	15000 U	9600 U	--	19000 U	15000 U	49000 U	5800 U
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	5500 U	--	--	9100 U	9100 U	9100 U	9100 U	47000 U	6900 U	6900 U	5500 U	9100 U	7000	9100 U	14000 U	9100 U	--	18000 U	14000 U	47000 U	5500 U
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	680 U	--	--	1100 U	1100 U	1100 U	1100 U	5800 U	850 U	850 U	680 U	1100 U	600	1100 U	1700 U	1100 U	--	2200 U	1700 U	5800 U	680 U
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	680 U	--	--	1100 U	1100 U	1100 U	1100 U	5800 U	850 U	850 U	680 U	1100 U	850	1100 U	1700 U	1100 U	--	2200 U	1700 U	5800 U	680 U
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	620 U	--	--	1000 U	1000 U	1000 U	1000 U	5300 U	780 U	780 U	620 U	1000 U	600	1000 U	1600 U	1000 U	--	2000 U	1600 U	5300 U	620 U
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	480 U	--	--	800 U	800 U	800 U	800 U	4100 U	610 U	610 U	480 U	800 U	610 U	800 U	1200 U	800 U	--	1600 U	1200 U	4100 U	480 U
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	720 U	--	--	1200 U	1200 U	1200 U	1200 U	6100 U	900 U	900 U	720 U	1200 U	900 U	1200 U	1800 U	1200 U	--	2400 U	1800 U	6100 U	720 U
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	470 U	--	--	770 U	770 U	770 U	770 U	4000 U	590 U	590 U	470 U	770 U	590 U	770 U	1200 U	770 U	--	1500 U	1200 U	4000 U	470 U
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	490 U	--	--	800 U	800 U	800 U	800 U	4100 U	610 U	610 U	490 U	800 U	610 U	800 U	1200 U	800 U	--	1600 U	1200 U	4100 U	490 U
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	3600 U	--	--	5900 U	5900 U	5900 U	5900 U	31000 U	4500 U	4500 U	3600 U	5900 U		5900 U	9000 U	5900 U	--	12000 U	9000 U	31000 U	3600 U
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	7400 U	--	--	12000 U	12000 U	12000 U	12000 U	63000 U	9200 U	9200 U	7400 U	12000 U	4300	12000 U	18000 U	12000 U	--	24000 U	18000 U	63000 U	7400 U
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	26000 U	--	--	12000 U	12000 U	12000 U	12000 U	61000 U	8900 U	8900 U	7100 U	12000 U	26000 U	12000 U	18000 U	12000 U	--	24000 U	18000 U	61000 U	7100 U
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	550 U	--	--	910 U	910 U	910 U	910 U	4700 U	690 U	690 U	550 U	910 U	70000 U	910 U	1400 U	910 U	--	540	1400 U	4700 U	550 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	240 U	--	--	400 U	400 U	400 U	400 U	2100 U	300 U	300 U	240 U	400 U	72	400 U	600 U	400 U	--	800 U	600 U	2100 U	240 U
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	14000 U	--	--	400 U	400 U	400 U	400 U	2100 U	300 U	300 U	240 U	400 U		400 U	610 U	400 U	--	800 U	610 U	2100 U	240 U
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	7500 U	--	--	12000 U	12000 U	12000 U	12000 U	64000 U	9300 U	9300 U	7500 U	12000 U	9300 U	12000 U	19000 U	12000 U	--	25000 U	19000 U	64000 U	7500 U
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	8500 U	--	--	14000 U	14000 U	14000 U	14000 U	72000 U	11000 U	11000 U	8500 U	14000 U	11000 U	14000 U	21000 U	14000 U	--	28000 U	21000 U	72000 U	8500 U
South Works	G3	G3 0-1_20061221	21-Dec-06	0 - 1	1100 U	--	--	1800 U	1800 U	1800 U	1800 U	9100 U	1300 U	1300 U	1100 U	1800 U	330	1800 U	2700 U	1800 U	--	3500 U	2700 U	9100 U	1100 U
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	--	--	--	28000 U	28000 U	28000 U	28000 U	150000 U	21000 U	21000 U	17000 U	28000 U	8600 U	28000 U	43000 U	28000 U	--	57000 U	43000 U	150000 U	17000 U
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	800 U	--	--	1300 U	1300 U	1300 U	1300 U	6800 U	1000 U	1000 U	800 U	1300 U	790	1300 U	2000 U	1300 U	--	2700 U	2000 U	6800 U	800 U
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	490 U	--	--	810 U	810 U	810 U	810 U	4200 U	610 U	610 U	490 U	810 U	610 U	810 U	1200 U	810 U	--	1600 U	1200 U	4200 U	490 U
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	510 U	--	--	850 U	850 U	850 U	850 U	4400 U	640 U	640 U	510 U	850 U	290	850 U	1300 U	850 U	--	1700 U	1300 U	4400 U	510 U
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	280 U	--	--	460 U	460 U	460 U	460 U	2400 U	350 U	350 U	280 U	460 U	97	460 U	700 U	460 U	--	920 U	700 U	2400 U	280 U
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	320 U	--	--	520 U	520 U	520 U	520 U	2700 U	400 U	400 U	320 U	520 U	400 U	520 U	790 U	520 U	--	1000 U	790 U	2700 U	320 U
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	370 U	--	--	610 U	610 U	610 U	610 U	3100 U	460 U	460 U	370 U	610 U	79	610 U	920 U	610 U	--	1200 U	920 U	3100 U	370 U
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	370 U	--	--	610 U	610 U	610 U	610 U	3100 U	460 U	460 U	370 U	610 U	190	610 U	920 U	610 U	--	1200 U	920 U	31000 U	3700 U
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	340 U	--	--	560 U	560 U	560 U	560 U	2900 U	420 U	420 U	340 U	560 U	440	560 U	840 U	560 U	--	1100 U	840 U	2900 U	340 U
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	370 U	--	--	610 U	610 U	610 U	610 U	3200 U	460 U	460 U	370 U	6100 U	410	6100 U	930 U	610 U	--	12000 U	930 U	3200 U	370 U
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	360 U	--	--	590 U	590 U	590 U	590 U	3000 U	450 U	450 U	360 U	590 U	360	590 U	890 U	590 U	--	1200 U	890 U	30000 U	3600 U
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	370 U	--	--	610 U	610 U	610 U	610 U	3100 U	460 U	460 U	370 U	610 U	400	610 U	930 U	610 U	--	1200 U	930 U	3100 U	370 U
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	320 U	--	--	520 U	520 U	520 U	520 U	2700 U	400 U	400 U	320 U	520 U	270	520 U	790 U	520 U	--	1000 U	790 U	2700 U	320 U
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	330 U	--	--	540 U	540 U	540 U	540 U	2800 U	410 U	410 U	330 U	540 U	320	540 U	820 U	540 U	--	1100 U	820 U	2800 U	330 U
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	330 U	--	--	540 U	540 U	540 U	540 U	2800 U	410 U	410 U	330 U	540 U	110	540 U	820 U	540 U	--	1100 U	820 U	2800 U	330 U
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	340 U	--	--	560 U	560 U	560 U	560 U	2900 U	420 U	420 U	340 U	560 U	190	560 U	850 U	560 U	--	1100 U	850 U	2900 U	340 U
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	370 U	--	--	620 U	620 U	620 U	620 U	3200 U	470 U	470 U	370 U	620 U	220	620 U	930 U	620 U	--	490	930 U	3200 U	370 U
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	800 U	--	--	1300 U	1300 U	1300 U	1300 U	6800 U	1000 U	1000 U	230	1300 U	590	1300 U	2000 U	1300 U	--	2600 U	2000 U	6800 U	800 U
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	830 U	--	--	1400 U	1400 U	1400 U	1400 U	7000 U	1000 U	1000 U	360	1400 U	1000	1400 U	2100 U	1400 U	--	2700 U	2100 U	7000 U	830 U
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	640 U	--	--	1100 U	1100 U	1100 U	1100 U	5400 U	800 U	800 U	640 U	1100 U	250	1100 U	1600 U	1100 U	--	2100 U	1600 U	5400 U	640 U
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	480 U	--	--	800 U	800 U	800 U	800 U	4100 U	600 U	600 U	480 U	800 U	600 U	800 U	1200 U	800 U	--	1600 U	1200 U	4100 U	480 U
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	460 U	--	--	760 U	760 U	760 U	760 U	3900 U	580 U	580 U	460 U	760 U	580 U	760 U	1200 U	760 U	--	1500 U	1200 U	3900 U	460 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	260 U	--	--	430 U	430 U	430 U	430 U	2200 U	330 U	330 U	260 U	430 U	89	430 U	660 U	430 U	--	870 U	660 U	2200 U	260 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	290 U	--	--	490 U	490 U	490 U	490 U	2500 U	370 U	370 U	290 U	490 U		490 U	740 U	490 U	--	970 U	740 U	2500 U	290 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	250 U	--	--	410 U	410 U	410 U	410 U	2100 U	310 U	310 U	250 U	410 U		410 U	620 U	410 U	--	470	620 U	2100 U	250 U
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	270 U	--	--	450 U	450 U	450 U	450 U	2300 U	340 U	340 U	270 U	450 U	610	450 U	680 U	450 U	--	300	680 U	2300 U	270 U
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	290 U	--	--	480 U	480 U	480 U	480 U	2500 U	360 U	360 U	290 U	480 U	920	480 U	720 U	480 U	--	710	720 U	2500 U	290 U
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	270 U	--	--	440 U	440 U	440 U	440 U	2300 U	330 U	330 U	270 U	440 U	620	440 U	670 U	440 U	--	1400	670 U	2300 U	270 U
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	650 U	--	--	1100 U	1100 U	1100 U	1100 U	5500 U	810 U	810 U	650 U	1100 U	340	1100 U	1600 U	1100 U	--	2100 U	1600 U	5500 U	650 U
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	470 U	--	--	770 U	770 U	770 U	770 U	4000 U	580 U	580 U	470 U	770 U	580 U	770 U	1200 U	770 U	--	1500 U	1200 U	4000 U	470 U
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	480 U	--	--	800 U	800 U	800 U	800 U	4100 U	610 U	610 U	480 U	800 U	610 U	800 U	1200 U	800 U	--	1600 U	1200 U	4100 U	480 U
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	490 U	--	--	820 U	820 U	820 U	820 U	4200 U	620 U	620 U	490 U	820 U	620 U	820 U	1200 U	820 U	--	1600 U	1200 U	4200 U	490 U
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	480 U	--	--	790 U	790 U	790 U	790 U	4100 U	600 U	600 U	480 U	790 U	600 U	790 U	1200 U	790 U	--	1600 U	1200 U	4100 U	480 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	290 U	--	--	490 U	490 U	490 U	490 U	2500 U	370 U	370 U	290 U	490 U		490 U	740 U	490 U	--	1100	740 U	2500 U	290 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	320 U	--	--	530 U	530 U	530 U	530 U	2800 U	400 U	400 U	320 U	530 U	520	530 U	810 U	530 U	--	1100	810 U	2800 U	320 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	980	--	--	480 U	480 U	480 U	480 U	2500 U	360 U	360 U	15000	480 U		480 U	730 U	480 U	--	690	730 U	2500 U	290 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	4400 U	--	2200 U	--	11000 U	38000 U	--	--	4400 U	--	55000 U	55000 U	--	4400 U	2200 U	2200 U	55000 U	--	5500 U	5500 U	5500 U
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	6300 U	--	3200 U	--	16000 U	54000 U	--	--	6300 U	--	79000 U	7900 U	--	6300 U	3200 U	3200 U	2000	--	7900 U	7900 U	7900 U
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	680 U	--	340 U	--	1700 U	5800 U	--	--	680 U	--	8500 U	850 U	--	680 U	340 U	340 U	860	--	850 U	290	850 U
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	5800 U	--	2900 U	--	15000 U	49000 U	--	--	5800 U	--	73000 U	7300 U	--	5800 U	2900 U	2900 U	7300 U	--	7300 U	7300 U	7300 U
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	5500 U	--	2700 U	--	14000 U	47000 U	--	--	5500 U	--	69000 U	6900 U	--	5500 U	2700 U	2700 U	6900 U	--	1400	3400	6900 U
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	680 U	--	340 U	--	1700 U	5800 U	--	--	680 U	--	8500 U	850 U	--	680 U	340 U	340 U	850 U	--	850 U	470	850 U
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	680 U	--	340 U	--	1700 U	5800 U	--	--	680 U	--	8500 U	850 U	--	680 U	340 U	340 U	850 U	--	850 U	460	850 U
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	620 U	--	310 U	--	1600 U	5300 U	--	--	620 U	--	7800 U	780 U	--	620 U	310 U	310 U	780 U	--	780 U	380	780 U
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6100 U	610 U	--	480 U	240 U	240 U	610 U	--	610 U	610 U	610 U
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	720 U	--	360 U	--	1800 U	6100 U	--	--	720 U	--	9000 U	900 U	--	720 U	360 U	360 U	900 U	--	900 U	900 U	900 U
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	470 U	--	230 U	--	1200 U	4000 U	--	--	470 U	--	5900 U	590 U	--	470 U	230 U	230 U	590 U	--	590 U	590 U	590 U
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	490 U	--	240 U	--	1200 U	4100 U	--	--	490 U	--	6100 U	610 U	--	490 U	240 U	240 U	610 U	--	610 U	610 U	610 U
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	3600 U	--	1800 U	--	9000 U	31000 U	--	--	3600 U	--	45000 U	4500 U	--	3600 U	1800 U	1800 U	4500 U	--	4500 U	4500 U	4500 U
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	7400 U	--	3700 U	--	18000 U	63000 U	--	--	7400 U	--	92000 U	9200 U	--	7400 U	3700 U	3700 U	9200 U	--	9200 U	9200 U	9200 U
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	7100 U	--	3600 U	--	18000 U	61000 U	--	--	7100 U	--	89000 U	8900 U	--	7100 U	3600 U	3600 U	8900 U	--	8900 U	8900 U	8900 U
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	550 U	--	280 U	--	1400 U	4700 U	--	--	550 U	--	6900 U	690 U	--	550 U	280 U	280 U	690 U	--	690 U	210	690 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	240 U	--	120 U	--	600 U	2100 U	--	--	240 U	--	3000 U	300 U	--	240 U	120 U	120 U	300 U	--	300 U	300 U	300 U
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	240 U	--	120 U	--	610 U	2100 U	--	--	240 U	--	3000 U	300 U	--	240 U	120 U	120 U	300 U	--	300 U	300 U	300 U
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	7500 U	--	3700 U	--	19000 U	64000 U	--	--	7500 U	--	93000 U	9300 U	--	7500 U	3700 U	13000	9300 U	--	9300 U	9300 U	9300 U
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	8500 U	--	4200 U	--	21000 U	72000 U	--	--	8500 U	--	110000 U	11000 U	--	8500 U	4200 U	15000	11000 U	--	11000 U	11000 U	11000 U
South Works	G3	G3 0-1_20061221	21-Dec-06	0 - 1	1100 U	--	540 U	--	2700 U	9100 U	--	--	1100 U	--	13000 U	1300 U	--	1100 U	540 U	41000	1300 U	--	1300 U	270	1300 U
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	17000 U	--	8600 U	--	43000 U	150000 U	--	--	17000 U	--	210000 U	210000 U	--	17000 U	8600 U	8600 U	21000 U	--	210000 U	21000 U	8600 U
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	800 U	--	400 U	--	2000 U	6800 U	--	--	800 U	--	10000 U	1000 U	--	800 U	400 U	400 U	1000 U	--	1000 U	550	1000 U
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	490 U	--	240 U	--	1200 U	4200 U	--	--	490 U	--	6100 U	610 U	--	490 U	240 U	240 U	610 U	--	610 U	610 U	610 U
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	510 U	--	260 U	--	1300 U	4400 U	--	--	510 U	--	6400 U	640 U	--	510 U	260 U	24000	310	--	640 U	640 U	640 U
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	280 U	--	140 U	--	700 U	2400 U	--	--	280 U	--	3500 U	350 U	--	280 U	140 U	710	350 U	--	350 U	350 U	350 U
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	320 U	--	160 U	--	790 U	2700 U	--	--	320 U	--	4000 U	400 U	--	320 U	160 U	180	400 U	--	400 U	400 U	400 U
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	370 U	--	180 U	--	920 U	3100 U	--	--	370 U	--	4600 U	460 U	--	370 U	180 U	110	460 U	--	460 U	460 U	460 U
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	370 U	--	180 U	--	920 U	3100 U	--	--	3700 U	--	4600 U	460 U	--	370 U	180 U	180 U	460 U	--	4600 U	460 U	460 U
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	340 U	--	170 U	--	840 U	2900 U	--	--	340 U	--	4200 U	420 U	--	340 U	170 U	170 U	420 U	--	420 U	160	420 U
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	370 U	--	190 U	--	930 U	3200 U	--	--	370 U	--	46000 U	460 U	--	370 U	1900 U	1900 U	460 U	--	460 U	200	460 U
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	360 U	--	180 U	--	890 U	3000 U	--	--	3600 U	--	4500 U	4500 U	--	360 U	180 U	180 U	4500 U	--	4500 U	450 U	450 U
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	370 U	--	190 U	--	930 U	3100 U	--	--	370 U	--	4600 U	460 U	--	370 U	190 U	190 U	460 U	--	460 U	190	460 U
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	320 U	--	160 U	--	790 U	2700 U	--	--	320 U	--	4000 U	400 U	--	320 U	160 U	160 U	400 U	--	400 U	400 U	400 U
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	330 U	--	160 U	--	820 U	2800 U	--	--	330 U	--	4100 U	410 U	--	330 U	160 U	160 U	410 U	--	410 U	410 U	410 U
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	330 U	--	160 U	--	820 U	2800 U	--	--	330 U	--	4100 U	410 U	--	330 U	160 U	160 U	410 U	--	410 U	68	410 U
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	340 U	--	170 U	--	850 U	2900 U	--	--	340 U	--	4200 U	420 U	--	340 U	170 U	170 U	420 U	--	420 U	72	420 U
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	370 U	--	190 U	--	930 U	3200 U	--	--	370 U	--	4700 U	470 U	--	370 U	190 U	190 U	470 U	--	470 U	110	470 U
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	800 U	--	400 U	--	2000 U	6800 U	--	--	800 U	--	10000 U	1000 U	--	800 U	400 U	400 U	1000 U	--	1000 U	350	1000 U
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	830 U	--	410 U	--	2100 U	7000 U	--	--	830 U	--	10000 U	1000 U	--	830 U	410 U	410 U	1000 U	--	310	490	1000 U
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	640 U	--	320 U	--	1600 U	5400 U	--	--	640 U	--	8000 U	800 U	--	640 U	320 U	320 U	800 U	--	270	150	800 U
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	460 U	--	230 U	--	1200 U	3900 U	--	--	460 U	--	5800 U	580 U	--	460 U	230 U	230 U	580 U	--	580 U	580 U	580 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	260 U	--	130 U	--	660 U	2200 U	--	--	260 U	--	3300 U	330 U	--	260 U	130 U	150	140	--	330 U	330 U	330 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	290 U	--	150 U	--	740 U	2500 U	--	--	290 U	--	3700 U	370 U	--	290 U	150 U	150 U	700	--	370 U	370 U	370 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	250 U	--	120 U	--	620 U	2100 U	--	--	250 U	--	3100 U	310 U	--	250 U	120 U	100	310 U	--	310 U	310 U	310 U
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	270 U	--	140 U	--	680 U	2300 U	--	--	270 U	--	3400 U	340 U	--	270 U	140 U	140 U	340 U	--	340 U	180	340 U
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	290 U	--	140 U	--	720 U	2500 U	--	--	290 U	--	3600 U	360 U	--	290 U	140 U	140 U	360 U	--	360 U	300	360 U
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	270 U	--	130 U	--	670 U	2300 U	--	--	270 U	--	3300 U	330 U	--	270 U	130 U	130 U	330 U	--	330 U	160	330 U
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	650 U	--	330 U	--	1600 U	5500 U	--	--	650 U	--	8100 U	810 U	--	650 U	330 U	330 U	810 U	--	810 U	810 U	810 U
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	470 U	--	230 U	--	1200 U	4000 U	--	--	470 U	--	5800 U	580 U	--	470 U	230 U	230 U	580 U	--	580 U	580 U	580 U
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6100 U	610 U	--	480 U	240 U	240 U	610 U	--	610 U	610 U	610 U
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	490 U	--	250 U	--	1200 U	4200 U	--	--	490 U	--	6200 U	620 U	--	490 U	250 U	260	620 U	--	620 U	620 U	620 U
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	480 U	--	240 U	--	1200 U	4100 U	--	--	480 U	--	6000 U	600 U	--	480 U	240 U	240 U	600 U	--	600 U	600 U	600 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	290 U	--	150 U	--	740 U	2500 U	--	--	290 U	--	3700 U	370 U	--	290 U	150 U	150 U	2100	--	370 U	230	370 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	320 U	--	160 U	--	810 U	2800 U	--	--	320 U	--	4000 U	400 U	--	320 U	160 U	160 U	1200	--	400 U	230	400 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	290 U	--	150 U	--	730 U	2500 U	--	--	290 U	--	3600 U	360 U	--	290 U	150 U	150 U	360 U	--	360 U	210	360 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	5500 U	5500 U	55000 U	4400 U	2200 U	22000 U	2200 U	2200 U	4400 U	5500 U	4400 U	4400 U	38000 U	7300 U
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	7900 U	7900 U	7900 U	6300 U	3200 U	32000 U	3200 U	3200 U	6300 U	7900 U	6300 U	6300 U	54000 U	10000 U
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	850 U	850 U	850 U	680 U	340 U	3400 U	340 U	340 U	680 U	850 U	680 U	680 U	5800 U	1100 U
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	7300 U	7300 U	7300 U	5800 U	2900 U	29000 U	2900 U	2900 U	5800 U	7300 U	5800 U	5800 U	49000 U	9600 U
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	6900 U	6900 U	6900 U	5500 U	2700 U	27000 U	2700 U	2700 U	5500 U	6900 U	5500 U	5500 U	47000 U	9100 U
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	850 U	850 U	850 U	680 U	340 U	3400 U	340 U	340 U	680 U	850 U	680 U	680 U	5800 U	1100 U
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	850 U	850 U	850 U	680 U	340 U	3400 U	340 U	340 U	680 U	850 U	680 U	680 U	5800 U	1100 U
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	780 U	780 U	780 U	620 U	310 U	3100 U	310 U	310 U	620 U	780 U	620 U	620 U	5300 U	1000 U
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	610 U	610 U	610 U	480 U	240 U	2400 U	240 U	240 U	480 U	610 U	480 U	480 U	4100 U	800 U
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	900 U	900 U	900 U	720 U	360 U	3600 U	360 U	360 U	720 U	900 U	720 U	720 U	6100 U	1200 U
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	590 U	590 U	590 U	470 U	230 U	2300 U	230 U	230 U	470 U	590 U	470 U	470 U	4000 U	770 U
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	610 U	610 U	610 U	490 U	240 U	2400 U	240 U	240 U	490 U	610 U	490 U	490 U	4100 U	800 U
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	4500 U	4500 U	4500 U	3600 U	1800 U	18000 U	1800 U	1800 U	3600 U	4500 U	3600 U	3600 U	31000 U	5900 U
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	9200 U	9200 U	9200 U	7400 U	3700 U	37000 U	3700 U	3700 U	7400 U	9200 U	7400 U	7400 U	63000 U	12000 U
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	8900 U	8900 U	8900 U	7100 U	3600 U	36000 U		3600 U	7100 U	8900 U	7100 U	7100 U	61000 U	12000 U
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	690 U	690 U	690 U	220	370	2800 U	70000 U	280 U	550 U	690 U	550 U	550 U	4700 U	910 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	300 U	300 U	300 U	240 U	120 U	1200 U	120 U	120 U	240 U	300 U	240 U	240 U	2100 U	400 U
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	300 U	300 U	300 U	240 U	120 U	1200 U		120 U	240 U	300 U	240 U	240 U	2100 U	400 U
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	9300 U	9300 U	9300 U	7500 U	3700 U	37000 U	3700 U	3700 U	7500 U	9300 U	7500 U	7500 U	64000 U	12000 U
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	11000 U	11000 U	11000 U	8500 U	4200 U	42000 U	4200 U	4200 U	8500 U	11000 U	8500 U	8500 U	72000 U	14000 U
South Works	G3	G3 0-1_20061221	21-Dec-06	0 - 1	1300 U	1300 U	1300 U	1600	540 U	5400 U	540 U	540 U	1100 U	1300 U	1100 U	1100 U	9100 U	1600
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	21000 U	21000 U	21000 U	17000 U	8600 U	86000 U	8600 U	8600 U	17000 U	17000 U	21000 U	17000 U	150000 U	28000 U
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	1000 U	1000 U	1000 U	800 U	400 U	4000 U	400 U	400 U	800 U	1000 U	800 U	800 U	6800 U	1300 U
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	610 U	610 U	610 U	490 U	240 U	2400 U	240 U	240 U	490 U	610 U	490 U	490 U	4200 U	810 U
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	640 U	640 U	640 U	510 U	260 U	2600 U	260 U	260 U	510 U	640 U	510 U	510 U	4400 U	850 U
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	350 U	140	350 U	280 U	140 U	1400 U	140 U	140 U	280 U	350 U	280 U	280 U	2400 U	460 U
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	400 U	400 U	400 U	320 U	160 U	1600 U	160 U	160 U	320 U	400 U	320 U	320 U	2700 U	520 U
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	460 U	110	460 U	370 U	180 U	1800 U	180 U	180 U	370 U	460 U	370 U	370 U	3100 U	610 U
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	460 U	4600 U	460 U	3700 U	180 U	1800 U	180 U	180 U	370 U	460 U	370 U	3700 U	31000 U	610 U
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	420 U	420 U	420 U	340 U	170 U	1700 U	170 U	170 U	340 U	420 U	340 U	340 U	2900 U	560 U
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	460 U	460 U	460 U	370 U	190 U	1900 U	1900 U	190 U	370 U	4600 U	3700 U	370 U	3200 U	6100 U
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	450 U	4500 U	4500 U	3600 U	180 U	1800 U	180 U	180 U	360 U	450 U	360 U	3600 U	30000 U	590 U
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	460 U	460 U	460 U	370 U	190 U	1900 U	190 U	190 U	370 U	460 U	370 U	370 U	3100 U	610 U
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	400 U	400 U	400 U	320 U	160 U	1600 U	160 U	160 U	320 U	400 U	320 U	320 U	2700 U	520 U
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	410 U	410 U	410 U	330 U	160 U	1600 U	160 U	160 U	330 U	410 U	330 U	330 U	2800 U	540 U
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	410 U	410 U	410 U	330 U	160 U	1600 U	160 U	160 U	330 U	410 U	330 U	330 U	2800 U	570
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	420 U	420 U	420 U	340 U	170 U	1700 U	170 U	170 U	340 U	420 U	340 U	340 U	2900 U	950
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	470 U	470 U	470 U	370 U	190 U	1900 U	190 U	190 U	370 U	470 U	370 U	370 U	3200 U	1600
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	1000 U	1000 U	1000 U	800 U	400 U	4000 U	400 U	400 U	800 U	1000 U	800 U	800 U	6800 U	1400
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	1000 U	1000 U	1000 U	830 U	410 U	4100 U	410 U	410 U	830 U	1000 U	830 U	830 U	7000 U	1600
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	800 U	800 U	800 U	640 U	320 U	3200 U	320 U	320 U	640 U	800 U	640 U	640 U	5400 U	420
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	820
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	580 U	580 U	580 U	460 U	230 U	2300 U	230 U	230 U	460 U	580 U	460 U	460 U	3900 U	760 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	330 U	330 U	330 U	1700	1900	1300 U		130 U	260 U	330 U	260 U	260 U	2200 U	430 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	370 U	370 U	370 U	7800	56000	1500 U		150 U	290 U	370 U	290 U	290 U	2500 U	490 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	310 U	310 U	310 U	480	2400	1200 U	120 U	120 U	250 U	310 U	250 U	250 U	480	500
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	340 U	340 U	340 U	270 U	140 U	1400 U	300	140 U	270 U	340 U	270 U	270 U	2300 U	450 U
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	360 U	360 U	360 U	290 U	140 U	1400 U	140 U	140 U	290 U	360 U	290 U	290 U	2500 U	640
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	330 U	330 U	330 U	270 U	130 U	1300 U	130 U	130 U	270 U	330 U	270 U	270 U	2300 U	1400
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	810 U	810 U	810 U	650 U	330 U	3300 U	330 U	330 U	650 U	810 U	650 U	650 U	5500 U	1100 U
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	580 U	580 U	580 U	470 U	230 U	2300 U	230 U	230 U	470 U	580 U	470 U	470 U	4000 U	1200
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	610 U	610 U	610 U	480 U	240 U	2400 U	240 U	240 U	480 U	610 U	480 U	480 U	4100 U	800 U
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	620 U	620 U	620 U	490 U	250 U	2500 U	250 U	250 U	490 U	620 U	490 U	490 U	4200 U	820 U
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	600 U	600 U	600 U	480 U	240 U	2400 U	240 U	240 U	480 U	600 U	480 U	480 U	4100 U	790 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	370 U	370 U	370 U	290 U	77	1500 U	150 U	150 U	290 U	370 U	290 U	290 U	2500 U	490 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	400 U	400 U	400 U	730	790	1600 U	160 U	160 U	320 U	400 U	320 U	320 U	2800 U	530 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	360 U	360 U	360 U	10000	86000	1500 U		150 U	290 U	360 U	290 U	290 U	2500 U	480 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	20000 U	--	--	50000 U	50000 U	50000 U	50000 U	260000 U	38000 U	38000 U	740000	50000 U		50000 U	75000 U	50000 U	--	100000 U	75000 U	260000 U	30000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	7100 U	--	--	12000 U	12000 U	12000 U	12000 U	61000 U	8900 U	8900 U	720000	12000 U	4800	12000 U	18000 U	12000 U	--	24000 U	18000 U	61000 U	7100 U
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	7500 U	--	--	12000 U	12000 U	12000 U	12000 U	64000 U	9400 U	9400 U	450000	12000 U		12000 U	19000 U	12000 U	--	25000 U	19000 U	64000 U	7500 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	860 U	--	--	1400 U	1400 U	1400 U	230	7300 U	1100 U	1100 U	190000	230	3300	310	2200 U	1400 U	--	5600	2200 U	7300 U	860 U
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	820 U	--	--	1400 U	1400 U	1400 U	1400 U	7000 U	1000 U	1000 U	110000	1400 U	2800	1400 U	2100 U	1400 U	--	5100	2100 U	7000 U	820 U
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	7600 U	--	--	13000 U	13000 U	13000 U	13000 U	69000 U	10000 U	10000 U	150000	13000 U	3300	13000 U	20000 U	13000 U	--	27000 U	20000 U	69000 U	8100 U
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	750 U	--	--	13000 U	13000 U	13000 U	13000 U	68000 U	10000 U	10000 U	8600	13000 U		13000 U	20000 U	13000 U	--	26000 U	20000 U	68000 U	8000 U
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	660 U	--	--	1200 U	1200 U	1200 U	1200 U	6200 U	910 U	910 U	15000	1200 U		1200 U	1800 U	1200 U	--	690	1800 U	6200 U	730 U
Wye Street	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	--	2800 U	2800 UJ	2800 U	2800 U	2800 U	2800 U	5500 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	5500 U	2800 U	2800 U	--	5500 U	5500 U	2800 U
Wye Street	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	--	2700 U	2700 UJ	2700 U	2700 U	2700 U	2700 U	5200 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	5200 U	2700 U	2700 U	--	5200 U	5200 U	2700 U
Wye Street	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	--	2800 U	2800 UJ	2800 U	2800 U	2800 U	2800 U	5400 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	5400 U	2800 U	2800 U	--	5400 U	5400 U	2800 U
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	--	190 U	190 U	190 U	190 U	190 U	190 U	380 U	190 U	190 U	190 J	190 U	--	190 U	380 U	190 U	190 U	--	380 U	380 U	190 U
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	--	210 U	210 U	210 U	210 U	210 U	210 U	400 U	210 U	210 U	210 U	210 U	--	210 U	400 U	210 U	210 U	--	400 U	400 U	210 U
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	200 U	200 U	--	200 U	390 U	200 U	200 U	--	390 U	390 U	200 U
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	--	260 U	260 U	260 U	260 U	260 U	260 U	500 U	260 U	260 U	260 U	260 U	--	260 U	500 U	260 U	260 U	--	500 U	500 U	260 U
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	--	500 U	500 U	500 U	500 U	500 U	500 U	970 U	500 U	500 U	240 J	500 U	--	500 U	970 U	500 U	500 U	--	970 U	970 U	500 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	10 R	330 U	330 U	330 U	330 U	330 U	330 U	630 U	330 U	330 U	330 U	330 U	--	330 U	630 U	330 U	330 U	--	630 U	630 U	330 U
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	8.4 R	310 U	310 U	310 U	310 U	310 U	310 U	610 U	310 U	310 U	310 U	310 U	--	310 U	610 U	310 U	310 U	--	610 U	610 U	310 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	10 R	560 U	560 U	560 U	560 U	560 U	560 U	1100 U	560 U	560 U	560 U	560 U	--	560 U	1100 U	560 U	560 U	--	1100 U	1100 U	560 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	7.2 R	250 U	250 U	250 U	250 U	250 U	250 U	480 U	250 U	250 U	250 U	250 U	--	250 U	480 U	250 U	250 U	--	480 U	480 U	250 U
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	9 R	330 U	330 U	330 U	330 U	330 U	330 U	640 U	330 U	330 U	98 J	330 U	--	330 U	640 U	330 U	330 U	--	640 U	640 U	330 U
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	840 U	300 U	300 U	300 U	300 U	300 U	300 U	580 U	300 U	300 U	300 U	300 U	--	300 U	580 U	300 U	300 U	--	580 U	580 U	300 U
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	--	860 U	860 U	860 U	860 U	860 U	860 U	1700 U	860 U	860 U	710 J	860 U	--	860 U	1700 U	860 U	860 U	--	1700 U	1700 U	860 U
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	--	200 U	200 U	200 U	200 U	200 U	200 U	380 U	200 U	200 U	140 J	200 U	--	200 U	380 U	200 U	200 U	--	380 U	380 U	200 U
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	--	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	10000 U	5400 U	5400 U	17000	5400 U	--	5400 U	10000 U	5400 U	5400 U	--	10000 U	10000 U	5400 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	640 U	740 U	740 U	740 U	740 U	740 U	740 U	1400 U	740 U	740 U	640 J	740 U	--	740 U	1400 U	740 U	740 U	--	1400 U	1400 U	740 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	630 U	380 U	380 U	380 U	380 U	380 U	380 U	750 U	380 U	380 U	520	380 U	--	380 U	750 U	380 U	380 U	--	750 U	750 U	380 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	47000 U	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	130000 U	66000 U	66000 U	620000	66000 U	--	66000 U	130000 U	66000 U	66000 U	--	130000 U	130000 U	66000 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	150 J	540000 U	540000 U	540000 U	540000 U	540000 U	540000 U	1100000 U	540000 U	540000 U	370000 J	540000 U	--	540000 U	1100000 U	540000 U	540000 U	--	1100000 U	1100000 U	540000 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	6500 U	84000 U	84000 U	84000 U	84000 U	84000 U	84000 U	170000 U	84000 U	84000 U	260000	84000 U	--	84000 U	170000 U	84000 U	84000 U	--	170000 U	170000 U	84000 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	12000 U	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	1600000 U	780000 U	780000 U	760000 J	780000 U	--	780000 U	1600000 U	780000 U	780000 U	--	1600000 U	1600000 U	780000 U
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	3200 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	3200 U	1600 U	1600 U	--	3200 U	3200 U	1600 U
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	--	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	210 U	400 U	210 U	210 U	210 U	210 U	--	210 U	400 U	210 UJ	210 U	--	400 U	400 U	210 U
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	1600 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	280000 U	140000 U	140000 U	280000	140000 U	--	140000 U	280000 U	140000 U	140000 U	--	280000 U	280000 U	140000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	53000 U	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	410000 U	210000 U	210000 U	590000	210000 U	--	210000 U	410000 U	210000 U	210000 U	--	410000 U	410000 U	210000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	--	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	600000 U	300000 U	300000 U	830000	300000 U	--	300000 U	600000 U	300000 U	300000 U	--	600000 U	600000 U	300000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	66000 U	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	530000 U	260000 U	260000 U	1000000	260000 U	--	260000 U	530000 U	260000 U	260000 U	--	530000 U	530000 U	260000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	14000 U	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	180000 U	90000 U	90000 U	500000	90000 U	--	90000 U	180000 U	90000 U	90000 U	--	180000 U	180000 U	90000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	6400 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	73000 U	36000 U	36000 U	150000 J	36000 U	--	36000 U	73000 U	36000 U	36000 U	--	73000 U	73000 U	36000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	--	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	35000 U	17000 U	17000 U	96000	17000 U	--	17000 U	35000 U	17000 U	17000 U	--	35000 U	35000 U	17000 U
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	--	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	4500 U	2300 U	2300 U	22000	2300 U	--	2300 U	4500 U	2300 U	2300 U	--	4500 U	4500 U	2300 U
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	--	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	3900 U	2000 U	2000 U	8200	2000 U	--	2000 U	3900 U	2000 U	2000 U	--	3900 U	3900 U	2000 U
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	200 U	200 U	--	200 U	390 U	200 U	200 U	--	390 U	390 U	200 U
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	--	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	77000 U	39000 U	39000 U	180000	39000 U	--	39000 U	77000 U	39000 U	39000 U	--	77000 U	77000 U	39000 U
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	4200 U	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	67000 U	33000 U	33000 U	310000	33000 U	--	33000 U	67000 U	33000 U	33000 U	--	67000 U	67000 U	33000 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	6200 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	280000 U	140000 U	140000 U	580000	140000 U	--	140000 U	280000 U	140000 U	140000 U	--	280000 U	280000 U	140000 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	10000 0	150000 U	150000 U	150000 U	150000 U	150000 U	150000 U	290000 U	150000 U	150000 U	910000	150000 U	--	150000 U	290000 U	150000 U	150000 U	--	290000 U	290000 U	150000 U
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	--	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	7400 U	3800 U	3800 U	3800 U	3800 U	--	3800 U	7400 U	3800 U	3800 U	--	7400 U	7400 U	3800 U
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	--	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	12000 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	12000 U	6100 U	6100 U	--	12000 U	12000 U	6100 U
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	12000 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	12000 U	6200 U	6200 U	--	12000 U	12000 U	6200 U
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	--	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	12000 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	12000 U	6100 U	6100 U	--	12000 U	12000 U	6100 U
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	200 U	200 U	--	200 U	390 U	200 U	200 UJ	--	390 U	390 U	200 U
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	--	240 U	240 U	240 U	240 U	240 U	240 U	480 U	240 U	240 U	240 U	240 U	--	240 U	480 U	240 U	240 UJ	--	480 U	480 U	240 U
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	200 U	200 U	--	200 U	390 U	200 U	200 U	--	390 U	390 U	200 U
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	--	210 U	210 U	210 U	210 U	210 U	210 U	400 U	210 U	210 U	210 U	210 U	--	210 U	400 U	210 U	210 U	--	400 U	400 U	210 U
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	--	220 U	220 U	220 U	220 U	220 U	220 U	420 U	220 U	220 U	220 U	220 U	--	220 U	420 U	220 U	220 UJ	--	420 U	420 U	220 U
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	--	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	6600 U	3400 U	3400 U	30000	3400 U	--	3400 U	6600 U	3400 U	3400 U	--	6600 U	6600 U	3400 U
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	--	12000 U	12000 U	12000 U	12000 U	12000 U	12000 U	24000 U	12000 U	12000 U	17000	12000 U	--	12000 U	24000 U	12000 U	12000 U	--	24000 U	24000 U	12000 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	30000 U	--	15000 U	--	75000 U	260000 U	--	--	30000 U	--	380000 U	380000 U	--	30000 U	15000 U	35000	380000 U	--	38000 U	38000 U	38000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	7100 U	--	3600 U	--	18000 U	61000 U	--	--	7100 U	--	89000 U	89000 U	--	7100 U	3600 U	4500	89000 U	--	1800	2100	8900 U
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	7500 U	--	3800 U	--	19000 U	64000 U	--	--	7500 U	--	94000 U	94000 U	--	7500 U	3800 U	3800	94000 U	--	9400 U	9400 U	9400 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	860 U	--	430 U	--	2200 U	7300 U	--	--	860 U	--	11000 U	1100 U	--	860 U	430 U	430 U	1100 U	--	490	740	1100 U
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	820 U	--	410 U	--	2100 U	7000 U	--	--	820 U	--	10000 U	10000 U	--	820 U	410 U	410 U	10000 U	--	290	640	1000 U
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	8100 U	--	4000 U	--	20000 U	69000 U	--	--	8100 U	--	100000 U	10000 U	--	8100 U	4000 U	4000 U	10000 U	--	10000 U	10000 U	10000 U
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	8000 U	--	4000 U	--	20000 U	68000 U	--	--	8000 U	--	100000 U	10000 U	--	8000 U	4000 U	4000 U	10000 U	--	10000 U	10000 U	10000 U
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	730 U	--	360 U	--	1800 U	6200 U	--	--	730 U	--	9100 U	910 U	--	730 U	360 U	360 U	910 U	--	180	410	910 U
Wye Street	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	2800 U	2800 U	2800 U	2800 U	5500 U	5500 U	2800 U	2800 U	--	2800 U	--	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U
Wye Street	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	2700 U	2700 U	2700 U	2700 U	5200 U	5200 U	2700 U	2700 U	--	2700 U	--	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U
Wye Street	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	2800 U	2800 U	2800 U	2800 U	5400 U	5400 U	2800 U	2800 U	--	2800 U	--	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	190 U	190 U	190 U	190 U	380 U	380 U	190 U	190 U	--	190 U	--	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	210 U	210 U	210 U	210 U	400 U	400 U	210 U	210 U	--	210 U	--	210 U	210 U	210 U	210 U	270	210 U	210 U	210 U	210 U	210 U
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	200 U	200 U	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	260 U	260 U	260 U	260 U	500 U	500 U	260 U	260 U	--	260 U	--	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	500 U	500 U	500 U	500 U	970 U	970 U	500 U	500 U	--	500 U	--	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	330 U	330 U	330 U	330 U	630 U	630 U	330 U	330 U	--	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	310 U	310 U	310 U	310 U	610 U	610 U	310 U	310 U	--	310 U	--	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	560 U	560 U	560 U	560 U	1100 U	1100 U	560 U	560 U	--	560 U	--	560 U	560 U	560 U	560 U	560 U	560 U	560 U	560 U	280 J	560 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	250 U	250 U	250 U	250 U	480 U	480 U	250 U	250 U	--	250 U	--	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 J	200 J	250 U
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	330 U	330 U	330 U	100 J	640 U	640 U	330 U	330 U	--	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	120 J	330 U
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	300 U	300 U	300 U	300 U	580 U	580 U	300 U	300 U	--	300 U	--	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	860 U	860 U	860 U	860 U	1700 U	1700 U	860 U	860 U	--	860 U	--	860 U	860 U	860 U	1000	610 J	860 U	860 U	860 U	860 U	860 U
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	380 U	380 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	100 J	200 U	200 U	200 U	200 U	200 U	200 U
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	5400 U	5400 U	5400 U	5400 U	10000 U	10000 U	5400 U	5400 U	--	5400 U	--	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	740 U	740 U	740 U	740 U	1400 U	1400 U	740 U	740 U	--	740 U	--	740 U	740 U	740 U	740 U	740 U	740 U	740 U	740 U	740 U	740 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	380 U	380 U	380 U	380 U	750 U	750 U	380 U	380 U	--	380 U	--	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	66000 U	66000 U	66000 U	66000 U	130000 U	130000 U	66000 U	66000 U	--	66000 U	--	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	540000 U	540000 U	540000 U	540000 U	1100000 U	1100000 U	540000 U	540000 U	--	540000 U	--	540000 U	540000 U	540000 U	540000 U	540000 U	540000 U	540000 U	540000 U	540000 U	540000 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	84000 U	84000 U	84000 U	84000 U	170000 U	170000 U	84000 U	84000 U	--	84000 U	--	84000 U	84000 U	84000 U	84000 U	84000 U	84000 U	84000 U	84000 U	84000 U	84000 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	780000 U	780000 U	780000 U	780000 U	1600000 U	1600000 U	780000 U	780000 U	--	780000 U	--	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	1600 U	1600 U	1600 U	1600 U	3200 U	3200 U	1600 U	1600 U	--	1600 U	--	1600 U	1600 U	1600 U	1600 U	24000	1600 U	1600 U	1600 U	1600 U	1600 U
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	210 UJ	210 U	210 U	210 U	400 U	400 U	210 U	210 U	--	210 U	--	210 UJ	210 UJ	210 U	210 U	2200	210 UJ	210 UJ	210 U	210 U	210 UJ
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	140000 U	140000 U	140000 U	140000 U	280000 U	280000 U	140000 U	140000 U	--	140000 U	--	140000 U	140000 U	140000 U	140000 U	77000 J	140000 U	140000 U	140000 U	140000 U	140000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	210000 U	210000 U	210000 U	210000 U	410000 U	410000 U	210000 U	210000 U	--	210000 U	--	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	300000 U	300000 U	300000 U	300000 U	600000 U	600000 U	300000 U	300000 U	--	300000 U	--	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	260000 U	260000 U	260000 U	260000 U	530000 U	530000 U	260000 U	260000 U	--	260000 U	--	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	90000 U	90000 U	90000 U	90000 U	180000 U	180000 U	90000 U	90000 U	--	90000 U	--	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	36000 U	36000 U	36000 U	36000 U	73000 U	73000 U	36000 U	36000 U	--	36000 U	--	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	17000 U	17000 U	17000 U	17000 U	35000 U	35000 U	17000 U	17000 U	--	17000 U	--	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	2300 U	2300 U	2300 U	2300 U	4500 U	4500 U	2300 U	2300 U	--	2300 U	--	2300 U	2300 U	2300 U	2300 U	2000 J	2300 U	2300 U	2300 U	2300 U	2300 U
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	2000 U	2000 U	2000 U	2000 U	3900 U	3900 U	2000 U	2000 U	--	2000 U	--	2000 U	2000 U	2000 U	2000 U	1700 J	2000 U	2000 U	2000 U	2000 U	2000 U
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	200 U	200 U	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	39000 U	39000 U	39000 U	39000 U	77000 U	77000 U	39000 U	39000 U	--	39000 U	--	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	33000 U	33000 U	33000 U	33000 U	67000 U	67000 U	33000 U	33000 U	--	33000 U	--	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	140000 U	140000 U	140000 U	140000 U	280000 U	280000 U	140000 U	140000 U	--	140000 U	--	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	150000 U	150000 U	150000 U	150000 U	290000 U	290000 U	150000 U	150000 U	--	150000 U	--	150000 U	110000 J	150000 U	150000 U	150000 U	150000 U	150000 U	150000 U	150000 U	150000 U
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	3800 U	3800 U	3800 U	3800 U	7400 U	7400 U	3800 U	3800 U	--	3800 U	--	3800 U	3800 U	3800 U	3800 U	40000	3800 U	3800 U	3800 U	3800 U	3800 U
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	6100 U	6100 U	6100 U	6100 U	12000 U	12000 U	6100 U	6100 U	--	6100 U	--	6100 U	6100 U	6100 U	6100 U	90000	6100 U	6100 U	6100 U	6100 U	6100 U
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	6200 U	6200 U	6200 U	6200 U	12000 U	12000 U	6200 U	6200 U	--	6200 U	--	6200 U	6200 U	6200 U	6200 U	83000	6200 U	6200 U	6200 U	6200 U	6200 U
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	6100 U	6100 U	6100 U	6100 U	12000 U	12000 U	6100 U	6100 U	--	6100 U	--	6100 U	6100 U	6100 U	6100 U	58000	6100 U	6100 U	6100 U	6100 U	6100 U
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	200 U	200 UJ	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	240	150 J	200 U	200 U	200 U	200 U
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	240 U	240 UJ	240 U	240 U	480 U	480 U	240 U	240 U	--	240 U	--	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	200 U	200 U	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	210 U	210 U	210 U	210 U	400 U	400 U	74 J	210 U	--	210 U	--	210 U	210 U	210 U	83 J	180 J	210 U	210 U	210 U	210 U	210 U
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	220 U	220 UJ	220 U	220 U	420 U	420 U	75 J	220 U	--	220 U	--	220 U	220 U	220 U	220 U	110 J	220 U	220 U	220 U	220 U	220 U
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	3400 U	3400 U	3400 U	3400 U	6600 U	6600 U	3400 U	3400 U	--	3400 U	--	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	12000 U	12000 U	12000 U	12000 U	24000 U	24000 U	12000 U	12000 U	--	12000 U	--	12000 U	12000 U	12000 U	12000 U	29000	12000 U	12000 U	12000 U	12000 U	12000 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	38000 U	38000 U	380000 U	110000	39000	150000 U		15000 U	30000 U	38000 U	30000 U	30000 U	260000 U	50000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	8900 U	8900 U	89000 U	16000	82000	36000 U	2900	3600 U	7100 U	8900 U	7100 U	7100 U	61000 U	2400
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	9400 U	9400 U	94000 U	13000	48000	38000 U		3800 U	7500 U	9400 U	7500 U	7500 U	64000 U	2300
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	1100 U	1100 U	1100 U	2100	12000	4300 U		430 U	860 U	1100 U	860 U	860 U	7300 U	4000
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	1000 U	1000 U	10000 U	1700	3300	4100 U	460	410 U	820 U	1000 U	820 U	820 U	7000 U	4500
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	10000 U	10000 U	10000 U	8100 U	2500	40000 U	4000 U	4000 U	8100 U	10000 U	8100 U	8100 U	69000 U	4100
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	10000 U	10000 U	10000 U	8000 U	4000 U	40000 U		4000 U	8000 U	10000 U	8000 U	8000 U	68000 U	2200
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	910 U	910 U	910 U	730 U	360 U	3600 U	360 U	360 U	730 U	910 U	730 U	730 U	6200 U	500
Wye Street	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	2800 U	5500 U	2800 U
Wye Street	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	2700 U	5200 U	2700 U
Wye Street	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	2800 U	5400 U	2800 U
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	190 U	190 U	190 U	190 U	330	190 U	190 U	190 U	190 U	--	190 U	190 U	380 U	190 U
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	--	210 U	210 U	400 U	210 U
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	390 UJ	200 U
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	260 U	--	260 U	260 U	500 UJ	260 U
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	--	500 U	500 U	970 U	500 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	630 U	330 U
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	--	310 U	310 U	610 U	310 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	560 U	560 U	560 U	560 U	560 U	560 U	560 U	560 U	560 U	--	560 U	560 U	1100 U	560 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	--	250 U	250 U	480 U	250 U
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	640 U	330 U
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	--	300 U	300 U	580 U	300 U
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	860 U	860 U	860 U	860 U	860 U	860 U	860 U	860 U	860 U	--	860 U	860 U	1700 U	860 U
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	380 U	200 U
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	--	5400 U	5400 U	10000 U	5400 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	740 U	740 U	740 U	740 U	740 U	740 U	740 U	740 U	740 U	--	740 U	740 U	1400 U	740 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	380 U	--	380 U	380 U	750 U	380 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	66000 U	66000 U	66000 U	25000 J	110000	66000 U	580000	66000 U	66000 U	--	66000 U	66000 U	130000 U	66000 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	540000 U	540000 U	540000 U	4700000	540000 U	540000 U	540000 U	540000 U	540000 U	--	540000 U	540000 U	1100000 U	540000 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	84000 U	84000 U	84000 U	50000 J	84000 U	84000 U	84000 U	84000 U	84000 U	--	84000 U	84000 U	170000 U	84000 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	780000 U	--	780000 U	780000 U	1600000 U	780000 U
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	3200 U	1600 U
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	210 UJ	210 UJ	210 UJ	210 U	210 UJ	210 U	210 U	210 UJ	210 U	--	210 U	210 U	400 UJ	210 U
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	140000 U	140000 U	140000 U	880000	140000 U	140000 U	140000 U	140000 U	140000 U	--	140000 U	140000 U	280000 U	140000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	210000 U	--	210000 U	210000 U	410000 U	210000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	300000 U	--	300000 U	300000 U	600000 U	300000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	260000 U	--	260000 U	260000 U	530000 U	260000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	90000 U	--	90000 U	90000 U	180000 U	90000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	--	36000 U	36000 U	73000 U	36000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	17000 U	--	17000 U	17000 U	35000 U	17000 U
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	2300 U	2300 U	2300 U	5400	2300 U	2300 U	4700	2300 U	2300 U	--	2300 U	2300 U	4500 UJ	2300 U
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	--	2000 U	2000 U	3900 UJ	2000 U
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	390 UJ	200 U
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	39000 U	--	39000 U	39000 U	77000 U	39000 U
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	33000 U	--	33000 U	33000 U	67000 U	33000 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	140000 U	--	140000 U	140000 U	280000 U	140000 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	150000 U	150000 U	150000 U	150000 U	150000 U	150000 U	150000 U	150000 U	150000 U	--	150000 U	150000 U	290000 U	150000 U
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	3800 U	--	3800 U	3800 U	7400 U	3800 U
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	6100 U	12000 U	6100 U
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	12000 U	6200 U
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	6100 U	12000 U	6100 U
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	200 U	200 U	200 U	200 U	200 U	200 UJ	200 U	200 U	200 U	--	200 U	200 U	390 U	200 U
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	240 U	240 U	240 U	1100	240 U	240 UJ	260	240 U	240 U	--	240 U	240 U	480 UJ	240 U
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	390 UJ	200 U
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	210 U	210 U	210 U	98 J	140 J	210 U	110 J	210 U	210 U	--	210 U	210 U	400 U	210 U
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	220 U	220 U	220 U	220 U	93 J	220 UJ	220 U	220 U	220 U	--	220 U	220 U	420 U	220 U
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	3400 U	6600 U	3400 U
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	12000 U	12000 U	12000 U	180000	4700 J	12000 U	67000	12000 U	12000 U	--	12000 U	12000 U	24000 U	12000 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	--	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	12000 U	5900 U	5900 U	38000	5900 U	--	5900 U	12000 U	5900 U	5900 U	--	12000 U	12000 U	5900 U
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	--	820 U	820 U	820 U	820 U	820 U	820 U	1600 U	820 U	820 U	5900	820 U	--	820 U	1600 U	820 U	820 U	--	1600 U	1600 U	820 U
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	--	210 U	210 U	210 U	210 U	210 U	210 U	400 U	210 U	210 U	270	210 U	--	210 U	400 U	210 U	210 U	--	400 U	400 U	210 U
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	--	410 U	410 U	410 U	410 U	410 U	410 U	790 U	410 U	410 U	2300	410 U	--	410 U	790 U	410 U	410 U	--	790 U	790 U	410 U
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	140 J	200 U	--	200 U	390 U	200 U	200 U	--	390 U	390 U	200 U
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	--	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	3000 U	1500 U	1500 U	1100 J	1500 U	--	1500 U	3000 U	1500 U	1500 U	--	3000 U	3000 U	1500 U
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	--	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	3900 U	2000 U	2000 U	2700	2000 U	--	2000 U	3900 U	2000 U	2000 U	--	3900 U	3900 U	2000 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	720 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	2500 U	1300 U	1300 U	2500	1300 U	--	1300 U	2500 U	1300 U	1300 U	--	2500 U	2500 U	1300 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	2800 U	1400 U	1400 U	3100	1400 U	--	1400 U	2800 U	1400 U	1400 U	--	2800 U	2800 U	1400 U
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	--	2600 U	2600 U	2600 U	2600 U	2600 U	2600 U	5000 U	2600 U	2600 U	2600	2600 U	--	2600 U	5000 U	2600 U	2600 U	--	5000 U	5000 U	2600 U
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	--	520 U	520 U	520 U	520 U	520 U	520 U	1000 U	520 U	520 U	520	520 U	--	520 U	1000 U	520 U	520 U	--	1000 U	1000 U	520 U
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	--	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	4600 U	2400 U	2400 U	19000	2400 U	--	2400 U	4600 U	2400 U	2400 U	--	4600 U	4600 U	2400 U
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	--	190 U	190 U	190 U	190 U	190 U	190 U	380 U	190 U	190 U	3000	190 U	--	190 U	380 U	190 U	190 U	--	380 U	380 U	190 U
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	--	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	4400 U	2300 U	2300 U	1200 J	2300 U	--	2300 U	4400 U	2300 U	2300 U	--	4400 U	4400 U	2300 U
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	--	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	11000 U	5700 U	5700 U	5700 U	5700 U	--	5700 U	11000 U	5700 U	5700 U	--	11000 U	11000 U	5700 U
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	--	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	5300 U	2700 U	2700 U	5800	2700 U	--	2700 U	5300 U	2700 U	2700 U	--	5300 U	5300 U	2700 U
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	--	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	12000 U	5900 U	5900 U	3000 J	5900 U	--	5900 U	12000 U	5900 U	5900 U	--	12000 U	12000 U	5900 U
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	--	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	9600 U	4900 U	4900 U	4900 U	4900 U	--	4900 U	9600 U	4900 U	4900 U	--	9600 U	9600 U	4900 U
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	--	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	3500 U	1800 U	1800 U	2400	1800 U	--	1800 U	3500 U	1800 U	1800 U	--	3500 U	3500 U	1800 U
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	--	570 U	570 U	570 U	570 U	570 U	570 U	1100 U	570 U	570 U	950	570 U	--	570 U	1100 U	570 U	570 U	--	1100 U	1100 U	570 U
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	--	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	4700 U	2400 U	2400 U	2400 U	2400 U	--	2400 U	4700 U	2400 U	2400 U	--	4700 U	4700 U	2400 U
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	--	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	5600 U	2900 U	2900 U	2900 U	2900 U	--	2900 U	5600 U	2900 U	2900 U	--	5600 U	5600 U	2900 U
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	--	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	12000 U	6000 U	6000 U	6000 U	6000 U	--	6000 U	12000 U	6000 U	6000 U	--	12000 U	12000 U	6000 U
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	--	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	11000 U	5800 U	5800 U	5800 U	5800 U	--	5800 U	11000 U	5800 U	5800 U	--	11000 U	11000 U	5800 U
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	--	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	4500 U	2300 U	2300 U	1000 J	2300 U	--	2300 U	4500 U	2300 U	2300 U	--	4500 U	4500 U	2300 U
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	--	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	12000 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	12000 U	6100 U	6100 U	--	12000 U	12000 U	6100 U
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	--	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	12000 U	6400 U	6400 U	6700	6400 U	--	6400 U	12000 U	6400 U	6400 U	--	12000 U	12000 U	6400 U
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	--	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	47000 U	24000 U	24000 U	31000	24000 U	--	24000 U	47000 U	24000 U	24000 U	--	47000 U	47000 U	24000 U
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	--	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	39000 U	20000 U	20000 U	20000 U	20000 U	--	20000 U	39000 U	20000 U	20000 U	--	39000 U	39000 U	20000 U
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	--	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	4500 U	2300 U	2300 U	1400 J	2300 U	--	2300 U	4500 U	2300 U	2300 U	--	4500 U	4500 U	2300 U
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	--	210 U	210 U	210 U	210 U	210 U	210 U	410 U	210 U	210 U	940	210 U	--	210 U	410 U	210 U	210 U	--	410 U	410 U	210 U
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	--	460 U	460 U	460 U	460 U	460 U	460 U	890 U	460 U	460 U	350 J	460 U	--	460 U	890 U	460 U	460 U	--	890 U	890 U	460 U
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	--	470 U	470 U	470 U	470 U	470 U	470 U	920 U	470 U	470 U	260 J	470 U	--	470 U	920 U	470 U	470 U	--	920 U	920 U	470 U
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	--	870 U	870 U	870 U	870 U	870 U	870 U	1700 U	870 U	870 U	710 J	870 U	--	870 U	1700 U	870 U	870 UJ	--	1700 U	1700 U	870 U
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	--	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	2300 U	1200 U	1200 U	640 J	1200 U	--	1200 U	2300 U	1200 U	1200 UJ	--	2300 U	2300 U	1200 U
Arkema	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	--	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	11000 U	5800 U	5800 U	5800 U	5800 U	--	5800 U	11000 U	5800 U	5800 U	--	11000 U	11000 U	5800 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigai

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	5900 U	5900 U	5900 U	5900 U	12000 U	12000 U	5900 U	5900 U	--	5900 U	--	5900 U	5900 U	5900 U	5900 U	50000	5900 U	5900 U	5900 U	5900 U	5900 U
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	820 U	820 U	820 U	820 U	1600 U	1600 U	820 U	820 U	--	820 U	--	820 U	820 U	820 U	820 U	700 J	820 U	820 U	820 U	820 U	820 U
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	210 U	210 U	210 U	210 U	400 U	400 U	210 U	210 U	--	210 U	--	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	410 U	410 U	410 U	410 U	790 U	790 U	410 U	410 U	--	410 U	--	410 U	410 U	410 U	410 U	410 U	410 U	410 U	410 U	410 U	410 U
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	200 U	200 U	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	1500 U	1500 U	1500 U	1500 U	3000 U	3000 U	1500 U	1500 U	--	1500 U	--	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	2000 U	2000 U	2000 U	2000 U	3900 U	3900 U	2000 U	2000 U	--	2000 U	--	2000 U	2000 U	2000 U	2000 U	19000	2000 U	2000 U	2000 U	2000 U	2000 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	1300 U	1300 U	1300 U	2300	2500 U	2500 U	1300 U	1300 U	--	1300 U	--	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	1400 U	1400 U	1400 U	1500	2800 U	2800 U	1400 U	1400 U	--	1400 U	--	1400 U	480 J	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	2600 U	2600 U	2600 U	2600 U	5000 U	5000 U	2600 U	2600 U	--	2600 U	--	2600 U	2600 U	2600 U	2600 U	2600 U	16000	2600 U	2600 U	2600 U	2600 U
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	520 U	520 U	520 U	520 U	1000 U	1000 U	520 U	520 U	--	520 U	--	520 U	520 U	520 U	520 U	520 U	3400	520 U	520 U	520 U	520 U
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	2400 U	2400 U	2400 U	2400 U	4600 U	4600 U	2400 U	2400 U	--	2400 U	--	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	190 U	190 U	190 U	190 U	380 U	380 U	190 U	190 U	--	190 U	--	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	2300 U	2300 U	2300 U	2300 U	4400 U	4400 U	2300 U	2300 U	--	2300 U	--	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	5700 U	5700 U	5700 U	5700 U	11000 U	11000 U	5700 U	5700 U	--	5700 U	--	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	2700 U	2700 U	2700 U	2700 U	5300 U	5300 U	2700 U	2700 U	--	2700 U	--	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	5900 U	5900 U	5900 U	5900 U	12000 U	12000 U	5900 U	5900 U	--	5900 U	--	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	4900 U	4900 U	4900 U	4900 U	9600 U	9600 U	4900 U	4900 U	--	4900 U	--	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	1800 U	1800 U	1800 U	1800 U	3500 U	3500 U	1800 U	1800 U	--	1800 U	--	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	570 U	570 U	570 U	310 J	1100 U	1100 U	570 U	570 U	--	570 U	--	570 U	200 J	570 U	570 U	570 U	570 U	570 U	280 J	210 J	570 U
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	2400 U	2400 U	2400 U	2400 U	4700 U	4700 U	2400 U	2400 U	--	2400 U	--	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	2900 U	2900 U	2900 U	2900 U	5600 U	5600 U	2900 U	2900 U	--	2900 U	--	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	6000 U	6000 U	6000 U	6000 U	12000 U	12000 U	6000 U	6000 U	--	6000 U	--	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	5800 U	5800 U	5800 U	5800 U	11000 U	11000 U	5800 U	5800 U	--	5800 U	--	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	2300 U	2300 U	2300 U	2300 U	4500 U	4500 U	2300 U	2300 U	--	2300 U	--	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	6100 U	6100 U	6100 U	6100 U	12000 U	12000 U	6100 U	6100 U	--	6100 U	--	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	6400 U	6400 U	6400 U	6400 U	12000 U	12000 U	6400 U	6400 U	--	6400 U	--	6400 U	2300 J	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	24000 U	24000 U	24000 U	24000 U	47000 U	47000 U	24000 U	24000 U	--	24000 U	--	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	20000 U	20000 U	20000 U	20000 U	39000 U	39000 U	20000 U	20000 U	--	20000 U	--	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	2300 U	2300 U	2300 U	2300 U	4500 U	4500 U	2300 U	2300 U	--	2300 U	--	2300 U	2300 U	2300 U	2300 U	960 J	2300 U	2300 U	2300 U	2300 U	2300 U
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	210 U	210 U	210 U	210 U	410 U	410 U	210 U	210 U	--	210 U	--	210 U	210 U	210 U	210 U	1400	210 U	210 U	210 U	210 U	210 U
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	460 U	460 U	460 U	460 U	890 U	890 U	460 U	460 U	--	460 U	--	460 U	290 J	460 U	460 U	320 J	460 U	460 U	460 U	460 U	460 U
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	470 U	470 U	470 U	470 U	920 U	920 U	470 U	470 U	--	470 U	--	470 U	190 J	470 U	180 J	470 U	470 U	470 U	470 U	470 U	470 U
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	870 U	870 UJ	870 U	870 U	1700 U	1700 U	870 U	870 U	--	870 U	--	870 U	870 U	870 U	870 U	540 J	5300	870 U	870 U	870 U	870 U
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	1200 U	1200 UJ	1200 U	1200 U	2300 U	2300 U	1200 U	1200 U	--	1200 U	--	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U
Arkema	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	5800 U	5800 U	5800 U	5800 U	11000 U	11000 U	5800 U	5800 U	--	5800 U	--	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	5900 U	5900 U	5900 U	8000	5900 U	5900 U	42000	5900 U	5900 U	--	5900 U	5900 U	12000 U	5900 U
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	820 U	820 U	820 U	990	820 U	820 U	820 U	820 U	820 U	--	820 U	820 U	1600 UJ	820 U
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	--	210 U	210 U	400 UJ	210 U
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	410 U	410 U	410 U	240 J	410 U	410 U	410 U	410 U	410 U	--	410 U	410 U	790 UJ	410 U
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	390 UJ	200 U
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	1500 U	1500 U	1500 U	2800	1500 U	1500 U	1500 U	1500 U	1500 U	--	1500 U	1500 U	3000 U	1500 U
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	2000 U	2000 U	2000 U	6000	2000 U	2000 U	3100	2000 U	2000 U	--	2000 U	2000 U	3900 U	2000 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	1300 U	--	1300 U	1300 U	2500 U	1300 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	1400 U	2800 U	1400 U
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	2600 U	2600 U	2600 U	2600 U	2600 U	2600 U	2600 U	2600 U	2600 U	--	2600 U	2600 U	5000 U	2600 U
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	520 U	520 U	520 U	520 U	520 U	520 U	520 U	520 U	520 U	--	520 U	520 U	1000 U	520 U
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	--	2400 U	2400 U	4600 U	2400 U
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	190 U	77 J	190 U	190 U	190 U	190 U	190 U	190 U	190 U	--	190 U	190 U	380 U	190 U
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	--	2300 U	2300 U	4400 U	2300 U
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	5700 U	--	5700 U	5700 U	11000 U	5700 U
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	2700 U	5300 U	2700 U
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	--	5900 U	5900 U	12000 U	5900 U
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	4900 U	--	4900 U	4900 U	9600 U	4900 U
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	3500 U	1800 U
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	570 U	570 U	570 U	200 J	570 U	570 U	570 U	570 U	570 U	--	570 U	570 U	1100 U	570 U
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	2400 U	--	2400 U	2400 U	4700 U	2400 U
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	--	2900 U	2900 U	5600 U	2900 U
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	--	6000 U	6000 U	12000 U	6000 U
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	--	5800 U	5800 U	11000 U	5800 U
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	2300 U	--	2300 U	2300 U	4500 U	2300 U
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	6100 U	--	6100 U	6100 U	12000 U	6100 U
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	--	6400 U	6400 U	12000 U	6400 U
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	--	24000 U	24000 U	47000 U	24000 U
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	20000 U	--	20000 U	20000 U	39000 UJ	20000 U
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	2300 U	2300 U	2300 U	2800	2300 U	2300 U	910 J	2300 U	2300 U	--	2300 U	2300 U	4500 U	2300 U
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	210 U	210 U	210 U	140 J	930	210 U	1600	210 U	210 U	--	210 U	210 U	410 U	210 U
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	460 U	460 U	460 U	3100	460 U	460 U	250 J	460 U	460 U	--	460 U	460 U	890 U	460 U
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	470 U	470 U	470 U	920	470 U	470 U	470 U	470 U	470 U	--	470 U	470 U	920 U	470 U
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	870 U	870 U	870 U	4400	870 U	870 UJ	660 J	870 U	870 U	--	870 U	870 U	1700 U	870 U
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	1200 U	1200 U	1200 U	1200 U	1200 U	1200 UJ	440 J	1200 U	1200 U	--	1200 U	1200 U	2300 U	1200 U
Arkema	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	--	5800 U	5800 U	11000 U	5800 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	--	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	5900 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	5900 U	3000 U	3000 U	--	5900 U	5900 U	3000 U
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	--	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	8600 U	4400 U	4400 U	4400 U	4400 U	--	4400 U	8600 U	4400 U	4400 U	--	8600 U	8600 U	4400 U
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	--	2700 U	2700 UJ	2700 U	2700 U	2700 U	2700 U	5200 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	5200 U	2700 U	2700 U	--	5200 U	5200 U	2700 U
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	--	3200 U	3200 UJ	3200 U	3200 U	3200 U	3200 U	6300 U	3200 U	3200 U	2200 J	3200 U	--	3200 U	6300 U	3200 U	3200 U	--	6300 U	6300 U	3200 U
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	--	220 U	220 U	220 U	220 U	220 U	220 U	420 U	220 U	220 U	98 J	220 U	--	220 U	420 U	220 U	220 U	--	420 U	420 U	220 U
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	--	2800 U	2800 UJ	2800 U	2800 U	2800 U	2800 U	5300 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	5300 U	2800 U	2800 U	--	5300 U	5300 U	2800 U
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	--	3300 U	3300 UJ	3300 U	3300 U	3300 U	3300 U	6300 U	3300 U	3300 U	3700	3300 U	--	3300 U	6300 U	3300 U	3300 U	--	6300 U	6300 U	3300 U
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	--	3400 U	3400 UJ	3400 U	3400 U	3400 U	3400 U	6600 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	6600 U	3400 U	3400 U	--	6600 U	6600 U	3400 U
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	--	3000 U	3000 UJ	3000 U	3000 U	3000 U	3000 U	5900 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	5900 U	3000 U	3000 U	--	5900 U	5900 U	3000 U
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	--	2900 U	2900 UJ	2900 U	2900 U	2900 U	2900 U	5600 U	2900 U	2900 U	2900 U	2900 U	--	2900 U	5600 U	2900 U	2900 U	--	5600 U	5600 U	2900 U
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	--	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	2300 U	1200 U	1200 U	2700	1200 U	--	1200 U	2300 U	1200 U	1200 U	--	2300 U	2300 U	1200 U
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	--	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	4200 U	2200 U	2200 U	2200 U	2200 U	--	2200 U	4200 U	2200 U	2200 U	--	4200 U	4200 U	2200 U
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	--	270 U	270 U	270 U	270 U	270 U	270 U	520 U	270 U	270 U	270 U	270 U	--	270 U	520 U	270 U	270 U	--	520 U	520 U	270 U
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	--	190 U	190 U	190 U	190 U	190 U	190 U	370 U	190 U	190 U	190 U	190 U	--	190 U	370 U	190 U	190 U	--	370 U	370 U	190 U
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	--	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	3600 U	1800 U	1800 U	1800 U	1800 U	--	1800 U	3600 U	1800 U	1800 U	--	3600 U	3600 U	1800 U
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	200 U	200 U	--	200 U	390 U	200 U	200 U	--	390 U	390 U	200 U
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	--	200 U	200 U	200 U	200 U	200 U	200 U	380 U	200 U	200 U	200 U	200 U	--	200 U	380 U	200 U	200 U	--	380 U	380 U	200 U
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	12000 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	12000 U	6200 U	6200 U	--	12000 U	12000 U	6200 U
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	--	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	8400 U	4300 U	4300 U	4300 U	4300 U	--	4300 U	8400 U	4300 U	4300 U	--	8400 U	8400 U	4300 U
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	--	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	12000 U	6400 U	6400 U	6400 U	6400 U	--	6400 U	12000 U	6400 U	6400 U	--	12000 U	12000 U	6400 U
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	--	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	11000 U	5800 U	5800 U	5800 U	5800 U	--	5800 U	11000 U	5800 U	5800 U	--	11000 U	11000 U	5800 U
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	--	200 U	200 U	200 U	200 U	200 U	200 U	380 U	200 U	200 U	200 U	200 U	--	200 U	380 U	200 U	200 U	--	380 U	380 U	200 U
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	200 U	200 U	--	200 U	390 U	200 U	200 U	--	390 U	390 U	200 U
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	--	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	13000 U	6700 U	6700 U	6700 U	6700 U	--	6700 U	13000 U	6700 U	6700 U	--	13000 U	13000 U	6700 U
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	--	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	8500 U	4400 U	4400 U	4400 U	4400 U	--	4400 U	8500 U	4400 U	4400 U	--	8500 U	8500 U	4400 U
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	--	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	14000 U	7400 U	7400 U	7400 U	7400 U	--	7400 U	14000 U	7400 U	7400 U	--	14000 U	14000 U	7400 U
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	--	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	14000 U	7300 U	7300 U	7300 U	7300 U	--	7300 U	14000 U	7300 U	7300 U	--	14000 U	14000 U	7300 U
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	--	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	13000 U	6800 U	6800 U	6800 U	6800 U	--	6800 U	13000 U	6800 U	6800 U	--	13000 U	13000 U	6800 U
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	--	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	13000 U	6800 U	6800 U	6800 U	6800 U	--	6800 U	13000 U	6800 U	6800 U	--	13000 U	13000 U	6800 U
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	12000 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	12000 U	6200 U	6200 U	--	12000 U	12000 U	6200 U
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	12000 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	12000 U	6200 U	6200 U	--	12000 U	12000 U	6200 U
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	--	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	6400 U	3300 U	3300 U	2000 J	3300 U	--	3300 U	6400 U	3300 U	3300 U	--	6400 U	6400 U	3300 U
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	--	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	10000 U	5400 U	5400 U	5400 U	5400 U	--	5400 U	10000 U	5400 U	5400 U	--	10000 U	10000 U	5400 U
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	--	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	15000 U	7700 U	7700 U	7700 U	7700 U	--	7700 U	15000 U	7700 U	7700 U	--	15000 U	15000 U	7700 U
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	--	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	12000 U	5900 U	5900 U	5900 U	5900 U	--	5900 U	12000 U	5900 U	5900 U	--	12000 U	12000 U	5900 U
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	--	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	6200 U	3200 U	3200 U	1200 J	3200 U	--	3200 U	6200 U	3200 U	3200 U	--	6200 U	6200 U	3200 U
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	--	300 U	300 U	300 U	300 U	300 U	300 U	590 U	300 U	300 U	300 U	300 U	--	300 U	590 U	300 U	300 U	--	590 U	590 U	300 U
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	--	210 U	210 U	210 U	210 U	210 U	210 U	400 U	210 U	210 U	100 J	210 U	--	210 U	400 U	210 U	210 U	--	400 U	400 U	210 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	3000 U	3000 U	3000 U	3000 U	5900 U	5900 U	3000 U	3000 U	--	3000 U	--	3000 U	3000 U	3000 U	3000 UJ	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	4400 U	4400 U	4400 U	4400 U	8600 U	8600 U	4400 U	4400 U	--	4400 U	--	4400 U	4400 U	4400 U	4400 UJ	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	2700 U	2700 U	2700 U	2700 U	5200 U	5200 U	2700 U	2700 U	--	2700 U	--	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	3200 U	3200 U	3200 U	3200 U	6300 U	6300 U	3200 U	3200 U	--	3200 U	--	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	220 U	220 U	220 U	220 U	420 U	420 U	220 U	220 U	--	220 U	--	220 U	220 U	220 U	220 UJ	220 U	220 U	220 U	220 U	220 U	220 U
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	2800 U	2800 U	2800 U	2800 U	5300 U	5300 U	2800 U	2800 U	--	2800 U	--	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	3300 U	3300 U	3300 U	3300 U	6300 U	6300 U	3300 U	3300 U	--	3300 U	--	3300 U	1700 J	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	3400 U	3400 U	3400 U	3400 U	6600 U	6600 U	3400 U	3400 U	--	3400 U	--	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	3000 U	3000 U	3000 U	3000 U	5900 U	5900 U	3000 U	3000 U	--	3000 U	--	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	2900 U	2900 U	2900 U	2900 U	5600 U	5600 U	2900 U	2900 U	--	2900 U	--	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	1200 U	1200 U	1200 U	1200 U	2300 U	2300 U	1200 U	1200 U	--	1200 U	--	1200 U	1200 U	1200 U	1200 UJ	1200 U	1200 U	1200 U	1200 U	490 J	1200 U
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	2200 U	2200 U	2200 U	2200 U	4200 U	4200 U	2200 U	2200 U	--	2200 U	--	2200 U	2200 U	2200 U	2200 UJ	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	270 U	270 U	270 U	270 U	520 U	520 U	270 U	270 U	--	270 U	--	270 U	270 U	270 U	270 UJ	270 U	270 U	270 U	270 U	270 U	270 U
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	190 U	190 U	190 U	190 U	370 U	370 U	190 U	190 U	--	190 U	--	190 U	190 U	190 U	190 UJ	190 U	190 U	190 U	190 U	190 U	190 U
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	1800 U	1800 U	1800 U	1800 U	3600 U	3600 U	1800 U	1800 U	--	1800 U	--	1800 U	1800 U	1800 U	1800 UJ	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 UJ	200 U	200 U	200 U	200 U	200 U	200 U
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	200 U	200 U	200 U	200 U	380 U	380 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 UJ	200 U	200 U	200 U	200 U	200 U	200 U
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	6200 U	6200 U	6200 U	6200 U	12000 U	12000 U	6200 U	6200 U	--	6200 U	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	4300 U	4300 U	4300 U	4300 U	8400 U	8400 U	4300 U	4300 U	--	4300 U	--	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	6400 U	6400 U	6400 U	6400 U	12000 U	12000 U	6400 U	6400 U	--	6400 U	--	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	5800 U	5800 U	5800 U	5800 U	11000 U	11000 U	5800 U	5800 U	--	5800 U	--	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	200 U	200 U	200 U	200 U	380 U	380 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	6700 U	6700 U	6700 U	6700 U	13000 U	13000 U	6700 U	6700 U	--	6700 U	--	6700 U	6700 U	6700 U	6700 U	6700 U	9400	6700 U	6700 U	6700 U	6700 U
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	4400 U	4400 U	4400 U	4400 U	8500 U	8500 U	4400 U	4400 U	--	4400 U	--	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	7400 U	7400 U	7400 U	7400 U	14000 U	14000 U	7400 U	7400 U	--	7400 U	--	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	7300 U	7300 U	7300 U	7300 U	14000 U	14000 U	7300 U	7300 U	--	7300 U	--	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	6800 U	6800 U	6800 U	6800 U	13000 U	13000 U	6800 U	6800 U	--	6800 U	--	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	6800 U	6800 U	6800 U	6800 U	13000 U	13000 U	6800 U	6800 U	--	6800 U	--	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	6200 U	6200 U	6200 U	6200 U	12000 U	12000 U	6200 U	6200 U	--	6200 U	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	6200 U	6200 U	6200 U	6200 U	12000 U	12000 U	6200 U	6200 U	--	6200 U	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	3300 U	3300 U	3300 U	3300 U	6400 U	6400 U	3300 U	3300 U	--	3300 U	--	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	5400 U	5400 U	5400 U	5400 U	10000 U	10000 U	5400 U	5400 U	--	5400 U	--	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	7700 U	7700 U	7700 U	7700 U	15000 U	15000 U	7700 U	7700 U	--	7700 U	--	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	5900 U	5900 U	5900 U	5900 U	12000 U	12000 U	5900 U	5900 U	--	5900 U	--	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	3200 U	3200 U	3200 U	3200 U	6200 U	6200 U	3200 U	3200 U	--	3200 U	--	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	300 U	300 U	300 U	300 U	590 U	590 U	300 U	300 U	--	300 U	--	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	210 U	210 U	210 U	210 U	400 U	400 U	210 U	210 U	--	210 U	--	210 U	210 U	210 U	210 U	210 U	130 J	210 U	210 U	210 U	210 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	3000 U	5900 U	3000 U
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	--	4400 U	4400 U	8600 U	4400 U
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	--	2700 U	2700 U	5200 U	2700 U
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	3200 U	6300 U	3200 U
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	--	220 U	220 U	420 U	220 U
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	2800 U	5300 U	2800 U
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	--	3300 U	3300 U	6300 U	3300 U
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	3400 U	6600 U	3400 U
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	--	3000 U	3000 U	5900 U	3000 U
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	--	2900 U	2900 U	5600 U	2900 U
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	--	1200 U	1200 U	2300 U	1200 U
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	2200 U	--	2200 U	2200 U	4200 U	2200 U
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U	--	270 U	270 U	520 U	270 U
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	--	190 U	190 U	370 U	190 U
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	3600 U	1800 U
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	390 U	200 U
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	380 U	200 U
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	12000 U	6200 U
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	4300 U	--	4300 U	4300 U	8400 U	4300 U
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	--	6400 U	6400 U	12000 U	6400 U
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	5800 U	--	5800 U	5800 U	11000 U	5800 U
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	380 UJ	200 U
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	390 UJ	200 U
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	6700 U	--	6700 U	6700 U	13000 U	6700 U
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	4400 U	--	4400 U	4400 U	8500 U	4400 U
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	7400 U	--	7400 U	7400 U	14000 U	7400 U
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	--	7300 U	7300 U	14000 U	7300 U
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	--	6800 U	6800 U	13000 U	6800 U
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	6800 U	--	6800 U	6800 U	13000 U	6800 U
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	12000 U	6200 U
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	12000 U	6200 U
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	--	3300 U	3300 U	6400 U	3300 U
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	5400 U	--	5400 U	5400 U	10000 U	5400 U
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	7700 U	--	7700 U	7700 U	15000 U	7700 U
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	5900 U	--	5900 U	5900 U	12000 U	5900 U
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	3200 U	6200 U	3200 U
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	--	300 U	300 U	590 U	300 U
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	--	210 U	210 U	400 U	210 U

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,2,4-TRICHLOROBENZENE	1,2,4,5-TETRACHLOROBENZENE	2,3,4,6-TETRACHLOROPHENOL	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORONAPHTHALENE	2-CHLOROPHENOL	2-METHYLNAPHTHALENE	2-METHYLPHENOL (O-CRESOL)	2-NITROANILINE	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-METHYLPHENOL & 4-METHYLPHENOL	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL PHENYL ETHER
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	--	730 U	730 U	730 U	730 U	730 U	730 U	1400 U	730 U	730 U	730 U	730 U	--	730 U	1400 U	730 U	730 U	--	1400 U	1400 U	730 U
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	--	230 U	230 U	230 U	230 U	230 U	230 U	450 U	230 U	230 U	230 U	230 U	--	230 U	450 U	230 U	230 U	--	450 U	450 U	230 U
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	--	220 U	220 U	220 U	220 U	220 U	220 U	430 U	220 U	220 U	220 U	220 U	--	220 U	430 U	220 U	220 U	--	430 U	430 U	220 UJ
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	--	220 U	220 U	220 U	220 U	220 U	220 U	420 U	220 U	220 U	220 U	220 U	--	220 U	420 U	220 U	220 U	--	420 U	420 U	220 U
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	--	200 U	200 U	200 U	200 U	200 U	200 U	400 U	200 U	200 U	200 U	200 U	--	200 U	400 U	200 U	200 U	--	400 U	400 U	200 U
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	--	200 U	200 U	200 U	200 U	200 U	200 U	380 U	200 U	200 U	200 U	200 U	--	200 U	380 U	200 U	200 U	--	380 U	380 U	200 U
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	--	180 U	180 U	180 U	180 U	180 U	180 U	340 U	180 U	180 U	180 U	180 U	--	180 U	340 U	180 U	180 U	--	340 U	340 U	180 U
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	--	180 U	180 U	180 U	180 U	180 U	180 U	350 U	180 U	180 U	180 U	180 U	--	180 U	350 U	180 U	180 U	--	350 U	350 U	180 U
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	--	190 U	190 U	190 U	190 U	190 U	190 U	380 U	190 U	190 U	190 U	190 U	--	190 U	380 U	190 UJ	190 U	--	380 U	380 U	190 U
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	--	720 U	720 U	720 U	720 U	720 U	720 U	1400 U	720 U	720 U	720 U	720 U	--	720 U	1400 U	720 U	720 U	--	1400 U	1400 U	720 U
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	--	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	2900 U	1500 U	1500 U	1500 U	1500 U	--	1500 U	2900 U	1500 U	1500 U	--	2900 U	2900 U	1500 U
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	--	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	6300 U	3300 U	3300 U	3300 U	3300 U	--	3300 U	6300 U	3300 U	3300 U	--	6300 U	6300 U	3300 U
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	--	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	5700 U	2900 U	2900 U	2900 U	2900 U	--	2900 U	5700 U	2900 U	2900 U	--	5700 U	5700 U	2900 U
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	200 U	200 U	--	200 U	390 U	200 U	200 U	--	390 U	390 U	200 U
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	--	360 U	360 U	360 U	360 U	360 U	360 U	710 U	360 U	360 U	360 U	360 U	--	360 U	710 U	360 U	360 UJ	--	710 U	710 U	360 U
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	--	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	2800 U	1500 U	1500 U	1500 U	1500 U	--	1500 U	2800 U	1500 U	1500 U	--	2800 U	2800 U	1500 U
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	--	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	6400 U	3300 U	3300 U	3300 U	3300 U	--	3300 U	6400 U	3300 U	3300 U	--	6400 U	6400 U	3300 U
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	--	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	6300 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	6300 U	3200 U	3200 U	--	6300 U	6300 U	3200 U
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	--	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	6600 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	6600 U	3400 U	3400 U	--	6600 U	6600 U	3400 U
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	--	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	6600 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	6600 U	3400 U	3400 U	--	6600 U	6600 U	3400 U
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	--	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	5400 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	5400 U	2800 U	2800 U	--	5400 U	5400 U	2800 U
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	--	200 U	200 U	200 U	200 U	200 U	200 U	390 U	200 U	200 U	200 U	200 U	--	200 U	390 U	200 U	200 U	--	390 U	390 U	200 U
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	--	190 U	190 U	190 U	190 U	190 U	190 U	370 U	190 U	190 U	190 U	190 U	--	190 U	370 U	190 U	190 U	--	370 U	370 U	190 U

Notes:
J = estimated value
R = rejected value
U= result not detected below reporting limit shown
Field duplicates identified with a "-R" or "X" in the Sample ID
-- parameter not analyzed

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL PHENYL ETHER	4-METHYLPHENOL (P-CRESOL)	4-NITROANILINE	4-NITROPHENOL	ACETOPHENONE	ATRAZINE	AZOBENZENE	BENZALDEHYDE	BENZYL ALCOHOL	BENZYL BUTYL PHTHALATE	BIPHENYL (DIPHENYL)	BIS(2-CHLOROETHOXY) METHANE	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	BIS(2-CHLOROISOPROPYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	CAPROLACTAM	CARBAZOLE	DIBENZOFURAN	DIETHYL PHTHALATE
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	730 U	730 U	730 U	780	1400 U	1400 U	730 U	730 U	--	730 U	--	730 U	730 U	730 U	730 U	730 U	4400	730 U	530 J	1400	730 U
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	230 U	230 U	230 U	230 U	450 U	450 U	230 U	230 U	--	230 U	--	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	220 U	220 U	220 UJ	220 U	430 U	430 U	220 U	220 U	--	220 U	--	220 UJ	220 UJ	220 U	220 U	220 U	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	220 U	220 U	220 U	220 U	420 U	420 U	220 U	220 U	--	220 U	--	220 UJ	220 UJ	220 U	220 U	220 U	220 UJ	220 UJ	220 U	220 U	220 UJ
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	200 U	200 U	200 U	200 U	400 U	400 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	200 U	200 U	200 U	200 U	380 U	380 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	180 U	180 U	180 U	180 U	340 U	340 U	180 U	180 U	--	180 U	--	180 U	180 U	180 U	180 UJ	180 U	180 U	180 U	180 U	180 U	180 U
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	180 U	180 U	180 U	180 U	350 U	350 U	180 U	180 U	--	180 U	--	180 U	180 U	180 U	180 UJ	180 U	180 U	180 U	180 U	180 U	180 U
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	190 U	190 U	190 U	190 U	380 U	380 U	190 U	190 U	--	190 U	--	190 U	190 U	190 U	190 UJ	190 U	190 U	190 U	190 U	190 U	190 U
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	720 U	720 U	720 U	520 J	1400 U	1400 U	720 U	720 U	--	720 U	--	720 U	720 U	720 U	720 UJ	720 U	7500	720 U	720 U	720 U	720 U
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	1500 U	1500 U	1500 U	1500 U	2900 U	2900 U	1500 U	1500 U	--	1500 U	--	1500 U	1500 U	1500 U	1500 UJ	1500 U	7600	1500 U	1500 U	1500 U	1500 U
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	3300 U	3300 U	3300 U	3300 U	6300 U	6300 U	3300 U	3300 U	--	3300 U	--	3300 U	3300 U	3300 U	3300 UJ	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	2900 U	2900 U	2900 U	2900 U	5700 U	5700 U	2900 U	2900 U	--	2900 U	--	2900 U	2900 U	2900 U	2900 UJ	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	200 U	200 U	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 UJ	200 U	200 U	200 U	200 U	200 U	200 U
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	360 U	360 UJ	360 U	360 U	710 U	710 U	360 U	360 U	--	360 U	--	360 UJ	360 UJ	360 U	360 UJ	360 U	3900 J	360 UJ	360 U	360 U	360 UJ
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	1500 U	1500 U	1500 U	1500 U	2800 U	2800 U	1500 U	1500 U	--	1500 U	--	1500 U	1500 U	1500 U	1500 UJ	1500 U	12000	1500 U	1500 U	1500 U	1500 U
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	3300 U	760 J	3300 U	3300 U	6400 U	6400 U	3300 U	3300 U	--	3300 U	--	3300 U	3300 U	3300 U	3300 UJ	3300 U	33000	3300 U	3300 U	3300 U	3300 U
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	3200 U	790 J	3200 U	3200 U	6300 U	6300 U	3200 U	3200 U	--	3200 U	--	3200 U	3200 U	3200 U	3200 UJ	3200 U	33000	3200 U	3200 U	3200 U	3200 U
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	3400 U	3400 U	3400 U	3400 U	6600 U	6600 U	3400 U	3400 U	--	3400 U	--	3400 U	3400 U	3400 U	3400 UJ	3400 U	32000	3400 U	3400 U	3400 U	3400 U
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	3400 U	3400 U	3400 U	3400 U	6600 U	6600 U	3400 U	3400 U	--	3400 U	--	3400 U	3400 U	3400 U	3400 UJ	3400 U	33000	3400 U	3400 U	3400 U	3400 U
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	2800 U	2800 U	2800 U	2800 U	5400 U	5400 U	2800 U	2800 U	--	2800 U	--	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	390 U	390 U	200 U	200 U	--	200 U	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	190 U	190 U	190 U	190 U	370 U	370 U	190 U	190 U	--	190 U	--	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U

Notes:
J = estimated value
R = rejected value
U= result not detected below reporting limit shown
Field duplicates identified with a "-R" or "X" in the Sample ID
-- parameter not analyzed

TABLE A-10
SVOC Data (µg/kg)
Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIMETHYL PHTHALATE	DI-N-BUTYL PHTHALATE	DI-N-OCTYLPHTHALATE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	ISOPHORONE	NITROBENZENE	N-NITROSODIMETHYLAMINE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL	PHENOL
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	730 U	730 U	730 U	730 U	730 U	730 U	730 U	730 U	730 U	--	730 U	730 U	1400 U	730 U
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	--	230 U	230 U	450 U	230 U
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	220 UJ	220 UJ	220 UJ	220 U	220 U	220 U	220 U	220 U	220 U	--	220 U	220 U	430 U	220 U
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	220 UJ	220 UJ	220 UJ	220 U	220 U	220 U	220 U	220 U	220 U	--	220 U	220 U	420 U	220 U
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	400 U	200 U
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	380 U	200 U
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	--	180 U	180 U	340 U	180 U
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	--	180 U	180 U	350 U	180 U
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 UJ	190 U	--	190 U	190 U	380 U	190 U
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	--	720 U	720 U	1400 U	720 U
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	--	1500 U	1500 U	2900 U	1500 U
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	--	3300 U	3300 U	6300 U	3300 U
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	2900 U	--	2900 U	2900 U	5700 U	2900 U
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	390 U	200 U
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	360 UJ	360 UJ	150 J	360 U	360 U	360 UJ	360 U	360 U	360 U	--	360 U	360 U	710 U	360 U
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	1500 U	--	1500 U	1500 U	2800 U	1500 U
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	3300 U	--	3300 U	3300 U	6400 U	3300 U
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	3200 U	--	3200 U	3200 U	6300 U	3200 U
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	3400 U	3400 U	1400 J	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	3400 U	6600 U	3400 U
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U	--	3400 U	3400 U	6600 U	3400 U
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	--	2800 U	2800 U	5400 U	2800 U
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	--	200 U	200 U	390 U	200 U
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	--	190 U	190 U	370 U	190 U

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Field duplicates identified with a "-R" or "X" in the Sample ID

-- parameter not analyzed

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
North Works	SG-001	UTC-SG-001-0.0/0.5	30-Apr-11	0 - 0.5	3800 U	3800 U	1500 J	960 J	5800	15000	11000	13000	5200	5300	8600	11000 J	16000 J	2800 J	3800 U
North Works	SG-002	UTC-SG-002-0.0/0.5	30-Apr-11	0 - 0.5	860 U	140 J	310 J	270 J	760	1900	1900	2200	1100	870	1900	2100 J	3000 J	490 J	300 J
North Works	SG-003	UTC-SG-003-0.0/0.5	30-Apr-11	0 - 0.5	100 J	270	110 J	220 J	790	1500	1400	1700	790	650	590	720 J	1000 J	250 J	270 J
North Works	SG-003	UTC-SG-003-0.0/0.5-R	30-Apr-11	0 - 0.5	140 J	1700 J	170 J	180 J	6700	15000	14000	18000	7800	5200	1100	1400 J	1900 J	390 J	330 J
North Works	SG-005	UTC-SG-005-0.0/0.5	30-Apr-11	0 - 0.5	2200 U	2200 U	1200	670 J	3700	6300	4800	5700	2100	2200	3500	4000 J	6200 J	1600 J	610 J
North Works	SG-006	UTC-SG-006-0.0/0.5	30-Apr-11	0 - 0.5	72 J	140 J	130 J	120 J	530	1500	1400	1700	750	620	900	660 J	1200 J	440 U	440 U
North Works	SG-007	UTC-SG-007-0.0/0.5	30-Apr-11	0 - 0.5	120 J	180 J	140 J	130 J	660	1300	980	1300	440	400	720	1100 J	1600 J	580 J	550 U
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
North Works	SG-001	UTC-SG-001-0.0/0.5	30-Apr-11	0 - 0.5	11000 J	2200 J	5500 J	990 J	1200 J	5600 J	3800 U	710 J	3800 U	1600 J	1300 J	3800 U	710 J	3700 J	10000
North Works	SG-002	UTC-SG-002-0.0/0.5	30-Apr-11	0 - 0.5	1900 J	640 J	1400 J	540 J	500 J	2100 J	330 J	280 J	880 J	790 J	1500 J	860 U	1100 J	1400 J	1800
North Works	SG-003	UTC-SG-003-0.0/0.5	30-Apr-11	0 - 0.5	890 J	280 J	530 J	190 J	310 J	780 J	440 U	440 U	200 J	340 J	540 J	440 U	300 J	560 J	1400
North Works	SG-003	UTC-SG-003-0.0/0.5-R	30-Apr-11	0 - 0.5	1500 J	520 J	1000 J	310 J	420 J	1300 J	290 J	270 J	290 J	520 J	860 J	460 U	540 J	910 J	14000
North Works	SG-005	UTC-SG-005-0.0/0.5	30-Apr-11	0 - 0.5	5200 J	1000 J	2200 J	2200 U	950 J	2100 J	2200 U	2200 U	2200 U	870 J	490 J	2200 U	2200 U	1400 J	4300
North Works	SG-006	UTC-SG-006-0.0/0.5	30-Apr-11	0 - 0.5	740 J	170 J	470 J	120 J	270 J	500 J	440 U	58 J	120 J	280 J	220 J	98 J	210 J	150 J	1400
North Works	SG-007	UTC-SG-007-0.0/0.5	30-Apr-11	0 - 0.5	1800 J	550 J	1100 J	570 J	570 J	2600 J	450 J	310 J	670 J	1500 J	2300 J	85 J	1600 J	1900 J	1200
			Surface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
North Works	SG-001	UTC-SG-001-0.0/0.5	30-Apr-11	0 - 0.5	1900 J	31000	2700 J	6200	3800 U	3300 J	19000	23000	151560
North Works	SG-002	UTC-SG-002-0.0/0.5	30-Apr-11	0 - 0.5	380 J	3400	460 J	1200	570	730 J	2200	3100	22560
North Works	SG-003	UTC-SG-003-0.0/0.5	30-Apr-11	0 - 0.5	110 J	2400	450	880	610	210 J	2300	2400	17980
North Works	SG-003	UTC-SG-003-0.0/0.5-R	30-Apr-11	0 - 0.5	220 J	24000	3400	8600	3600	410 J	18000	23000	163570
North Works	SG-005	UTC-SG-005-0.0/0.5	30-Apr-11	0 - 0.5	720 J	14000	2000	2700	2200 U	1400 J	12000	12000	74390
North Works	SG-006	UTC-SG-006-0.0/0.5	30-Apr-11	0 - 0.5	160 J	2500	190 J	880	220 J	330 J	1400	2100	15740
North Works	SG-007	UTC-SG-007-0.0/0.5	30-Apr-11	0 - 0.5	110 J	2300	360	520	490	250 J	1900	2400	14810
			Surface	Min	Summary statistics not generated for individual PAHs.								14810
				Max									163570
				Average									73772
				Median									48475
				Std Dev									68676

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	--	820	1300	1400	14000	29000	23000	27000	6200 J	9500	--	--	--	--	--
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	--	2300	1700	2100	11000	14000	12000	14000	3900 J	4600	--	--	--	--	--
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	--	3200	3700 U	1700	9000	13000	11000	8700	4900 J	7500 U	--	--	--	--	--
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	--	4500	1800	2300	7900	10000	8800	9600	2800 J	3600	--	--	--	--	--
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	--	1500	1100	790	4900	6300	6000	5700	1900 U	2100	--	--	--	--	--
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	--	100	54	120 U	200	250	240	220	1900	240 U	--	--	--	--	--
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	--	8900 U	3600 U	3600 U	3600 U	2300	7100 U	7100 U	7100 U	7100 U	--	--	--	--	--
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	--	9600 U	3900 U	3900 U	3900 U	3100	7700 U	7700 U	7700 U	7700 U	--	--	--	--	--
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	--	9400 U	3800 U	3800 U	1700	2900	7500 U	7500 U	7500 U	7500 U	--	--	--	--	--
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	--	8500 U	3400 U	3400 U	2100	3100	2700	2800	6800 U	6800 U	--	--	--	--	--
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	--	450	280	380 U	1200	1300	1000	1200	750 U	440	--	--	--	--	--
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	--	1200	3700 U	3700 U	2400	3700	3100	3800	1600	1400	--	--	--	--	--
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	--	760 U	300 U	300 U	300 U	300 U	610 U	610 U	610 U	610 U	--	--	--	--	--
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	--	600 U	240 U	240 U	240 U	240 U	480 U	480 U	480 U	480 U	--	--	--	--	--
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	--	800	290	190	680	880	8100 U	8100 U	8100 U	8100 U	--	--	--	--	--
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	--	880	410	300	1400	1500	7400 U	7400 U	7400 U	7400 U	--	--	--	--	--
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	--	1100	510	730	2700	3500	3000	3600	940	1100	--	--	--	--	--
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	--	590 U	240 U	240 U	240 U	160	140	160	470 U	470 U	--	--	--	--	--
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	340 J	510 J	210	150 J	790 J	1000 J	910 J	760 J	390 J	250	470 J	480	1200	110 J	470
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	550 J	750 J	370 J	550 J	2000 J	2900 J	2600 J	1900 J	860 J	730 J	1100 J	1600 J	3400 J	670 J	740 J
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	250	350 J	130 J	170 J	810 J	1100 J	940 J	780 J	360 J	340 J	470 J	580	1500	200	360
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	310 U	310 U	310 U	490 J	2100 J	3300 J	2900 J	2800 J	940 J	1200 J	1200 J	1400 J	3100 J	310 U	310 U
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	290 U	350 J	230 J	510 J	1700 J	2900 J	2800 J	2800 J	1000 J	1100 J	1500 J	1500 J	2900 J	290 U	310 J
Wyandotte Power	SD-002	UTC-SD-002-0.0/0.5	17-Jun-11	0 - 0.5	15 J	19 J	15 J	10 J	36 J	44 J	46 J	45 J	20 J	17 J	26 J	22 J	55 J	6.1 J	20 J
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	4 U	4 U	4 U	4 U	4 U	3.9 J	4 U	4.4 J	4 U	4 U	4 U	4 U	4.5 J	4 U	4 U
Wyandotte Power	SD-003	UTC-SD-003-0.0/0.5	17-Jun-11	0 - 0.5	72 J	100 J	56 J	74 J	230 J	360 J	380 J	340 J	170 J	150 J	200 J	240	460	64 J	100 J
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	170 J	230 J	250 J	360 J	1400 J	2200 J	2000 J	1600 J	550 J	630 J	880 J	1000 J	2100 J	170 J	230 J
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	110 J	140 J	150 J	230 J	730 J	1200 J	1200 J	1200 J	410 J	500 J	610 J	550 J	1100 J	110 U	130 J
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	290 U	290 U	120 J	290 U	190 J	770	460	640	290 J	200 J	430	840 J	1300 J	750 J	470 J
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	1200 U	1200 U	570 J	290 J	1600	3800	3000	3800	1800	1300	2400	4900 J	6700 J	2100 J	1500 J
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	2400 U	1800 J	1100 J	810 J	4500	6400	6600	7300	3400	2500	5000	11000 J	15000 J	3400 J	4000 J
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	4800 U	4100	2100 J	1800 J	11000	13000	9900	11000	4800	4000	7000	12000 J	22000 J	6300 J	7200 J
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	2600 U	2400	1200 J	1500	6600	8500	7200	7400	3700	2700	5300	8100 J	14000 J	3900 J	4900 J
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	2800 U	2600	1400 J	1600	7200	9100	7500	7900	3900	2500	5500	8500 J	15000 J	4100 J	5300 J
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	480 J	610	290 J	180 J	630	1600	1400	2000	1100	680	1300	1800 J	3100 J	1400 J	1100 J
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	280 J	400 J	190 J	550 U	390 J	1200	1200	1500	480 J	500 J	970	1700 J	2400 J	750 J	700 J
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	300 J	370 J	200 J	530 U	320 J	1900	2200	2200	1100	690	1700	2300 J	4100 J	530 U	680 J

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25000
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14000
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12000
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10000
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5900
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	250
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2300
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2400
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3300
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3000
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1300
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3700
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	300 U
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1300
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1900
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3500
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	150
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	990	390	530	140 J	450	850	120 J	320	190 J	350	510	44 J	220	370	910 J
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	2900 J	520 J	1100 J	660 J	1200 J	2000 J	300 U	360 J	390 J	640 J	1100 J	300 U	410 J	490 J	2400 J
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	1400	190 J	490	250	540	950	74 J	270	230	400	500	28 J	200	220	950 J
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	1700 J	390 J	870 J	310 U	330 J	1700 J	310 U	350 J	410 J	440 J	1100 J	310 U	340 J	880 J	2900 J
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	1400 J	680 J	900 J	290 U	340 J	1300 J	290 U	600 J	290 U	310 J	910 J	290 U	290 U	430 J	2800 J
Wyandotte Power	SD-002	UTC-SD-002-0.0/0.5	17-Jun-11	0 - 0.5	48 J	12 J	24 J	13 J	22 J	54 J	10 J	14 J	33 J	23 J	40 J	5 U	24 J	28 J	44 J
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	7 J	4 U	4 U	4 U	4.5 J	4 U	4 U	4 U	7.8 J	4.6 J	4.2 J	4 U	7.5 J	4 U	4.2 J
Wyandotte Power	SD-003	UTC-SD-003-0.0/0.5	17-Jun-11	0 - 0.5	470	180 J	260	230	210	740	170 J	200 J	270	360	620	27 J	400	450	380 J
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	1400 J	280 J	700 J	400 J	370 J	1200 J	170 U	280 J	440 J	470 J	1000 J	170 U	370 J	560 J	1900 J
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	550 J	130 J	350 J	110 U	150 J	490 J	110 U	240 J	110 U	180 J	370 J	110 U	110 J	190 J	1100 J
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	2200 J	470 J	1200 J	1300 J	1700 J	3600 J	450 J	560 J	1400 J	3400 J	2700 J	190 J	3700 J	2000 J	750
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	6900 J	2300 J	5000 J	2500 J	3100 J	11000 J	2200 J	2200 J	3300 J	5500 J	9600 J	1100 J	5900 J	8300 J	4200
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	15000 J	4200 J	9700 J	3600 J	6200 J	18000 J	3800 J	3800 J	4500 J	7200 J	14000 J	1900 J	6500 J	13000 J	6400
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	24000 J	3300 J	9100 J	3600 J	11000 J	15000 J	1900 J	1900 J	2100 J	8800 J	6600 J	4800 U	4600 J	7400 J	12000
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	15000 J	2200 J	5900 J	2300 J	6600 J	8900 J	1200 J	1300 J	1500 J	5200 J	4000 J	450 J	2800 J	4800 J	8100
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	16000 J	2100 J	6000 J	2300 J	7000 J	9500 J	1400 J	1200 J	1400 J	5500 J	4200 J	2800 U	3200 J	4900 J	8200
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	5600 J	890 J	2200 J	3400 J	4100 J	9200 J	500 U	1000 J	4400 J	8200 J	6200 J	500 U	7000 J	4500 J	2000
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	3900 J	820 J	2000 J	2300 J	2200 J	6400 J	770 J	840 J	3200 J	5000 J	4900 J	420 J	6000 J	3400 J	1500
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	4100 J	1900 J	4000 J	2300 J	2500 J	7900 J	2100 J	2100 J	3200 J	6600 J	6600 J	810 J	8300 J	5700 J	2100

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	2500	58000	3500	8200	1400	--	40000	43000	293820
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	6200 U	27000	4500	4200	6100	--	22000	22000	165400
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	7500 U	18000	3600	7500 U	7800	--	21000	20000	133900
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	7900 U	17000	5500	2900	6600	--	21000	19000	133300
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	520	10000	2100	1800	1500	--	12000	13000	75210
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	240 U	400	100	240 U	100	--	540	510	4864
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	7100 U	4100	3600 U	7100 U	3600 U	--	3400	3900	16000
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	7700 U	6800	3900 U	7700 U	2200	--	5600	5400	25500
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	7500 U	8500	3800 U	7500 U	2900	--	5500	5700	30500
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	6800 U	6300	3400 U	6800 U	2500	--	5400	4900	32800
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	750 U	3000	650	750 U	1200	--	3000	2500	17520
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	730 U	7300	3700 U	1400	3000	--	6200	6700	45500
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	610 U	180	300 U	610 U	300 U	--	140	130	450
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	480 U	240 U	240 U	480 U	240 U	--	240 U	240 U	ND
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	8100 U	1700	540	8100 U	670	--	2700	2400	12150
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	7400 U	3100	930	7400 U	1300	--	4100	3800	19620
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	350	4600	1400	990	2000	--	5800	5900	41720
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 - 7	470 U	290	240 U	470 U	240 U	--	280	220	1400
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	130 J	1600 J	410 J	410 J	1300 J	140 J	1700 J	1500 J	12930
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	320 J	3800 J	700 J	950 J	730 J	440 J	3300 J	3700 J	28560
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	130 J	1700 J	300 J	400 J	420 J	140 J	1800 J	1800 J	12480
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	380 J	4900 J	500 J	1100 J	930 J	590 J	2800 J	3700 J	30940
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	430 J	3600 J	520 J	1300 J	810 J	550 J	2600 J	3300 J	28750
Wyandotte Power	SD-002	UTC-SD-002-0.0/0.5	17-Jun-11	0 - 0.5	7.3 J	84 J	24 J	20 J	73 J	7.4 J	82 J	68 J	654
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	4 U	7.3 J	4 U	4 U	4.2 J	4 U	10 J	6.6 J	41
Wyandotte Power	SD-003	UTC-SD-003-0.0/0.5	17-Jun-11	0 - 0.5	63 J	690 J	98 J	200 J	280 J	82 J	480 J	620 J	4671
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	240 J	3300 J	470 J	690 J	510 J	360 J	2300 J	3000 J	21630
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	170 J	1500 J	290 J	530 J	380 J	260 J	1100 J	1300 J	12130
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	82 J	1300	200 J	230 J	290 U	170 J	1100	1400	7732
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	510 J	6900	980 J	1600	1900	830 J	5000	6900	44150
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	910 J	11000	2200 J	2900	3100	1700 J	10000	11000	81920
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	1300 J	24000	5800	5100	2700	2400 J	27000	23000	162600
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	980 J	16000	3500	3700	1400	1800 J	18000	17000	109880
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	980 J	18000	3800	3900	1500	2000 J	19000	17000	116080
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	280 J	3200	500 J	1100	500 U	510	2900	3200	21670
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	160 J	2300	270 J	700	550 U	400 J	1700	2500	14990
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	260 J	3000	200 J	1200	530 U	700	1400	3800	20940

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	230 J	980 U	330 J	980 U	950 J	2000	2300	2300	890 J	750 J	1600	2500 J	3700 J	1100 J	580 J
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	120 U	120 U	120 U	220 J	490 J	1200 J	1200 J	1100 J	390 J	400 J	580 J	460 J	910 J	120 U	120 U
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	16 J	26 J	17 J	15 J	55 J	61 J	61 J	53 J	29 J	27 J	40 J	37 J	69 J	8.6 J	25 J
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	370 J	960 U	260 J	300 J	870 J	2400	2300	2900	1600	1100	1900	2100 J	3800 J	960 U	830 J
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	660 J	2100 U	660 J	480 J	2900	5000	4100	4400	2000 J	1600 J	3000	4300 J	9700 J	1800 J	1500 J
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	690 J	2300 U	750 J	2300 U	3100	5100	3700	4400	1900 J	1500 J	2900	3900 J	8300 J	2400 J	1600 J
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	150 J	150 J	190 J	150 J	830	1500	1400	1400	670	470	870	1100 J	2000 J	430 J	330 J
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	250 J	280 J	190 J	390 U	770	790	590	720	290 J	240 J	370 J	400 J	980 J	310 J	520 J
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	230 J	340	220	87 J	660	600	470	570	250	180 J	280 J	360 J	700 J	300 J	490 J
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	420 J	780 J	420 J	440 J	3200	3400	2700	2400	1300	730 J	1400 J	2400 J	5500 J	2200 J	1000 J
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	4.3 U	5.4 J	4.3 U	9.3 J	29 J	65 J	71 J	55 J	29 J	22 J	37 J	37 J	69 J	4.3 U	5.3 J
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	270 J	370	230 J	190 J	1100	2400	1700	2200	870	780	1500	2700 J	3600 J	850 J	670 U
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	390 J	670 U	300 J	670 U	360 J	1600	1400	1700	930	540 J	1100	1500 J	2200 J	1400 J	680 J
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	390 J	420 J	300 J	140 J	610	1500	1300	1700	860	550	1100	1500 J	2300 J	730 J	860 J
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	300 J	1100 J	260 J	200 J	3600	9300	9500	12000	5600	3800	2000	2400 J	3300 J	720 J	610 J
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	990 U	170 J	260 J	230 J	760	2300	2300	2800	1300	950	1900	1600 J	2200 J	330 J	340 J
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	520 U	93 J	200 J	180 J	550	1500	1600	1800	840	600	1400	1200 J	1700 J	310 J	190 J
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	2800 J	1200 J	2500 J	1400 J	1400 J	4800 J	1200 J	1100 J	2300 J	3000 J	4700 J	230 J	4100 J	4800 J	2100
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	410 J	230 J	280 J	120 U	120 J	440 J	150 J	170 J	120 U	130 J	310 J	120 U	140 J	170 J	1000 J
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	69 J	14 J	28 J	9.3 J	36 J	58 J	4.9 J	14 J	28 J	36 J	32 J	3.9 U	35 J	21 J	65 J
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	3400 J	950 J	2300 J	1600 J	1700 J	5600 J	960 U	680 J	2400 J	3300 J	3800 J	960 U	4100 J	2800 J	2600
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	9100 J	1400 J	4200 J	2500 J	3400 J	8300 J	2100 U	990 J	2500 J	4600 J	5200 J	2100 U	4900 J	4200 J	5100
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	8400 J	1200 J	3600 J	2200 J	3600 J	7500 J	2300 U	830 J	2200 J	4800 J	3900 J	2300 U	4600 J	3500 J	4700
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	1600 J	260 J	750 J	310 J	870 J	1100 J	700 U	700 U	250 J	700 U	390 J	700 U	700 U	540 J	1400
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	1100 J	390 U	470 J	240 J	800 J	840 J	390 U	390 U	280 J	660 J	440 J	390 U	540 J	530 J	710
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	850 J	110 J	300 J	170 J	690 J	660 J	380 U	380 U	180 J	560 J	320 J	380 U	500 J	390 J	550
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	7200 J	670 J	2200 J	1300 J	2400 J	4100 J	1600 U	1600 U	820 J	2300 J	1500 J	1600 U	1600 U	1200 J	3000
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	42 J	10 J	23 J	4.3 U	10 J	31 J	7.4 J	5.3 J	13 J	8.6 J	18 J	4.3 U	9.9 J	8.6 J	56 J
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	3500 J	1100 J	2300 J	980 J	1300 J	4700 J	930 J	1400 J	1400 J	2400 J	3200 J	260 J	2500 J	4000 J	2300
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	4800 J	610 J	1800 J	4100 J	3000 J	8400 J	590 J	1300 J	5000 J	8400 J	7100 J	150 J	11000 J	4000 J	1400
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	3400 J	750 J	1700 J	1800 J	1900 J	5200 J	730 J	1200 J	2700 J	4400 J	4100 J	510 U	5300 J	2800 J	1500
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	4000 J	1200 J	2400 J	1900 J	1600 J	6500 J	820 J	720 J	2900 J	4100 J	5000 J	190 J	5900 J	3200 J	11000
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	1300 J	430 J	1100 J	240 J	420 J	980 J	990 U	170 J	280 J	440 J	490 J	990 U	410 J	720 J	2300
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	1200 J	350 J	790 J	210 J	520 U	860 J	520 U	130 J	260 J	290 J	430 J	150 J	520 U	790 J	1400
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	980 U	4800	400 J	1100	800 J	650 J	3500	3800	26020
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	150 J	1500 J	160 J	460 J	480 J	220 J	830 J	1400 J	10980
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	11 J	120 J	31 J	35 J	55 J	15 J	120 J	98 J	879
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	410 J	5400	460 J	1500	960 U	690 J	2900	4700	29700
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	560 J	9100	1100 J	1900 J	2100 U	1100 J	7600	9200	55700
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	560 J	10000	1200 J	2000 J	2300 U	980 J	9600	10000	58510
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	200 J	2300	250 J	680	700 U	330 J	1900	2500	15990
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	80 J	1800	470	270 J	440	150 J	2300	1600	11540
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	380 U	1500	420	250	400	130 J	1900	1200	9597
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	320 J	6300	1300	1100	350 J	480 J	8900	8000	44640
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	10 J	87 J	6.6 J	32 J	8.5 J	14 J	48 J	96 J	630
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	260 J	3300	540	1000	640	490 J	2900	3800	24580
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	190 J	2700	430 J	830	670 U	460 J	2100	2600	17080
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	210 J	2900	410 J	810	510 U	400 J	1200	2600	17010
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	370 J	17000	410 J	5900	490 J	720	13000	17000	110530
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	350 J	4100	320 J	1500	410 J	720 J	2600	3900	26550
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	350 J	2600	260 J	1000	210 J	530	1600	2200	16983
			Surface	Min	Summary statistics not generated for individual PAHs.								630
				Max									293820
				Average									40448
				Median									16983
				Std Dev									70580
			Subsurface	Min	Summary statistics not generated for individual PAHs.								41
				Max									165400
				Average									43277
				Median									28750
				Std Dev									46875

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	--	320 U	130 U	130 U	130 U	71	260 U	260 U	260 U	260 U	--	--	--	--	--
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	--	300 U	120 U	120 U	120 U	120 U	240 U	240 U	240 U	240 U	--	--	--	--	--
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	--	590 U	240 U	240 U	240 U	240 U	470 U	470 U	470 U	470 U	--	--	--	--	--
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	--	600 U	240 U	240 U	240 U	240 U	480 U	480 U	480 U	480 U	--	--	--	--	--
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	--	310	280	140	760	1300	1400	1500	970	500	--	--	--	--	--
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	--	290	570	250 U	860	1300	1100	1400	750	550	--	--	--	--	--
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	--	600 U	240 U	240 U	240 U	240 U	480 U	480 U	480 U	480 U	--	--	--	--	--
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	--	600 U	240 U	240 U	130	180	480 U	480 U	480 U	480 U	--	--	--	--	--
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	--	290	140	320 U	430	3200 U	6500 U	6500 U	6500 UJ	6500 U	--	--	--	--	--
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	--	290	340 U	340 U	240	420	6700 U	6700 U	6700 UJ	6700 U	--	--	--	--	--
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	--	370	180	310 U	470	770	6200 U	6200 U	6200 UJ	6200 U	--	--	--	--	--
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	--	11000 U	4200 U	4200 U	4200 U	1800	8500 U	8500 U	8500 U	8500 U	--	--	--	--	--
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	--	1200	330	420 U	4200 U	4200 U	8400 U	8400 U	8400 U	8400 U	--	--	--	--	--
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	--	1400	330	390 U	3900 U	1600	7800 U	7800 U	7800 U	7800 U	--	--	--	--	--
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	--	1100	330	320	1200	1600	7000 U	1700	7000 U	7000 U	--	--	--	--	--
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	--	1900	2500	1800	9000	14000	13000	12000	5000 J	4400	--	--	--	--	--
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	--	8900 U	3600 U	3600 U	4600	7300	6800	6900	3400 J	2500	--	--	--	--	--
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	--	34000 U	13000 U	13000 U	29000	39000	35000	24000	15000 J	13000	--	--	--	--	--
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	--	560	410	200	1200	2400	2500	2900	1500	980	--	--	--	--	--
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	--	630 U	130	250 U	320	540	490	640	350	510 U	--	--	--	--	--
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	--	600 U	240 U	240 U	240 U	240 U	480 U	480 U	480 U	480 U	--	--	--	--	--
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	--	9000 U	2400	2500	4900	13000	13000	15000	5500	5300	--	--	--	--	--
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	--	6400 U	2600 U	2600 U	2300	3800	3700	3600	5100 U	5100 U	--	--	--	--	--
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	--	600 U	240 U	240 U	100	150	480 U	480 U	480 U	480 U	--	--	--	--	--
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	--	9600 U	3800 U	3800 U	3800 U	3800 U	7600 U	7600 U	7600 U	7600 U	--	--	--	--	--
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	--	9100 U	3600 U	3600 U	1600	2500	7200 U	7200 U	7200 U	7200 U	--	--	--	--	--
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	--	9500 U	3800 U	3800 U	3800 U	3800 U	7600 U	7600 U	7600 U	7600 U	--	--	--	--	--
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	--	8800 U	3500 U	3500 U	1800	2700	7100 U	7100 U	7100 U	7100 U	--	--	--	--	--
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	--	2200	3700 U	3700 U	3500	5000	7400 U	5000	7400 U	7400 U	--	--	--	--	--
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	--	2300	3800 U	3800 U	3700	4400	3900	4400	7600 U	7600 U	--	--	--	--	--
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	--	4200	3000	3500 U	6000	7300	6400	7500	3700	6900 U	--	--	--	--	--
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	--	8400 U	3400 U	3400 U	3400 U	1900	6700 U	6700 U	6700 U	6700 U	--	--	--	--	--
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	--	410	1100	280 U	2700	4700	4300	5300	2600	1800	--	--	--	--	--
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	--	8500 U	3400 U	3400 U	3400 U	1400	6800 U	6800 U	6800 U	6800 U	--	--	--	--	--
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	--	8700 U	3500 U	3500 U	3500 U	3600	3500	4600	7000 U	7000 U	--	--	--	--	--
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	21	28	3.2 J	8.1 U	8.1 U	6.8 J	6.5 J	9.8	15	8.1 U	11	29 J	51 J	32 J	55 J
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	19	23	2.9 J	7.5 U	7.5 U	2.5 J	7.5 U	6.6 J	15	7.5 U	9.7	28 J	32 J	30 J	45 J

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	86
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120 U
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1400
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1300
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	220
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3200 U
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	550
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1000
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2700
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2200
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2300
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2100
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15000
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7400
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	41000
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2600
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	680
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	150
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14000
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3500
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	150
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3800 U
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2600
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3800 U
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2900
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5400
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4800
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8400
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1900
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4400
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1800
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4400
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	130 J	57 J	48 J	53 J	130 J	170 J	37 J	39 J	66 J	400 J	130 J	24 J	350 J	130 J	23
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	140 J	55 J	48 J	55 J	120 J	170 J	39 J	50 J	70 J	260 J	200 J	29 J	370 J	130 J	21

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	260 U	72	130 U	260 U	130 U	--	73	110	412
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	240 U	120 U	120 U	240 U	120 U	--	84	120 U	84
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	470 U	240 U	240 U	470 U	240 U	--	110	240 U	110
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	480 U	240 U	240 U	480 U	240 U	--	100	240 U	100
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	510 U	3000	460	740	590	--	2300	2400	18050
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	500 U	2800	590	650	790	--	2900	2100	17950
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	480 U	100	240 U	480 U	240 U	--	150	240 U	250
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	480 U	380	240 U	480 U	150	--	430	310	1800
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	6500 U	1900	250	6500 U	550	--	1400	1700	6660
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	6700 U	1000	200	6700 U	460	--	1200	1100	5460
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	6200 U	1800	520	6200 U	590	--	2000	2200	9900
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	8500 U	3400	4200 U	8500 U	4200 U	--	2800	3500	14200
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	8400 U	3300	610	8400 U	1300	--	3500	3500	15940
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	7800 U	3000	600	7800 U	1300	--	3800	3600	17930
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	7000 U	3700	720	7000 U	1500	--	4400	3200	21870
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	7400 U	24000	4600	4700	8800	--	21000	22000	163700
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	7100 U	12000	1700	3200	9600	--	9700	10000	85100
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	27000 U	61000	8400	15000	13000	--	54000	60000	407400
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	550 U	4700	800	1300	1100	--	3800	4000	30950
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	510 U	1400	200	510 U	330	--	1100	1000	7180
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	480 U	200	240 U	480 U	240 U	--	240	180	770
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	7200 U	23000	3900	5800	2900	--	20000	22000	153200
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	5100 U	5200	2600 U	5100 U	1300	--	5500	6200	35100
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	480 U	470	240 U	480 U	240 U	--	370	380	1620
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	7600 U	2000	3800 U	7600 U	3800 U	--	2200	2100	6300
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	7200 U	6300	3600 U	7200 U	1600	--	4800	5100	24500
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	7600 U	4800	3800 U	7600 U	3800 U	--	4600	3900	13300
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	7100 U	6200	3500 U	7100 U	2200	--	4500	4800	25100
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	7400 U	8600	2000	7400 U	2500	--	9100	9000	52300
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	7600 U	8000	2000	7600 U	2500	--	9300	8900	54200
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	6900 U	16000	4900	6900 U	5400	--	19000	15000	106800
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	6700 U	4600	3400 U	6700 U	3400 U	--	4000	3500	15900
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	570 U	14000	1800	2200	800	--	11000	10000	67110
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	6800 U	3400	3400 U	6800 U	3400 U	--	2900	3100	12600
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	7000 U	7300	3500 U	7000 U	3500 U	--	7200	7400	38000
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	2.3 J	11	6.1 J	4.5 J	9.3	8.3	66	16	208
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	7.5 U	4.1 J	5.3 J	2.7 J	7.5 U	7.4 J	65	10	158

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	1200 U	1200 U	1400	1200 U	1900	1800	1300	1300	670 J	540 J	1100 J	1000 J	3100 J	1400 J	920 J
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	590 U	130 J	640	120 J	1000	990	800	780	380	330 J	640	750 J	1800 J	760 J	360 J
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	150 J	310 U	130 J	92 J	350	1100	1100	1300	630	440	850	1400 J	1800 J	490 J	270 J
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	170 J	170 J	110 J	76 J	260	800	750	910	450	300	630	860 J	1400 J	660 J	340 J
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	240 J	270 J	180 J	140 J	550	1200	1100	1500	670	490	920	1400 J	2200 J	1100 J	560 J
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	140 J	350 U	140 J	170 J	540	1500	1300	1500	720	510	950	1300 J	2100 J	900 J	320 J
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	310 J	370 J	350 J	190 J	990	2400	1900	2500	1200	860	1500	1900 J	2900 J	1900 J	660 J
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	76 J	270 U	91 J	100 J	340	880	930	1100	580	390	830	870 J	1100 J	200 J	190 J
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	110 J	140 J	110 J	52 J	280	650	640	850	390	280	590	640 J	790 J	190 J	270 J
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	1100 U	1100 U	1100 U	250 J	690 J	2400	2600	3200	1700	1200	1800	1600 J	2500 J	1100 U	410 J
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	650 U	450 J	270 J	650 U	470 J	1500	1600	2200	1000	770	1400	1400 J	3000 J	1700 J	880 J
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	650 U	660	250 J	650 U	480 J	1400	1300	1800	890	540 J	1300	2200 J	3700 J	1800 J	1200 J
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	600	710	240 J	140 J	510 J	1400	1100	1600	800	530 J	1200	2200 J	3700 J	2200 J	1300 J
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	600 U	740	260 J	140 J	470 J	1400	1200	1700	840	460 J	1300	2200 J	4000 J	2000 J	1300 J
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	580 U	580 U	580 U	140 J	360 J	1200	1300	1700	930	640	1000	940 J	1600 J	580 U	320 J
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	500 U	340 J	140 J	500 U	290 J	860	860	1200	670	390 J	800	870 J	1900 J	930 J	650 J
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	2700 U	2700 U	950 J	710 J	3600	7200	5900	7500	3600	2800	4600	7100 J	10000 J	2700 U	1100 J
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	2600 U	2600 U	1100 J	1000 J	5300	8800	7600	9500	4600	4500	6200	6600 J	13000 J	2900 J	1400 J
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	1100 U	1100 U	1100 U	1100 U	840 J	1700	1400	1600	890 J	670 J	1100	2000 J	3300 J	1100 U	590 J
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	5800 U	1800 J	1900 J	1300 J	8900	16000	13000	14000	6700	4600	8100	13000 J	24000 J	6100 J	3100 J
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	1900 U	490 J	680 J	440 J	2700	5000	4500	4500	2300	1500	2500	3800 J	6200 J	1900 U	800 J
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	610 U	500 J	160 J	610 U	410 J	1300	1100	1500	850	540 J	1100	2000 J	3500 J	1300 J	880 J
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	3800	4600	2200 J	1300 J	5100	13000	11000	16000	6800	4600	9600	14000 J	26000 J	20000 J	8600 J
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	600 U	540 J	210 J	600 U	390 J	1100	900	1400	650	470 J	950	1800 J	3100 J	1500 J	980 J
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	1100 U	1100 U	1100 U	1100 U	810 J	2000	1800	2100	1100 J	790 J	1300	1800 J	2800 J	1100 U	490 J
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	270 U	140 J	140 J	160 J	420	1200	1400	1800	1100	540	1200	1100 J	1500 J	230 J	280 J
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	1700 U	300 J	310 J	470 J	1100	3500	4000	4900	2500	1500	2900	3000 J	3600 J	600 J	1700 U
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	1600 U	570 J	500 J	430 J	1900	3300	2900	3200	1600	1100	2600	4600 J	6300 J	1400 J	1600 U
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	740 U	370 J	270 J	230 J	1100	1900	1700	1900	970	660	1400	2500 J	3600 J	770 J	740 U
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	5400 U	1700 J	1600 J	1200 J	5700	11000	8500	9200	4200	2900	7100	14000 J	24000 J	4700 J	5400 U
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	5000 U	2000	1700 J	1400 J	7200	12000	10000	10000	5200	3300	8300	15000 J	25000 J	6300 J	5000 U
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	1000 U	610 J	1000 U	1000 U	500 J	1900	1600	2100	940 J	520 J	1200	2100 J	2500 J	1300 J	1000 J
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	920 U	590 J	220 J	920 U	650 J	1800	1600	2100	870 J	560 J	1100	1900 J	2400 J	1800 J	1000 J
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	480 U	480 U	140 J	140 J	600	1300	1100	1300	620	440 J	820	1100 J	1600 J	1200 J	490 J
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	3000 U	950 J	1200 J	1100 J	4700	8600	7800	9300	4500	3700	6900	9800 J	14000 J	2900 J	3000 U
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	370 U	140 J	110 J	120 J	350	1200	1300	1500	800	430	850	910 J	920 J	240 J	370 U
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	520 U	160 J	520 U	140 J	380 J	1400	1700	2000	970	690	1100	990 J	1200 J	250 J	520 U

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	4000 J	570 J	1000 J	800 J	2800 J	2000 J	1200 U	1200 U	440 J	2200 J	680 J	1200 U	1200 U	450 J	1400
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	2000 J	590 U	640 J	450 J	1600 J	1200 J	590 U	590 U	270 J	1400 J	430 J	590 U	650 J	400 J	850
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	2000 J	570 J	1400 J	1000 J	1200 J	3600 J	730 J	550 J	1700 J	2400 J	2600 J	330 J	2200 J	2400 J	1200
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	2000 J	390 J	1200 J	1500 J	1300 J	3400 J	240 U	440 J	1600 J	2800 J	2900 J	240 U	3100 J	2400 J	860
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	3000 J	690 J	1900 J	1800 J	1700 J	6000 J	1100 J	730 J	2300 J	3800 J	5100 J	390 U	4400 J	3600 J	1400
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	2100 J	460 J	1200 J	890 J	980 J	3100 J	560 J	450 J	1200 J	1900 J	2500 J	350 U	2300 J	2300 J	1500
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	3200 J	780 J	2000 J	1400 J	1700 J	4800 J	930 J	730 J	2200 J	2900 J	4200 J	340 J	3800 J	3800 J	2300
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	750 J	260 J	670 J	220 J	270 U	840 J	270 U	200 J	330 J	310 J	710 J	130 J	380 J	860 J	870
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	600 J	170 J	510 J	170 J	260 J	700 J	220 U	180 J	260 J	300 J	530 J	84 J	370 J	680 J	650
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	1800 J	550 J	1300 J	630 J	1100 U	2400 J	1100 U	1100 U	1100 J	1100 U	1700 J	1100 U	1100 J	1500 J	2500
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	4900 J	1100 J	2200 J	3200 J	3200 J	8700 J	650 U	1100 J	5500 J	6900 J	7400 J	650 U	7800 J	5100 J	1800
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	7400 J	1400 J	3500 J	5400 J	4800 J	13000 J	1700 J	1300 J	5800 J	11000 J	10000 J	1200 J	10000 J	5900 J	1700
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	6100 J	1400 J	3300 J	3900 J	4900 J	11000 J	1700 J	1300 J	4600 J	9900 J	8300 J	590 U	9600 J	6000 J	1700
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	6000 J	1500 J	3800 J	4100 J	4700 J	11000 J	1700 J	1400 J	6300 J	9100 J	8500 J	600 U	11000 J	5500 J	1800
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	1300 J	540 J	1000 J	590 J	620 J	1900 J	580 U	350 J	1100 J	1200 J	1600 J	190 J	1400 J	1200 J	1400
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	3100 J	670 J	1400 J	2300 J	2200 J	6700 J	500 U	510 J	3300 J	4600 J	4700 J	500 U	3900 J	3700 J	1100
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	7500 J	3000 J	5700 J	2300 J	2700 U	10000 J	2700 U	1900 J	3500 J	3000 J	8600 J	2700 U	2700 J	8500 J	6900
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	8700 J	2200 J	6500 J	2100 J	2800 J	10000 J	2600 U	1700 J	3600 J	3400 J	7500 J	1000 J	3800 J	8000 J	8500
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	3000 J	990 J	2000 J	950 J	1100 U	4400 J	1100 U	740 J	1300 J	1500 J	3200 J	1100 U	1300 J	3000 J	1700
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	21000 J	4500 J	10000 J	4100 J	6700 J	18000 J	5800 U	2000 J	3500 J	7300 J	8900 J	5800 U	5800 U	8400 J	14000
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	6600 J	1100 J	2700 J	1000 J	1900 U	4700 J	1900 U	1900 U	890 J	2000 J	2200 J	1900 U	1900 U	2100 J	4600
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	6200 J	1600 J	3500 J	3900 J	3900 J	12000 J	1800 J	1900 J	5100 J	8200 J	10000 J	910 J	10000 J	5800 J	1600
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	37000 J	8600 J	22000 J	26000 J	29000 J	71000 J	9400 J	9100 J	35000 J	59000 J	54000 J	5000 J	59000 J	38000 J	15000
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	5500 J	1300 J	2900 J	3500 J	4100 J	9700 J	1500 J	1400 J	4000 J	8500 J	7600 J	600 U	8200 J	5200 J	1400
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	2600 J	850 J	1600 J	1000 J	1100 U	3900 J	1100 U	630 J	1600 J	2100 J	3000 J	1100 U	2700 J	3000 J	2100
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	960 J	340 J	790 J	210 J	300 J	970 J	240 J	180 J	440 J	530 J	740 J	140 J	390 J	710 J	1300
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	2100 J	1000 J	1700 J	580 J	1700 U	2300 J	1700 U	330 J	850 J	1700 U	1600 J	1700 U	1700 U	2100 J	3700
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	5500 J	1700 J	3600 J	1300 J	1700 J	6400 J	1200 J	1900 J	2300 J	2400 J	5100 J	1600 U	2200 J	4500 J	3300
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	3000 J	1100 J	2100 J	740 J	960 J	3500 J	680 J	1100 J	1000 J	1300 J	2600 J	210 J	1200 J	2300 J	1800
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	20000 J	5900 J	10000 J	3600 J	6300 J	16000 J	5400 U	2200 J	4300 J	6700 J	9200 J	5400 U	5400 U	4600 J	10000
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	26000 J	5900 J	11000 J	4300 J	8200 J	17000 J	5000 U	1600 J	2000 J	10000 J	7800 J	5000 U	5500 J	6500 J	11000
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	4000 J	1200 J	2100 J	2600 J	1900 J	7000 J	1000 U	720 J	4500 J	4800 J	5700 J	1000 U	5700 J	3800 J	1900
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	4100 J	1100 J	2100 J	2700 J	2000 J	7100 J	700 J	1500 J	4500 J	5000 J	6300 J	920 U	7100 J	4100 J	2000
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	2000 J	470 J	1100 J	1000 J	940 J	3300 J	430 J	720 J	1700 J	2200 J	2900 J	480 U	3300 J	2100 J	1300
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	8900 J	5100 J	7400 J	2100 J	3000 U	11000 J	3000 U	4300 J	4200 J	3400 J	9700 J	860 J	3700 J	8800 J	8700
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	720 J	280 J	470 J	240 J	370 U	840 J	370 U	180 J	460 J	370 U	760 J	370 U	430 J	670 J	1200
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	830 J	340 J	620 J	290 J	520 U	1000 J	520 U	150 J	560 J	520 U	750 J	520 U	600 J	980 J	1600

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	1200 U	4100	1300	660 J	1200 U	460 J	4800	4700	25870
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	150 J	2200	630	400	590 U	270 J	2800	2500	14700
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	210 J	1700	200 J	650	310 U	310	1300	1900	12302
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	140 J	1400	170 J	470	240 U	240 J	1100	1400	9366
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	230 J	2400	370 J	680	390 U	350 J	2100	2400	15680
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	230 J	2800	310 J	780	350 U	400	2200	2300	16500
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	380 J	5100	650	1300	610 U	620	4400	3500	28390
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	220 J	1500	130 J	660	210 J	320	910	1300	10211
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	150 J	1300	170 J	460	310	260	940	1100	8472
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	400 J	4300	300 J	1900	490 J	710 J	2200	3300	27430
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	260 J	2900	440 J	1000	650 U	570 J	2100	3200	19960
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	260 J	2800	440 J	880	650 U	490 J	2700	3000	19100
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	190 J	2800	490 J	650	590 U	390 J	2600	3200	18660
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	250 J	2700	460 J	730	600 U	450 J	2600	3300	19050
Bishop Park	SD-016	UTC-SD-016-0.0/0.5	29-Apr-11	0 - 0.5	270 J	2000	200 J	920	580 U	400 J	1200	2200	14460
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	140 J	1800	250 J	590	500 U	300 J	1300	1900	11830
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	1100 J	14000	1800 J	3800	2700 U	1800 J	9300	10000	79160
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	1500 J	17000	2100 J	5000	1700 J	2600 J	11000	12000	101200
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	310 J	3800	390 J	910 J	1100 U	380 J	2100	3500	19810
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	1800 J	28000	3900	7400	1900 J	2900 J	25000	26000	176200
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	550 J	8700	1100	2500	800 J	840 J	7700	8600	56660
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	220 J	2200	350 J	720	610 U	460 J	2100	2600	16150
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	2000 J	27000	4700	6500	4500	3900	24000	27000	175300
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	190 J	2200	370 J	570 J	600 U	320 J	2100	2400	14890
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	340 J	4700	420 J	1100 J	1100 U	470 J	2900	3700	23860
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	270	1900	190 J	850	310	460	1100	1900	14720
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	720 J	5700	470 J	2300	680 J	1300 J	3000	5500	40650
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	530 J	5200	910	1800	990	910 J	4600	6000	38830
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	310 J	3000	530	1000	650	490 J	2700	3500	22590
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	1400 J	17000	2200	4700	2000 J	2300 J	14000	18000	115300
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	1600 J	20000	2600	5600	3800	2700 J	18000	21000	136400
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	270 J	3400	370 J	920 J	430 J	450 J	2900	3700	22060
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	260 J	4200	550 J	890 J	650 J	530 J	3600	4500	25040
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	160 J	3500	330 J	610	570	310 J	2800	3000	17910
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	1500 J	15000	2000	5000	2400	2600 J	11000	14000	101450
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	220 J	1600	160 J	880	290 J	350 J	1000	2000	13300
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	250 J	2200	160 J	1100	320 J	420 J	1200	2400	16670

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	3500 U	820 J	690 J	1600	5000	9000	8000	9300	4700	2900	6100	9700 J	12000 J	2700 J	3500 U
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	560 U	250 J	560 U	220 J	310 J	1200	1200	1400	750	420 J	870	1000 J	1200 J	520 J	560 U
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	610 U	200 J	610 U	610 U	310 J	1200	1300	1600	750	430 J	890	840 J	1200 J	350 J	610 U
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	980 U	370 J	270 J	270 J	1000	2400	2100	2600	1200	830	1400	1900 J	2300 J	1200 J	980 U
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	2700 U	680 J	970 J	990 J	3300	7300	6300	7100	3700	2500	5300	9400 J	11000 J	3500 J	2700 U
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	3900 U	2100	1700 J	980 J	6400	9100	7600	7900	3500 J	2600	4900	9100 J	14000 J	4200 J	3900 U
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	3500 U	3500 U	1700 J	1000 J	5800	9000	7000	7800	3200 J	2800	4200	7300 J	10000 J	2700 J	3500 U
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	6100 U	6100 U	3400	2200 J	11000	19000	16000	17000	8500	6500	11000	18000 J	25000 J	7500 J	6100 U
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	14000 U	14000 U	7100 J	3300 J	28000	26000	21000	21000	11000 J	8500	16000	26000 J	44000 J	19000 J	14000 U
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	5900 U	5900 U	1600 J	1300 J	8100	10000	8700	7500	3900 J	2700 J	5100 J	8600 J	13000 J	4800 J	5900 U
Bishop Park	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	130 J	550 U	170 J	180 J	640	1900	1900	2200	1000	810	1300	1800 J	2400 J	450 J	240 J
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	490 J	1600 U	520 J	630 J	2500	4700	3900	4400	2500	2100	3600	5900 J	9500 J	1700 J	870 J
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	1100 J	1200 J	1400 J	1600 J	7000	12000	10000	10000	4800	3300	8600	15000 J	26000 J	6300 J	2300 J
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	52 J	69 J	58 J	46 J	160 J	400	350	310	170	110 J	230	300 J	640 J	160 J	120 J
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	780 U	130 J	200 J	200 J	570	1600	1500	1700	800	650	1400	1500 J	2200 J	370 J	270 J
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	3600 U	3600 U	3600 U	1300 J	17000	22000	18000	22000	11000	8800	4300	2500 J	4700 J	3600 U	3600 U
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	400 U	88 J	99 J	110 J	380	1100	1100	1300	590	440	830	690 J	1100 J	400 U	400 U
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	310 U	310 U	92 J	75 J	320	540	470	560	290	250 J	390	360 J	660 J	310 U	310 U
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	740 U	740 U	740 U	400 J	1700	4300	4100	4700	2200	1600	2600	2100 J	3600 J	740 U	740 U
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	430 U	430 U	220 J	170 J	670	2000	1900	2100	1000	820	1300	1100 J	1600 J	430 U	430 U
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	440 U	440 U	120 J	170 J	680	1800	1600	2000	880	620	1100	1100 J	1700 J	440 U	440 U
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	11000 J	5000 J	6400 J	2600 J	3500 U	11000 J	3500 U	1500 J	3400 J	3600 J	8700 J	3500 U	4500 J	8300 J	9000
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	1700 J	390 J	920 J	1100 J	800 J	2800 J	560 U	540 J	2000 J	2100 J	2400 J	560 U	3000 J	1800 J	1300
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	1100 J	510 J	750 J	670 J	610 U	1800 J	610 U	180 J	1200 J	1400 J	1500 J	610 U	1700 J	1200 J	1300
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	2800 J	700 J	1600 J	1400 J	1100 J	4400 J	980 U	540 J	2500 J	2600 J	3900 J	980 U	3700 J	3800 J	2500
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	9200 J	4900 J	7300 J	3000 J	2700 U	14000 J	2700 U	4500 J	6000 J	3900 J	13000 J	2700 U	4700 J	10000 J	7300
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	15000 J	3400 J	5900 J	2900 J	4600 J	11000 J	3900 U	1200 J	2100 J	4900 J	6200 J	3900 U	3900 U	5900 J	8500
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	11000 J	3300 J	4700 J	2200 J	3500 U	9600 J	3500 U	530 J	2600 J	3500 U	6300 J	3500 U	3500 U	6100 J	8400
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	25000 J	7100 J	11000 J	4500 J	6100 U	18000 J	6100 U	1900 J	3600 J	6100 U	9400 J	6100 U	6100 U	11000 J	17000
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	56000 J	9800 J	17000 J	9200 J	18000 J	33000 J	14000 U	14000 U	4100 J	15000 J	12000 J	14000 U	14000 U	14000 J	24000
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	17000 J	5900 U	4900 J	2500 J	5900 U	8400 J	5900 U	5900 U	1100 J	5900 U	3100 J	5900 U	5900 U	3000 J	9100
Bishop Park	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	1800 J	480 J	1400 J	570 J	550 U	2600 J	550 U	490 J	1000 J	1100 J	2000 J	230 J	1100 J	2100 J	1900
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	6900 J	1900 J	5000 J	1800 J	2200 J	9300 J	1600 U	1700 J	2500 J	2500 J	7000 J	810 J	2000 J	7200 J	4600
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	26000 J	4000 J	11000 J	4700 J	7000 J	20000 J	3200 U	2100 J	3300 J	8000 J	8400 J	1300 J	4900 J	9500 J	11000
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	500 J	130 J	260 J	110 J	210 J	410 J	160 U	81 J	64 J	290 J	140 J	43 J	340 J	170 J	360
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	1300 J	360 J	1100 J	250 J	410 J	1000 J	780 U	300 J	210 J	510 J	420 J	780 U	460 J	650 J	1500
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	3600 U	3600 U	1100 J	3600 U	3600 U	840 J	3600 U	3600 U	3600 U	3600 U	3600 U	3600 U	3600 U	3600 U	21000
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	690 J	170 J	460 J	400 U	400 U	470 J	400 U	110 J	100 J	230 J	210 J	400 U	400 U	420 J	1100
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	570 J	310 U	250 J	310 U	310 U	350 J	310 U	310 U	74 J	210 J	160 J	310 U	310 U	71 J	520
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	1900 J	400 J	1400 J	740 U	740 U	1300 J	740 U	250 J	250 J	460 J	670 J	740 U	740 U	1300 J	4300
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	950 J	250 J	740 J	430 U	430 U	660 J	430 U	150 J	150 J	250 J	330 J	430 U	430 U	150 J	1900
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	920 J	200 J	680 J	440 U	440 U	600 J	440 U	440 U	130 J	310 J	300 J	440 U	440 U	590 J	1700
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	1500 J	15000	1400	4300	1800	2300 J	9500	15000	99510
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	200 J	1800	210 J	770	290 J	330 J	1400	2500	14220
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	200 J	2000	190 J	820	470 J	360 J	1200	2200	14170
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	390 J	3800	500 J	1400	520	610 J	3100	4500	27750
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	1200 J	10000	1400	3700	1700	2200 J	7400	12000	77540
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	1100 J	16000	2800	3800	2000 J	1700 J	17000	19000	112080
Bishop Park	SD-019	UTC-SD-019-0.0/0.5	30-Apr-11	0 - 0.5	1200 J	15000	2600	3600	3500 U	1600 J	13000	15000	97100
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	3200 J	28000	4900	8300	2700 J	4400 J	26000	30000	203700
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	3500 J	54000	10000	10000	14000 U	6000 J	59000	57000	343400
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	5900 U	17000	2900 J	4100	5900 U	1900 J	18000	22000	116900
Bishop Park	SD-020	UTC-SD-020-0.0/0.5	30-Apr-11	0 - 0.5	340 J	2600	260 J	1100	550 U	520 J	1800	2700	19500
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	900 J	7300	940 J	2600	1600 U	1400 J	5100	6700	49390
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	2100 J	19000	2400 J	5300	3200 U	3000 J	17000	18000	126100
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	44 J	620	79 J	150 J	90 J	74 J	470	830	4316
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	250 J	2400	280 J	860	330 J	480 J	1500	2600	17070
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	750 J	64000	9900	12000	3600 U	2100 J	60000	44000	311750
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	140 J	1900	140 J	640	150 J	290 J	1000	1600	11877
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	68 J	1300	140 J	300	92 J	150 J	910	1200	7127
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	480 J	6900	340 J	2500	380 J	1000	3100	5900	42900
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	240 J	3200	240 J	1100	340 J	500	1900	2800	20600
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	200 J	3100	190 J	1000	140 J	420 J	1600	2500	18300
			Surface	Min	Summary statistics not generated for individual PAHs.								84
				Max									311750
				Average									36997
				Median									14460
				Std Dev									66708
			Subsurface	Min	Summary statistics not generated for individual PAHs.								100
				Max									407400
				Average									58951
				Median									24500
				Std Dev									78692

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Residential	C12	C12 0-1_20061221	21-Dec-06	0 - 1	--	6800 U	2700 U	2700 U	1400	2100	1900	2600	5400 UJ	5400 U	--	--	--	--	--
Residential	C12	C12 1-3_20061221	21-Dec-06	1 - 3	--	1600	3200 U	3200 U	3200 U	1500	64000 U	64000 U	64000 UJ	64000 U	--	--	--	--	--
Residential	C12	C12 3-5_20061221	21-Dec-06	3 - 5	--	8900 U	3600 U	3600 U	3600 U	36000 U	71000 U	71000 U	71000 UJ	71000 U	--	--	--	--	--
Residential	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	--	9700 U	3900 U	3900 U	3900 U	3900 U	7700 U	7700 U	7700 U	7700 U	--	--	--	--	--
Residential	C9	C9 0-1_20070710	10-Jul-07	0 - 1	--	470	350	230	1600	3000	3200	4100	2000	1200	--	--	--	--	--
Residential	D2	D2 0-1_20061221	21-Dec-06	0 - 1	--	300 U	120 U	120 U	120 U	120 U	240 U	240 U	240 U	240 U	--	--	--	--	--
Residential	D3	D3 0-1_20061221	21-Dec-06	0 - 1	--	600 U	240 U	240 U	210	380	380	460	480 UJ	170	--	--	--	--	--
Residential	D4	D4 0-1_20070711	11-Jul-07	0 - 1	--	250	580	280	1900	2800	2800	2700	1600	920	--	--	--	--	--
Residential	D4	D4 1-2_20070711	11-Jul-07	1 - 2	--	600 U	240 U	240 U	170	330	360	290	480 U	480 U	--	--	--	--	--
Residential	D5	D5 0-1_20070710	10-Jul-07	0 - 1	--	7300 U	2900 U	2900 U	2900 U	3200	2900	4000	5800 U	5800 U	--	--	--	--	--
Residential	D5	D5 1-3_20070710	10-Jul-07	1 - 3	--	650 U	260 U	260 U	250	680	680	840	520 U	330	--	--	--	--	--
Residential	D6	D6 0-1_20070710	10-Jul-07	0 - 1	--	590 U	230 U	230 U	230 U	130	470 U	470 U	470 U	470 U	--	--	--	--	--
Residential	E1	E1 0-1_20061221	21-Dec-06	0 - 1	--	600 U	240 U	140	520	1300	1600	1800	4800 U	4800 U	--	--	--	--	--
Residential	E1	E1 1-3_20061221	21-Dec-06	1 - 3	--	600 U	240 U	240 U	170	440	470	430	170 J	150	--	--	--	--	--
Residential	E2	E2 0-1_20061222	22-Dec-06	0 - 1	--	300 U	120 U	120 U	120 U	54	240 U	240 U	240 U	240 U	--	--	--	--	--
Residential	E2	E2 1-3_20061222	22-Dec-06	1 - 3	--	300 U	120 U	120 U	120 U	120 U	240 U	240 U	240 U	240 U	--	--	--	--	--
Residential	E21	E21 0-1_20061221	21-Dec-06	0 - 1	--	150	160	250 U	660	1000	990	1200	300 J	440	--	--	--	--	--
Residential	E3	E3 0-1_20070710	10-Jul-07	0 - 1	--	590 U	240 U	240 U	240 U	240 U	470 U	470 U	470 U	470 U	--	--	--	--	--
Residential	E3	E31-3_20070710	10-Jul-07	1 - 3	--	590 U	240 U	240 U	240 U	240 U	470 U	470 U	470 U	470 U	--	--	--	--	--
Residential	E6	E6 0-1_20070711	11-Jul-07	0 - 1	--	600 U	240 U	240 U	240 U	240 U	480 U	480 U	480 U	480 U	--	--	--	--	--
Residential	E6	E6 1-3_20070711	11-Jul-07	1 - 3	--	640 U	260 U	260 U	380	860	860	1000	510	430	--	--	--	--	--
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Residential	C12	C12 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2200
Residential	C12	C12 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2200
Residential	C12	C12 3-5_20061221	21-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	36000 U
Residential	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2000
Residential	C9	C9 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3200
Residential	D2	D2 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	81
Residential	D3	D3 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	470
Residential	D4	D4 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2700
Residential	D4	D4 1-2_20070711	11-Jul-07	1 - 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350
Residential	D5	D5 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2900
Residential	D5	D5 1-3_20070710	10-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	690
Residential	D6	D6 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	230 U
Residential	E1	E1 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1300
Residential	E1	E1 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	470
Residential	E2	E2 0-1_20061222	22-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	58
Residential	E2	E2 1-3_20061222	22-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120 U
Residential	E21	E21 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1000
Residential	E3	E3 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
Residential	E3	E31-3_20070710	10-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
Residential	E6	E6 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
Residential	E6	E6 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	790
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Residential	C12	C12 0-1_20061221	21-Dec-06	0 - 1	5400 U	5500	2700 U	5400 U	2700 U	--	5500	4600	25800
Residential	C12	C12 1-3_20061221	21-Dec-06	1 - 3	64000 U	3700	3200 U	64000 U	1400	--	4100	4300	18800
Residential	C12	C12 3-5_20061221	21-Dec-06	3 - 5	71000 U	2500	3600 U	71000 U	3600 U	--	2800	36000 U	5300
Residential	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	7700 U	3200	3900 U	7700 U	3900 U	--	2000	2900	10100
Residential	C9	C9 0-1_20070710	10-Jul-07	0 - 1	680 U	6900	640	2000	930	--	4700	6900	41420
Residential	D2	D2 0-1_20061221	21-Dec-06	0 - 1	240 U	84	120 U	240 U	120 U	--	120	100	385
Residential	D3	D3 0-1_20061221	21-Dec-06	0 - 1	480 U	570	240 U	160	200	--	390	550	3940
Residential	D4	D4 0-1_20070711	11-Jul-07	0 - 1	480 U	6000	770	1200	1700	--	4900	5600	36700
Residential	D4	D4 1-2_20070711	11-Jul-07	1 - 2	480 U	460	240 U	480 U	240 U	--	530	520	3010
Residential	D5	D5 0-1_20070710	10-Jul-07	0 - 1	5800 U	7000	2900 U	5800 U	2900 U	--	5300	5500	30800
Residential	D5	D5 1-3_20070710	10-Jul-07	1 - 3	520 U	1800	160	520 U	130	--	950	1200	7710
Residential	D6	D6 0-1_20070710	10-Jul-07	0 - 1	470 U	230	230 U	470 U	230 U	--	230	220	810
Residential	E1	E1 0-1_20061221	21-Dec-06	0 - 1	4800 U	1700	150	4800 U	120	--	1100	2100	11830
Residential	E1	E1 1-3_20061221	21-Dec-06	1 - 3	480 U	580	240 U	160	240 U	--	380	600	4020
Residential	E2	E2 0-1_20061222	22-Dec-06	0 - 1	240 U	120 U	120 U	240 U	120 U	--	94	90	296
Residential	E2	E2 1-3_20061222	22-Dec-06	1 - 3	240 U	120 U	120 U	240 U	120 U	--	87	120 U	87
Residential	E21	E21 0-1_20061221	21-Dec-06	0 - 1	490 U	2100	300	300	180	--	2000	2200	12980
Residential	E3	E3 0-1_20070710	10-Jul-07	0 - 1	470 U	240 U	240 U	470 U	240 U	--	100	240 U	100
Residential	E3	E31-3_20070710	10-Jul-07	1 - 3	470 U	240 U	240 U	470 U	240 U	--	240 U	240 U	ND
Residential	E6	E6 0-1_20070711	11-Jul-07	0 - 1	480 U	250	240 U	480 U	240 U	--	340	240 U	590
Residential	E6	E6 1-3_20070711	11-Jul-07	1 - 3	510 U	1700	260 U	490	260 U	--	770	1400	9190
			Surface	Min	Summary statistics not generated for individual PAHs.								100
				Max									41420
				Average									13804
				Median									7885
				Std Dev									15711
			Subsurface	Min	Summary statistics not generated for individual PAHs.								87
				Max									18800
				Average									6052
				Median									4660
				Std Dev									6068

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	--	5500 U	2200 U	2200 U	2200 U	22000 U	44000 U	44000 U		44000 U	--	--	--	--	--
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	--	7900 U	3200 U	3200 U	1900	2900	2500	2800		6300 U	--	--	--	--	--
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	--	330	350	220	1300	2200	1700	2200	6800 UJ	6800 U	--	--	--	--	--
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	--	7300 U	1500	2900 U	3300	5800	4800	5800	1900 J	2300	--	--	--	--	--
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	--	7000	7200	1700	9700	10000	9600	12000	5500 U	4200	--	--	--	--	--
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	--	600	680	260	1600	3000	2700	3800	1300	1000	--	--	--	--	--
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	--	850	550	260	1800	3600	3000	4200	820	1400	--	--	--	--	--
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	--	600	570	330	2200	4300	4200	5300	2400	2100	--	--	--	--	--
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	--	610 U	120	240 U	160	180	130	150	480 U	480 U	--	--	--	--	--
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	--	600 U	240 U	240 U	240 U	240 U	480 U	480 U	480 U	480 U	--	--	--	--	--
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	--	900 U	360 U	360 U	360 U	360 U	720 U	720 U	720 U	720 U	--	--	--	--	--
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	--	600 U	240 U	240 U	240 U	240 U	480 U	480 U	480 U	480 U	--	--	--	--	--
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	--	590 U	230 U	230 U	230 U	230 U	470 U	470 U	470 U	470 U	--	--	--	--	--
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	--	610 U	240 U	240 U	110	170	160	170	490 UJ	490 U	--	--	--	--	--
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	--	770 J	1800 U	1800 U	3100	6500	5600	5200	1300 J	1700	--	--	--	--	--
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	NR	2700	2200	12000	15000	13000	12000	NR	3900	--	--	--	--	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	--	5300 J	3100	1600	11000	16000	14000	14000	7200	3900	--	--	--	--	--
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	--	790	230	170	680	1300	830	1200	490 J	390	--	--	--	--	--
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	72	120 U	120 U	120 U	120 U	240 U	240 U	NR	240 U	--	--	--	--	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	--	130 J	120 U	120 U	94	140	240 U	240 U	240 U	240 U	--	--	--	--	--
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	--	9300 U	3700 U	3700 U	2100	3500	2800	3300	7500 UJ	7500 U	--	--	--	--	--
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	--	11000 U	4200 U	4200 U	3400	4600	3800	4300	8500 UJ	8500 U	--	--	--	--	--
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	--	21000 U	8600 U	8600 U	8600 U	6000	17000 U	17000 U	17000 U	17000 U	--	--	--	--	--
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	--	790	950	570	3500	6100	5100	5600	2600	1700	--	--	--	--	--
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	--	610 U	240 U	240 U	140	250	490 U	490 U	490 U	490 U	--	--	--	--	--
South Works	G3	G3 0-1_20061221	21-Dec-06	0 - 1	--	330 J	230 J	540 U	730	1300	11000 U	11000 U	11000 U	11000 U	--	--	--	--	--
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	--	290	260 U	260 U	210	290	240	510 U	510 U	510 U	--	--	--	--	--
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	--	97	140 U	140 U	71	170	180	230	280 U	280 U	--	--	--	--	--
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	--	400 U	160 U	160 U	81	110	320 U	320 U	320 U	320 U	--	--	--	--	--
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	--	79	180 U	180 U	340	380	240	340	370 U	370 U	--	--	--	--	--
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	--	190	180 U	180 U	1800 U	500	440	510	370 U	370 U	--	--	--	--	--
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	--	440	170 U	240	710	660	500	590	340 U	340 U	--	--	--	--	--
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	--	410	190 U	210	690	740	640	710	370 U	370 U	--	--	--	--	--
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	--	360	180 U	150	1800 U	1800 U	350	370	360 U	360 U	--	--	--	--	--
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	--	400	190 U	190 U	380	520	530	660	370 U	370 U	--	--	--	--	--
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	--	270	160 U	160 U	320	500	450	490	320 U	320 U	--	--	--	--	--
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	--	320	160 U	160 U	320	450	440	480	330 U	330 U	--	--	--	--	--

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	22000 U
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3100
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2600
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6100
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11000
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3600
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4400
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5000
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	360 U
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	230 U
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6000
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14000
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17000
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1400
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120 U
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3800
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5000
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7300
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6000
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280
South Works	G3	G3 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1600
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	170
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	310
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	520
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	600
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	750
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1800 U
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	520
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	520
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	480

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	44000 U	3000	2200 U	44000 U	2200 U	--	2400	22000 U	5400
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	6300 U	5300	3200 U	6300 U	3200 U	--	4900	5300	28700
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	6800 U	4300	800	6800 U	780	--	3200	5500	25480
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	5800 U	11000	1800	1900	1400	--	8400	10000	66000
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	5500 U	26000	7400	5500 U	19000	--	34000	22000	180800
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	680 U	7200	1100	1200	1300	--	5000	6300	40640
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	680 U	8400	990	1500	1200	--	5200	7300	45470
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	620 U	8800	1000	1900	1200	--	6100	7600	53600
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	480 U	390	100	480 U	240 U	--	390	410	2230
South Works	F5	F5 1-3_20070710	10-Jul-07	1 - 3	480 U	240 U	240 U	480 U	240 U	--	100	240 U	100
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	720 U	360 U	360 U	720 U	360 U	--	360 U	360 U	ND
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	480 U	240 U	240 U	480 U	240 U	--	240 U	240 U	ND
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	470 U	230 U	230 U	470 U	230 U	--	230 U	230 U	ND
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	490 U	270	240 U	490 U	130	--	340	310	1840
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	3600 U	8600	990	2400		--	6900	9200	58260
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	7400 U	24000	5200	4600	1800	--	34000	32000	180700
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	7100 U	28000	5700	6200	2400	--	37000	36000	208400
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	550 U	2600	590	430	70000 U	--	3200	2900	17890
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	240 U	140	120 U	240 U	59	--	210	160	641
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	240 U	250	72	240 U	130	--	370	310	1636
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	7500 U	6100	3700 U	7500 U	3700 U	--	5100	5900	32600
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	8500 U	8100	4200 U	8500 U	1900	--	8000	7900	47000
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	17000 U	10000	8600 U	17000 U	8600 U	--	8500	9500	41300
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	800 U	12000	1500	2300	1500	--	9600	9900	69710
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	490 U	330	240 U	490 U	240 U	--	370	390	1760
South Works	G3	G3 0-1_20061221	21-Dec-06	0 - 1	11000 U	2900	570	11000 U	710	--	2700 J	2900	13970
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	2700 U	570	120	510 U	270	--	600	630	3540
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	2700 U	320	140 U	280 U	120	--	230	310	1898
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	2700 U	200	160 U	320 U	86	--	180	170	947
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	2700 U	1100	180	370 U	170	--	810	910	4859
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	2700 U	1300	180	370 U	190	--	1300	1600	6730
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	2700 U	2100	440	340 U	390	--	2100	1700	10470
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	2700 U	2200	420	370 U	720	--	2100	1400	10990
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	2700 U	1200	290	360 U	180 U	--	1900	1600	6220
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	2700 U	1400	260	370 U	820	--	1400	1100	7990
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	2700 U	680	160 U	320 U	390	--	830	1000	5450
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	2700 U	710	160 U	330 U	420	--	910	890	5420

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	--	110	160 U	160 U	220	240	330 U	220	330 U	330 U	--	--	--	--	--
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	--	190	170 U	120	230	280	190	250	340 U	340 U	--	--	--	--	--
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	--	220	190 U	82	320	420	350	330	370 U	370 U	--	--	--	--	--
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	--	590	400 U	400 U	550	590	510	610	800 U	800 U	--	--	--	--	--
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	--	1000	410 U	180	860	1600	1000	1400	830 UJ	570	--	--	--	--	--
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	--	250	320 U	340	860	2800	1700	2300	590 J	820	--	--	--	--	--
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	--	600 U	240 U	240 U	240 U	130	480 U	140	480 U	480 U	--	--	--	--	--
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	--	580 U	230 U	230 U	230 U	230 U	460 U	460 U	460 U	460 U	--	--	--	--	--
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	--	89	130 U	130 U	130 U	130 U	260 U	260 U	260 U	260 U	--	--	--	--	--
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	--	340 J	150 U	150 U	240	390	260	390	290 U	290 U	--	--	--	--	--
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	--	310 U	120 U	120 U	120 U	120 U	250 U	250 U	250 U	250 U	--	--	--	--	--
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	--	610	180	290	1700	1900	1700	1600	710	510	--	--	--	--	--
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	--	920	330	390	2100	3000	2800	2600	1100	820	--	--	--	--	--
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	--	620	140	210	1100	1400	1500	1300	620	470	--	--	--	--	--
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	--	340	330 U	190	810	860	780	820	370 J	650 U	--	--	--	--	--
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	--	580 U	230 U	230 U	230 U	230 U	470 U	470 U	470 UJ	470 U	--	--	--	--	--
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	--	610 U	240 U	240 U	240 U	240 U	480 U	480 U	480 UJ	480 U	--	--	--	--	--
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	--	620 U	250 U	250 U	250 U	130	490 U	490 U	490 UJ	490 U	--	--	--	--	--
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	--	600 U	240 U	240 U	240 U	240 U	480 U	480 U	480 UJ	480 U	--	--	--	--	--
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	--	570	200	150 U	730	820	720	920	290 U	320	--	--	--	--	--
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	--	520	220	160 U	520	1100	3200 U	3200 U	3200 U	3200 U	--	--	--	--	--
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	--	550	95	150 U	99	310	2900 U	2900 U	2900 U	2900 U	--	--	--	--	--
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	4.2 U	4.8 J	4.2 U	4.2 U	4.2 J	4.5 J	4.2 U	4.1 J	4.2 U	4.2 U	4.2 U	4.2 U	5.7 J	4.2 U	4.8 J
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	300
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	380
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	510
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1200
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2900
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	170
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	230 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	490
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120 U
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1800
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2800
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1400
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	950
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	230 U
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	980
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1600
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	780
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	8.8 J	4.2 U	4.2 U	4.2 U	6.5 J	4.6 J	4.2 U	4.2 U	7.6 J	7.2 J	4.7 J	4.2 U	8.6 J	4.2 U	5.1 J
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	5.2 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	8.7 J	5 U	5 U
			Surface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	2700 U	590	120	330 U	98	--	620	550	3048
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	2700	610	190	170	210	--	1100	620	4620
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	2700 U	900	190	370 U	520	--	910	870	5492
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	2700 U	1300	400 U	800 U	3100	--	1900	1300	10960
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	2700 U	2600	480	380	3900	--	2500	2500	20170
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	2700	4700	160	810	850	--	3400	4300	27040
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	2700 U	310	240 U	480 U	240 U	--	440	260	1450
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	2700 U	230 U	230 U	460 U	230 U	--	180	230 U	180
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	2700 U	230	130 U	260 U	130	--	250	160	969
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	2700 U	1500	190	290 U	570	--	1100	1300	6770
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	2700 U	100	120 U	250 U	120	--	180	120 U	400
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	2700 U	4100	800	670	370	--	4900	3800	25640
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	2700	6700	980	1100	520	--	6400	6500	39370
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	2700	3200	460	620	370	--	3000	3300	19920
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	2700 U	1500	400	340	340	--	2200	2000	11900
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	2700 U	230 U	230 U	470 U	230 U	--	220	130	350
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	2700 U	240 U	240 U	480 U	240 U	--	240 U	240 U	ND
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	2700 U	190	250 U	490 U	250 U	--	210	220	860
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	2700 U	130	240 U	480 U	240 U	--	150	150	430
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	2700 U	2200	390	270	730	--	1900	2900	13650
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	2700 U	2200	480	3200 U	700	--	2400	4700	14440
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	2700 U	410	150 U	2900 U	3800	--	1500	790	8334
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	2700 U	12 J	4.2 U	4.2 U	8.8 J	4.2 U	16 J	11 J	71
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	2700 U	5 U	5 U	5 U	5 U	5 U	5.2 J	5 U	5
			Surface	Min									71
				Max									66000
				Average									17426
				Median									9315
				Std Dev									19713
			Subsurface	Min	Summary statistics not generated for individual PAHs.								5
				Max									208400
				Average									23706
				Median									6770
				Std Dev									46276

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	--	6300 J	15000 U	15000 U	15000 U	150000 U	300000 U	300000 U		300000 U	--	--	--	--	--
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	NR	1500	3600 U	1800	36000 U	71000 U	71000 U		71000 U	--	--	--	--	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	--	3000 J	3800 U	3800 U	2000	38000 U	75000 U	75000 U		75000 U	--	--	--	--	--
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	--	3300	550	740	3600	4700	4300	5000		9000	--	--	--	--	--
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	NR	490	710	4700	5100	4700	5200		15000	--	--	--	--	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	--	3300 J	4000 U	4000 U	6400	6500	81000 U	81000 U		81000 U	--	--	--	--	--
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	--	1700 J	4000 U	4000 U	4100	4700	3800	3200		8000 U	--	--	--	--	--
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	--	1500	400	590	3400	3700	3200	3600		3300	--	--	--	--	--
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	8.5 J	16 U	4.7 J	4.5 J	13 J	44	41	48	26	17	27	34 J	33 J	18 J	21 J
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	11	12	2.5 J	4.1 U	6.8	16	11	14	9.6	3.9 J	9.4	16 J	20 J	16 J	24 J
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	14 J	16	9.7 J	16 U	11 J	33	27	41	25	16	28	35 J	57 J	34 J	29 J
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	16	21	15 U	15 U	15 U	21	25	22	20	7.3 J	20	37 J	63 J	33 J	39 J
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	410 J	540	520 U	130 J	1000	1600	1400	1500	650	590	650	1200 J	1700 J	600 J	950 J
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	160 J	190	83 J	55 J	310	600	380	480	190	150 J	270	600 J	780 J	330 J	350 J
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	150	180	69 J	65 J	310	630	420	440	230	150	300	650 J	750 J	240 J	310 J
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	500 J	220 J	420 J	530 J	1400	1600	1300	1600	600	1000 J	1700	2600 J	3900 J	1200 J	1300 J
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	530 J	160 J	460 J	280	980	1100	910	1000	400	430	1900	3100 J	3800 J	1400 J	1300 J
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	540	700	210 J	250 J	730	1100	890	960	340	350	710	1600 J	2100 J	1100 J	1200 J
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	1100	320	320 J	410 J	650	790	690	720	950	590 J	1300	2900 J	3800 J	2000 J	2400 J
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	97 J	310 U	310 U
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	3.9 J	18 U	18 U	18 U	18 U	18 U	18 U	5 J	18 U	5.7 J	18 U	6.2 J	7.3 J	18 U	10 J
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	7.8 J	31 U	31 U	31 U	31 U	31 U	31 U	10 J	31 U	31 U	5.5 J	14 J	16 J	44 J	19 J
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	8900 U	8900 U	8900 U	8900 U	8900 U	8900 U	8900 U	8900 U	8900 U	8900 U	8900 U	8900 U	1500 J	8900 U	8900 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	1400 J	4700 U	4700 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	8.1	7.9 U	5.3 J	3.1 J	12	35	28	35	22	11	23	33 J	48 J	32 J	16 J
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	8.1 UJ	8.1 UJ	8.1 UJ	8.1 UJ	5.2 J	16	9.8	14	11	3.6 J	11	23 J	25 J	19 J	11 J
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	22000 U	22000 U	22000 U	22000 U	22000 U	22000 U	22000 U	22000 U	22000 U	22000 U	22000 U	22000 U	4500 J	22000 U	22000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	83000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	120000 U	120000 U	120000 U	120000 U	120000 U	120000 U	120000 U	91000	120000 U	44000 J	120000 U	120000 U	22000 J	120000 U	120000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	31000 U	31000 U	31000 U	31000 U	9600 J	9200 J	11000 J	29000 J	31000 U	16000 J	5500 J	11000 J	16000 J	31000 U	31000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	29000 U	29000 U	29000 U	29000 U	8800 J	12000 J	12000 J	23000	29000 U	12000 J	8300 J	22000 J	23000 J	7800 J	29000 U

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	150000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	36000 U
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	38000 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5100
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5100
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6400
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3700
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3700
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	48 J	23 J	22 J	24 J	100 J	59 J	16 U	15 J	28 J	140 J	53 J	16 U	76 J	35 J	39
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	52 J	16 J	15 J	21 J	130 J	59 J	13 J	18 J	30 J	210 J	64 J	3.5 J	120 J	40 J	16
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	130 J	24 J	50 J	49 J	70 J	170 J	32 J	27 J	54 J	170 J	110 J	18 J	240 J	110 J	49
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	130 J	26 J	51 J	50 J	100 J	170 J	31 J	33 J	52 J	250 J	120 J	18 J	330 J	130 J	36
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	2200 J	700 J	870 J	740 J	1300 J	1900 J	520 U	480 J	610 J	1400 J	1500 J	220 J	650 J	1400 J	1800
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	1000 J	460 J	510 J	650 J	690 J	1300 J	200 J	320 J	670 J	900 J	1100 J	160 U	780 J	1100 J	450
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	1000 J	370 J	460 J	330 J	370 J	1200 J	210 J	290 J	460 J	740 J	1200 J	99 U	520 J	770 J	460
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	3900 J	980 J	1500 J	820 J	1600 J	2700 J	1200 U	730 J	1100 J	1700 J	2100 J	1200 U	1800 J	2000 J	1500
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	4200 J	1700 J	1600 J	780 J	1700 J	3300 J	1000 U	710 J	1200 J	1900 J	2200 J	1000 U	1300 J	2500 J	1100
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	2900 J	850 J	1000 J	690 J	1700 J	2600 J	330 U	500 J	730 J	1800 J	1900 J	330 U	910 J	980 J	1200
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	5500 J	1300 J	1700 J	1200 J	3100 J	4100 J	620 U	920 J	1500 J	3200 J	2300 J	620 U	1800 J	2000 J	840
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	1700 U	1700 U	1700 U	1700 U	1700 U	270 J	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	310 U	310 U	79 J	82 J	310 U	220 J	310 U	310 U	130 J	430 J	180 J	310 U	310 U	160 J	310 U
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U	2700 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	30 J	12 J	9.6 J	39 J	100 J	35 J	18 U	9.5 J	21 J	150 J	39 J	18 U	93 J	20 J	5.5 J
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	69 J	26 J	20 J	74 J	150 J	82 J	13 J	30 J	51 J	250 J	85 J	31 U	190 J	37 J	12 J
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	8900 U	8900 U	1700 J	8900 U	8900 U	4900 J	8900 U	8900 U	3000 J	8900 U	8900 U	8900 U	8900 U	8900 U	8900 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	4700 U	4700 U	2200 J	4700 U	4700 U	2100 J	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U	4700 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U	23000 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	120 J	21 J	42 J	47 J	42 J	130 J	26 J	26 J	39 J	140 J	130 J	14 J	220 J	95 J	39
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	88 J	16 J	30 J	35 J	32 J	100 J	19 J	17 J	26 J	100 J	73 J	9.9 J	170 J	72 J	24
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	22000 U	22000 U	7700 J	22000 U	22000 U	22000 U	22000 U	22000 U	7100 J	22000 U	22000 U	22000 U	22000 U	22000 U	22000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U	48000 J	230000 U	230000 U	230000 U	230000 U	230000 U	230000 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	240000 U	240000 U	240000 U	260000 J	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	110000 U	110000 U	34000 J	130000 J	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U	110000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	120000 U	71000 J	120000 U	200000 J	120000 U	120000 U	120000 U	120000 U	24000 J	20000 J	120000 U	120000 U	120000 U	120000 U	120000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	31000 U	21000 J	8500 J	64000 J	6800 J	15000 J	31000 U	31000 U	9900 J	8400 J	10000 J	31000 U	31000 U	31000 U	9700 J
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	29000 U	41000 J	12000 J	78000 J	10000 J	19000 J	29000 U	29000 U	16000 J	13000 J	21000 J	29000 U	29000 U	11000 J	11000 J

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	300000 U	15000 U	15000 U	300000 U	520000		8300	150000 U	534600
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	71000 U	18000	3600 U	71000 U	600000		21000	36000 U	642300
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	75000 U	9900	1600	75000 U	360000		12000	38000 U	388500
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	8600 U	7500	1500	8600 U	320000		11000	13000	279290
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	8200 U	7800	410 U	8200 U	71000		13000	13000	145800
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	81000 U	11000	2900	81000 U	100000		18000	18000	172500
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	8000 U	8200	2200	8000 U	19000		12000	9700	62700
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	7300 U	6200	1500	7300 U	11000		8600	11000	57790
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	7.3 J	80	8.4 J	29	55	12 J	51	48	516
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	2.1 J	36	5.1	8.1	11	5.3	38	24	216
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	5.1 J	71	14 J	20	16 U	13 J	92	73	503
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	15 U	26	7.8 J	10 J	15 U	11 J	61	40	297
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	200 J	2400	450 J	730	1200	180 J	2800	3300	20290
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	67 J	900	190	210	430	100 J	900	730	6315
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	88 J	400	170	260	230	110	390	450	4942
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	440 J	3100	730	750	1200 U	740 J	3300	2700	21190
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	510 J	2200	540	530	1000 U	830 J	2400	2000	15000
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	260 J	1500	410	450	530	270 J	1800	2100	13780
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	290 J	1300	360	340	650	430 J	1800	1700	12720
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	1700 U	1700 U	1700 U	1700 U	8700	1700 U	310 J	1700 U	9010
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	310 U	70 J	310 U	310 U	1400	310 U	120 J	310 U	1590
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	2700 U	2700 U	2700 U	2700 U	14000	2700 U	2700 U	2700 U	14000
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	18 U	4.2 J	18 U	18 U	140	18 U	18 U	18 U	160
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	31 U	7.7 J	31 U	31 U	440	31 U	32	31 U	502
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	8900 U	8900 U	8900 U	8900 U	340000	8900 U	8900 U	8900 U	340000
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	4700 U	4700 U	4700 U	4700 U	35000	4700 U	4700 U	4700 U	35000
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	23000 U	23000 U	23000 U	23000 U	810000	23000 U	23000 U	23000 U	810000
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	110000 U	110000 U	110000 U	110000 U	6400000	110000 U	110000 U	110000 U	6400000
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	4.2 J	45	7.3 J	16	18	13	66	46	393
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	2.1 J	13	2.6 J	4.5 J	8.1 UJ	7.4 J	37 J	15	190
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	22000 U	22000 U	22000 U	22000 U	1300000	22000 U	22000 U	22000 U	1300000
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	230000 U	230000 U	230000 U	230000 U	2000000	230000 U	230000 U	230000 U	2000000
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	240000 U	240000 U	240000 U	240000 U	2600000	240000 U	240000 U	240000 U	2600000
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	110000 U	110000 U	110000 U	110000 U	2800000	110000 U	110000 U	110000 U	2883000
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	120000 U	120000 U	120000 U	120000 U	920000	120000 U	120000 U	120000 U	1055000
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	31000 U	18000 J	31000 U	31000 U	200000	31000 U	30000 J	22000 J	354500
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	29000 U	18000 J	29000 U	29000 U	200000	29000 U	19000	23000 J	338800

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	360 U	360 U	360 U	360 U	890 J	130 J	110 J	2700	360 U	1300 J	74 J	360 U	440 J	80 J	110 J
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	22 J	26 J	31 U	31 U	13 J	31 U	31 U	14 J	10 J	31 U	8.7 J	24 J	31 U	40 J	48 J
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	1000 U	1000 U	1000 U	1000 U	290 J	380 J	1000 U	1200	370 J	1200	200 J	870 J	860 J	1000 U	1000 U
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	4800 U	4800 U	4800 U	4800 U	4800 U	4800 U	4800 U	2200 J	4800 U	2200 J	4800 U	4800 U	1100 J	4800 U	4800 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	59 U	59 U	59 U	59 U	35 J	210	200	260	110	89	130	140 J	170 J	59 U	59 U
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	15	20	2.1 J	7.9 U	7 J	13	12	15	17	3.7 J	14	28 J	44 J	27 J	36 J
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	16 U	16 U	16 U	16 U	9.8 J	18	16 J	19	18	4.6 J	16	33 J	53 J	32 J	29 J
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	16 U	16	16 U	16 U	16 U	9.7 J	9.9 J	14 J	19	16 U	14 J	33 J	43 J	34 J	26 J
Wye Street	SD-073	UTC-SD-073-0.0/0.5	14-Jun-11	0 - 0.5	3.9 U	3.9 U	3.9 U	3.9 U	6.7 J	13 J	13 J	11 J	6.3 J	4.3 J	7.4 J	5.7 J	12 J	3.9 U	3.9 U
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 J	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.8 J	3.9 U	3.9 U
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	4 U	4 U	4 U	4 U	4 U	8.7 J	9.9 J	9.1 J	5 J	3.6 J	5.3 J	4 U	6.5 J	4 U	4 U
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	4 U	4 U	4 U	4 U	4 U	5.2 J	6.3 J	5.2 J	3.9 J	4 U	4 J	5.7 J	6.9 J	4 U	4 U
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4 J	3.9 U	4.2 J	3.9 U	3.9 U	3.9 U	5.4 J	5.2 J	3.9 U	3.9 U
Wye Street	SD-075	UTC-SD-075-0.0/0.5	14-Jun-11	0 - 0.5	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
Wye Street	SD-078	UTC-SD-078-0.0/0.5	14-Jun-11	0 - 0.5	4.3 U	4.3 U	4.3 U	4.3 U	4.5 J	14 J	14 J	15 J	8.2 J	5.7 J	8.1 J	4.3 U	7.6 J	4.3 U	4.3 U
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Wye Street	SD-079	UTC-SD-079-0.0/0.5	14-Jun-11	0 - 0.5	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	11 J	12 J	14 J	6.8 J	5.2 J	7.1 J	3.9 U	7.2 J	3.9 U	3.9 U
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	4 U	4 U	4 U	4 U	4 U	12 J	14 J	9.3 J	6.8 J	4 U	7.4 J	8.3 J	15 J	4 U	4 U
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	190 U	190 U	190 U	48 J	170 J	490	480	580	67 J	220	370	370 J	540 J	83 J	53 J
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	240 U	240 U	240 U	240 U	130 J	600	640	930	360	260	460	380 J	520 J	83 J	240 U
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	310 U	310 U	310 U	75 J	160 J	650	740	780	420	270	610	440 J	730 J	75 J	310 U
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	240 U	240 U	240 U	240 U	88 J	390	360	430	71 J	180 J	290	300 J	450 J	62 J	57 J
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	35 J	170 U	41 J	170 U	160 J	480	490	620	73 J	240	320	280 J	430 J	81 J	94 J
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	2100 J	4100 U	2200 J	4100 U	4100 U	800 J	4100 U	4100 U

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	360 U	360 U	960 J	360 U	160 J	220 J	360 U	360 U	360 U	360 U	360 U	360 U	360 U	360 U	130 J
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	390 U	390 U	870 J	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U	390 U
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	140 J	14 J	44 J	66 J	90 J	170 J	44 J	23 J	56 J	180 J	170 J	37 J	250 J	120 J	22 J
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	1000 U	520 J	590 J	3600 J	1000 U	1200 J	1000 U	1000 U	760 J	2100 J	880 J	530 J	1000 U	1000 U	410 J
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	4800 U	5500 J	4800 U	16000 J	4800 U	1300 J	4800 U	4800 U	1900 J	4800 U	4800 U	4800 U	4800 U	4800 U	4800 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	240000 U	240000 U	240000 U	69000 J	240000 U	240000 U	270000 J	240000 U	240000 U	240000 U	240000 U	240000 U	240000 U	110000 J	240000 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	360000 U	360000 U	360000 U	200000 J	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U	360000 U
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	160 J	45 J	110 J	59 U	91 J	160 J	44 J	27 J	46 J	210 J	99 J	30 J	270 J	130 J	210
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	140 J	24 J	45 J	39 J	88 J	170 J	30 J	28 J	33 J	220 J	160 J	16 J	290 J	120 J	27
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	140 J	27 J	50 J	48 J	88 J	160 J	32 J	37 J	45 J	220 J	160 J	17 J	290 J	120 J	33
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	160 J	29 J	52 J	53 J	80 J	180 J	42 J	41 J	48 J	230 J	190 J	20 J	340 J	140 J	30
Wye Street	SD-073	UTC-SD-073-0.0/0.5	14-Jun-11	0 - 0.5	8.6 J	3.9 U	6.9 J	3.9 U	3.8 J	4.1 J	3.9 U	3.9 U	5.2 J	5.1 J	6.8 J	3.9 U	8.1 J	5 J	11 J
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	5.4 J	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	5.6 J	3.9 U	8.6 J	3.9 U	3.8 J
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	4.9 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4.8 J	4 U	6 J	4 U	8.6 J
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	11 J	5.2 J	4.3 J	4 U	6.5 J	13 J	4 U	4 U	7.4 J	11 J	13 J	4 U	21 J	6.4 J	5.9 J
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4.2 J	4 U	4 U
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	16 J	9.5 J	5.2 J	3.9 U	10 J	15 J	3.9 U	3.9 U	10 J	19 J	14 J	3.9 U	33 J	11 J	6 J
Wye Street	SD-075	UTC-SD-075-0.0/0.5	14-Jun-11	0 - 0.5	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.4 J	4.1 U	4.1 U
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	5.7 J	4.1 U	4.1 U	4.1 U	4 J	7.2 J	4.1 U	4.1 U	4.1 U	5.6 J	6.9 J	4.1 U	12 J	4.5 J	4.1 U
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	14 J	6.6 J	4.4 J	4 U	10 J	13 J	4 U	4 U	6.5 J	18 J	13 J	4 U	33 J	9.4 J	4 U
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	4 J	4 U	4 U	4 U	4 U	3.9 J	4 U	4 U	4 U	4 U	5.5 J	4 U	9.9 J	4.1 J	4 U
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	5.9 J	3.9 U	3.9 U	3.9 U	4.3 J	6.7 J	3.9 U	3.9 U	3.9 U	5.9 J	7.2 J	3.9 U	13 J	3.9 U	3.9 U
Wye Street	SD-078	UTC-SD-078-0.0/0.5	14-Jun-11	0 - 0.5	5.6 J	4.3 U	4.3 U	4.3 U	4.3 U	4.5 J	4.3 U	4.3 U	4.3 U	4.3 U	5.6 J	4.3 U	8.2 J	4.3 U	14 J
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	6.7 J	4.1 U	4.1 U	4.1 U	5.2 J	7.7 J	4.1 U	4.1 U	5 J	7 J	9 J	4.1 U	14 J	5.2 J	4.1 U
Wye Street	SD-079	UTC-SD-079-0.0/0.5	14-Jun-11	0 - 0.5	3.8 J	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4.7 J	3.9 U	12 J
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	10 J	5.3 J	5.6 J	4 U	5.3 J	13 J	4 U	4 U	4 U	9.8 J	8.9 J	4 U	15 J	4.9 J	11 J
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	4 J	4 U	4 U	4 U	4 U	4 J	4 U	4 U	4 U	4 U	4.7 J	4 U	9 J	4 U	4 U
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	4.5 J	4 U	4 U	4 U	4 U	4.5 J	4 U	4 U	4 U	4 U	5.4 J	4 U	9.8 J	4 U	4 U
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	6.9 J	4 U	4 U
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	4.1 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4.6 J	5 J	4 U	9.2 J	4 U	4 U
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	5.5 J	4 U	4 U	4 U	4.6 J	3.9 J	4 U	4 U	4 U	5.3 J	4.4 J	4 U	12 J	4.2 J	4 U
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	7 J	4 U	4 U	4 U	5.1 J	8.1 J	4 U	4 U	4 U	7.7 J	7.3 J	4 U	16 J	4.1 J	4 U
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	290 J	150 J	370 J	59 J	110 J	250 J	140 J	140 J	77 J	150 J	230 J	37 J	140 J	340 J	580
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	330 J	100 J	250 J	56 J	240 U	260 J	240 U	72 J	89 J	240 U	170 J	240 U	73 J	270 J	740
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	390 J	93 J	270 J	310 U	310 U	240 J	310 U	52 J	310 U	310 U	110 J	310 U	100 J	250 J	630
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	250 J	64 J	210 J	49 J	110 J	210 J	240 U	43 J	57 J	150 J	120 J	240 U	180 J	190 J	450
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	330 J	57 J	180 J	59 J	130 J	210 J	170 U	40 J	55 J	160 J	83 J	170 U	160 J	200 J	480
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	930 J	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U	4100 U

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	360 U	2500	360 U	360 U	17000	360 U	2800	3000	30560
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	390 U	390 U	390 U	390 U	18000	390 U	390 U	390 U	18000
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	31 U	19 J	20 J	31 U	180	31 U	100	25 J	429
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	250 J	710 J	1000 U	330 J	65000	1000 U	1000 U	720 J	70860
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	4800 U	4800 U	4800 U	4800 U	210000	4800 U	4800 U	4800 U	214400
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	240000 U	240000 U	240000 U	240000 U	1100000	240000 U	240000 U	240000 U	1100000
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	360000 U	360000 U	360000 U	360000 U	1500000	360000 U	360000 U	360000 U	1500000
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	27 J	300	14 J	120	59 U	62	120	280	1975
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	2.6 J	27	4.4 J	7.4 J	13	11	67	33	271
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	16 U	40	5.3 J	9.7 J	16 U	12 J	67	45	285
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	16 U	19	5.3 J	7.2 J	16 U	12 J	69	24	223
Wye Street	SD-073	UTC-SD-073-0.0/0.5	14-Jun-11	0 - 0.5	3.9 U	24 J	3.8 J	5.6 J	3.9 U	3.9 U	17 J	23 J	139
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	3.9 U	7 J	3.9 U	3.9 U	3.9 U	3.9 U	5.5 J	6.3 J	27
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	4 U	11 J	4 U	5.4 J	9.7 J	4 U	6.9 J	11 J	89
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	4 U	8.2 J	4 U	4 U	4 U	4 U	8.4 J	8.7 J	52
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	ND
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	3.9 U	5.4 J	3.9 U	3.9 U	3.9 U	3.9 U	12 J	6.7 J	38
Wye Street	SD-075	UTC-SD-075-0.0/0.5	14-Jun-11	0 - 0.5	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	ND
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.6 J	4.1 U	5
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	4 U	4 U	4 U	4 U	4 U	4 U	9.9 J	4 U	10
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	4 U	4 U	4 U	4 U	4 U	4 U	4 J	4 U	4
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	5.3 J	3.9 U	5
Wye Street	SD-078	UTC-SD-078-0.0/0.5	14-Jun-11	0 - 0.5	4.3 U	22 J	4.3 U	7.8 J	4.3 U	4.3 U	9.2 J	21 J	135
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	6 J	4.1 U	6
Wye Street	SD-079	UTC-SD-079-0.0/0.5	14-Jun-11	0 - 0.5	3.9 U	17 J	3.9 U	6.8 J	49 J	3.9 U	7.9 J	15 J	157
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	4 U	9.5 J	4 U	5.1 J	4 U	4 U	6.3 J	14 J	88
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	4 U	4 U	4 U	4 U	4 U	4 U	4.3 J	4 U	4
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	4 U	4 U	4 U	4 U	4 U	4 U	4.7 J	4 U	5
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	ND
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	4 U	4 U	4 U	4 U	4 U	4 U	4 J	4 U	4
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	ND
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	4 U	4 U	4 U	4 U	4.7 J	4 U	5.9 J	4 U	11
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	4 U	4 U	4 U	4 U	4 U	4 U	5.7 J	4 U	6
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	60 J	940	190 U	300	100 J	120 J	510	730	5275
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	82 J	1300	58 J	410	180 J	160 J	640	1100	7430
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	94 J	1100	310 U	430	310 U	170 J	510	1100	6959
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	240 U	710	240 U	170 J	1200	89 J	350	650	5049
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	54 J	890	67 J	270	410	110 J	620	800	5695
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	4100 U	970 J	4100 U	4100 U	30000	4100 U	4100 U	4100 U	35270

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U
			Surface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U	9500 U
			Surface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	9500 U	2300 J	9500 U	9500 U	67000	9500 U	9500 U	9500 U	69300
			Surface	Min	Summary statistics not generated for individual PAHs.								2
				Max									1300000
				Average									119148
				Median									5485
				Std Dev									315640
			Subsurface	Min	Summary statistics not generated for individual PAHs.								2
				Max									6400000
				Average									456010
				Median									4942
				Std Dev									1211015

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	210 U	210 U	210 U	210 U	210 U	54 J	210 U	77 J	210 U	3800 J	210 U	210 U	61 J	210 U	210 U
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	420 J	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	40 U	40 U	40 U	15 J	14 J	79	79	130	46	42	55	36 J	65 J	40 U	11 J
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	790 U	790 U	790 U	790 U	790 U	790 U	790 U	320 J	790 U	200 J	790 U	790 U	790 U	790 U	790 U
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	13 J	39 U	39 U	39 U	39 U	39 U	39 U	17 J	12 J	39 U	8.5 J	22 J	39 U	32 J	29 J
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	2400	1200 J	510 J	1300 U	1000 J	1900	1500	2400	1300	880 J	1500	2000 J	3300 J	1900 J	3700 J
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	2000 J	1000 J	550 J	2800 U	3100	6300	4700	6500	2300	2200	4200	1600 J	8200 J	2100 J	1100 J
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	370 J	1200 U	1200 U	1200 U	1100 J	2800	2300	2900	1400	1000 J	1700	4200 J	4700 J	1100 J	580 J
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	500 U	500 U	500 U	500 U	500 U	270 J	290 J	350 J	500 U	130 J	240 J	600 J	660 J	490 J	180 J
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	500 J	770 J	1800 U	420 J	2100	2800	2400	3300	1400 J	1000 J	1700 J	2800 J	5300 J	1200 J	1300 J
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	76 J	120 J	380 U	380 U	220	270	210	290	140 J	95 J	140 J	210 J	450 J	380 U	180 J
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	2800 U	870 J	1100 J	1100 J	4800	9300	7300	7700	3600	2600	5800	12000 J	19000 J	4200 J	2800 U
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	5500 U	2100 J	1600 J	1400 J	7000	13000	11000	10000	5900	3500 J	7500	14000 J	23000 J	5600 J	5500 U
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	1600 U	940 J	680 J	490 J	2000	5200	4600	6500	2800	1900	3600	5200 J	7500 J	1800 J	1800 J
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	4600 U	4600 U	4600 U	4600 U	2900 J	6000	5700	6100	3100 J	2000 J	3900 J	7400 J	11000 J	4600 U	4600 U
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	4800 U	4800 U	1400 J	1400 J	7500	12000	10000	9400	4900	4100 J	7800	13000 J	24000 J	5400 J	4800 U
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	160 J	870 U	870 U	870 U	560 J	1800	1900	2100	1200	880	1300	2800 J	2700 J	1400 J	350 J
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	3900 J	370 J	3700 J	200 J	1300	2500	2300	3000	1100	1000	20000	34000 J	43000 J	24000 J	8300 J
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	1700 J	2000 J	1200 J	1700 J	8000	13000	12000	11000	5000	3800	8900	20000 J	31000 J	12000 J	3800 J
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	1100 U	1100 U	290 J	1100 U	1400	3400	2700	3200	1300	1000 J	1900	2700 J	4400 J	660 J	1100 U
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	2900 U	2900 U	970 J	870 J	4700	9100	7200	7300	3900	2800 J	5200	11000 J	17000 J	3100 J	2900 U
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	5600 U	2900 J	2500 J	1700 J	9300	14000	11000	11000	6900	5100 J	9600	19000 J	34000 J	9600 J	6800 J
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	4500 U	1200 J	1700 J	1600 J	8600	14000	12000	11000	4900	4300	9500	14000 J	27000 J	5600 J	4500 U
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	1200 U	1200 U	670 J	440 J	2800	4800	4300	4400	2200	1400	2900	5200 J	8200 J	1600 J	1500 J
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	1200 U	1200 U	1200 U	1200 U	910 J	2300	1700	2200	940 J	680 J	1300	2600 J	3800 J	1300 J	1200 U
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	9.1 J	12 J	20 J	20 J	86 J	280 J	340 J	490 J	180 J	190 J	240 J	110 J	210	10 J	9.2 J
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	7.5 J	7.3 J	4.5 J	3.9 U	9.2 J	12 J	7.8 J	8.4 J	3.9 U	3.9 U	5.7 J	7.1 J	12 J	4.5 J	5.5 J
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	540 U	540 U	540 U	540 U	540 U	550 J	650 J	1600 J	540 U	640 J	540 U	540 U	550 J	540 U	540 U
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	500 U	500 U	500 U	500 U	490 J	810 J	750 J	550 J	500 U	500 U	500 U	500 U	740 J	500 U	500 U

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	210 U	210 U	74 J	210 U	210 U	56 J	210 U	210 U	210 U	210 U	51 J	210 U	210 U	31 J	49 J
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	43 J	40 U	33 J	40 U	21 J	43 J	40 U	40 U	40 U	48 J	21 J	40 U	56 J	31 J	82
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	790 U	790 U	790 U	790 U	220 J	790 U	790 U	790 U	790 U	790 U	790 U	790 U	500 J	790 U	790 U
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	120 J	19 J	44 J	58 J	69 J	150 J	26 J	28 J	51 J	170 J	150 J	39 U	230 J	100 J	21 J
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	4300 J	1800 J	2100 J	4800 J	12000 J	7200 J	1300 U	1500 J	4000 J	12000 J	6600 J	1300 U	7300 J	5700 J	2100
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	7800 J	2800 U	4500 J	3800 J	8000 J	10000 J	5700 J	3400 J	5700 J	8000 J	10000 J	2800 U	7600 J	5500 J	6300
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	4500 J	3000 J	2700 J	5300 J	1500 J	7300 J	1300 J	2300 J	5300 J	4100 J	6000 J	1200 U	5900 J	3800 J	2900
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	840 J	730 J	500 J	1100 J	600 J	1800 J	500 U	560 J	1200 J	1500 J	1600 J	500 U	1800 J	1100 J	310 J
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	5400 J	980 J	2200 J	740 J	2200 J	3700 J	1800 U	1800 U	830 J	2100 J	2000 J	1800 U	1800 U	2200 J	3000
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	510 J	380 U	230 J	110 J	380 U	400 J	380 U	380 U	120 J	450 J	240 J	380 U	530 J	270 J	270
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	17000 J	3600 J	8800 J	3300 J	6100 J	13000 J	2400 J	2000 J	2300 J	6900 J	7600 J	2800 U	4600 J	7400 J	8700
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	23000 J	3900 J	10000 J	3900 J	8500 J	17000 J	2300 J	1900 J	2500 J	8700 J	8200 J	5500 U	5200 J	8500 J	12000
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	6200 J	1600 J	3900 J	1500 J	2600 J	6500 J	1300 J	1300 J	1600 J	3000 J	4400 J	630 J	2600 J	4700 J	5000
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	8800 J	2500 J	6100 J	1900 J	2900 J	9300 J	2000 J	2000 J	2000 J	4600 U	6700 J	4600 U	2700 J	6800 J	6600
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	24000 J	3000 J	9600 J	3600 J	6900 J	15000 J	4800 U	1600 J	1800 J	7400 J	5800 J	4800 U	4000 J	6600 J	11000
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	1900 J	2000 J	1600 J	1700 J	870 J	3200 J	770 J	1200 J	1900 J	1700 J	3800 J	870 U	1700 J	3800 J	2000
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	43000 J	22000 J	24000 J	34000 J	21000 J	73000 J	12000 J	19000 J	34000 J	36000 J	57000 J	11000 U	38000 J	43000 J	2600
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	34000 J	10000 J	15000 J	10000 J	12000 J	30000 J	3700 J	7100 J	11000 J	13000 J	20000 J	4700 U	11000 J	19000 J	13000
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	3500 J	1100 J	2200 J	680 J	1100 U	3300 J	700 J	650 J	930 J	1400 J	2200 J	1100 U	1100 J	2500 J	3500
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	16000 J	3400 J	7900 J	2700 J	5600 J	13000 J	2000 J	1900 J	2200 J	5600 J	6600 J	550 J	3600 J	6400 J	9600
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	38000 J	5600 J	15000 J	6500 J	15000 J	26000 J	3300 J	3300 J	3700 J	16000 J	15000 J	5600 U	8600 J	11000 J	15000
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	27000 J	3300 J	9900 J	3500 J	7200 J	15000 J	4500 U	1800 J	1600 J	7000 J	5200 J	4500 U	3400 J	6800 J	14000
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	8300 J	2000 J	4100 J	1500 J	3000 J	7100 J	1500 J	1300 J	1700 J	3300 J	5000 J	930 J	2500 J	4700 J	4800
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	3800 J	1300 J	2700 J	1500 J	2200 J	6200 J	1200 J	1100 J	2100 J	3400 J	5300 J	510 J	3800 J	5000 J	2500
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	59 J	52 J	76 J	14 J	19 J	59 J	35 J	29 J	26 J	20 J	42 J	6 J	28 J	25 J	440 J
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	18 J	5.9 J	5.9 J	3.8 J	14 J	18 J	3.9 U	3.9 U	4.7 J	16 J	13 J	3.9 U	25 J	8.3 J	11 J
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	570 J	540 U	540 U	540 U	540 U	540 J	540 U	540 U	540 U	540 U	540 U	540 U	540 U	540 U	540 U
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	550 J	500 U	500 U	500 U	500 U	610 J	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	610 J

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	210 U	94 J	210 U	210 U	34000	210 U	3400 J	3800 J	45274
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	1600 U	1600 U	1600 U	1600 U	9400	1600 U	1600 U	1600 U	9820
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	14 J	96	40 U	56	270	23 J	40 U	82	1005
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	790 U	170 J	790 U	790 U	3800	790 U	210 J	160 J	4860
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	39 U	14 J	39 U	39 U	200	6.8 J	56	19 J	339
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	3000 U	3000 U	3000 U	3000 U	16000	3000 U	3000 U	3000 U	16000
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	3900 U	3900 U	3900 U	3900 U	21000	3900 U	3900 U	3900 U	21000
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	1300 U	4300	730 J	1400	1800	600 J	3500	4600	29120
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	2800 U	13000	1200 J	2700	3400	1800 J	10000	12000	75250
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	1200 U	4400	1200 U	1500	4300	620 J	2800	4600	32000
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	500 U	470 J	500 U	500 U	2300	100 J	500 U	430 J	4550
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	440 J	5800	1000 J	1400 J	10000	520 J	5500	5800	47130
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	380 U	550	110 J	110 J	1800	59 J	630	520 J	5335
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	1100 J	13000	2200 J	3700	1500 J	1800 J	13000	16000	97570
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	1300 J	19000	2900 J	5400 J	5500 U	2300 J	19000	23000	138100
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	680 J	9400	1100 J	2900	7400	1300 J	6400	8300	66290
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	4600 U	8900	1200 J	2900 J	28000	1500 J	6800	9100	89300
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	1500 J	19000	2700 J	5000	17000	2500 J	18000	23000	147900
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	870 U	2800	250 J	1300	5100	540 J	1700	2500	24090
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	340 J	4400	5700 J	1400	1300	8700 J	3600	51000	85810
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	1400 J	18000	3000	5300	4700 U	3000 J	18000	24000	140400
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	350 J	6400	570 J	1300	1000 J	660 J	4700	6100	37210
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	970 J	14000	1800 J	3800	2900 U	1600 J	12000	17000	96010
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	1500 J	24000	4500 J	6600	5600 U	3000 J	26000	27000	169000
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	1600 J	22000	2900	5000	1000 J	3100 J	21000	25000	151800
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	540 J	6900	1400	2000	2100	920 J	6500	7200	52450
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	1200 U	4200	560 J	870 J	5500	490 J	2900	4200	29460
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	39 J	600 J	27 J	220 J	300 J	56 J	270 J	560 J	4074
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	3.9 U	21 J	7 J	3.9 U	400 J	3.9 U	29 J	19 J	536
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	540 U	1000 J	540 U	540 U	49000 J	1400 J	880 J	940 J	55260
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	500 U	920 J	500 U	500 U	42000 J	500 U	950 J	1000 J	48080

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	4.7 J	5.7 J	4.3 J	4.3 J	21 J	65 J	71 J	130 J	20 J	48 J	39 J	28 J	49 J	5 J	6.8 J
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	4 U	4 U	4 U	10 J	18 J	62 J	54 J	55 J	17 J	17 J	23 J	18 J	36 J	4 U	4 U
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U	580 U
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	440 U	440 U	440 U	440 U	440 U	840 J	650 J	740 J	440 U	440 U	440 U	440 U	610 J	440 U	440 U
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	4 U	4 U	4 U	4 U	4 U	5.5 J	4 U	4 U	4 U	4 U	4 U	4 U	4.4 J	4 U	4 U
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4 J	3.9 U	3.9 U
Arkema	SD-086	UTC-SD-086-0.0/0.5	15-Jun-11	0 - 0.5	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4.3 J	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Arkema	SD-088	UTC-SD-088-0.0/0.5	15-Jun-11	0 - 0.5	9.7 J	4.9 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	5.8 J
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	11 J	12 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	6.9 J	4.2 J	11 J
Arkema	SD-089	UTC-SD-089-0.0/0.5	15-Jun-11	0 - 0.5	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	4 U	4 U	4 U	4 U	4 U	7.4 J	7.7 J	8.1 J	4 U	4 U	4 U	4 U	4.5 J	4 U	4 U
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	28 J	44 J	33 J	26 J	11 J	24 J	11 J	8.4 J	7.9 J	19 J	19 J	20 J	15 J	18 J	59 J
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	16 J	7.3 J	9.2 J	4 U	6.6 J	9.1 J	4 U	4 U	4 U	6.9 J	7 J	4 U	12 J	5.1 J	49 J
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	580 U	580 U	580 U	580 U	580 U	650 J	580 U	580 U	580 U	580 U	720 J	580 U	580 U	580 U	580 U
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	430 J	440 U	440 U	440 U	440 U	550 J	440 U	440 U	440 U	440 U	460 J	440 U	440 U	440 U	650 J
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	5.8 J	4 U	4 U	4 U	4.1 J	5 J	4 U	4 U	4 U	4.2 J	4.7 J	4 U	7.9 J	4.4 J	5.7 J
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	8.4 J	3.9 J	3.9 U	3.9 U	6.1 J	9.1 J	3.9 U	3.9 U	7.5 J	9.5 J	9.2 J	3.9 U	18 J	5.5 J	5.1 J
Arkema	SD-086	UTC-SD-086-0.0/0.5	15-Jun-11	0 - 0.5	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	5.4 J	4.1 U	4.1 U
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	5.6 J	4 U	4 U	4 U	4.1 J	4 J	4 U	4 U	4 U	6.9 J	5.5 J	4 U	12 J	4.4 J	4 U
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	4.2 J	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 J	3.9 U	9.2 J	3.9 U	3.9 U
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	3.8 J	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	6.4 J	3.9 U	3.9 U
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	13 J	6.3 J	4.1 J	4 U	8.5 J	12 J	4 U	4 U	11 J	18 J	18 J	4 U	26 J	11 J	4 U
Arkema	SD-088	UTC-SD-088-0.0/0.5	15-Jun-11	0 - 0.5	7.5 J	4 U	4 U	4 U	9.6 J	10 J	4 U	4 U	4 U	11 J	6.8 J	4 U	15 J	4 U	4 U
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	14 J	4 U	4.4 J	4 U	21 J	10 J	4 U	4 U	4 U	27 J	8.9 J	4 U	23 J	6.2 J	4 U
Arkema	SD-089	UTC-SD-089-0.0/0.5	15-Jun-11	0 - 0.5	5.6 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4.6 J	3.9 J	4 U	9.1 J	4 U	4 U
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	4 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	6.8 J	4 U	9.1 J
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	720 U	720 U	720 U	720 U	720 U	920 J	720 U	720 U	720 U	720 U	720 U	720 U	860 J	720 U	720 U

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	8.6 J	99 J	8 J	26 J	430 J	160 J	50 J	89 J	1139
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	6.5 J	70 J	5.6 J	21 J	71 J	10 J	32 J	63 J	551
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	580 U	760 J	580 U	580 U	27000 J	580 U	580 U	840 J	28600
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	440 U	1600 J	440 U	440 U	14000 J	690 J	1100 J	1300 J	20880
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	4 U	10 J	4 U	4 U	36 J	4 U	9.6 J	9 J	76
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	3.9 U	5.1 J	3.9 U	3.9 U	21 J	3.9 U	8.7 J	4.8 J	45
Arkema	SD-086	UTC-SD-086-0.0/0.5	15-Jun-11	0 - 0.5	4.1 U	4.1 U	4.1 U	4.1 U	190 J	4.1 U	4.1 U	4.1 U	190
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	4 U	4 U	4 U	4 U	4 U	4 U	4.7 J	4 U	5
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4.9 J	3.9 U	5
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	3.9 U	4 J	3.9 U	3.9 U	3.9 U	3.9 U	4.4 J	5.7 J	18
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	4 U	4 U	4 U	4 U	4 U	4 U	9.2 J	4 U	9
Arkema	SD-088	UTC-SD-088-0.0/0.5	15-Jun-11	0 - 0.5	4 U	4.5 J	4 U	4 U	500 J	4 U	8.8 J	4.7 J	523
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	4 U	5.6 J	3.9 J	4 U	120 J	4 U	17 J	5.4 J	164
Arkema	SD-089	UTC-SD-089-0.0/0.5	15-Jun-11	0 - 0.5	4 U	5.6 J	4 U	4 U	6.4 J	4 U	6.5 J	4.5 J	23
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	4 U	8.2 J	4 U	4.2 J	75 J	4 U	5.2 J	7.6 J	133
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	720 U	720 U	720 U	720 U	15000 J	720 U	720 U	720 U	15000

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	7700 J	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	6300 J	24000 U	24000 U	24000 U	24000 U	3900 J	24000 U	24000 U
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	4500 U	4500 U	4500 U	4500 U	4500 U	1800 J	2600 J	3100	4500 U	1100 J	1800 J	1100 J	1800 J	4500 U	4500 U
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	330 U	330 U	330 U	330 U	330 U	110 J	120 J	160 J	330 U	130 J	80 J	95 J	150 J	330 U	330 U
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	440 U	440 U	440 U	440 U	170 J	890	740	1400	490	490	700	550 J	750 J	160 J	440 U
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	460 U	460 U	460 U	460 U	210 J	1000	720	1400	550	440 J	730	510 J	730 J	110 J	460 U
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	840 U	840 U	840 U	840 U	570 J	2700	2100	3600	1400	1400	1500	1400 J	1700 J	250 J	840 U
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	150 J	920 U	920 U	920 U	980	3100	2000	3100	550 J	1000	1600	2600 J	4500 J	670 J	300 J
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U	24000 U
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	1000 J	4500 U	4500 U	4500 U	4500 U	4500 U	4500 U	4500 U	4500 U	4500 U	4500 U	4500 U	4500 U	4500 U	1900 J
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	180 J	330 U	97 J	330 U	100 J	83 J	330 U	330 U	330 U	210 J	81 J	330 U	220 J	170 J	150 J
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	440 J	120 J	470 J	120 J	440 U	410 J	440 U	440 U	200 J	440 U	330 J	440 U	290 J	530 J	1200
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	440 J	100 J	460 J	87 J	460 U	330 J	460 U	460 U	180 J	460 U	260 J	460 U	460 U	480 J	1200
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	860 J	240 J	800 J	140 J	840 U	570 J	840 U	840 U	840 U	840 U	310 J	840 U	270 J	870 J	3700
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	3000 J	650 J	2200 J	640 J	530 J	2800 J	510 J	490 J	530 J	820 J	1600 J	920 U	790 J	1900 J	3100
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	47000 U	47000 U	47000 U	47000 U	360000	47000 U	47000 U	47000 U	367700
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	24000 U	6500 J	24000 U	24000 U	240000	24000 U	24000 U	24000 U	252800
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	4500 U	3100	4500 U	1700 J	28000	730 J	1500 J	2600	47400
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	330 U	240 J	330 U	330 U	1700	330 U	170 J	230 J	3010
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	110 J	2400	440 U	570	630	220 J	1100	1900	12090
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	130 J	2800	110 J	640	620	230 J	1500	2000	13320
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	280 J	3900	840 U	1500	1500	580 J	2200	3200	28050
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	260 J	6300	470 J	1100	2100	510 J	3800	5200	33060
			Surface	Min	Summary statistics not generated for individual PAHs.								5
				Max									367700
				Average									47724
				Median									28325
				Std Dev									82232
			Subsurface	Min	Summary statistics not generated for individual PAHs.								5
				Max									169000
				Average									49842
				Median									20940
				Std Dev									58793

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	2300 J	2600 J	2200 J	1600 J	9000	13000	11000	11000	4800	3500	8900	19000 J	33000 J	9000 J	5500 J
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	2100 J	2600 J	2200 J	2200 J	11000	17000	15000	14000	6500	4500	11000	20000 J	37000 J	10000 J	4800 J
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	440 J	1000 U	410 J	410 J	1600	3300	3100	3200	1700	1300	2400	5400 J	6800 J	1600 J	860 J
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	480 J	1900 U	1900 U	780 J	2600	5100	4300	4900	2800	2400	4100	7400 J	10000 J	2100 J	1000 J
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	88 J	150 J	120 J	270	690	1500	1300	1300	590	390	780	1500 J	2300 J	420 U	420 U
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	350 J	370 J	150 J	200 J	610	1700	1600	2000	820	690	1200	1300 J	2200 J	920 J	690 J
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	470 J	560	210 J	120 J	690	1500	1100	1700	640	580	1000	1700 J	2600 J	1400 J	1000 J
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	380 J	330 J	180 J	530 U	520 J	1300	1100	1500	630	500 J	970	1800 J	2900 J	1300 J	700 J
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	350 J	940 U	300 J	310 J	1000	2700	2200	2800	1200	910 J	1800	3500 J	4300 J	1200 J	690 J
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	370 J	900 U	320 J	310 J	1200	3200	2900	3400	1700	1200	2400	4500 J	6300 J	1100 J	790 J
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	890 J	1100 J	1100 J	590 J	2800	5200	4500	4700	2100	1800	3800	7300 J	11000 J	2500 J	2200 J
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	1400 J	1600 J	1600 J	1000 J	6400	9400	7700	7300	3300	2500	5900	11000 J	21000 J	5900 J	3200 J
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	42 J	100 U	38 J	27 J	180	280	260	250	110	84 J	170	340 J	570 J	170 J	100 J
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	12 J	16	15 U	15 U	8.8 J	19	16	18	15 J	4.8 J	16	37 J	53 J	36 J	28 J
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	990 J	890 J	1400 J	1300 J	7100	8100	6800	6000	3100	2700 J	5200	9500 J	22000 J	7500 J	2000 J
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	14 J	19 J	10 J	8.2 J	59	72	63	59	28 J	19 J	42	85 J	150 J	56 J	31 J
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	7.7 J	11 J	15 U	15 U	11 J	19	15	15	10 J	5 J	13 J	31 J	51 J	24 J	18 J
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	370 J	1200 U	460 J	310 J	530 J	3000	2600	3200	1500	1100 J	2300	3800 J	6100 J	1000 J	560 J
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	650 J	4200 U	1400 J	1300 J	1400 J	13000	10000	11000	4600	3400 J	6900	9600 J	23000 J	4800 J	1400 J
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	620 J	1900 U	480 J	1900 U	830 J	3800	3400	3900	2000	1400 J	2800	4400 J	7900 J	1400 J	920 J
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	1800 J	4500 U	2300 J	1400 J	3700 J	12000	9400	8600	5500	4800	7700	15000 J	33000 J	10000 J	2800 J
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	15 U	15 U	15 U	15 U	15 U	4.6 J	4.4 J	7.7 J	9.4 J	15 U	8.1 J	19 J	22 J	21 J	22 J
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	15 U	15 U	15 U	15 U	15 U	3.2 J	15 U	4.7 J	6.6 J	15 U	5.8 J	17 J	19 J	15 J	19 J
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	510 J	660	240 J	180 J	680	1900	1600	2400	1100	800	1500	2200 J	3900 J	2000 J	1200 J
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	160 J	190 J	100 J	69 J	280	730	580	810	360	250	500	850 J	1400 J	680 J	360 J
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	610 J	790 J	560 J	1400 U	1000 J	3300	2800	3900	2000	1400 J	2400	2900 J	4200 J	1800 J	1500 J
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	830 J	1000 J	790 J	1400 U	1500	4200	3500	4700	2200	1600	2900	3400 J	6200 J	2000 J	1900 J
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	640 J	740	340 J	660 U	590 J	1500	1200	1900	870	580 J	1200	1800 J	3000 J	1400 J	1400 J
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	600 J	730	330 J	660 U	510 J	1500	1200	1900	830	690	1200	1600 J	2800 J	1400 J	1400 J
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	710 J	850 J	420 J	1200 U	780 J	2500	1900	3000	1400	1000 J	1700	1900 J	3700 J	2200 J	1600 J

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	34000 J	7000 J	15000 J	5600 J	14000 J	23000 J	3300 J	6000 J	3200 J	12000 J	12000 J	5900 U	6700 J	11000 J	13000
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	38000 J	6500 J	15000 J	6400 J	13000 J	24000 J	2500 J	5100 J	2800 J	13000 J	10000 J	5400 U	6900 J	9900 J	16000
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	6600 J	2600 J	4400 J	1800 J	2000 J	10000 J	1000 U	1700 J	2900 J	2700 J	8600 J	880 J	3100 J	7800 J	3400
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	8300 J	2500 J	5100 J	1900 J	2400 J	9800 J	1800 J	1500 J	2600 J	3000 J	6200 J	800 J	2800 J	7300 J	4600
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	2000 J	430 J	1100 J	320 J	490 J	1700 J	240 J	180 J	250 J	840 J	880 J	74 J	610 J	920 J	1400
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	2300 J	640 J	1300 J	1100 J	1600 J	3800 J	660 J	490 J	1400 J	2500 J	3200 J	530 U	2800 J	3000 J	1800
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	3100 J	990 J	2100 J	2300 J	2500 J	5800 J	510 U	850 J	2400 J	4100 J	5000 J	510 U	4400 J	4500 J	1800
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	3000 J	1100 J	2600 J	1700 J	2100 J	6700 J	1500 J	2300 J	2600 J	3800 J	6400 J	530 U	4700 J	6100 J	1600
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	4400 J	1400 J	3100 J	1700 J	1800 J	7600 J	940 U	1200 J	2700 J	2700 J	6600 J	360 J	3500 J	5800 J	3100
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	5300 J	2000 J	4600 J	1700 J	1900 J	8700 J	2300 J	1700 J	2900 J	3000 J	6700 J	490 J	3400 J	6400 J	3300
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	10000 J	2800 J	5600 J	2100 J	3900 J	9200 J	1700 J	2300 J	1700 J	4300 J	6500 J	1700 U	3200 J	5200 J	5300
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	24000 J	3300 J	9200 J	4100 J	8300 J	15000 J	1700 J	2900 J	2300 J	9000 J	6700 J	4200 U	5900 J	5300 J	8900
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	670 J	180 J	290 J	160 J	250 J	520 J	68 J	130 J	94 J	580 J	280 J	100 U	550 J	260 J	280
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	140 J	46 J	50 J	50 J	83 J	150 J	31 J	43 J	41 J	310 J	160 J	18 J	320 J	110 J	34
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	25000 J	4100 J	8200 J	3700 J	8000 J	13000 J	3600 U	2600 J	1500 J	8600 J	4400 J	1100 J	4600 J	4500 J	7600
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	230 J	48 J	71 J	55 J	84 J	180 J	28 J	37 J	35 J	240 J	94 J	16 J	230 J	87 J	73
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	120 J	36 J	39 J	39 J	54 J	120 J	25 J	32 J	31 J	230 J	120 J	13 J	210 J	76 J	27
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	1900 J	2500 J	4800 J	1900 J	710 J	6500 J	2500 J	1900 J	3000 J	2400 J	7100 J	1200 U	3200 J	5500 J	3400
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	16000 J	3900 J	10000 J	4700 J	4200 J	17000 J	2900 J	1900 J	4000 J	9700 J	9000 J	4200 U	6300 J	8100 J	13000
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	2900 J	2200 J	5500 J	2700 J	1100 J	8900 J	2600 J	1700 J	4600 J	3700 J	8800 J	1900 U	4200 J	8500 J	4400
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	35000 J	5400 J	15000 J	9200 J	8200 J	30000 J	4500 U	2600 J	6900 J	21000 J	15000 J	4500 U	11000 J	12000 J	13000
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	90 J	16 J	33 J	33 J	56 J	110 J	24 J	22 J	36 J	140 J	110 J	13 J	190 J	79 J	17
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	77 J	16 J	28 J	29 J	48 J	94 J	22 J	19 J	30 J	120 J	94 J	9.2 J	180 J	65 J	14 J
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	3900 J	1200 J	2900 J	2300 J	2700 J	7800 J	650 U	1100 J	3300 J	4800 J	5700 J	650 U	5600 J	4400 J	2300
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	1400 J	400 J	930 J	730 J	1000 J	2600 J	400 J	320 J	1000 J	1800 J	2000 J	210 U	1900 J	1600 J	840
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	6200 J	1500 J	3500 J	4000 J	5100 J	11000 J	1400 U	1200 J	6400 J	9700 J	8300 J	1400 U	9100 J	7000 J	4000
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	8700 J	1900 J	4900 J	4800 J	6700 J	14000 J	2400 J	1700 J	6400 J	14000 J	9800 J	1400 U	14000 J	7900 J	4700
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	4900 J	1100 J	2500 J	2700 J	4400 J	7900 J	1400 J	1100 J	3700 J	8200 J	6600 J	660 U	6700 J	4800 J	1800
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	4800 J	1000 J	2500 J	2900 J	4500 J	7900 J	1300 J	920 J	3900 J	8400 J	5500 J	660 U	7400 J	4400 J	1700
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	5200 J	1200 J	3100 J	3000 J	5000 J	8100 J	1400 J	1400 J	4300 J	9000 J	6200 J	1200 U	9600 J	5000 J	2800

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	1600 J	18000	3700	4800	5900 U	2800 J	23000	26000	148800
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	1900 J	24000	4400 J	6700	5400 U	3400 J	28000	33000	189000
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	660 J	5200	750 J	1700	880 J	810 J	3300	4800	35710
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	1100 J	7100	970 J	3000	3600	1500 J	5100	9600	57950
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	140 J	2000	240	650	300	250 J	1600	2200	14840
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	260 J	3400	300 J	910	610	430 J	1900	2800	20120
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	230 J	2800	430 J	660	1100	360 J	2400	3000	19520
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	200 J	2300	310 J	680	650	430 J	1700	2700	16200
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	430 J	4900	530 J	1200	940 U	600 J	2900	4200	28680
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	560 J	5500	600 J	1700	1600	870 J	3300	4900	35690
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	700 J	7600	1500	2300	2300	1200 J	7000	10000	60590
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	1100 J	14000	2600	3400	840 J	1800 J	16000	19000	106640
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	32 J	420	72 J	110	100 U	62 J	540	540	3223
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	15 U	25	6.7 J	8.2 J	15 U	10 J	69	37	278
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	1200 J	12000	2500	3100	3600 U	1600 J	18000	18000	99790
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	7.3 J	120	25 J	25 J	31 U	16 J	180	150	918
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	15 U	26	6.9 J	6.9 J	15 U	7.7 J	67	42	262
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	490 J	7400	490 J	1500	1200 U	690 J	1200 U	6800	32780
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	1300 J	18000	2000 J	4500	4200 U	2200 J	2700 J	21000	108600
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	730 J	7100	1900 U	2100	1900 U	970 J	1900 U	7200	37340
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	1900 J	21000	3800 J	5900	4500 U	2400 J	12000	23000	128300
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	15 U	10 J	15 U	4.4 J	22	6.9 J	43	15 J	138
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	15 U	5.1 J	15 U	15 U	16	5.4 J	34	9.8 J	93
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	330 J	3500	450 J	1100	710	540 J	2700	4400	25050
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	100 J	1200	150 J	340	210 U	190 J	950	1500	8449
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	510 J	8000	690 J	2000	1400 U	930 J	6000	6600	44950
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	590 J	9300	1000 J	2200	1400 U	1100 J	7900	8200	54780
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	270 J	3400	540 J	830	670	440 J	3300	3500	22690
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	300 J	3400	530 J	820	700	410 J	3400	3400	22600
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	380 J	6700	680 J	1300	1200 U	640 J	5000	5600	35510

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	490 J	560 J	200 J	610 U	450 J	1300	970	1500	610	500 J	910	1400 J	2600 J	1500 J	1000 J
Firestone	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	2800 U	2800 U	1800 J	1500 J	7800	9900	8100	8800	5500	4900	8400	14000 J	28000 J	6700 J	4500 J
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	1600 U	1600 U	1600 U	1600 U	1600 U	1100 J	880 J	1200 J	470 J	1600 U	720 J	1300 J	1700 J	570 J	1600 U
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	1000 U	1000 U	580 J	600 J	2700	5900	5100	5100	2400	1600	3400	6800 J	10000 J	2000 J	1400 J
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	1500 U	1500 U	510 J	530 J	2200	5200	4500	4600	2200	1500 J	3100	6200 J	9100 J	2000 J	1500 U
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	5800 U	5800 U	5800 U	1300 J	7400	16000	14000	14000	6500	4900 J	9300	17000 J	27000 J	6600 J	5800 U
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	1200 U	1200 U	1200 U	330 J	1100 J	3100	2700	3400	1500	1100 J	2000	3500 J	4500 J	620 J	1200 U
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	7.3 J	47 U	47 U
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	190 J	140 J	150 J	55 J	290	370	290	360	200 U	120 J	210	270 J	500 J	200 J	380 J
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	3800 J	890 J	2400 J	2300 J	2900 J	7700 J	1100 J	970 J	3500 J	5100 J	5900 J	610 U	6400 J	5000 J	1600
Firestone	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	28000 J	4900 J	12000 J	5100 J	11000 J	21000 J	2300 J	2900 J	3200 J	13000 J	10000 J	2800 U	7300 J	9100 J	10000
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	1600 J	570 J	1200 J	590 J	1600 U	2500 J	720 J	1600 U	880 J	1600 U	2400 J	1600 U	1400 J	2100 J	1300 J
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	10000 J	2700 J	5000 J	1800 J	3100 J	9000 J	1700 J	1500 J	1600 J	3700 J	6300 J	750 J	2700 J	5200 J	6300
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	9200 J	2400 J	4500 J	1600 J	2800 J	7800 J	1500 J	1300 J	1300 J	3400 J	4800 J	510 J	2500 J	4700 J	5200
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	29000 J	5400 J	13000 J	5500 J	9000 J	23000 J	2700 J	3100 J	3500 J	12000 J	11000 J	5800 U	6900 J	10000 J	16000
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	3600 J	1200 J	2700 J	750 J	1300 J	3900 J	810 J	990 J	1000 J	1300 J	2800 J	330 J	1200 J	2900 J	3400
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	650 J	61 J	220 J	130 J	610 J	370 J	200 U	36 J	70 J	390 J	150 J	200 U	260 J	220 J	370
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	220 J	2700	370 J	690	620	380 J	2300	2700	17900
Firestone	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	1400 J	16000	2900	5700	2800 U	2700 J	15000	17000	116300
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	1600 U	2100	1600 U	440 J	6800	1600 U	1200 J	2100	17590
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	630 J	8900	990 J	2500	1000 U	1000 J	7000	11000	61300
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	560 J	8700	870 J	2300	1500 U	930 J	5900	11000	55770
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	1600 J	23000	2300 J	6500	5800 U	3000 J	19000	25000	157500
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	390 J	4600	580 J	1400	2600	660 J	3400	4900	34500
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	47 U	11 J	47 U	47 U	47 U	47 U	47 U	47 U	11
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	200 U	830	200 J	140 J	320	72 J	820	880 J	5335
			Surface	Min	Summary statistics not generated for individual PAHs.								11
				Max									157500
				Average									55521
				Median									35710
				Std Dev									50918
			Subsurface	Min	Summary statistics not generated for individual PAHs.								93
				Max									189000
				Average									40779
				Median									19520
				Std Dev									50951

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1-METHYL NAPHTHALENE	2-METHYL NAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A) ANTHRACENE	BENZO(A)PYRENE	BENZO(B) FLUORANTHENE	BENZO(G,H,I) PERYLENE	BENZO(K) FLUORANTHENE	BENZO_E_PYRENE	C1 Chrysenes	C1-FlUoranthenes/ pyrenes	C1-FlUorenes	C1-Naphthalenes
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	1400 U	1100	2100	430 J	1700	2600	2200	3200	1200	1100	1800	1600 J	2900 J	1400 U	1800 J
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	90 U	90 U	110	90 U	150	220	190	250	100	91	140	130 J	220 J	90 U	99 J
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	4.9 J	17 UJ	11 J	17 UJ	24 J	46	35	47	22	17	27	29 J	46 J	17 UJ	17 UJ
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	3.8 J	17 UJ	17 UJ	5 J	12 J	60	51	66	34	26	37	38 J	52 J	17 UJ	17 UJ
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	4.4	5	4 U	4 U	2.1 J	8.7	8.8	11	12	2.7 J	8.7	17 J	24 J	12 J	10 J
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	0.78 J	1 J	2 J	5.5	3.8 U	2.9 J	7.7 J	13 J	5.5 J	5.9 J
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	4.1	4.8	0.83 J	3.4 U	3.4 U	1.8 J	3.4 U	2.7 J	3.9	3.4 U	3.4 U	9.6 J	14 J	10 J	8.8 J
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	3.5 J	3.6	3.5 U	3.5 U	1.3 J	2.8 J	2.5 J	4.1	3.3 J	0.92 J	4.1	12 J	19 J	11 J	7.6 J
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	4.6	4.9	3.8 U	3.8 U	1.1 J	2.2 J	2.3 J	4.1	3.6 J	3.8 U	4.8	16 J	21 J	14 J	11 J
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	430	600	190 J	350 U	280 J	790	670	950	240 J	280 J	650	1300 J	2100 J	980 J	1000 J
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	230 J	300	100 J	290 U	160 J	470	390	620	130 J	180 J	390	850 J	1200 J	700 J	520 J
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	310 J	630 U	160 J	630 U	420 J	1100	940	1400	330 J	410 J	840	1600 J	2500 J	1400 J	750 J
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	260 J	570 U	170 J	570 U	830	1500	1300	1900	490 J	640	1000	1300 J	2000 J	1400 J	700 J
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	12 J	15	12 U	12 U	4.3 J	11 J	8.6 J	14	3.8 J	3.3 J	12	24 J	33 J	25 J	26 J
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	53 J	280 U	280 U	280 U	140 J	470	460	670	93 J	190 J	330	410 J	650 J	280 U	280 U
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	81 J	350 U	86 J	350 U	230 J	830	830	1200	250 J	390	670	790 J	1100 J	350 U	350 U
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	220 J	640 U	640 U	640 U	320 J	1200	1200	1600	570 J	510 J	970	1500 J	2000 J	640 U	640 U
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	200 J	630 U	630 U	630 U	290 J	850	920	1300	390 J	390 J	790	1200 J	1500 J	670 J	630 U
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	340 J	660 U	210 J	660 U	340 J	1100	990	1400	480 J	430 J	830	1500 J	2600 J	1400 J	910 J
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	310 J	660 U	200 J	660 U	260 J	950	930	1300	440 J	390 J	830	1500 J	2500 J	1200 J	890 J
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	540 U	540 U	210 J	540 U	500 J	1300	980	1400	500 J	450 J	870	1400 J	2300 J	1100 J	540 U
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	7.5	6.6	1.3 J	3.9 U	3.6 J	10	9.8	15	16	3.5 J	12	23 J	35 J	12 J	15 J
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	6.2	5.7	3.7 U	3.7 U	1.3 J	4.6	4.8	6.8	11	1.8 J	6.7	14 J	21 J	9.1 J	13 J
			Surface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min	Summary statistics not generated for individual PAHs.														
				Max															
				Average															
				Median															
				Std Dev															

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Field duplicates identified with a "-R" or "X" in the Sample ID

-- parameter not analyzed

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	C1-Phenanthrenes/ anthracenes	C2 Chrysenes	C2-FlUoranthenes/ Pyrenes	C2-FlUorenes	C2-Naphthalenes	C2-Phenanthrenes/ anthracenes	C3 Chrysenes	C3-FlUoranthenes/ Pyrenes	C3-FlUorenes	C3-Naphthalenes	C3-Phenanthrenes/ anthracenes	C4 Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/ anthracenes	CHRYSENE
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	2600 J	610 J	1400 J	1400 U	1800 J	2400 J	1400 U	400 J	810 J	2600 J	1900 J	420 J	1400 U	2200 J	2500
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	190 J	34 J	87 J	90 U	90 U	160 J	90 U	24 J	42 J	110 J	100 J	90 U	90 U	130 J	200
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	40 J	9.1 J	27 J	7 J	17 UJ	40 J	6 J	9.5 J	14 J	27 J	25 J	17 U	55 J	31 J	47
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	42 J	11 J	30 J	8.8 J	17 UJ	50 J	15 J	9.1 J	13 J	33 J	28 J	7.6 J	51 J	40 J	59
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	51 J	13 J	27 J	18 J	23 J	70 J	17 J	17 J	17 J	74 J	73 J	8.3 J	130 J	54 J	15
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	25 J	7.8 J	14 J	9.6 J	12 J	39 J	11 J	10 J	9.8 J	35 J	28 J	4.7 J	67 J	31 J	6
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	39 J	7.3 J	17 J	17 J	26 J	48 J	12 J	10 J	13 J	77 J	50 J	4.6 J	130 J	36 J	7.4
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	44 J	19 J	21 J	17 J	22 J	62 J	14 J	14 J	14 J	73 J	64 J	6.5 J	130 J	42 J	9.5
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	59 J	14 J	25 J	21 J	38 J	78 J	19 J	17 J	20 J	100 J	85 J	6.2 J	170 J	62 J	9.8
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	4000 J	1000 J	1800 J	2700 J	3200 J	6200 J	830 J	890 J	2000 J	6900 J	4700 J	400 J	6500 J	2900 J	1000
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	2200 J	540 J	1100 J	1800 J	1400 J	3700 J	470 J	460 J	1300 J	3600 J	3100 J	230 J	3900 J	2000 J	640
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	3600 J	990 J	2000 J	2500 J	2100 J	6300 J	850 J	950 J	2200 J	5400 J	5500 J	340 J	6100 J	3800 J	1400
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	2700 J	610 J	1300 J	1500 J	1600 J	4400 J	510 J	480 J	1500 J	3400 J	3500 J	260 J	3600 J	2500 J	1700
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	82 J	16 J	34 J	33 J	64 J	110 J	19 J	20 J	29 J	150 J	87 J	8.3 J	200 J	75 J	20
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	610 J	190 J	440 J	290 J	300 J	940 J	280 U	170 J	360 J	620 J	830 J	280 U	700 J	700 J	530
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	990 J	370 J	770 J	600 J	440 J	1500 J	300 J	310 J	670 J	1200 J	1400 J	350 U	1300 J	1200 J	970
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	2700 J	780 J	1500 J	1900 J	1500 J	4500 J	750 J	740 J	2100 J	3900 J	4000 J	340 J	4700 J	3000 J	1400
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	2800 J	710 J	1500 J	2200 J	1500 J	5300 J	630 U	740 J	2500 J	3900 J	4800 J	630 U	4700 J	3300 J	1000
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	4800 J	910 J	2200 J	4100 J	2600 J	8900 J	790 J	880 J	3400 J	6800 J	7200 J	660 U	8300 J	4400 J	1500
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	4200 J	950 J	2100 J	4000 J	2600 J	8100 J	660 U	1100 J	4100 J	6900 J	6900 J	660 U	8600 J	4600 J	1200
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	2100 J	700 J	1600 J	1000 J	1200 J	3400 J	670 J	470 J	1200 J	2200 J	3100 J	540 U	2700 J	2600 J	1400
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	64 J	18 J	37 J	18 J	27 J	92 J	27 J	24 J	19 J	71 J	97 J	12 J	130 J	80 J	20
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	38 J	10 J	23 J	11 J	23 J	49 J	16 J	14 J	11 J	59 J	50 J	7.5 J	88 J	42 J	11
			Surface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															
			Subsurface	Min							Summary statistics not generated for individual PAHs.								
				Max															
				Average															
				Median															
				Std Dev															

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Field duplicates identified with a "-R" or "X" in the Sample ID

-- parameter not analyzed

TABLE A-11

PAH Data and Summary Statistics (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	DIBENZ(A,H) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-C,D)PYRENE	NAPHTHALENE	PERYLENE	PHENANTHRENE	PYRENE	Total PAHs (sum of 17 compounds)
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	430 J	5700	2600	1400	770	740 J	6700	4000	39730
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	29 J	580	130	110	90 U	100	570	420	3150
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	6.4 J	100	10 J	22	22 J	13 J	81 J	86	610
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	11 J	100	5.9 J	35	17 UJ	20	50 J	82	648
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	1.3 J	12	2.1 J	4.8	4 U	8.3	19	17	122
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	3.8 U	1.9 J	0.98 J	3.8 U	3.8 U	4	7.1	4.2	29
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	3.4 U	2.8 J	1.7 J	1.5 J	3.9	5	14	5.1	50
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	3.5 U	4.7	2 J	1.7 J	3.5 U	5	14	7.6	58
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	3.8 U	4.3	2.2 J	1.8 J	3.8 U	6	18	7.1	61
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	120 J	1700	300 J	360	360	230 J	2000	1900	11740
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	76 J	1000	160 J	210 J	290 U	150 J	890	1100	6426
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	160 J	2600	350 J	510 J	630 U	350 J	2000	2400	14180
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	210 J	3600	360 J	820	3200	420 J	2000	2300	21020
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	12 U	22	5.4 J	5.3 J	70	10 J	38	24	245
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	71 J	950	95 J	240 J	160 J	130 J	650	880	5599
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	120 J	1900	130 J	500	350 U	260 J	860	1800	10096
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	190 J	2200	270 J	780	640 U	380 J	1600	2400	14240
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	160 J	2000	230 J	600 J	630 U	320 J	1400	1800	11330
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	170 J	2200	340 J	580 J	660 U	370 J	1800	2500	14040
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	660 U	2000	310 J	570 J	660 U	370 J	1500	2300	12350
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	540 U	3500	310 J	490 J	540 U	320 J	1600	3000	15640
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	2.1 J	22	3 J	5.9	7.5	12	28	25	179
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	1.1 J	7.6	2.2 J	2.8 J	5.5	6.4	19	11	96
			Surface	Min	Summary statistics not generated for individual PAHs.								50
				Max									39730
				Average									10499
				Median									5599
				Std Dev									14266
			Subsurface	Min	Summary statistics not generated for individual PAHs.								29
				Max									21020
				Average									6792
				Median									4788
				Std Dev									7047

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Field duplicates identified with a "-R" or "X" in the Sample ID

-- parameter not analyzed

TABLE A-12
Pore Water PAH Data (SPME) (ng/ml)
Upper Trenton Channel, Wyandotte, Michigan

Area	Sample ID	Station ID	Depth (ft)	1-METHYLNAPHTHALENE	2-METHYLNAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(B)FLUORANTHEN	BENZO(K)FLUORANTHEN	BENZO(E)PYRENE	C1-CHRYSENES/ BENZ(A)ANTHRACENES	C1-FLUORANTHENES/ PYRENES	C1-FLUORENES	C1-PHENANTHRENES/ ANTHRACENES	C2-CHRYSENES/ BENZ(A)ANTHRACENES	C2-Fluorenes	C2-NAPHTHALENE	C2-PHENANTHRENES/ ANTHRACENES	C3-FLUORENES	C3-NAPHTHALENE	C3-PHENANTHRENES/ ANTHRACENES	C4-NAPHTHALENE	C4-PHENANTHRENES/ ANTHRACENES
Northworks	UTC-SG-001-0.0/0.5	SG-001	0 - 0.5	0.42 U	0.42 U	0.54	0.21 U	0.086 J	0.012	0.025 U	0.025 U	0.025 U	0.0067 UJ	0.09 J	0.25 J	0.19 J	0.014 U	0.12 U	0.58 U	0.39 U	0.36 U	0.63 J	0.43 U	0.76 J	1 U
	UTC-SG-001-0.0/0.5	SG-001	0 - 0.5	0.42 U	0.42 U	0.52	0.21 U	0.084 J	0.011	0.025 U	0.025 U	0.025 U	0.0067 U	0.084 J	0.23 J	0.22 U	0.014 U	0.13 U	0.58 U	0.39 U	0.36 U	0.51 J	0.43 U	0.6 J	1 U
Northworks	UTC-SG-002-0.0/0.5	SG-002	0 - 0.5	0.32 J	0.42 U	0.94	0.21 U	0.3	0.021	0.025 U	0.025 U	0.025 U	0.021 J	0.18 J	0.7 J	1 J	0.014 U	1.1 J	1.5 J	1.3 J	2.1 J	7.2 J	0.92 J	13 J	0.59 J
	UTC-SG-002-0.0/0.5	SG-002	0 - 0.5	0.31 J	0.42 U	0.92	0.1 J	0.31	0.022	0.025 U	0.025 U	0.025 U	0.017 J	0.18 J	0.71 J	1.1 J	0.014 U	1.2 J	1.6 J	1.4 J	2.5 J	7.7 J	0.98 J	14 J	0.64 J
Northworks	UTC-SG-003-0.0/0.5	SG-003	0 - 0.5	0.78	0.36 J	0.69	0.31	0.35	0.023	0.025 U	0.025 U	0.025 U	0.032 J	0.2 J	0.78 J	1.2 J	0.014 U	0.7 J	2.4 J	1 J	1.1 J	6.6 J	0.68 J	7.4 J	1 U
	UTC-SG-003-0.0/0.5	SG-003	0 - 0.5	0.89	0.43 J	0.75	0.32	0.4	0.026	0.025 U	0.025 U	0.025 U	0.034 J	0.22 J	0.86 J	1.5 J	0.014 U	0.8 J	2.8 J	1.3 J	1.3 J	7.6 J	0.93 J	8.2 J	0.66 J
Northworks	UTC-SG-003-0.0/0.5-R	SG-003	0 - 0.5	0.65	0.29 J	0.59	0.25	0.33	0.022	0.025 U	0.025 U	0.025 U	0.034 J	0.2 J	0.67 J	1.1 J	0.014 U	0.6 U	2.2 J	1 J	1.1 J	4.8 J	0.72 J	4.9 J	1 U
	UTC-SG-003-0.0/0.5-R	SG-003	0 - 0.5	0.62	0.27 J	0.58	0.26	0.34	0.02	0.025 U	0.025 U	0.025 U	0.028 J	0.18 J	0.61 J	0.99 J	0.014 U	0.55 U	1.7 J	0.81 J	0.96 J	4.2 J	0.56 J	4.8 J	1 U
Northworks	UTC-SG-005-0.0/0.5	SG-005	0 - 0.5	0.42 U	0.42 U	0.13 J	0.21 U	0.16	0.014	0.025 U	0.025 U	0.025 U	0.0067 U	0.1 J	0.14 J	0.26 J	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.6 J	0.43 U	0.82 J	1 U
	UTC-SG-005-0.0/0.5	SG-005	0 - 0.5	0.42 U	0.42 U	0.15 J	0.21 U	0.2	0.013	0.025 U	0.025 U	0.025 U	0.0067 U	0.091 J	0.16 J	0.29 J	0.014 U	0.12 U	0.58 U	0.39 U	0.36 U	0.6 J	0.43 U	0.84 J	1 U
Northworks	UTC-SG-006-0.0/0.5	SG-006	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.16 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
	UTC-SG-006-0.0/0.5	SG-006	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.16 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
Northworks	UTC-SG-007-0.0/0.5	SG-007	0 - 0.5	1.2	0.96	1	0.52 J	1.6 J	0.32	0.23	0.26 J	0.23	0.98 J	2.8 J	3.6 J	8.6 J	1.8 J	8.4 J	7.6 J	24 J	24 J	51 J	32 J	150 J	34 J
	UTC-SG-007-0.0/0.5	SG-007	0 - 0.5	1.1	0.92	0.99	0.38 J	1.1 J	0.26	0.18	0.16 J	0.17	0.61 J	2.3 J	3.4 J	7.5 J	0.86 J	7.4 J	7.7 J	19 J	21 J	55 J	24 J	140 J	24 J
Bishop Park	UTC-SG-015-0.0/0.5	SG-015	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.037	0.025 U	0.025 U	0.025 U	0.037 J	0.39 J	0.13 J	0.64 J	0.014 U	0.38 U	0.58 U	0.87 J	0.5 J	0.79 J	0.38 J	2.5 J	1 U
	UTC-SG-015-0.0/0.5	SG-015	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.041	0.025 U	0.025 U	0.025 U	0.048 J	0.42 J	0.15 J	0.68 J	0.014 U	0.46 U	0.58 U	1 J	0.83 J	1 J	0.48 J	3.2 J	1 U
Bishop Park	UTC-SG-016-0.0/0.5	SG-016	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
	UTC-SG-016-0.0/0.5	SG-016	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	0.59 J	1 U
Bishop Park	UTC-SG-017-0.0/0.5	SG-017	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
	UTC-SG-017-0.0/0.5	SG-017	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
Bishop Park	UTC-SG-018-0.0/0.5	SG-018	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
	UTC-SG-018-0.0/0.5	SG-018	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	0.63 J	1 U
Bishop Park	UTC-SG-019-0.0/0.5	SG-019	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.005 J	0.025 U	0.025 UJ	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
	UTC-SG-019-0.0/0.5	SG-019	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0079 J	0.025 U	0.37 J	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
Bishop Park	UTC-SG-020-0.0/0.5	SG-020	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0026 J	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	0.78 J	1 U
	UTC-SG-020-0.0/0.5	SG-020	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0025 J	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	0.62 J	1 U
Bishop Park	UTC-SG-021-0.0/0.5	SG-021	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.14 U	0.58 U	0.39 U	0.36 U	0.54 J	0.43 U	0.91 J	1 U
	UTC-SG-021-0.0/0.5	SG-021	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.11 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 UJ	1 U
Bishop Park	UTC-SG-021-0.0/0.5-R	SG-021	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.003 J	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.13 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
	UTC-SG-021-0.0/0.5-R	SG-021	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 UJ	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
Arkema	UTC-SG-029-0.0/0.5	SG-029	0 - 0.5	1.3	3.8	0.54	0.31	0.34	0.014	0.025 U	0.025 U	0.025 U	0.0067 U	0.15 J	0.72 J	0.7 J	0.014 U	1.1 J	1.7 J	0.35 J	0.36 U	13 J	0.43 U	2.7 J	1 U
	UTC-SG-029-0.0/0.5	SG-029	0 - 0.5	1.1	3.2	0.48	0.27	0.33	0.012	0.025 U	0.025 U	0.025 U	0.0067 U	0.1 J	0.59 J	0.58 J	0.014 U	0.81 J	0.68 J	0.24 J	0.36 U	4 J	0.43 U	0.72 J	1 U
Arkema	UTC-SG-030-0.0/0.5	SG-030	0 - 0.5	0.79	3.2	0.37	0.15 J	0.29	0.0089	0.025 U	0.025 U	0.025 U	0.0067 U	0.11 J	0.7 J	0.79 J	0.014 U	1 J	1.2 J	0.42 J	0.36 U	7.4 J	0.43 U	2.6 J	1 U
	UTC-SG-030-0.0/0.5	SG-030	0 - 0.5	0.72	2.8	0.33	0.14 J	0.26	0.011	0.025 U	0.025 U	0.025 U	0.0067 U	0.084 J	0.57 J	0.59 J	0.014 U	0.82 J	0.72 J	0.31 J	0.36 U	4.5 J	0.43 U	1.4 J	1 U
Arkema	UTC-SG-031-0.0/0.5	SG-031	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.48 J	0.43 U	0.65 J	1 U
	UTC-SG-031-0.0/0.5	SG-031	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.48 J	0.43 U	0.69 J	1 U

TABLE A-12
Pore Water PAH Data (SPME) (ng/ml)
Upper Trenton Channel, Wyandotte, Michigan

Area	Sample ID	Station ID	Depth (ft)	CHRYSENE	FLUORANTHENE	FLUORENE	NAPHTHALENE	PHENANTHRENE	PYRENE
Northworks	UTC-SG-001-0.0/0.5	SG-001	0 - 0.5	0.014	0.36	0.33	0.83 U	0.29	0.26
	UTC-SG-001-0.0/0.5	SG-001	0 - 0.5	0.015	0.34	0.32	0.83 U	0.28	0.25
Northworks	UTC-SG-002-0.0/0.5	SG-002	0 - 0.5	0.028	0.37	0.61	2.1	1.3	0.25
	UTC-SG-002-0.0/0.5	SG-002	0 - 0.5	0.029	0.35	0.62	2	1.3	0.24
Northworks	UTC-SG-003-0.0/0.5	SG-003	0 - 0.5	0.033	0.4	0.78	1.3	1.6	0.32
	UTC-SG-003-0.0/0.5	SG-003	0 - 0.5	0.037	0.42	0.86	1.4	1.8	0.34
Northworks	UTC-SG-003-0.0/0.5-R	SG-003	0 - 0.5	0.033	0.37	0.73	1.1	1.5	0.3
	UTC-SG-003-0.0/0.5-R	SG-003	0 - 0.5	0.028	0.37	0.7	0.98	1.5	0.31
Northworks	UTC-SG-005-0.0/0.5	SG-005	0 - 0.5	0.016	0.26	0.2	0.83 U	0.61	0.17
	UTC-SG-005-0.0/0.5	SG-005	0 - 0.5	0.012	0.26	0.25	0.83 U	0.68	0.17
Northworks	UTC-SG-006-0.0/0.5	SG-006	0 - 0.5	0.0044	0.034 J	0.12 U	0.83 U	0.074 J	0.024 J
	UTC-SG-006-0.0/0.5	SG-006	0 - 0.5	0.0036 J	0.034 J	0.12 U	0.83 U	0.073 J	0.03 J
Northworks	UTC-SG-007-0.0/0.5	SG-007	0 - 0.5	0.49	2.5	1.4	4.4	4.7	2.4
	UTC-SG-007-0.0/0.5	SG-007	0 - 0.5	0.39	2.4	1.3	4.2	4.1	2.2
Bishop Park	UTC-SG-015-0.0/0.5	SG-015	0 - 0.5	0.033	0.39	0.12 U	0.83 U	0.12 U	0.54
	UTC-SG-015-0.0/0.5	SG-015	0 - 0.5	0.042	0.42	0.12 U	0.83 U	0.12 U	0.56
Bishop Park	UTC-SG-016-0.0/0.5	SG-016	0 - 0.5	0.0028 J	0.043	0.12 U	0.83 U	0.12 U	0.033 J
	UTC-SG-016-0.0/0.5	SG-016	0 - 0.5	0.0049 J	0.044	0.12 U	0.83 U	0.12 U	0.038 J
Bishop Park	UTC-SG-017-0.0/0.5	SG-017	0 - 0.5	0.0042 UJ	0.034 J	0.12 U	0.83 U	0.12 U	0.033 J
	UTC-SG-017-0.0/0.5	SG-017	0 - 0.5	0.003 J	0.037 J	0.12 U	0.83 U	0.12 U	0.031 J
Bishop Park	UTC-SG-018-0.0/0.5	SG-018	0 - 0.5	0.0042 U	0.024 J	0.12 U	0.83 U	0.12 U	0.025 J
	UTC-SG-018-0.0/0.5	SG-018	0 - 0.5	0.0021 J	0.022 J	0.12 U	0.83 U	0.12 U	0.042 U
Bishop Park	UTC-SG-019-0.0/0.5	SG-019	0 - 0.5	0.0095 J	0.041 J	0.12 U	0.83 U	0.12 U	0.034 J
	UTC-SG-019-0.0/0.5	SG-019	0 - 0.5	0.0041 J	0.044	0.12 U	0.83 U	0.12 U	0.037 J
Bishop Park	UTC-SG-020-0.0/0.5	SG-020	0 - 0.5	0.0047 J	0.03 J	0.12 U	0.83 U	0.12 U	0.028 J
	UTC-SG-020-0.0/0.5	SG-020	0 - 0.5	0.0028 J	0.03 J	0.12 U	0.83 U	0.12 U	0.026 J
Bishop Park	UTC-SG-021-0.0/0.5	SG-021	0 - 0.5	0.0042 U	0.036 J	0.12 U	0.83 U	0.12 U	0.038 J
	UTC-SG-021-0.0/0.5	SG-021	0 - 0.5	0.0042 U	0.036 J	0.12 U	0.83 U	0.12 U	0.038 J
Bishop Park	UTC-SG-021-0.0/0.5-R	SG-021	0 - 0.5	0.0047 J	0.042	0.12 U	0.71 J	0.12 U	0.045
	UTC-SG-021-0.0/0.5-R	SG-021	0 - 0.5	0.0064 J	0.047	0.12 U	0.7 J	0.12 U	0.042
Arkema	UTC-SG-029-0.0/0.5	SG-029	0 - 0.5	0.018	0.38	1.1	1700 E	1.8	0.26
	UTC-SG-029-0.0/0.5	SG-029	0 - 0.5	0.015	0.34	1	700 E	1.6	0.24
Arkema	UTC-SG-030-0.0/0.5	SG-030	0 - 0.5	0.011	0.3	0.75	1800 E	1.5	0.2
	UTC-SG-030-0.0/0.5	SG-030	0 - 0.5	0.014	0.3	0.71	1200 E	1.4	0.18
Arkema	UTC-SG-031-0.0/0.5	SG-031	0 - 0.5	0.0053	0.036 J	0.12 U	9.5	0.096 J	0.03 J
	UTC-SG-031-0.0/0.5	SG-031	0 - 0.5	0.0049	0.038 J	0.12 U	8.9	0.098 J	0.029 J

TABLE A-12
Pore Water PAH Data (SPME) (ng/ml)
Upper Trenton Channel, Wyandotte, Michigan

Area	Sample ID	Station ID	Depth (ft)	1-METHYLNAPHTHALENE	2-METHYLNAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(B)FLUORANTHEN	BENZO(K)FLUORANTHEN	BENZO(E)PYRENE	C1-CHRYSENES/ BENZ(A)ANTHRACENES	C1-FLUORANTHENES/ PYRENES	C1-FLUORENES	C1-PHENANTHRENES/ ANTHRACENES	C2-CHRYSENES/ BENZ(A)ANTHRACENES	C2-Fluorenes	C2-NAPHTHALENE	C2-PHENANTHRENES/ ANTHRACENES	C3-FLUORENES	C3-NAPHTHALENE	C3-PHENANTHRENES/ ANTHRACENES	C4-NAPHTHALENE	C4-PHENANTHRENES/ ANTHRACENES
Arkema	UTC-SG-032-0.0/0.5	SG-032	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
	UTC-SG-032-0.0/0.5	SG-032	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	1.2 U	1 U
Arkema	UTC-SG-033-0.0/0.5	SG-033	0 - 0.5	0.39 J	0.42 U	0.21	0.21 U	0.12 U	0.0023 J	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.093 J	0.22 U	0.014 U	0.22 J	1.3 J	0.39 U	0.42 J	3.4 J	0.43 U	5.4 J	1 U
	UTC-SG-033-0.0/0.5	SG-033	0 - 0.5	0.38 J	0.42 U	0.2 J	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.098 J	0.22 U	0.014 U	0.24 J	1.5 J	0.39 U	0.49 J	3.7 J	0.43 U	6.1 J	1 U
Arkema	UTC-SG-033-0.0/0.5-R	SG-033	0 - 0.5	0.23 J	0.42 U	0.16 J	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.14 J	0.49 J	0.39 U	0.36 U	1.2 J	0.43 U	1.2 J	1 U
	UTC-SG-033-0.0/0.5-R	SG-033	0 - 0.5	0.42 U	0.42 U	0.14 J	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.12 J	0.42 J	0.39 U	0.36 U	1.1 J	0.43 U	1.2 J	1 U
Arkema	UTC-SG-034-0.0/0.5	SG-034	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0067	0.025 U	0.025 U	0.025 U	0.0067 U	0.042 J	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.73 J	0.43 U	0.82 J	1 U
	UTC-SG-034-0.0/0.5	SG-034	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.007	0.025 U	0.025 U	0.025 U	0.0067 U	0.042 J	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.8 J	0.43 U	1.1 J	1 U
Arkema	UTC-SG-035-0.0/0.5	SG-035	0 - 0.5	0.88	0.42 U	1.1	0.21 U	0.46	0.047	0.016 J	0.013 J	0.025 U	0.026 J	0.37 J	0.69 J	1.6 J	0.014 U	1.1 J	3 J	1.6 J	1.5 J	7.8 J	1.1 J	9.7 J	0.73 J
	UTC-SG-035-0.0/0.5	SG-035	0 - 0.5	0.76	0.42 U	1	0.21 U	0.43	0.045	0.025 U	0.025 U	0.025 U	0.022 J	0.34 J	0.67 J	1.6 J	0.014 U	1.1 J	3 J	1.6 J	1.4 J	8.9 J	1 J	12 J	0.6 J
Firestone	UTC-SG-036-0.0/0.5	SG-036	0 - 0.5	7.6	7.3	5.3	1	5.2	0.97 E	0.36	0.56 E	0.35	0.89 J	5.7 J	9.4 J	25 J	0.36 J	8 J	69 J	17 J	7.4 J	76 J	9.2 J	62 J	8 J
	UTC-SG-036-0.0/0.5	SG-036	0 - 0.5	7.6	7.3	5.2	1	5.2	0.93 E	0.36	0.45	0.37	0.97 J	5.7 J	9.4 J	25 J	0.42 J	7.7 J	77 J	16 J	7 J	100 J	8.4 J	67 J	7.3 J
Firestone	UTC-SG-037-0.0/0.5	SG-037	0 - 0.5	1.2	1.1	0.51	0.1 J	0.24	0.037	0.019 J	0.024 J	0.015 J	0.066 J	0.37 J	0.64 J	1.9 J	0.014 U	1.6 J	7.6 J	3.4 J	3.3 J	16 J	3.2 J	24 J	3.7 J
	UTC-SG-037-0.0/0.5	SG-037	0 - 0.5	1.2	1.1	0.51	0.21 U	0.24	0.029	0.029	0.025 U	0.025 U	0.053 J	0.28 J	0.59 J	1.5 J	0.014 U	1.3 J	7 J	2.6 J	2.2 J	14 J	2 J	19 J	2.2 J
Firestone	UTC-SG-038-0.0/0.5	SG-038	0 - 0.5	3.7	2.8	2.2	0.73	2	0.49	0.29	0.33	0.26	0.9 J	3.6 J	4.5 J	13 J	0.79 J	4.9 J	26 J	14 J	7.6 J	45 J	12 J	46 J	14 J
	UTC-SG-038-0.0/0.5	SG-038	0 - 0.5	3.9	3	2.3	0.76	2.1	0.43	0.18	0.21	0.16	0.66 J	3.3 J	4.8 J	14 J	0.61 J	5.2 J	33 J	13 J	7.7 J	50 J	11 J	51 J	12 J
Firestone	UTC-SG-038-0.0/0.5-R	SG-038	0 - 0.5	4.2	3.1	2.7	0.77	2.8	0.81	0.26	0.29	0.28	0.88 J	5.3 J	5.1 J	16 J	0.47 J	5.6 J	29 J	12 J	7.3 J	53 J	7.6 J	50 J	7.6 J
	UTC-SG-038-0.0/0.5-R	SG-038	0 - 0.5	4	3	2.8	0.79	4	1.5 E	0.57 E	0.84 E	0.64 E	1.6 J	8.9 J	6.3 J	25 J	0.89 J	7.6 J	38 J	21 J	9.5 J	64 J	13 J	62 J	13 J
Firestone	UTC-SG-039-0.0/0.5	SG-039	0 - 0.5	7	5.7	4.6	1.2	4.5	1.3 E	0.62 E	0.8 E	0.6 E	2.1 J	7.6 J	10 J	30 J	1.5 J	12 J	73 J	26 J	12 J	140 J	16 J	120 J	14 J
	UTC-SG-039-0.0/0.5	SG-039	0 - 0.5	7.2	5.8	4.7	1.2	4.8	1.6 E	0.94 E	1.2 E	0.88 E	2.8 J	9.2 J	12 J	33 J	2.4 J	13 J	78 J	30 J	14 J	160 J	18 J	140 J	15 J
Firestone	UTC-SG-040-0.0/0.5	SG-040	0 - 0.5	3.5	2.7	1.8	0.95	1.2	0.23	0.12	0.15	0.12	0.41 J	1.7 J	2.2 J	6.2 J	0.41 J	2.6 J	19 J	7 J	5 J	24 J	7.2 J	27 J	10 J
	UTC-SG-040-0.0/0.5	SG-040	0 - 0.5	3.6	2.8	1.9	0.96	1.3	0.27	0.12	0.13	0.12	0.44 J	2 J	2.3 J	7.2 J	0.35 J	3.3 J	20 J	9.8 J	7.7 J	28 J	12 J	37 J	17 J
Firestone	UTC-SG-041-0.0/0.5	SG-041	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0023 J	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	0.77 J	1 U
	UTC-SG-041-0.0/0.5	SG-041	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.0042 U	0.025 U	0.025 U	0.025 U	0.0067 U	0.082 U	0.17 U	0.22 U	0.014 U	0.21 U	0.58 U	0.39 U	0.36 U	0.95 U	0.43 U	0.71 J	1 U
Firestone	UTC-SG-042-0.0/0.5	SG-042	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.064	0.021 J	0.018 J	0.023 J	0.07 J	0.44 J	0.17 U	0.15 J	0.014 U	0.19 J	0.58 U	0.8 J	0.47 J	0.51 J	0.65 J	0.86 J	1 U
	UTC-SG-042-0.0/0.5	SG-042	0 - 0.5	0.42 U	0.42 U	0.21 U	0.21 U	0.12 U	0.069	0.018 J	0.018 J	0.018 J	0.061 J	0.43 J	0.17 U	0.16 J	0.014 U	0.22 J	0.58 U	0.82 J	0.57 J	0.59 J	0.6 J	1.1 J	1 U

TABLE A-12
Pore Water PAH Data (SPME) (ng/ml)
Upper Trenton Channel, Wyandotte, Michigan

Area	Sample ID	Station ID	Depth (ft)	CHRYSENE	FLUORANTHENE	FLUORENE	NAPHTHALENE	PHENANTHRENE	PYRENE
Arkema	UTC-SG-032-0.0/0.5	SG-032	0 - 0.5	0.0042 U	0.042 U	0.12 U	0.83 U	0.12 U	0.042 U
	UTC-SG-032-0.0/0.5	SG-032	0 - 0.5	0.0042 U	0.042 U	0.12 U	0.83 U	0.12 U	0.042 U
Arkema	UTC-SG-033-0.0/0.5	SG-033	0 - 0.5	0.004 J	0.059	0.071 J	0.5 J	0.1 J	0.044
	UTC-SG-033-0.0/0.5	SG-033	0 - 0.5	0.0028 J	0.053	0.063 J	0.51 J	0.094 J	0.038 J
Arkema	UTC-SG-033-0.0/0.5-R	SG-033	0 - 0.5	0.0028 J	0.032 J	0.12 U	0.83 U	0.084 J	0.023 J
	UTC-SG-033-0.0/0.5-R	SG-033	0 - 0.5	0.0027 J	0.033 J	0.12 U	0.83 U	0.078 J	0.021 J
Arkema	UTC-SG-034-0.0/0.5	SG-034	0 - 0.5	0.014	0.11	0.12 U	1.1	0.077 J	0.093
	UTC-SG-034-0.0/0.5	SG-034	0 - 0.5	0.013	0.11	0.12 U	1.1	0.078 J	0.093
Arkema	UTC-SG-035-0.0/0.5	SG-035	0 - 0.5	0.083	1.5	1.4	3.7	3.2	0.89
	UTC-SG-035-0.0/0.5	SG-035	0 - 0.5	0.066	1.5	1.2	3.4	3	0.85
Firestone	UTC-SG-036-0.0/0.5	SG-036	0 - 0.5	1.1 E	5.8	5.5	1.7	19	6
	UTC-SG-036-0.0/0.5	SG-036	0 - 0.5	1.2 E	5.9	5.4	1.6	19	6.1
Firestone	UTC-SG-037-0.0/0.5	SG-037	0 - 0.5	0.078	0.52	0.59	250 E	1.2	0.42
	UTC-SG-037-0.0/0.5	SG-037	0 - 0.5	0.069	0.44	0.56	230 E	1.2	0.37
Firestone	UTC-SG-038-0.0/0.5	SG-038	0 - 0.5	0.63	2.5	2.3	14	7.1	2.8
	UTC-SG-038-0.0/0.5	SG-038	0 - 0.5	0.53	2.5	2.4	15	7.3	2.8
Firestone	UTC-SG-038-0.0/0.5-R	SG-038	0 - 0.5	1.1 E	4.8	2.7	14	9.5	5.7
	UTC-SG-038-0.0/0.5-R	SG-038	0 - 0.5	1.8 E	7.4	3	14	13	9.2 E
Firestone	UTC-SG-039-0.0/0.5	SG-039	0 - 0.5	1.6 E	5.7	4.4	0.73 J	16	6.1
	UTC-SG-039-0.0/0.5	SG-039	0 - 0.5	1.9 E	6	4.6	0.75 J	16	6.8
Firestone	UTC-SG-040-0.0/0.5	SG-040	0 - 0.5	0.29	1.5	2.2	91	4.8	1.4
	UTC-SG-040-0.0/0.5	SG-040	0 - 0.5	0.34	1.6	2.1	94	5	1.6
Firestone	UTC-SG-041-0.0/0.5	SG-041	0 - 0.5	0.0048	0.027 J	0.12 U	0.83 U	0.12 U	0.024 J
	UTC-SG-041-0.0/0.5	SG-041	0 - 0.5	0.0045	0.024 J	0.12 U	0.83 U	0.12 U	0.022 J
Firestone	UTC-SG-042-0.0/0.5	SG-042	0 - 0.5	0.082	0.14	0.12 U	0.83 U	0.12 U	0.24
	UTC-SG-042-0.0/0.5	SG-042	0 - 0.5	0.092	0.14	0.12 U	0.83 U	0.12 U	0.24

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
North Works	SG-001	UTC-SG-001-0.0/0.5	30-Apr-11	0 - 0.5	400	--	280	--
North Works	SG-002	UTC-SG-002-0.0/0.5	30-Apr-11	0 - 0.5	1500	--	970	--
North Works	SG-003	UTC-SG-003-0.0/0.5	30-Apr-11	0 - 0.5	1000	--	620	--
North Works	SG-003	UTC-SG-003-0.0/0.5-R	30-Apr-11	0 - 0.5	910	--	590	--
North Works	SG-005	UTC-SG-005-0.0/0.5	30-Apr-11	0 - 0.5	200	--	130	--
North Works	SG-006	UTC-SG-006-0.0/0.5	30-Apr-11	0 - 0.5	640	--	360	--
North Works	SG-007	UTC-SG-007-0.0/0.5	30-Apr-11	0 - 0.5	4900	--	3500	--
				Min	200		130	
				Max	4900		3500	
				Average	1440		977	
				Median	820		490	
				Std Dev	1757		1271	

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Wyandotte Power	A1	A1 0-1_20061222	22-Dec-06	0 - 1	--	940	--	2900
Wyandotte Power	A1	A1 1-3_20061222	22-Dec-06	1 - 3	--	1600	--	5200
Wyandotte Power	A1	A1 3-5_20061222	22-Dec-06	3 - 5	--	2500	--	7400
Wyandotte Power	A11	A11 0-1_20061222	22-Dec-06	0 - 1	--	2500	--	8400
Wyandotte Power	A11	A11 1-3_20061222	22-Dec-06	1 - 3	--	700	--	1900
Wyandotte Power	A11	A11 3-5_20061222	22-Dec-06	3 - 5	--	110	--	150
Wyandotte Power	S1	S1 0-1_20070711	11-Jul-07	0 - 1	--	2100	--	8200
Wyandotte Power	S1	S1 1-3 X_20070711	11-Jul-07	1 - 3	--	2300	--	10000
Wyandotte Power	S1	S1 1-3_20070711	11-Jul-07	1 - 3	--	4300	--	17000
Wyandotte Power	S1	S1 3-5_20070711	11-Jul-07	3 - 5	--	2700	--	12000
Wyandotte Power	S1	S1 5-7 X_20070711	11-Jul-07	5 - 7	--	670	--	3200
Wyandotte Power	S1	S1 5-7_20070711	11-Jul-07	5 - 7	--	2000	--	9200
Wyandotte Power	S1	S1 7-9_20070711	11-Jul-07	7 - 9	--	27	--	140
Wyandotte Power	S1	S1 9-11_20070711	11-Jul-07	9 - 11	--	95	--	170
Wyandotte Power	S2	S2 0-1_20070710	10-Jul-07	0 - 1	--	390	--	1300
Wyandotte Power	S2	S2 1-3_20070710	10-Jul-07	1 - 3	--	2200	--	8400
Wyandotte Power	S2	S2 3-5_20070710	10-Jul-07	3 - 5	--	850	--	3500
Wyandotte Power	S2	S2 5-7_20070710	10-Jul-07	5 -7	--	1200	--	1800
Wyandotte Power	SD-001	UTC-SD-001-0.0/0.5	17-Jun-11	0 - 0.5	11000	--	7900	--
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5	17-Jun-11	0.5 - 2.5	7600	--	5600	--
Wyandotte Power	SD-001	UTC-SD-001-0.5/2.5-R	17-Jun-11	0.5 - 2.5	8100	--	6100	--
Wyandotte Power	SD-001	UTC-SD-001-2.5/4.5	17-Jun-11	2.5 - 4.5	9500	--	7100	--
Wyandotte Power	SD-001	UTC-SD-001-4.5/6.8	17-Jun-11	4.5 - 6.8	5800	--	4200	--
Wyandotte Power	SD-002	UTC-SD-002-0.0/0.5	17-Jun-11	0 - 0.5	210	--	160	--
Wyandotte Power	SD-002	UTC-SD-002-0.5/1.3	17-Jun-11	0.5 - 1.3	170	--	130	--
Wyandotte Power	SD-003	UTC-SD-003-0.5/2.5	17-Jun-11	0.5 - 2.5	7200	--	5400	--
Wyandotte Power	SD-003	UTC-SD-003-02.5/4.4	17-Jun-11	2.5 - 4.4	390	--	290	--
Wyandotte Power	SD-004	UTC-SD-004-0.0/0.5	04-May-11	0 - 0.5	17000	--	12000	--
Wyandotte Power	SD-004	UTC-SD-004-0.5/2.5	04-May-11	0.5 - 2.5	15000	--	11000	--
Wyandotte Power	SD-004	UTC-SD-004-2.5/4.5	04-May-11	2.5 - 4.5	19000	--	15000	--
Wyandotte Power	SD-004	UTC-SD-004-4.5/6.5	04-May-11	4.5 - 6.5	5700	--	4300	--
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0	04-May-11	6.5 - 9	3500	--	2600	--
Wyandotte Power	SD-004	UTC-SD-004-6.5/9.0-R	04-May-11	6.5 - 9	3600	--	2700	--
Wyandotte Power	SD-005	UTC-SD-005-0.0/0.5	04-May-11	0 - 0.5	14000	--	11000	--
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5	04-May-11	0.5 - 2.5	15000	--	11000	--
Wyandotte Power	SD-005	UTC-SD-005-0.5/2.5-R	04-May-11	0.5 - 2.5	12000	--	9200	--
Wyandotte Power	SD-005	UTC-SD-005-2.5/4.4	04-May-11	2.5 - 4.4	9500	--	7500	--
Wyandotte Power	SD-006	UTC-SD-006-0.0/0.5	17-Jun-11	0 - 0.5	1000	--	740	--
Wyandotte Power	SD-006	UTC-SD-006-0.5/1.3	17-Jun-11	0.5 - 1.3	200	--	150	--

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Wyandotte Power	SD-007	UTC-SD-007-0.0/0.5	04-May-11	0 - 0.5	5900	--	4500	--
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5	04-May-11	0.5 - 2.5	4100	--	3000	--
Wyandotte Power	SD-007	UTC-SD-007-0.5/2.5-R	04-May-11	0.5 - 2.5	3300	--	2500	--
Wyandotte Power	SD-007	UTC-SD-007-2.5/4.0	04-May-11	2.5 - 4	280	--	220	--
Wyandotte Power	SD-009	UTC-SD-009-0.0/0.5	04-May-11	0 - 0.5	570	--	460	--
Wyandotte Power	SD-009	UTC-SD-009-0.5/2.5	04-May-11	0.5 - 2.5	230	--	190	--
Wyandotte Power	SD-009	UTC-SD-009-2.5/3.6	04-May-11	2.5 - 3.6	600	--	480	--
Wyandotte Power	SD-010	UTC-SD-010-0.0/0.7	17-Jun-11	0 - 0.7	170	--	120	--
Wyandotte Power	SG-008	UTC-SG-008-0.0/0.5	02-May-11	0 - 0.5	4800	--	3200	--
Wyandotte Power	SG-009	UTC-SG-009-0.0/0.5	02-May-11	0 - 0.5	15000	--	11000	--
Wyandotte Power	SG-010	UTC-SG-010-0.0/0.5	02-May-11	0 - 0.5	5700	--	3700	--
Wyandotte Power	SG-011	UTC-SG-011-0.0/0.5	02-May-11	0 - 0.5	6000	--	4400	--
Wyandotte Power	SG-012	UTC-SG-012-0.0/0.5	02-May-11	0 - 0.5	650	--	430	--
Wyandotte Power	SG-014	UTC-SG-014-0.0/0.5	02-May-11	0 - 0.5	590	--	400	--
			Surface	Min	170	390	120	1300
				Max	17000	2500	12000	8400
				Average	5899	1483	4286	5200
				Median	5250	1520	3450	5550
				Std Dev	6027	984	4436	3640
			Subsurface	Min	170	27	130	140
				Max	19000	4300	15000	17000
				Average	6139	1524	4633	5572
				Median	5700	1400	4200	4350
				Std Dev	5941	1288	4528	5365

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Bishop Park	B1	B1 0-1_20061222	22-Dec-06	0 - 1	--	120	--	130
Bishop Park	B2	B2 0-1_20061222	22-Dec-06	0 - 1	--	100	--	91
Bishop Park	B3	B3 0-1_20070710	10-Jul-07	0 - 1	--	100	--	140
Bishop Park	B3	B3 1-2_20070710	10-Jul-07	1 - 2	--	97	--	130
Bishop Park	B4	B4 0-1 X_20070711	11-Jul-07	0 - 1	--	130	--	510
Bishop Park	B4	B4 0-1_20070711	11-Jul-07	0 - 1	--	170	--	570
Bishop Park	B4	B4 1-3 X_20070711	11-Jul-07	1 - 3	--	110	--	170
Bishop Park	B4	B4 1-3_20070711	11-Jul-07	1 - 3	--	110	--	150
Bishop Park	C1	C1 0-1_20061221	21-Dec-06	0 - 1	--	1700	--	5200
Bishop Park	C1	C1 1-3_20061221	21-Dec-06	1 - 3	--	2500	--	7400
Bishop Park	C1	C1 3-5_20061221	21-Dec-06	3 - 5	--	1100	--	3300
Bishop Park	C11	C11 0-1_20061221	21-Dec-06	0 - 1	--	5700	--	19000
Bishop Park	C11	C11 1-3_20061221	21-Dec-06	1 - 3	--	9500	--	25000
Bishop Park	C11	C11 3-5_20061221	21-Dec-06	3 - 5	--	7200	--	19000
Bishop Park	C11	C11 5-7_20061221	21-Dec-06	5 - 7	--	3500	--	12000
Bishop Park	C3	C3 0-1_20061221	21-Dec-06	0 - 1	--	2400	--	9900
Bishop Park	C3	C3 1-3_20061221	21-Dec-06	1 - 3	--	2000	--	7600
Bishop Park	C3	C3 3-5_20061221	21-Dec-06	3 - 5	--	990	--	2500
Bishop Park	C4	C4 0-1_20070711	11-Jul-07	0 - 1	--	220	--	790
Bishop Park	C4	C4 1-3_20070711	11-Jul-07	1 - 3	--	220	--	770
Bishop Park	C4	C4 3-5_20070711	11-Jul-07	3 - 5	--	90	--	230
Bishop Park	C5	C5 0-1_20070710	10-Jul-07	0 - 1	--	640	--	3700
Bishop Park	C5	C5 1-3_20070710	10-Jul-07	1 - 3	--	230	--	650
Bishop Park	C5	C5 3-5_20070710	10-Jul-07	3 - 5	--	89	--	120
Bishop Park	C6	C6 0-1_20070711	11-Jul-07	0 - 1	--	4400	--	14000
Bishop Park	C6	C6 1-3 X_20070711	11-Jul-07	1 - 3	--	1700	--	6500
Bishop Park	C6	C6 1-3_20070711	11-Jul-07	1 - 3	--	2500	--	8900
Bishop Park	C6	C6 3-5_20070711	11-Jul-07	3 - 5	--	2200	--	8700
Bishop Park	C6	C6 5-7 X_20070711	11-Jul-07	5 - 7	--	1800	--	6800
Bishop Park	C6	C6 5-7_20070711	11-Jul-07	5 - 7	--	1800	--	6900
Bishop Park	C6	C6 7-9_20070711	11-Jul-07	7 - 9	--	2600	--	9500
Bishop Park	C7	C7 0-1_20070710	10-Jul-07	0 - 1	--	3300	--	11000
Bishop Park	C7	C7 1-3_20070710	10-Jul-07	1 - 3	--	280	--	1500
Bishop Park	C8	C8 0-1_20070711	11-Jul-07	0 - 1	--	1000	--	4500
Bishop Park	C8	C8 1-3_20070711	11-Jul-07	1 - 3	--	1300	--	5700
Bishop Park	SD-011	UTC-SD-011-0.0/0.5	30-Apr-11	0 - 0.5	57	--	43	--
Bishop Park	SD-011	UTC-SD-011-0.5/1.5	26-Apr-11	0.5 - 1.5	190	--	150	--
Bishop Park	SD-012	UTC-SD-012-0.0/0.5	30-Apr-11	0 - 0.5	130	--	100	--
Bishop Park	SD-012	UTC-SD-012-0.5/1.3	30-Apr-11	0.5 - 1.3	73	--	54	--
Bishop Park	SD-013	UTC-SD-013-0.0/0.5	26-Apr-11	0 - 0.5	7000	--	4700	--
Bishop Park	SD-013	UTC-SD-013-0.5/2.5	26-Apr-11	0.5 - 2.5	7400	--	5000	--
Bishop Park	SD-013	UTC-SD-013-2.5/4.5	26-Apr-11	2.5 - 4.5	13000	--	8700	--
Bishop Park	SD-013	UTC-SD-013-4.5/6.4	26-Apr-11	4.5 - 6.4	6500	--	4600	--
Bishop Park	SD-013	UTC-SD-013-4.5/6.4-R	26-Apr-11	4.5 - 6.4	6800	--	4800	--
Bishop Park	SD-014	UTC-SD-014-0.0/0.5	26-Apr-11	0 - 0.5	390	--	220	--
Bishop Park	SD-014	UTC-SD-014-0.5/1.5	26-Apr-11	0.5 - 1.5	480	--	280	--
Bishop Park	SD-015	UTC-SD-015-0.0/0.5	29-Apr-11	0 - 0.5	3000	--	1800	--
Bishop Park	SD-015	UTC-SD-015-0.5/2.5	29-Apr-11	0.5 - 2.5	25000	--	17000	--
Bishop Park	SD-015	UTC-SD-015-2.5/4.5	29-Apr-11	2.5 - 4.5	21000	--	14000	--
Bishop Park	SD-015	UTC-SD-015-4.5/6.5	29-Apr-11	4.5 - 6.5	17000	--	11000	--
Bishop Park	SD-015	UTC-SD-015-6.5/9.0	29-Apr-11	6.5 - 9	16000	--	11000	--
Bishop Park	SD-016	UTC-SD-016-0.5/2.5	29-Apr-11	0.5 - 2.5	16000	--	13000	--
Bishop Park	SD-016	UTC-SD-016-10.5/12.5	29-Apr-11	10.5 - 12.5	8600	--	6300	--
Bishop Park	SD-016	UTC-SD-016-10.5/12.5-R	29-Apr-11	10.5 - 12.5	8200	--	6000	--
Bishop Park	SD-016	UTC-SD-016-12.5/14.5	29-Apr-11	12.5 - 14.5	12000	--	8800	--
Bishop Park	SD-016	UTC-SD-016-14.5/16.5	29-Apr-11	14.5 - 16.5	4800	--	3600	--
Bishop Park	SD-016	UTC-SD-016-16.5/18.6	29-Apr-11	16.5 - 18.6	2300	--	1700	--
Bishop Park	SD-016	UTC-SD-016-2.5/4.5	29-Apr-11	2.5 - 4.5	17000	--	14000	--
Bishop Park	SD-016	UTC-SD-016-4.5/6.5	29-Apr-11	4.5 - 6.5	14000	--	11000	--
Bishop Park	SD-016	UTC-SD-016-6.5/8.5	29-Apr-11	6.5 - 8.5	18000	--	13000	--
Bishop Park	SD-016	UTC-SD-016-8.5/10.5	29-Apr-11	8.5 - 10.5	4900	--	3600	--
Bishop Park	SD-017	UTC-SD-017-0.0/0.5	30-Apr-11	0 - 0.5	1500	--	1100	--
Bishop Park	SD-017	UTC-SD-017-0.5/2.5	30-Apr-11	0.5 - 2.5	2700	--	1800	--
Bishop Park	SD-017	UTC-SD-017-10.5/12.5	30-Apr-11	10.5 - 12.5	7300	--	5300	--
Bishop Park	SD-017	UTC-SD-017-10.5/12.5-R	30-Apr-11	10.5 - 12.5	8000	--	5900	--
Bishop Park	SD-017	UTC-SD-017-12.5/14.5	30-Apr-11	12.5 - 14.5	8300	--	6300	--
Bishop Park	SD-017	UTC-SD-017-14.5/16	30-Apr-11	14.5 - 16	4200	--	3300	--
Bishop Park	SD-017	UTC-SD-017-2.5/4.5	30-Apr-11	2.5 - 4.5	9500	--	7100	--
Bishop Park	SD-017	UTC-SD-017-4.5/6.5	30-Apr-11	4.5 - 6.5	11000	--	8500	--
Bishop Park	SD-017	UTC-SD-017-6.5/8.5	30-Apr-11	6.5 - 8.5	8100	--	6100	--
Bishop Park	SD-017	UTC-SD-017-8.5/10.5	30-Apr-11	8.5 - 10.5	8800	--	6800	--
Bishop Park	SD-018	UTC-SD-018-0.0/0.5	30-Apr-11	0 - 0.5	3500	--	2100	--
Bishop Park	SD-018	UTC-SD-018-0.5/2.5	30-Apr-11	0.5 - 2.5	3700	--	2200	--
Bishop Park	SD-018	UTC-SD-018-10.5/12.3	30-Apr-11	10.5 - 12.3	13000	--	9500	--
Bishop Park	SD-018	UTC-SD-018-2.5/4.5	30-Apr-11	2.5 - 4.5	4700	--	3100	--

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Bishop Park	SD-018	UTC-SD-018-2.5/4.5-R	30-Apr-11	2.5 - 4.5	4200	--	2700	--
Bishop Park	SD-018	UTC-SD-018-4.5/6.5	30-Apr-11	4.5 - 6.5	11000	--	7900	--
Bishop Park	SD-018	UTC-SD-018-6.5/8.5	30-Apr-11	6.5 - 8.5	15000	--	11000	--
Bishop Park	SD-018	UTC-SD-018-8.5/10.5	30-Apr-11	8.5 - 10.5	5200	--	3800	--
Bishop Park	SD-019	UTC-SD-019-0.5/2.5	30-Apr-11	0.5 - 2.5	7100	--	5200	--
Bishop Park	SD-019	UTC-SD-019-2.5/4.5	30-Apr-11	2.5 - 4.5	3400	--	2400	--
Bishop Park	SD-019	UTC-SD-019-4.5/5.8	30-Apr-11	4.5 - 5.8	1500	--	1100	--
Bishop Park	SD-020	UTC-SD-020-0.5/2.5	30-Apr-11	0.5 - 2.5	7400	--	5300	--
Bishop Park	SD-020	UTC-SD-020-2.5/4.0	30-Apr-11	2.5 - 4	3300	--	2500	--
Bishop Park	SG-015	UTC-SG-015-0.0/0.5	02-May-11	0 - 0.5	120	--	100	--
Bishop Park	SG-016	UTC-SG-016-0.0/0.5	02-May-11	0 - 0.5	180	--	140	--
Bishop Park	SG-017	UTC-SG-017-0.0/0.5	03-May-11	0 - 0.5	170	--	110	--
Bishop Park	SG-018	UTC-SG-018-0.0/0.5	03-May-11	0 - 0.5	200	--	140	--
Bishop Park	SG-019	UTC-SG-019-0.0/0.5	03-May-11	0 - 0.5	220	--	170	--
Bishop Park	SG-020	UTC-SG-020-0.0/0.5	03-May-11	0 - 0.5	730	--	410	--
Bishop Park	SG-021	UTC-SG-021-0.0/0.5	03-May-11	0 - 0.5	330	--	240	--
Bishop Park	SG-021	UTC-SG-021-0.0/0.5-R	03-May-11	0 - 0.5	320	--	230	--
			Surface	Min	57	100	43	91
				Max	7000	5700	4700	19000
				Average	1252	1537	812	5349
				Median	275	640	195	3700
				Std Dev	1991	1876	1303	6234
			Subsurface	Min	73	89	54	120
				Max	25000	9500	17000	25000
				Average	8959	2016	6494	6319
				Median	8050	1300	6000	5700
				Std Dev	6121	2501	4395	6789

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Residential	C12	C12 0-1_20061221	21-Dec-06	0 - 1	--	670	--	1900
Residential	C12	C12 1-3_20061221	21-Dec-06	1 - 3	--	4700	--	13000
Residential	C12	C12 3-5_20061221	21-Dec-06	3 - 5	--	4200	--	14000
Residential	C9	C9 0-1 X_20070710	10-Jul-07	0 - 1	--	1300	--	5700
Residential	C9	C9 0-1_20070710	10-Jul-07	0 - 1	--	730	--	3300
Residential	D2	D2 0-1_20061221	21-Dec-06	0 - 1	--	54	--	52
Residential	D3	D3 0-1_20061221	21-Dec-06	0 - 1	--	45	--	54
Residential	D4	D4 0-1_20070711	11-Jul-07	0 - 1	--	210	--	550
Residential	D4	D4 1-2_20070711	11-Jul-07	1 - 2	--	110	--	160
Residential	D5	D5 0-1_20070710	10-Jul-07	0 - 1	--	320	--	1500
Residential	D5	D5 1-3_20070710	10-Jul-07	1 - 3	--	93	--	620
Residential	D6	D6 0-1_20070710	10-Jul-07	0 - 1	--	84	--	120
Residential	E1	E1 0-1_20061221	21-Dec-06	0 - 1	--	160	--	320
Residential	E1	E1 1-3_20061221	21-Dec-06	1 - 3	--	110	--	160
Residential	E2	E2 0-1_20061222	22-Dec-06	0 - 1	--	100	--	98
Residential	E2	E2 1-3_20061222	22-Dec-06	1 - 3	--	98	--	88
Residential	E21	E21 0-1_20061221	21-Dec-06	0 - 1	--	180	--	480
Residential	E3	E3 0-1_20070710	10-Jul-07	0 - 1	--	110	--	150
Residential	E3	E31-3_20070710	10-Jul-07	1 - 3	--	95	--	130
Residential	E6	E6 0-1_20070711	11-Jul-07	0 - 1	--	90	--	160
Residential	E6	E6 1-3_20070711	11-Jul-07	1 - 3	--	48	--	170
			Surface	Min		45		52
				Max		1300		5700
				Average		277		924
				Median		135		240
				Std Dev		365		1619
			Subsurface	Min		48		88
				Max		4700		14000
				Average		1182		3541
				Median		104		165
				Std Dev		2022		6155

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
South Works	F1	F1 0-1_20061221	21-Dec-06	0 - 1	--	1200	--	4200
South Works	F1	F1 1-3_20061221	21-Dec-06	1 - 3	--	730	--	2200
South Works	F12	F12 0-1_20061221	21-Dec-06	0 - 1	--	1300	--	5300
South Works	F2	F2 0-1_20061221	21-Dec-06	0 - 1	--	970	--	4100
South Works	F2	F2 1-3_20061221	21-Dec-06	1 - 3	--	760	--	1900
South Works	F4	F4 0-1_20070711	11-Jul-07	0 - 1	--	2900	--	16000
South Works	F4	F4 1-3_20070711	11-Jul-07	1 - 3	--	2600	--	14000
South Works	F4	F4 3-5_20070711	11-Jul-07	3 - 5	--	1800	--	10000
South Works	F5	F5 0-1_20070710	10-Jul-07	0 - 1	--	120	--	250
South Works	F5	F5 1-3_20070710	10-Jul-07	1 -3	--	98	--	140
South Works	F5	F5 3-5_20070710	10-Jul-07	3 - 5	--	150	--	200
South Works	F6	F6 0-1_20070711	11-Jul-07	0 - 1	--	100	--	160
South Works	F6	F6 1-3_20070711	11-Jul-07	1 - 3	--	120	--	160
South Works	G1	G1 0-1_20061221	21-Dec-06	0 - 1	--	100	--	150
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	--	2700	--	8900
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	2800	--	8900
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	--	2300	--	7200
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	--	300	--	750
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	75	--	100
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	--	98	--	110
South Works	G12	G12 0-1_20061221	21-Dec-06	0 - 1	--	2200	--	8400
South Works	G12	G12 1-3_20061221	21-Dec-06	1 - 3	--	2600	--	9600
South Works	G13	G13 0-1_20070711	11-Jul-07	0 - 1	--	2400	--	12000
South Works	G13	G13 1-3_20070711	11-Jul-07	1 - 3	--	1700	--	8400
South Works	G13	G13 3-5_20070711	11-Jul-07	3 - 5	--	120	--	240
South Works	G3	G3 0-1_20061221	21-Dec-06	0 - 1	--	1300	--	3100
South Works	H1	H1 0-1_20061220	20-Dec-06	0 - 1	--	110	--	240
South Works	H11	H11 0-1_20061220	20-Dec-06	0 - 1	--	44	--	220
South Works	H11	H11 1-3_20061220	20-Dec-06	1 - 3	--	40	--	150
South Works	H11	H11 3-5_20061220	20-Dec-06	3 - 5	--	160	--	760
South Works	H12	H12 0-1_20061219	19-Dec-06	0 - 1	--	910	--	3300
South Works	H12	H12 1-3_20061219	19-Dec-06	1 - 3	--	330	--	1000
South Works	H12	H12 3-5 X_20061219	19-Dec-06	3 - 5	--	300	--	1000
South Works	H12	H12 3-5_20061219	19-Dec-06	3 - 5	--	310	--	880
South Works	H12	H12 5-7_20061219	19-Dec-06	5 - 7	--	220	--	610
South Works	H12	H12 7-9 X_20061219	19-Dec-06	7 - 9	--	180	--	550
South Works	H12	H12 7-9_20061219	19-Dec-06	7 - 9	--	140	--	480
South Works	H13	H13 0-1_20061221	21-Dec-06	0 - 1	--	130	--	460
South Works	H13	H13 1-3_20061221	21-Dec-06	1 - 3	--	180	--	540
South Works	H13	H13 3-5_20061221	21-Dec-06	3 - 5	--	190	--	730
South Works	H13	H13 5-7_20061221	21-Dec-06	5 - 7	--	300	--	1100
South Works	H13	H13 7-9_20061221	21-Dec-06	7 - 9	--	280	--	1300
South Works	H3	H3 0-1_20061220	20-Dec-06	0 - 1	--	71	--	390
South Works	H3	H3 1-3_20061220	20-Dec-06	1 - 3	--	59	--	74
South Works	H3	H3 3-5_20061220	20-Dec-06	3 - 5	--	130	--	120
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	--	130	--	620
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	--	830	--	2600
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	--	120	--	170
South Works	I12	I12 0-1_20061219	19-Dec-06	0 - 1	--	310	--	1300
South Works	I12	I12 1-3_20061219	19-Dec-06	1 - 3	--	660	--	2100
South Works	I12	I12 3-5_20061219	19-Dec-06	3 - 5	--	650	--	2100
South Works	I2	I2 0-1_20061220	20-Dec-06	0 - 1	--	160	--	560
South Works	I2	I2 1-3_20061220	20-Dec-06	1 - 3	--	81	--	110
South Works	I2	I2 3-5_20061220	20-Dec-06	3 - 5	--	69	--	77
South Works	I3	I3 0-1_20061220	20-Dec-06	0 - 1	--	76	--	87
South Works	I3	I3 1-3_20061220	20-Dec-06	1 - 3	--	79	--	90
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	--	890	--	2800
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	--	1400	--	4500
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	--	1600	--	2300
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	5300	--	4400	--
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	420	--	360	--
South Works	SD-023	UTC-SD-023-0.0/0.5	16-Jun-11	0 - 0.5	13000	--	10000	--
South Works	SD-023	UTC-SD-023-0.5/2.5	16-Jun-11	0.5 - 2.5	3800	--	3000	--
South Works	SD-023	UTC-SD-023-2.5/4.0	16-Jun-11	2.5 - 4	140	--	110	--
South Works	SD-023	UTC-SD-023-2.5/4.0-R	16-Jun-11	2.5 - 4	230	--	190	--
South Works	SD-025	UTC-SD-025-0.0/0.5	16-Jun-11	0 - 0.5	900	--	630	--
South Works	SD-025	UTC-SD-025-0.5/1.7	16-Jun-11	0.5 - 1.7	920	--	640	--
South Works	SD-026	UTC-SD-026-0.0/0.6	16-Jun-11	0 - 0.6	430	--	310	--
South Works	SD-026	UTC-SD-026-0.6/1.3	16-Jun-11	0.6 - 1.3	80	--	49	--
South Works	SD-027	UTC-SD-027-0.0/0.5	17-Jun-11	0 - 0.5	120	--	98	--
South Works	SD-027	UTC-SD-027-0.5/2.5	17-Jun-11	0.5 - 2.5	150	--	120	--
South Works	SD-027	UTC-SD-027-0.5/2.5-R	17-Jun-11	0.5 - 2.5	120	--	96	--
South Works	SD-027	UTC-SD-027-2.5/3.5	17-Jun-11	2.5 - 3.5	170	--	130	--
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	250	--	220	--
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	180	--	140	--

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
			Surface	Min	120	44	98	87
				Max	13000	2900	10000	16000
				Average	3333	863	2610	3454
				Median	665	310	470	1300
				Std Dev	5128	955	3976	4433
			Subsurface	Min	80	40	49	74
				Max	3800	2800	3000	14000
				Average	744	630	579	2270
				Median	205	280	165	760
				Std Dev	1264	798	996	3496

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	--	26000	--	23000
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	15000	--	13000
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	--	14000	--	11000
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	--	3200	--	2400
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	4300	--	3900
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	--	4200	--	3900
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	--	1500	--	3000
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	--	1000	--	1900
Wye Street	SD-028	UTC-SD-028-0.0/0.5	26-Apr-11	0 - 0.5	130 J	--	88 J	--
Wye Street	SD-029	UTC-SD-029-0.0/0.5	26-Apr-11	0 - 0.5	130	--	96	--
Wye Street	SD-030	UTC-SD-030-0.0/0.5	04-May-11	0 - 0.5	160	--	120	--
Wye Street	SD-030	UTC-SD-030-0.5/2.5	04-May-11	0.5 - 2.5	180	--	140	--
Wye Street	SD-031	UTC-SD-031-0.5/2.8	26-Apr-11	0.5 - 2.8	2300	--	1700	--
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	3200	--	2300	--
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	5200	--	3900	--
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	4000	--	3000	--
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	5000	--	3700	--
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	6200	--	4600	--
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	4400	--	3200	--
Wye Street	SD-033	UTC-SD-033-0.0/0.5	04-May-11	0 - 0.5	200	--	170	--
Wye Street	SD-033	UTC-SD-033-0.5/2.5	04-May-11	0.5 - 2.5	150	--	120	--
Wye Street	SD-034	UTC-SD-034-0.0/0.5	26-Apr-11	0 - 0.5	390	--	370	--
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	72	--	57	--
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	86	--	70	--
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	23000	--	15000	--
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	11000	--	7000	--
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	15000	--	12000	--
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	26000	--	24000	--
Wye Street	SD-037	UTC-SD-037-0.0/0.5	03-May-11	0 - 0.5	140	--	110	--
Wye Street	SD-037	UTC-SD-037-0.5/1.8	03-May-11	0.5 - 1.8	160	--	120	--
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	5400	--	3300	--
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	18000	--	16000	--
Wye Street	SD-038	UTC-SD-038-0.5/2.5-R	27-Apr-11	0.5 - 2.5	16000	--	14000	--
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	24000	--	21000	--
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	15000	--	13000	--
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	5900	--	4700	--
Wye Street	SD-038	UTC-SD-038-6.5/8.6-R	27-Apr-11	6.5 - 8.6	5900	--	4900	--
Wye Street	SD-039	UTC-SD-039-0.0/0.5	04-May-11	0 - 0.5	1500	--	1200	--
Wye Street	SD-039	UTC-SD-039-0.5/2.5	04-May-11	0.5 - 2.5	260	--	210	--
Wye Street	SD-039	UTC-SD-039-2.5/4.3	04-May-11	2.5 - 4.3	170	--	130	--
Wye Street	SD-040	UTC-SD-040-0.0/0.5	26-Apr-11	0 - 0.5	13000	--	11000	--
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	19000	--	18000	--
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	11000	--	7800	--
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	20000	--	15000	--
Wye Street	SD-072	UTC-SD-072-0.0/0.5	03-May-11	0 - 0.5	150	--	120	--
Wye Street	SD-072	UTC-SD-072-0.5/2.5	03-May-11	0.5 - 2.5	140 J	--	120 J	--
Wye Street	SD-072	UTC-SD-072-0.5/2.5-R	03-May-11	0.5 - 2.5	250 J	--	210 J	--
Wye Street	SD-072	UTC-SD-072-2.5/3.3	03-May-11	2.5 - 3.3	120	--	89	--
Wye Street	SD-073	UTC-SD-073-0.0/0.5	14-Jun-11	0 - 0.5	150	--	120	--
Wye Street	SD-073	UTC-SD-073-0.5/2.9	14-Jun-11	0.5 - 2.9	170	--	130	--
Wye Street	SD-074	UTC-SD-074-0.0/0.5	14-Jun-11	0 - 0.5	240	--	180	--
Wye Street	SD-074	UTC-SD-074-0.5/2.5	14-Jun-11	0.5 - 2.5	190	--	150	--
Wye Street	SD-074	UTC-SD-074-2.5/5.0	14-Jun-11	2.5 - 5	170	--	130	--
Wye Street	SD-074	UTC-SD-074-2.5/5.0-R	14-Jun-11	2.5 - 5	150	--	110	--
Wye Street	SD-075	UTC-SD-075-0.0/0.5	14-Jun-11	0 - 0.5	150	--	110	--
Wye Street	SD-075	UTC-SD-075-0.5/2.5	14-Jun-11	0.5 - 2.5	200	--	160	--
Wye Street	SD-076	UTC-SD-076-0.0/0.5	14-Jun-11	0 - 0.5	86	--	66	--
Wye Street	SD-076	UTC-SD-076-0.5/2.2	14-Jun-11	0.5 - 2.2	140	--	110	--
Wye Street	SD-077	UTC-SD-077-0.0/0.9	14-Jun-11	0 - 0.9	140	--	110	--
Wye Street	SD-078	UTC-SD-078-0.0/0.5	14-Jun-11	0 - 0.5	240	--	180	--
Wye Street	SD-078	UTC-SD-078-0.5/1.3	14-Jun-11	0.5 - 1.3	200	--	150	--
Wye Street	SD-079	UTC-SD-079-0.0/0.5	14-Jun-11	0 - 0.5	160	--	130	--
Wye Street	SD-079	UTC-SD-079-0.5/2.5	14-Jun-11	0.5 - 2.5	180	--	140	--
Wye Street	SD-079	UTC-SD-079-2.5/4.2	14-Jun-11	2.5 - 4.2	180	--	140	--
Wye Street	SD-080	UTC-SD-080-0.0/0.5	15-Jun-11	0 - 0.5	230	--	190	--
Wye Street	SD-080	UTC-SD-080-0.5/2.5	15-Jun-11	0.5 - 2.5	210	--	160	--
Wye Street	SD-080	UTC-SD-080-0.5/2.5-R	15-Jun-11	0.5 - 2.5	170	--	140	--
Wye Street	SD-080	UTC-SD-080-2.5/3.2	15-Jun-11	2.5 - 3.2	150	--	110	--
Wye Street	SD-081	UTC-SD-081-0.0/0.5	15-Jun-11	0 - 0.5	180	--	160	--
Wye Street	SD-081	UTC-SD-081-0.5/2.9	15-Jun-11	0.5 - 2.9	130	--	110	--
Wye Street	SG-023	UTC-SG-023-0.0/0.5	05-May-11	0 - 0.5	200	--	120	--
Wye Street	SG-024	UTC-SG-024-0.0/0.5	05-May-11	0 - 0.5	440	--	300	--
Wye Street	SG-025	UTC-SG-025-0.0/0.5	05-May-11	0 - 0.5	120	--	70	--
Wye Street	SG-026	UTC-SG-026-0.0/0.5	05-May-11	0 - 0.5	160	--	120	--
Wye Street	SG-026	UTC-SG-026-0.0/0.5-R	05-May-11	0 - 0.5	160	--	120	--

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Wye Street	SG-027	UTC-SG-027-0.0/0.5	05-May-11	0 - 0.5	6700	--	5900	--
Wye Street	SG-028	UTC-SG-028-0.0/0.5	05-May-11	0 - 0.5	5800	--	3000	--
			Surface	Min	86	26000	66	23000
				Max	23000	26000	15000	23000
				Average	2663		1871	
				Median	200		160	
				Std Dev	5516		3820	
			Subsurface	Min	86	1000	70	1900
				Max	26000	15000	24000	13000
				Average	5347	4867	4485	4683
				Median	230	3700	185	3450
				Std Dev	7870	5148	6925	4152

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Arkema	SD-042	UTC-SD-042-0.0/0.5	26-Apr-11	0 - 0.5	3600	--	1700	--
Arkema	SD-043	UTC-SD-043-0.0/0.5	04-May-11	0 - 0.5	340	--	270	--
Arkema	SD-043	UTC-SD-043-0.5/2.5	04-May-11	0.5 - 2.5	270	--	210	--
Arkema	SD-043	UTC-SD-043-0.5/2.5-R	04-May-11	0.5 - 2.5	260	--	200	--
Arkema	SD-043	UTC-SD-043-2.5-3.3	04-May-11	2.5 - 3.3	180	--	140	--
Arkema	SD-044	UTC-SD-044-0.0/0.5	03-May-11	0 - 0.5	300	--	220	--
Arkema	SD-044	UTC-SD-044-0.5/2.2	03-May-11	0.5 - 2.2	400	--	310	--
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	4700	--	3600	--
Arkema	SD-045	UTC-SD-045-B-0.0/0.5	28-Apr-11	0 - 0.5	2600	--	1900	--
Arkema	SD-045	UTC-SD-045-B-0.5/2.7	28-Apr-11	0.5 - 2.7	1100	--	810	--
Arkema	SD-047	UTC-SD-047-0.0/0.5	04-May-11	0 - 0.5	1600	--	1300	--
Arkema	SD-047	UTC-SD-047-0.5/2.1	04-May-11	0.5 - 2.1	270	--	220	--
Arkema	SD-048	UTC-SD-048-0.0/0.5	04-May-11	0 - 0.5	6900	--	5200	--
Arkema	SD-048	UTC-SD-048-0.5/2.5	04-May-11	0.5 - 2.5	8000	--	6200	--
Arkema	SD-048	UTC-SD-048-2.5/4.5	04-May-11	2.5 - 4.5	5300	--	4000	--
Arkema	SD-048	UTC-SD-048-4.5/6.5	04-May-11	4.5 - 6.5	11000	--	8800	--
Arkema	SD-048	UTC-SD-048-6.5/8.4	04-May-11	6.5 - 8.4	1800	--	1400	--
Arkema	SD-049	UTC-SD-049-B-0.0/0.5	26-Apr-11	0 - 0.5	2300	--	1700	--
Arkema	SD-049	UTC-SD-049-B-0.5/2.5	26-Apr-11	0.5 - 2.5	3100	--	2400	--
Arkema	SD-049	UTC-SD-049-B-2.5/3.5	26-Apr-11	2.5 - 3.5	4300	--	3400	--
Arkema	SD-050	UTC-SD-050-0.0/0.5	05-May-11	0 - 0.5	3700	--	2600	--
Arkema	SD-050	UTC-SD-050-0.5/2.5	05-May-11	0.5 - 2.5	5900	--	4200	--
Arkema	SD-050	UTC-SD-050-2.5/4.5	05-May-11	2.5 - 4.5	9400	--	6900	--
Arkema	SD-050	UTC-SD-050-4.5/6.6	05-May-11	4.5 - 6.6	2900	--	2100	--
Arkema	SD-051	UTC-SD-051-0.0/0.5	04-May-11	0 - 0.5	4700	--	3600	--
Arkema	SD-051	UTC-SD-051-0.5/2.4	04-May-11	0.5 - 2.4	10000	--	8000	--
Arkema	SD-082	UTC-SD-082-0.0/0.5	15-Jun-11	0 - 0.5	340	--	260	--
Arkema	SD-082	UTC-SD-082-0.5/1.6	15-Jun-11	0.5 - 1.6	200	--	170	--
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	7500	--	5900	--
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	7200	--	5700	--
Arkema	SD-084	UTC-SD-084-0.0/0.5	15-Jun-11	0 - 0.5	300	--	230	--
Arkema	SD-084	UTC-SD-084-0.5/2.0	15-Jun-11	0.5 - 2	180	--	140	--
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	5100	--	3900	--
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	2000	--	1500	--
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	190	--	150	--
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	160	--	130	--
Arkema	SD-086	UTC-SD-086-0.0/0.5	15-Jun-11	0 - 0.5	170	--	140	--
Arkema	SD-086	UTC-SD-086-0.5/1.6	15-Jun-11	0.5 - 1.6	170	--	130	--
Arkema	SD-087	UTC-SD-087-0.0/0.5	15-Jun-11	0 - 0.5	170	--	130	--
Arkema	SD-087	UTC-SD-087-0.5/2.4	15-Jun-11	0.5 - 2.4	200	--	160	--
Arkema	SD-087	UTC-SD-087-0.5/2.4-R	15-Jun-11	0.5 - 2.4	190	--	150	--
Arkema	SD-088	UTC-SD-088-0.0/0.5	15-Jun-11	0 - 0.5	230	--	190	--
Arkema	SD-088	UTC-SD-088-0.5/1.6	15-Jun-11	0.5 - 1.6	190	--	150	--
Arkema	SD-089	UTC-SD-089-0.5/1.4	15-Jun-11	0.5 - 1.4	160	--	130	--
Arkema	SD-090	UTC-SD-090-0.0/0.9	16-Jun-11	0 - 0.9	10000	--	7900	--
Arkema	SG-029	UTC-SG-029-0.0/0.5	05-May-11	0 - 0.5	4800	--	2800	--
Arkema	SG-030	UTC-SG-030-0.0/0.5	05-May-11	0 - 0.5	2700	--	1800	--
Arkema	SG-031	UTC-SG-031-0.0/0.5	05-May-11	0 - 0.5	1200	--	510	--
Arkema	SG-032	UTC-SG-032-0.0/0.5	05-May-11	0 - 0.5	280	--	150	--
Arkema	SG-033	UTC-SG-033-0.0/0.5	06-May-11	0 - 0.5	1300	--	980	--
Arkema	SG-033	UTC-SG-033-0.0/0.5-R	06-May-11	0 - 0.5	1200	--	840	--
Arkema	SG-034	UTC-SG-034-0.0/0.5	06-May-11	0 - 0.5	410	--	290	--
Arkema	SG-035	UTC-SG-035-0.0/0.5	06-May-11	0 - 0.5	2500	--	1800	--
			Surface	Min	170		130	
				Max	10000		7900	
				Average	2627		1895	
				Median	1950		1500	
				Std Dev	2704		2086	
			Subsurface	Min	160		130	
				Max	11000		8800	
				Average	3049		2348	
				Median	1450		1105	
				Std Dev	3544		2758	

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
Firestone	SD-052	UTC-SD-052-0.0/0.5	02-May-11	0 - 0.5	8100	--	6100	--
Firestone	SD-052	UTC-SD-052-0.5/1.7	02-May-11	0.5 - 1.7	5100	--	3900	--
Firestone	SD-053	UTC-SD-053-0.0/0.5	02-May-11	0 - 0.5	6600	--	4900	--
Firestone	SD-053	UTC-SD-053-0.5/2,5	02-May-11	0.5 - 2.5	5400	--	4000	--
Firestone	SD-053	UTC-SD-053-2.5/4.2	02-May-11	2.5 - 4.2	870	--	630	--
Firestone	SD-054	UTC-SD-054-0.0/0.5	02-May-11	0 - 0.5	12000	--	8400	--
Firestone	SD-054	UTC-SD-054-0.5/2.5	02-May-11	0.5 - 2.5	14000	--	9700	--
Firestone	SD-054	UTC-SD-054-2.5/4.5	02-May-11	2.5 - 4.5	13000	--	9700	--
Firestone	SD-054	UTC-SD-054-4.5/6.5	02-May-11	4.5 - 6.5	12000	--	8600	--
Firestone	SD-054	UTC-SD-054-4.5/6.5-R	02-May-11	4.5 - 6.5	14000	--	10000	--
Firestone	SD-054	UTC-SD-054-6.5/9.2	02-May-11	6.5 - 9.2	5400	--	3900	--
Firestone	SD-055	UTC-SD-055-0.0/0.5	02-May-11	0 - 0.5	5100	--	3900	--
Firestone	SD-055	UTC-SD-055-0.5/2.5	02-May-11	0.5 - 2.5	47	--	37	--
Firestone	SD-055	UTC-SD-055-2.5/4.4	02-May-11	2.5 - 4.4	35	--	26	--
Firestone	SD-056	UTC-SD-056-0.0/0.5	02-May-11	0 - 0.5	2400	--	1800	--
Firestone	SD-056	UTC-SD-056-0.5/2.5	02-May-11	0.5 - 2.5	130	--	97	--
Firestone	SD-056	UTC-SD-056-2.5/5.2	02-May-11	2.5 - 5.2	160	--	120	--
Firestone	SD-057	UTC-SD-057-A-0.0/0.5	05-May-11	0 - 0.5	13000	--	9500	--
Firestone	SD-057	UTC-SD-057-A-0.5/1.9	05-May-11	0.5 - 1.9	9900	--	7200	--
Firestone	SD-057	UTC-SD-057-B-0.0/0.5	05-May-11	0 - 0.5	9100	--	7100	--
Firestone	SD-057	UTC-SD-057-B-0.5/1.8	05-May-11	0.5 - 1.8	8900	--	7100	--
Firestone	SD-058	UTC-SD-058-0.0/0.5	05-May-11	0 - 0.5	140	--	100	--
Firestone	SD-058	UTC-SD-058-0.5/2.5	05-May-11	0.5 - 2.5	130	--	92	--
Firestone	SD-060	UTC-SD-060-0.0/0.5	04-May-11	0 - 0.5	12000	--	8800	--
Firestone	SD-060	UTC-SD-060-0.5/2.5	04-May-11	0.5 - 2.5	4700	--	3700	--
Firestone	SD-061	UTC-SD-061-0.0/0.5	05-May-11	0 - 0.5	29000	--	20000	--
Firestone	SD-061	UTC-SD-061-0.5/2.5	05-May-11	0.5 - 2.5	26000	--	18000	--
Firestone	SD-061	UTC-SD-061-2.5/4.5	05-May-11	2.5 - 4.5	31000	--	21000	--
Firestone	SD-061	UTC-SD-061-2.5/4.5-R	05-May-11	2.5 - 4.5	24000	--	16000	--
Firestone	SD-061	UTC-SD-061-4.5/6.5	05-May-11	4.5 - 6.5	16000	--	11000	--
Firestone	SD-061	UTC-SD-061-6.5/7.2	05-May-11	6.5 - 7.2	21000	--	14000	--
Firestone	SG-036	UTC-SG-036-0.0/0.5	06-May-11	0 - 0.5	12000	--	9300	--
Firestone	SG-037	UTC-SG-037-0.0/0.5	06-May-11	0 - 0.5	6300	--	4800	--
Firestone	SG-038	UTC-SG-038-0.0/0.5	06-May-11	0 - 0.5	12000	--	9000	--
Firestone	SG-038	UTC-SG-038-0.0/0.5-R	06-May-11	0 - 0.5	13000	--	10000	--
Firestone	SG-039	UTC-SG-039-0.0/0.5	06-May-11	0 - 0.5	7700	--	6000	--
Firestone	SG-040	UTC-SG-040-0.0/0.5	06-May-11	0 - 0.5	3400	--	2600	--
Firestone	SG-041	UTC-SG-041-0.0/0.5	06-May-11	0 - 0.5	1700	--	1100	--
Firestone	SG-042	UTC-SG-042-0.0/0.5	06-May-11	0 - 0.5	200	--	150	--
			Surface	Min	140		100	
				Max	29000		20000	
				Average	8338		6150	
				Median	7700		6000	
				Std Dev	6921		4866	
			Subsurface	Min	35		26	
				Max	31000		21000	
				Average	9251		6537	
				Median	5400		4000	
				Std Dev	9290		6329	

TABLE A-13

Total Petroleum Hyrdocarbon Data and Summary Statistics (mg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	Petroleum Range Organics (C8-C40)	Diesel Range Organics (C10-C20)	Diesel Range Organics (C10-C28)	Oil Range Organics (C20-C34)
McLouth Steel	SD-062	UTC-SD-062-0.0/0.5	03-May-11	0 - 0.5	4700	--	3100	--
McLouth Steel	SD-062	UTC-SD-062-0.5/2.4	03-May-11	0.5 - 2.4	570	--	400	--
McLouth Steel	SD-063	UTC-SD-063-0.0/0.5	03-May-11	0 - 0.5	72	--	48	--
McLouth Steel	SD-063	UTC-SD-063-0.5/2.2	03-May-11	0.5 - 2.2	110	--	71	--
McLouth Steel	SD-064	UTC-SD-064-0.0/0.5	03-May-11	0 - 0.5	70	--	47	--
McLouth Steel	SD-064	UTC-SD-064-0.5/2.7	03-May-11	0.5 - 2.7	55	--	35	--
McLouth Steel	SD-065	UTC-SD-065-0.0/0.5	02-May-11	0 - 0.5	130	--	97	--
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5	02-May-11	0.5 - 2.5	120	--	85	--
McLouth Steel	SD-065	UTC-SD-065-0.5/2.5-R	02-May-11	0.5 - 2.5	76	--	56	--
McLouth Steel	SD-066	UTC-SD-066-0.0/0.5	02-May-11	0 - 0.5	16000	--	11000	--
McLouth Steel	SD-066	UTC-SD-066-0.5/2.5	02-May-11	0.5 - 2.5	12000	--	9100	--
McLouth Steel	SD-066	UTC-SD-066-2.5/4.5	02-May-11	2.5 - 4.5	13000	--	9900	--
McLouth Steel	SD-066	UTC-SD-066-4.5/6.5	02-May-11	4.5 - 6.5	8600	--	6300	--
McLouth Steel	SD-066	UTC-SD-066-6.5/9.0	02-May-11	6.5 - 9	84	--	67	--
McLouth Steel	SD-067	UTC-SD-067-0.0/0.5	02-May-11	0 - 0.5	6100	--	4100	--
McLouth Steel	SD-067	UTC-SD-067-0.5/2.5	02-May-11	0.5 - 2.5	9700	--	6700	--
McLouth Steel	SD-067	UTC-SD-067-2.5/4.5	02-May-11	2.5 - 4.5	29000	--	20000	--
McLouth Steel	SD-067	UTC-SD-067-4.5/6.5	02-May-11	4.5 - 6.5	26000	--	18000	--
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9	02-May-11	6.5 - 8.9	35000	--	25000	--
McLouth Steel	SD-067	UTC-SD-067-6.5/8.9-R	02-May-11	6.5 - 8.9	38000	--	28000	--
McLouth Steel	SD-068	UTC-SD-068-0.0/0.5	03-May-11	0 - 0.5	6500	--	5000	--
McLouth Steel	SD-068	UTC-SD-068-0.5/2.5	03-May-11	0.5 - 2.5	110	--	84	--
McLouth Steel	SD-068	UTC-SD-068-2.5/4.8	03-May-11	2.5 - 4.8	38	--	27	--
			Surface	Min	70		47	
				Max	16000		11000	
				Average	4796		3342	
				Median	4700		3100	
				Std Dev	5724		3964	
			Subsurface	Min	38		27	
				Max	38000		28000	
				Average	9813		7055	
				Median	4585		3350	
				Std Dev	12692		9101	

TABLE A-14

VOC Data (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,1,1,2-TETRACHLOROETHANE	1,1,1-TRICHLOROETHANE	1,1,2,2-TETRACHLOROETHANE	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1,1,2-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,1-DICHLOROETHENE	1,2,3-TRICHLOROBENZENE	1,2,3-TRICHLOROPROPANE	1,2,4-TRICHLOROBENZENE	1,2-DIBROMO-3-CHLOROPROPANE	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	1,2-DICHLOROBENZENE	1,2-DICHLOROETHANE	1,2-DICHLOROPROPANE	1,3-DICHLOROBENZENE	1,4-DICHLOROBENZENE	1,4-DIOXANE (P-DIOXANE)	2-HEXANONE
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	130 U	130 U	130 U	--	130 U	130 U	590	650 U	130 U	3600 U	650 U	130 U	130 U	130 U	130 U	130 U	130 U	--	650 U
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	7400 U	--	--	--	--	--	--	--	--	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	5100 U	5100 U	5100 U	--	5400	5100 U	42000	26000 U	5100 U	26000 U	26000 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	--	26000 U
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	14000 U	14000 U	14000 U	--	18000	14000 U	75000	70000 U	14000 U	550 U	70000 U	14000 U	14000 U	14000 U	14000 U	14000 U	14000 U	--	70000 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	240 U	--	--	--	--	--	--	--	--	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	2800 U	2800 U	2800 U	--	2800 U	2800 U	2800 U	14000 U	2800 U	14000 U	14000 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	--	14000 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	81 U	81 U	81 U	--	81 U	81 U	81 U	410 U	81 U	260 U	410 U	81 U	81 U	81 U	97	81 U	81 U	--	410 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	3900 U	3900 U	3900 U	--	3900 U	3900 U	3900 U	19000 U	3900 U	290 U	19000 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	--	19000 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	3000 U	3000 U	3000 U	--	3000 U	3000 U	3000 U	15000 U	3000 U	250 U	15000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	--	15000 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	97 U	97 U	97 U	--	97 U	97 U	97 U	490 U	97 U	290 U	490 U	97 U	200	97 U	97 U	97 U	97 U	--	490 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	110 U	110 U	110 U	--	640	110 U	110 U	560 U	480	320 U	560 U	110 U	110 U	110 U	900	110 U	110 U	--	560 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	4200	400	95 U	--	1300	95 U	95 U	480 U	95 U	980	480 U	95 U	1500	95 U	1400	290	1500	--	480 U
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	--	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	--	56000 U	56000 U	56000 U	56000 U	56000 U	1700000	56000 U	56000 U	1100000 R	110000 U
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	--	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	--	25000 U	25000 U	25000 U	25000 U	25000 U	540000	25000 U	25000 U	500000 R	50000 U
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	--	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	--	37000 U	37000 U	37000 U	37000 U	37000 U	1000000	37000 U	37000 U	730000 R	73000 U
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	--	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	--	36000 U	36000 U	36000 U	36000 U	36000 U	1100000	36000 U	36000 U	720000 R	72000 U
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	4000 U	4000 U	4000 U		4000 U	4000 U	4000 U	20000 U	4000 U	20000 U	20000 U	4000 U	12000	4000 U	140000	4000 U	10000	--	20000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	7100 U	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	5500 U	5500 U	5500 U	--	5500 U	5500 U	5500 U	27000 U	5500 U	7500 U	27000 U	5500 U	5500 U	5500 U	53000	5500 U	5500 U	--	27000 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	6600 U	6600 U	6600 U	--	6600 U	6600 U	6600 U	33000 U	6600 U	860 U	33000 U	6600 U	6600 U	6600 U	6600 U	6600 U	6600 U	--	33000 U
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	820 U	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	1500 U	1500 U	1500 U	--	1500 U	1500 U	1500 U	7600 U	1500 U	7600 U	7600 U	1500 U	1500 U	1500 U	1500	1500 U	1500 U	--	7600 U
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	150 U	150 U	150 U	--	150 U	150 U	150 U	750 U	150 U	750 U	750 U	150 U	150 U	150 U	180	150 U	150 U	--	750 U
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	130 U	130 U	130 U	--	130 U	130 U	130 U	660 U	130 U	660 U	660 U	130 U	130 U	130 U	130 U	130 U	130 U	--	660 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	--	10 U	10 U	10 U	10 U	10 U	10 U	10 R	--	10 R	10 R	10 U	6 J	10 U	5 J	12 J	6 J	210 R	21 U
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	--	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 R	--	8.4 R	8.4 R	8.4 U	2.3 J	8.4 U	19	3.4 J	1.7 J	170 R	17 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	--	10 U	10 U	10 U	10 U	10 U	10 U	10 R	--	10 R	10 R	10 U	10 R	10 U	9.4 J	10 R	0.7 J	200 R	20 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	--	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 R	--	7.2 R	7.2 R	7.2 U	7.2 R	7.2 U	8 J	7.2 R	0.6 J	140 R	14 U
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	--	9 U	9 U	9 U	9 U	2.5 J	9 U	9 R	--	9 R	9 R	9 U	9 R	9 U	25 J	9 R	0.7 J	180 R	18 U
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	--	840 U	840 U	840 U	840 U	840 U	840 U	840 U	--	840 U	840 U	840 U	840 U	840 U	1800	840 U	840 U	17000 R	1700 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	--	640 U	640 U	640 U	640 U	640 U	640 U	640 U	--	640 U	640 U	640 U	640 U	670	3800	640 U	71 J	13000 R	1300 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	--	630 U	630 U	630 U	630 U	630 U	630 U	630 U	--	630 U	630 U	630 U	41 J	600 J	2700	630 U	78 J	13000 R	1300 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	--	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	--	47000 U	47000 U	47000 U	8300 J	19000 J	290000	47000 U	10000 J	930000 R	93000 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	--	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	--	150 J	1200 U	1200 U	470 J	350 J	2800	390 J	1500	23000 R	2300 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	--	6500 U	6500 U	6500 U	6500 U	6500 U	6500 U	6500 U	--	6500 U	6500 U	6500 U	140 J	7100	130000	6500 U	310 J	130000 R	13000 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	--	12000 U	12000 U	12000 U	12000 U	12000 U	12000 U	12000 U	--	12000 U	12000 U	12000 U	12000 U	7900 J	120000	12000 U	400 J	230000 R	23000 U
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	700 J	1600 U	340 J	1400 J	1500 J	31000 R	3100 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	--	53000 U	53000 U	53000 U	53000 U	53000 U	53000 U	53000 U	--	53000 U	53000 U	53000 U	44000 J	53000 U	240000	53000 U	41000 J	1100000 R	110000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	--	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	--	66000 U	66000 U	66000 U	66000 U	66000 U	130000	66000 U	66000 U	1300000 R	130000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	--	14000 U	14000 U	14000 U	14000 U	14000 U	14000 U	14000 U	--	14000 U	14000 U	14000 U	14000 U	14000 U	34000	14000 U	14000 U	280000 R	28000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	--	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	--	6400 U	6400 U	6400 U	8700	6400 U	13000	1200 J	4600 J	130000 R	13000 U
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	--	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	--	4200 U	4200 U	4200 U	2300 J	4200 U	8600	4200 U	1300 J	83000 R	8300 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	6200 U	180 J	6200 U	6200 U	6200 U	2500 J	120000 R	12000 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	--	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	--	10000	7300 U	7300 U	20000	7300 U	7300 U	21000	26000	150000 R	15000 U
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	--	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	--	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	50	8.5 U	8.5 U	170 R	17 U
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	--	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	--	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	24	7.9 U	7.9 U	160 R	16 U
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	--	620 U	620 U	620 U	620 U	620 U	620 U	620 U	--	620 U	620 U	620 U	620 U	620 U	620 U	620 U	380 J	12000 R	1200 U
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	--	650 U	650 U	650 U	650 U	650 U	650 U	650 U	--	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	13000 R	1300 U
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	--	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	--	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	92 R	9.2 U
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	--	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	--	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	110 R	11 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	--	720 U	720 U	720 U	720 U	720 U	720 U	720 U	--	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	14000 R	1400 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	--	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	28000 R	2800 U

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Summary statistics calculated using 1/2 the RL for non-detected results

Field duplicates identified with a "-R" or "X" in the Sample ID

TABLE A-14

VOC Data (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ACETONE	BENZENE	BROMOCHLOROMETHANE	BROMODICHLOROMETHANE	BROMOFORM	BROMOMETHANE	CARBON DISULFIDE	CARBON TETRACHLORIDE	CHLOROBENZENE	CHLOROETHANE	CHLOROFORM	CHLOROMETHANE	CIS-1,2-DICHLOROETHYLENE	CIS-1,3-DICHLOROPROPENE	CYCLOHEXANE	DIBROMOCHLOROMETHANE	DICHLORODIFLUOROMETHANE	ETHYLBENZENE
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	2600 U	130 U	130 U	130 U	130 U	520 U	130 U	130 U	130 U	650 U	130 U	650 U	17000	130 U	650 U	130 U	650 U	130 U
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	100000 U	5100 U	5100 U	5100 U	5100 U	20000 U	5100 U	5100 U	5100 U	26000 U	5100 U	26000 U	450000	5100 U	26000 U	5100 U	26000 U	5100 U
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	280000 U	14000 U	14000 U	14000 U	14000 U	56000 U	14000 U	14000 U	14000 U	70000 U	14000 U	70000 U	68000	14000 U	70000 U	14000 U	70000 U	14000 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	57000 U	2800 U	2800 U	2800 U	2800 U	11000 U	2800 U	2800 U	2800 U	14000 U	2800 U	14000 U	2800 U	2800 U	14000 U	2800 U	14000 U	2800 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	1600 U	81 U	81 U	81 U	81 U	320 U	81 U	81 U	81 U	410 U	860	410 U	81 U	81 U	410 U	81 U	410 U	81 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	77000 U	3900 U	3900 U	3900 U	3900 U	15000 U	3900 U	3900 U	3900 U	19000 U	3900 U	19000 U	3900 U	3900 U	19000 U	3900 U	19000 U	3900 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	60000 U	3000 U	3000 U	3000 U	3000 U	12000 U	3000 U	3000 U	3000 U	15000 U	3000 U	15000 U	3000 U	3000 U	15000 U	3000 U	15000 U	3000 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	1900 U	97 U	97 U	97 U	97 U	390 U	97 U	97 U	97 U	490 U	97 U	490 U	97 U	97 U	490 U	97 U	490 U	97 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	2200 U	110 U	110 U	110 U	110 U	450 U	1400	110 U	110 U	560 U	80000	560 U	110 U	110 U	560 U	110 U	560 U	110 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	1900 U	95 U	95 U	95 U	95 U	380 U	9100	25000	95 U	480 U	140000	480 U	95 U	95 U	480 U	95 U	480 U	95 U
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	110000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	50000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	73000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	72000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	81000 U	4000 U	4000 U	4000 U	4000 U	16000 U	4000 U	4000 U	20000	20000 U	4000 U	20000 U	10000	4000 U	20000 U	4000 U	20000 U	4000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	110000 U	5500 U	5500 U	5500 U	5500 U	22000 U	5500 U	5500 U	5500 U	27000 U	5500 U	27000 U	5500 U	5500 U	27000 U	5500 U	27000 U	5500 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	130000 U	6600 U	6600 U	6600 U	6600 U	27000 U	6600 U	6600 U	6600 U	33000 U	6600 U	33000 U	6600 U	6600 U	33000 U	6600 U	33000 U	6600 U
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	30000 U	1500 U	1500 U	1500 U	1500 U	6100 U	1500 U	1500 U	1500 U	7600 U	1500 U	7600 U	1500 U	1500 U	7600 U	1500 U	7600 U	1500 U
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	3000 U	150 U	150 U	150 U	150 U	600 U	150 U	150 U	150 U	750 U	150 U	750 U	150 U	150 U	750 U	150 U	750 U	150 U
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	2600 U	130 U	130 U	130 U	130 U	530 U	130 U	130 U	130 U	660 U	130 U	660 U	130 U	130 U	660 U	130 U	660 U	130 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	130	22	10 U	10 U	10 R	10 U	10 J	10 U	22	10 U	10 U	10 U	0.42 J	10 U	8 J	10 U	10 U	9.3 J
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	110	37 J	8.4 U	8.4 U	8.4 R	8.4 U	8.2 J	8.4 U	11 J	8.4 U	8.4 U	8.4 U	1.5 J	8.4 U	9.4	8.4 U	8.4 U	9.9
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	73	15 J	10 U	10 U	10 R	10 U	9.3 J	10 U	0.79 J	10 U	0.96 J	10 U	0.48 J	10 U	17	10 U	10 U	7.1 J
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	59	14 J	7.2 U	7.2 U	7.2 R	7.2 U	6.4 J	7.2 U	0.74 J	7.2 U	1.3 J	7.2 U	0.45 J	7.2 U	13 J	7.2 U	7.2 U	6.2 J
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	64	15 J	9 U	9 U	9 R	9 U	9.8	9 U	0.6 J	9 U	1.8 J	9 U	9 U	9 U	33 J	9 U	9 U	11 J
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	1700 U	840 U	840 U	840 U	840 U	840 U	64 J	840 U	840 U	840 U	2000	840 U	840 U	840 U	840 U	840 U	840 U	840 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	1300 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	220 J	640 U	640 U	640 U	640 U	640 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	1300 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	190 J	630 U	630 U	630 U	630 U	630 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	93000 U	8500 J	47000 U	47000 U	47000 U	47000 U	47000 U	2000 J	15000 J	47000 U	47000 U	47000 U	8000 J	47000 U	47000 U	47000 U	47000 U	1100 J
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	2300 U	190 J	1200 U	1200 U	1200 U	1200 U	1200 U	690 J	500 J	1200 U	150 J	1200 U	80 J	1200 U	1200 U	1200 U	1200 U	1200 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	13000 U	2900 J	6500 U	6500 U	6500 U	6500 U	6500 U	6500 U	2000 J	6500 U	6500 U	6500 U	850 J	6500 U	6500 U	6500 U	6500 U	140 J
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	23000 U	2800 J	12000 U	12000 U	12000 U	12000 U	12000 U	12000 U	1400 J	12000 U	12000 U	12000 U	700 J	12000 U	12000 U	12000 U	12000 U	12000 U
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	3100 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	59 J	1500 J	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	110000 U	20000 J	53000 U	53000 U	53000 U	53000 U	53000 U	53000 U	62000	53000 U	53000 U	53000 U	6300 J	53000 U	53000 U	53000 U	53000 U	7100 J
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	130000 U	28000 J	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	7900 J	66000 U	66000 U	66000 U	12000 J	66000 U	66000 U	66000 U	66000 U	2900 J
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	28000 U	9600 J	14000 U	14000 U	14000 U	14000 U	14000 U	14000 U	380 J	14000 U	14000 U	14000 U	2500 J	14000 U	14000 U	14000 U	14000 U	750 J
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	13000 U	2100 J	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	2600 J	6400 U	6400 U	6400 U	260 J	6400 U	6400 U	6400 U	6400 U	230 J
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	8300 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	740 J	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	12000 U	1000 J	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	11000	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	490 J
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	15000 U	1700 J	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	11000 J	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	910 J
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	17 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 UJ	8.5 UJ	8.5 U	8.5 U	8.5 UJ	8.5 U	8.5 UJ	8.5 U	8.5 U	8.5 U	8.5 U	8.5 UJ	8.5 U
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	16 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 UJ	7.9 UJ	7.9 U	6.5 J	7.9 UJ	7.9 U	7.9 UJ	7.9 U	7.9 U	7.9 U	7.9 U	7.9 UJ	7.9 U
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	1200 U	280 J	620 U	620 U	620 U	620 UJ	620 UJ	620 U	2000	620 UJ	620 U	620 UJ	620 U	620 U	620 U	620 U	620 UJ	270 J
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	1300 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	1300	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	94	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	87	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	1400 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	310 J	720 U	720 U	720 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	2800 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	63 J	1400 U	1400 U	1400 U	1400 U	1400 U	1200 J	1400 U	1400 U	1400 U

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Summary statistics calculated using 1/2 the RL for non-detected results

Field duplicates identified with a "-R" or "X" in the Sample ID

TABLE A-14

VOC Data (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ISOPROPYLBENZENE (CUMENE)	M,P-XYLENE (SUM OF ISOMERS)	METHYL ACETATE	METHYL ETHYL KETONE (2-BUTANONE)	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	METHYLCYCLOHEXANE	METHYLENE CHLORIDE	M-XYLENE & P-XYLENE	O-XYLENE (1,2-DIMETHYLBENZENE)	SEC-BUTYLBENZENE	STYRENE	TERT-BUTYL METHYL ETHER	TETRACHLOROETHYLENE(PCE)	TOLUENE	TRANS-1,2-DICHLOROETHENE	TRANS-1,3-DICHLOROPROPENE	TRICHLOROETHYLENE (TCE)	TRICHLOROFLUOROMETHANE	VINYL CHLORIDE
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	130 U	--	--	650 U	650 U	--	260 U	260 U	130 U	130 U	130 U	130 U	130 U	130 U	2100	130 U	650 U	130 U	11000
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	5100 U	--	--	26000 U	26000 U	--	10000 U	10000 U	5100 U	5100 U	5100 U	5100 U	31000	5100 U	7500	5100 U	5800000	5100 U	9000
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	14000 U	--	--	70000 U	70000 U	--	28000 U	28000 U	14000 U	14000 U	14000 U	14000 U	130000	14000 U	14000 U	14000 U	16000000	14000 U	14000 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	2800 U	--	--	14000 U	14000 U	--	5700 U	5700 U	2800 U	2800 U	2800 U	2800 U	18000	2800 U	2800 U	2800 U	980000	2800 U	2800 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	81 U	--	--	410 U	410 U	--	160 U	160 U	81 U	81 U	81 U	81 U	4100	81 U	81 U	81 U	410 U	81 U	81 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	3900 U	--	--	19000 U	19000 U	--	7700 U	7700 U	3900 U	3900 U	3900 U	3900 U	140000	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	3000 U	--	--	15000 U	15000 U	--	6000 U	6000 U	3000 U	3000 U	3000 U	3000 U	160000	3000 U	3000 U	3000 U	3100	3000 U	3000 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	97 U	--	--	490 U	490 U	--	190 U	190 U	97 U	97 U	97 U	97 U	200	97 U	97 U	97 U	97 U	97 U	97 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	110 U	--	--	560 U	560 U	--	2000	220 U	110 U	110 U	110 U	110 U	40000	110	110 U	110 U	670 U	110 U	110 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	95 U	--	--	480 U	480 U	--	3200	190 U	95 U	95 U	95 U	95 U	500000	130	95 U	95 U	480 U	95 U	95 U
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	56000 U	56000 U	56000 U	110000 U	110000 U	56000 U	56000 U	--	56000 U	--	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	25000 U	25000 U	25000 U	50000 U	50000 U	25000 U	25000 U	--	25000 U	--	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	37000 U	37000 U	37000 U	73000 U	73000 U	37000 U	37000 U	--	37000 U	--	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	36000 U	36000 U	36000 U	72000 U	72000 U	36000 U	36000 U	--	36000 U	--	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	4000 U	--	--	20000 U	20000 U	--	8100 U	8100 U	4000 U	4000 U	4000 U	4000 U	390000	11000	4000 U	4000 U	13000	4000 U	4000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	5500 U	--	--	27000 U	27000 U	--	11000 U	11000 U	5500 U	5500 U	5500 U	5500 U	550000	67000	5500 U	5500 U	6400	5500 U	5500 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	6600 U	--	--	33000 U	33000 U	--	13000 U	13000 U	6600 U	6600 U	6600 U	6600 U	54000	6600 U	6600 U	6600 U	6600 U	6600 U	6600 U
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	1500 U	--	--	7600 U	7600 U	--	3000 U	3000 U	1500 U	1500 U	1500 U	1500 U	25000	2700	1500 U	1500 U	1500 U	1500 U	1500 U
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	150 U	--	--	750 U	750 U	--	300 U	300 U	150 U	150 U	150 U	150 U	3300	300	150 U	150 U	750 U	150 U	150 U
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	130 U	--	--	660 U	660 U	--	260 U	260 U	130 U	130 U	130 U	130 U	920	140	130 U	130 U	130 U	130 U	130 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	5.5 J	25	10 U	46	21 U	29	10 U	--	15	--	10 U	10 U	10 U	12	10 U	10 U	0.37 J	10 U	10 U
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	6.3 J	27	8.4 U	37	17 U	31	8.4 U	--	18	--	8.4 U	8.4 U	8.4 U	52	8.4 U	8.4 U	0.41 J	8.4 U	8.4 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	6.5 J	26 J	10 U	28	20 U	68	10 U	--	14 J	--	10 U	10 U	10 UJ	46 J	10 U	10 U	10 U	10 U	10 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	5.2 J	22 J	7.2 U	23	14 U	52 J	7.2 U	--	12 J	--	7.2 U	7.2 U	7.2 UJ	40 J	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	10 J	31 J	9 U	22	18 U	150 J	9 U	--	18 J	--	9 U	9 U	9 UJ	72 J	9 U	9 U	0.37 J	9 U	9 U
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	840 U	840 U	840 U	540 J	1700 U	380 J	480 J	--	840 U	--	840 U	840 U	840 U	86 J	840 U	840 U	840 U	840 U	840 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	640 U	640 U	640 U	1300 U	1300 U	640 U	3100	--	640 U	--	640 U	640 U	76 J	640 U	640 U	640 U	45 J	640 U	640 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	630 U	630 U	630 U	1300 U	1300 U	630 U	3800	--	630 U	--	630 U	630 U	74 J	630 U	630 U	630 U	45 J	630 U	630 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	47000 U	3100 J	47000 U	93000 U	93000 U	47000 U	47000 U	--	1100 J	--	47000 U	47000 U	930000	4600 J	47000 U	47000 U	20000 J	47000 U	47000 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	1200 U	69 J	1200 U	2300 U	2300 U	1200 U	1200 U	--	1200 U	--	1200 U	1200 U	3500	150 J	1200 U	1200 U	110 J	1200 U	1200 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	6500 U	290 J	6500 U	13000 U	13000 U	600 J	560 J	--	120 J	--	6500 U	6500 U	22000	3500 J	6500 U	6500 U	1300 J	6500 U	6500 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	12000 U	370 J	12000 U	23000 U	23000 U	12000 U	580 J	--	12000 U	--	12000 U	12000 U	35000	6200 J	12000 U	12000 U	1200 J	12000 U	12000 U
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	1600 U	100 J	1600 U	3100 U	3100 U	1600 U	1600 U	--	1600 U	--	1600 U	1600 U	330 J	300 J	1600 U	1600 U	1600 U	1600 U	1600 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	1600 J	31000 J	53000 U	110000 U	110000 U	22000 J	2800 J	--	11000 J	--	53000 U	53000 U	230000	290000	53000 U	53000 U	26000 J	53000 U	53000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	66000 U	41000 J	66000 U	130000 U	130000 U	19000 J	66000 U	--	8900 J	--	66000 U	66000 U	62000 J	900000	66000 U	66000 U	7800 J	66000 U	66000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	14000 U	7400 J	14000 U	28000 U	28000 U	3100 J	14000 U	--	1600 J	--	14000 U	14000 U	390 J	180000	14000 U	14000 U	14000 U	14000 U	14000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	6400 U	970 J	6400 U	13000 U	13000 U	6400 U	6400 U	--	280 J	--	6400 U	6400 U	190 J	28000	6400 U	6400 U	410 J	6400 U	6400 U
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	4200 U	160 J	4200 U	8300 U	8300 U	4200 U	4200 U	--	4200 U	--	4200 U	4200 U	600 J	2700 J	4200 U	4200 U	4200 U	4200 U	4200 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	130 J	2000 J	6200 U	12000 U	12000 U	1200 J	6200 U	--	610 J	--	6200 U	6200 U	6200 U	530 J	6200 U	6200 U	6200 U	6200 U	6200 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	130 J	3100 J	7300 U	15000 U	15000 U	1200 J	7300 U	--	830 J	--	7300 U	7300 U	7300 U	92000 J	7300 U	7300 U	7300 U	7300 U	7300 U
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	8.5 U	8.5 U	8.5 U	17 U	17 U	8.5 U	8.5 U	--	8.5 U	--	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	7.9 U	4.4 J	7.9 U	16 U	16 U	7.9 U	7.9 U	--	7.9 U	--	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	620 U	960	1200	1200 U	1200 U	620 U	620 U	--	340 J	--	620 U	620 U	620 U	810	620 U	620 U	620 U	620 U	620 U
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	650 U	580 J	510 J	1300 U	1300 U	650 U	650 U	--	650 U	--	650 U	650 U	650 U	390 J	650 U	650 U	650 U	650 U	650 U
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	4.6 U	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	4.6 U	--	4.6 U	--	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	5.7 U	5.7 U	5.7 U	11 U	11 U	5.7 U	5.7 U	--	5.7 U	--	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	63 J	720 U	720 U	1400 U	1400 U	1400	720 U	--	720 U	--	720 U	720 U	720 U	57 J	720 U	720 U	720 U	720 U	720 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	160 J	91 J	1400 U	2800 U	2800 U	6700	1400 U	--	77 J	--	1400 U	1400 U	1400 U	67 J	1400 U	1400 U	1400 U	1400 U	1400 U

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Summary statistics calculated using 1/2 the RL for non-detected results

Field duplicates identified with a "-R" or "X" in the Sample ID

TABLE A-14

VOC Data (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	1,1,1,2-TETRACHLOROETHANE	1,1,1-TRICHLOROETHANE	1,1,2,2-TETRACHLOROETHANE	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1,1,2-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,1-DICHLOROETHENE	1,2,3-TRICHLOROBENZENE	1,2,3-TRICHLOROPROPANE	1,2,4-TRICHLOROBENZENE	1,2-DIBROMO-3-CHLOROPROPANE	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	1,2-DICHLOROBENZENE	1,2-DICHLOROETHANE	1,2-DICHLOROPROPANE	1,3-DICHLOROBENZENE	1,4-DICHLOROBENZENE	1,4-DIOXANE (P-DIOXANE)	2-HEXANONE
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	130 U	130 U	130 U	--	130 U	130 U	590	650 U	130 U	3600 U	650 U	130 U	130 U	130 U	130 U	130 U	130 U	--	650 U
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	7400 U	--	--	--	--	--	--	--	--	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	5100 U	5100 U	5100 U	--	5400	5100 U	42000	26000 U	5100 U	26000 U	26000 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	--	26000 U
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	14000 U	14000 U	14000 U	--	18000	14000 U	75000	70000 U	14000 U	550 U	70000 U	14000 U	14000 U	14000 U	14000 U	14000 U	14000 U	--	70000 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	240 U	--	--	--	--	--	--	--	--	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	2800 U	2800 U	2800 U	--	2800 U	2800 U	2800 U	14000 U	2800 U	14000 U	14000 U	2800 U	2800 U	2800 U	2800 U	2800 U	2800 U	--	14000 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	81 U	81 U	81 U	--	81 U	81 U	81 U	410 U	81 U	260 U	410 U	81 U	81 U	81 U	97	81 U	81 U	--	410 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	3900 U	3900 U	3900 U	--	3900 U	3900 U	3900 U	19000 U	3900 U	290 U	19000 U	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U	--	19000 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	3000 U	3000 U	3000 U	--	3000 U	3000 U	3000 U	15000 U	3000 U	250 U	15000 U	3000 U	3000 U	3000 U	3000 U	3000 U	3000 U	--	15000 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	97 U	97 U	97 U	--	97 U	97 U	97 U	490 U	97 U	290 U	490 U	97 U	200	97 U	97 U	97 U	97 U	--	490 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	110 U	110 U	110 U	--	640	110 U	110 U	560 U	480	320 U	560 U	110 U	110 U	110 U	900	110 U	110 U	--	560 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	4200	400	95 U	--	1300	95 U	95 U	480 U	95 U	980	480 U	95 U	1500	95 U	1400	290	1500	--	480 U
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	--	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	--	56000 U	56000 U	56000 U	56000 U	56000 U	1700000	56000 U	56000 U	1100000 R	110000 U
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	--	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	--	25000 U	25000 U	25000 U	25000 U	25000 U	540000	25000 U	25000 U	500000 R	50000 U
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	--	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	--	37000 U	37000 U	37000 U	37000 U	37000 U	1000000	37000 U	37000 U	730000 R	73000 U
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	--	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	--	36000 U	36000 U	36000 U	36000 U	36000 U	1100000	36000 U	36000 U	720000 R	72000 U
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	4000 U	4000 U	4000 U		4000 U	4000 U	4000 U	20000 U	4000 U	20000 U	20000 U	4000 U	12000	4000 U	140000	4000 U	10000	--	20000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	7100 U	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	5500 U	5500 U	5500 U	--	5500 U	5500 U	5500 U	27000 U	5500 U	7500 U	27000 U	5500 U	5500 U	5500 U	53000	5500 U	5500 U	--	27000 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	6600 U	6600 U	6600 U	--	6600 U	6600 U	6600 U	33000 U	6600 U	860 U	33000 U	6600 U	6600 U	6600 U	6600 U	6600 U	6600 U	--	33000 U
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	820 U	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	1500 U	1500 U	1500 U	--	1500 U	1500 U	1500 U	7600 U	1500 U	7600 U	7600 U	1500 U	1500 U	1500 U	1500	1500 U	1500 U	--	7600 U
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	150 U	150 U	150 U	--	150 U	150 U	150 U	750 U	150 U	750 U	750 U	150 U	150 U	150 U	180	150 U	150 U	--	750 U
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	130 U	130 U	130 U	--	130 U	130 U	130 U	660 U	130 U	660 U	660 U	130 U	130 U	130 U	130 U	130 U	130 U	--	660 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	--	10 U	10 U	10 U	10 U	10 U	10 U	10 R	--	10 R	10 R	10 U	6 J	10 U	5 J	12 J	6 J	210 R	21 U
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	--	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 R	--	8.4 R	8.4 R	8.4 U	2.3 J	8.4 U	19	3.4 J	1.7 J	170 R	17 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	--	10 U	10 U	10 U	10 U	10 U	10 U	10 R	--	10 R	10 R	10 U	10 R	10 U	9.4 J	10 R	0.7 J	200 R	20 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	--	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 R	--	7.2 R	7.2 R	7.2 U	7.2 R	7.2 U	8 J	7.2 R	0.6 J	140 R	14 U
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	--	9 U	9 U	9 U	9 U	2.5 J	9 U	9 R	--	9 R	9 R	9 U	9 R	9 U	25 J	9 R	0.7 J	180 R	18 U
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	--	840 U	840 U	840 U	840 U	840 U	840 U	840 U	--	840 U	840 U	840 U	840 U	840 U	1800	840 U	840 U	17000 R	1700 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	--	640 U	640 U	640 U	640 U	640 U	640 U	640 U	--	640 U	640 U	640 U	640 U	670	3800	640 U	71 J	13000 R	1300 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	--	630 U	630 U	630 U	630 U	630 U	630 U	630 U	--	630 U	630 U	630 U	41 J	600 J	2700	630 U	78 J	13000 R	1300 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	--	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	47000 U	--	47000 U	47000 U	47000 U	8300 J	19000 J	290000	47000 U	10000 J	930000 R	93000 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	--	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	1200 U	--	150 J	1200 U	1200 U	470 J	350 J	2800	390 J	1500	23000 R	2300 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	--	6500 U	6500 U	6500 U	6500 U	6500 U	6500 U	6500 U	--	6500 U	6500 U	6500 U	140 J	7100	130000	6500 U	310 J	130000 R	13000 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	--	12000 U	12000 U	12000 U	12000 U	12000 U	12000 U	12000 U	--	12000 U	12000 U	12000 U	12000 U	7900 J	120000	12000 U	400 J	230000 R	23000 U
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	700 J	1600 U	340 J	1400 J	1500 J	31000 R	3100 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	--	53000 U	53000 U	53000 U	53000 U	53000 U	53000 U	53000 U	--	53000 U	53000 U	53000 U	44000 J	53000 U	240000	53000 U	41000 J	1100000 R	110000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	--	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	--	66000 U	66000 U	66000 U	66000 U	66000 U	130000	66000 U	66000 U	1300000 R	130000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	--	14000 U	14000 U	14000 U	14000 U	14000 U	14000 U	14000 U	--	14000 U	14000 U	14000 U	14000 U	14000 U	34000	14000 U	14000 U	280000 R	28000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	--	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	--	6400 U	6400 U	6400 U	8700	6400 U	13000	1200 J	4600 J	130000 R	13000 U
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	--	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	--	4200 U	4200 U	4200 U	2300 J	4200 U	8600	4200 U	1300 J	83000 R	8300 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	--	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	--	6200 U	6200 U	6200 U	180 J	6200 U	6200 U	6200 U	2500 J	120000 R	12000 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	--	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	--	10000	7300 U	7300 U	20000	7300 U	7300 U	21000	26000	150000 R	15000 U
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	--	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	--	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	50	8.5 U	8.5 U	170 R	17 U
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	--	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	--	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	24	7.9 U	7.9 U	160 R	16 U
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	--	620 U	620 U	620 U	620 U	620 U	620 U	620 U	--	620 U	620 U	620 U	620 U	620 U	620 U	620 U	380 J	12000 R	1200 U
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	--	650 U	650 U	650 U	650 U	650 U	650 U	650 U	--	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	13000 R	1300 U
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	--	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	--	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	92 R	9.2 U
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	--	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	--	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	110 R	11 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	--	720 U	720 U	720 U	720 U	720 U	720 U	720 U	--	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	14000 R	1400 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	--	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	--	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	28000 R	2800 U

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Summary statistics calculated using 1/2 the RL for non-detected results

Field duplicates identified with a "-R" or "X" in the Sample ID

TABLE A-14

VOC Data (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ACETONE	BENZENE	BROMOCHLOROMETHANE	BROMODICHLOROMETHANE	BROMOFORM	BROMOMETHANE	CARBON DISULFIDE	CARBON TETRACHLORIDE	CHLOROBENZENE	CHLOROETHANE	CHLOROFORM	CHLOROMETHANE	CIS-1,2-DICHLOROETHYLENE	CIS-1,3-DICHLOROPROPENE	CYCLOHEXANE	DIBROMOCHLOROMETHANE	DICHLORODIFLUOROMETHANE	ETHYLBENZENE
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	2600 U	130 U	130 U	130 U	130 U	520 U	130 U	130 U	130 U	650 U	130 U	650 U	17000	130 U	650 U	130 U	650 U	130 U
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	100000 U	5100 U	5100 U	5100 U	5100 U	20000 U	5100 U	5100 U	5100 U	26000 U	5100 U	26000 U	450000	5100 U	26000 U	5100 U	26000 U	5100 U
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	280000 U	14000 U	14000 U	14000 U	14000 U	56000 U	14000 U	14000 U	14000 U	70000 U	14000 U	70000 U	68000	14000 U	70000 U	14000 U	70000 U	14000 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	57000 U	2800 U	2800 U	2800 U	2800 U	11000 U	2800 U	2800 U	2800 U	14000 U	2800 U	14000 U	2800 U	2800 U	14000 U	2800 U	14000 U	2800 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	1600 U	81 U	81 U	81 U	81 U	320 U	81 U	81 U	81 U	410 U	860	410 U	81 U	81 U	410 U	81 U	410 U	81 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	77000 U	3900 U	3900 U	3900 U	3900 U	15000 U	3900 U	3900 U	3900 U	19000 U	3900 U	19000 U	3900 U	3900 U	19000 U	3900 U	19000 U	3900 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	60000 U	3000 U	3000 U	3000 U	3000 U	12000 U	3000 U	3000 U	3000 U	15000 U	3000 U	15000 U	3000 U	3000 U	15000 U	3000 U	15000 U	3000 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	1900 U	97 U	97 U	97 U	97 U	390 U	97 U	97 U	97 U	490 U	97 U	490 U	97 U	97 U	490 U	97 U	490 U	97 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	2200 U	110 U	110 U	110 U	110 U	450 U	1400	110 U	110 U	560 U	80000	560 U	110 U	110 U	560 U	110 U	560 U	110 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	1900 U	95 U	95 U	95 U	95 U	380 U	9100	25000	95 U	480 U	140000	480 U	95 U	95 U	480 U	95 U	480 U	95 U
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	110000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	50000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	73000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	72000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	81000 U	4000 U	4000 U	4000 U	4000 U	16000 U	4000 U	4000 U	20000	20000 U	4000 U	20000 U	10000	4000 U	20000 U	4000 U	20000 U	4000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	110000 U	5500 U	5500 U	5500 U	5500 U	22000 U	5500 U	5500 U	5500 U	27000 U	5500 U	27000 U	5500 U	5500 U	27000 U	5500 U	27000 U	5500 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	130000 U	6600 U	6600 U	6600 U	6600 U	27000 U	6600 U	6600 U	6600 U	33000 U	6600 U	33000 U	6600 U	6600 U	33000 U	6600 U	33000 U	6600 U
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	30000 U	1500 U	1500 U	1500 U	1500 U	6100 U	1500 U	1500 U	1500 U	7600 U	1500 U	7600 U	1500 U	1500 U	7600 U	1500 U	7600 U	1500 U
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	3000 U	150 U	150 U	150 U	150 U	600 U	150 U	150 U	150 U	750 U	150 U	750 U	150 U	150 U	750 U	150 U	750 U	150 U
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	2600 U	130 U	130 U	130 U	130 U	530 U	130 U	130 U	130 U	660 U	130 U	660 U	130 U	130 U	660 U	130 U	660 U	130 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	130	22	10 U	10 U	10 R	10 U	10 J	10 U	22	10 U	10 U	10 U	0.42 J	10 U	8 J	10 U	10 U	9.3 J
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	110	37 J	8.4 U	8.4 U	8.4 R	8.4 U	8.2 J	8.4 U	11 J	8.4 U	8.4 U	8.4 U	1.5 J	8.4 U	9.4	8.4 U	8.4 U	9.9
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	73	15 J	10 U	10 U	10 R	10 U	9.3 J	10 U	0.79 J	10 U	0.96 J	10 U	0.48 J	10 U	17	10 U	10 U	7.1 J
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	59	14 J	7.2 U	7.2 U	7.2 R	7.2 U	6.4 J	7.2 U	0.74 J	7.2 U	1.3 J	7.2 U	0.45 J	7.2 U	13 J	7.2 U	7.2 U	6.2 J
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	64	15 J	9 U	9 U	9 R	9 U	9.8	9 U	0.6 J	9 U	1.8 J	9 U	9 U	9 U	33 J	9 U	9 U	11 J
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	1700 U	840 U	840 U	840 U	840 U	840 U	64 J	840 U	840 U	840 U	2000	840 U	840 U	840 U	840 U	840 U	840 U	840 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	1300 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	640 U	220 J	640 U	640 U	640 U	640 U	640 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	1300 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	630 U	190 J	630 U	630 U	630 U	630 U	630 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	93000 U	8500 J	47000 U	47000 U	47000 U	47000 U	47000 U	2000 J	15000 J	47000 U	47000 U	47000 U	8000 J	47000 U	47000 U	47000 U	47000 U	1100 J
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	2300 U	190 J	1200 U	1200 U	1200 U	1200 U	1200 U	690 J	500 J	1200 U	150 J	1200 U	80 J	1200 U	1200 U	1200 U	1200 U	1200 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	13000 U	2900 J	6500 U	6500 U	6500 U	6500 U	6500 U	6500 U	2000 J	6500 U	6500 U	6500 U	850 J	6500 U	6500 U	6500 U	6500 U	140 J
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	23000 U	2800 J	12000 U	12000 U	12000 U	12000 U	12000 U	12000 U	1400 J	12000 U	12000 U	12000 U	700 J	12000 U	12000 U	12000 U	12000 U	12000 U
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	3100 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	59 J	1500 J	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	110000 U	20000 J	53000 U	53000 U	53000 U	53000 U	53000 U	53000 U	62000	53000 U	53000 U	53000 U	6300 J	53000 U	53000 U	53000 U	53000 U	7100 J
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	130000 U	28000 J	66000 U	66000 U	66000 U	66000 U	66000 U	66000 U	7900 J	66000 U	66000 U	66000 U	12000 J	66000 U	66000 U	66000 U	66000 U	2900 J
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	28000 U	9600 J	14000 U	14000 U	14000 U	14000 U	14000 U	14000 U	380 J	14000 U	14000 U	14000 U	2500 J	14000 U	14000 U	14000 U	14000 U	750 J
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	13000 U	2100 J	6400 U	6400 U	6400 U	6400 U	6400 U	6400 U	2600 J	6400 U	6400 U	6400 U	260 J	6400 U	6400 U	6400 U	6400 U	230 J
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	8300 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	740 J	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U	4200 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	12000 U	1000 J	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	11000	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	6200 U	490 J
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	15000 U	1700 J	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	11000 J	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	7300 U	910 J
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	17 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 UJ	8.5 UJ	8.5 U	8.5 U	8.5 UJ	8.5 U	8.5 UJ	8.5 U	8.5 U	8.5 U	8.5 U	8.5 UJ	8.5 U
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	16 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 UJ	7.9 UJ	7.9 U	6.5 J	7.9 UJ	7.9 U	7.9 UJ	7.9 U	7.9 U	7.9 U	7.9 U	7.9 UJ	7.9 U
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	1200 U	280 J	620 U	620 U	620 U	620 UJ	620 UJ	620 U	2000	620 UJ	620 U	620 UJ	620 U	620 U	620 U	620 U	620 UJ	270 J
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	1300 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	1300	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U	650 U
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	94	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	87	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	1400 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	720 U	310 J	720 U	720 U	720 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	2800 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U	63 J	1400 U	1400 U	1400 U	1400 U	1400 U	1200 J	1400 U	1400 U	1400 U

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Summary statistics calculated using 1/2 the RL for non-detected results

Field duplicates identified with a "-R" or "X" in the Sample ID

TABLE A-14

VOC Data (µg/kg)

Upper Trenton Channel, Wyandotte, Michigan

Area	Station ID	Sample ID	Date	Sampling Interval (ft)	ISOPROPYLBENZENE (CUMENE)	M,P-XYLENE (SUM OF ISOMERS)	METHYL ACETATE	METHYL ETHYL KETONE (2-BUTANONE)	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	METHYLCYCLOHEXANE	METHYLENE CHLORIDE	M-XYLENE & P-XYLENE	O-XYLENE (1,2-DIMETHYLBENZENE)	SEC-BUTYLBENZENE	STYRENE	TERT-BUTYL METHYL ETHER	TETRACHLOROETHYLENE(PCE)	TOLUENE	TRANS-1,2-DICHLOROETHENE	TRANS-1,3-DICHLOROPROPENE	TRICHLOROETHYLENE (TCE)	TRICHLOROFLUOROMETHANE	VINYL CHLORIDE
South Works	G11	G11 0-1_20061220	20-Dec-06	0 - 1	130 U	--	--	650 U	650 U	--	260 U	260 U	130 U	130 U	130 U	130 U	130 U	130 U	2100	130 U	650 U	130 U	11000
South Works	G11	G11 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Works	G11	G11 1-3_20061220	20-Dec-06	1 - 3	5100 U	--	--	26000 U	26000 U	--	10000 U	10000 U	5100 U	5100 U	5100 U	5100 U	31000	5100 U	7500	5100 U	5800000	5100 U	9000
South Works	G11	G11 3-5_20061220	20-Dec-06	3 - 5	14000 U	--	--	70000 U	70000 U	--	28000 U	28000 U	14000 U	14000 U	14000 U	14000 U	130000	14000 U	14000 U	14000 U	16000000	14000 U	14000 U
South Works	G11	G11 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Works	G11	G11 5-7_20061220	20-Dec-06	5 - 7	2800 U	--	--	14000 U	14000 U	--	5700 U	5700 U	2800 U	2800 U	2800 U	2800 U	18000	2800 U	2800 U	2800 U	980000	2800 U	2800 U
South Works	I1	I1 0-1_20061219	19-Dec-06	0 - 1	81 U	--	--	410 U	410 U	--	160 U	160 U	81 U	81 U	81 U	81 U	4100	81 U	81 U	81 U	410 U	81 U	81 U
South Works	I1	I1 1-3_20061219	19-Dec-06	1 - 3	3900 U	--	--	19000 U	19000 U	--	7700 U	7700 U	3900 U	3900 U	3900 U	3900 U	140000	3900 U	3900 U	3900 U	3900 U	3900 U	3900 U
South Works	I1	I1 3-5_20061219	19-Dec-06	3 - 5	3000 U	--	--	15000 U	15000 U	--	6000 U	6000 U	3000 U	3000 U	3000 U	3000 U	160000	3000 U	3000 U	3000 U	3100	3000 U	3000 U
South Works	J1	J1 0-1_20061219	19-Dec-06	0 - 1	97 U	--	--	490 U	490 U	--	190 U	190 U	97 U	97 U	97 U	97 U	200	97 U	97 U	97 U	97 U	97 U	97 U
South Works	J1	J1 1-3_20061219	19-Dec-06	1 - 3	110 U	--	--	560 U	560 U	--	2000	220 U	110 U	110 U	110 U	110 U	40000	110	110 U	110 U	670 U	110 U	110 U
South Works	J1	J1 3-5_20061219	19-Dec-06	3 - 5	95 U	--	--	480 U	480 U	--	3200	190 U	95 U	95 U	95 U	95 U	500000	130	95 U	95 U	480 U	95 U	95 U
South Works	SD-021	UTC-SD-021-0.0/0.5	16-Jun-11	0 - 0.5	56000 U	56000 U	56000 U	110000 U	110000 U	56000 U	56000 U	--	56000 U	--	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U	56000 U
South Works	SD-021	UTC-SD-021-0.5/2.8	16-Jun-11	0.5 - 2.8	25000 U	25000 U	25000 U	50000 U	50000 U	25000 U	25000 U	--	25000 U	--	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U	25000 U
South Works	SD-093	UTC-SD-093-0.0/0.5	17-Jun-11	0 - 0.5	37000 U	37000 U	37000 U	73000 U	73000 U	37000 U	37000 U	--	37000 U	--	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U	37000 U
South Works	SD-093	UTC-SD-093-0.5/1.3	17-Jun-11	0.5 - 1.3	36000 U	36000 U	36000 U	72000 U	72000 U	36000 U	36000 U	--	36000 U	--	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U	36000 U
Wye Street	K1	K1 0-1_20061220	20-Dec-06	0 - 1	4000 U	--	--	20000 U	20000 U	--	8100 U	8100 U	4000 U	4000 U	4000 U	4000 U	390000	11000	4000 U	4000 U	13000	4000 U	4000 U
Wye Street	K1	K1 1-3 X_20061220	20-Dec-06	1 - 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 1-3_20061220	20-Dec-06	1 - 3	5500 U	--	--	27000 U	27000 U	--	11000 U	11000 U	5500 U	5500 U	5500 U	5500 U	550000	67000	5500 U	5500 U	6400	5500 U	5500 U
Wye Street	K1	K1 3-5_20061220	20-Dec-06	3 - 5	6600 U	--	--	33000 U	33000 U	--	13000 U	13000 U	6600 U	6600 U	6600 U	6600 U	54000	6600 U	6600 U	6600 U	6600 U	6600 U	6600 U
Wye Street	K1	K1 5-7 X_20061220	20-Dec-06	5 - 7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wye Street	K1	K1 5-7_20061220	20-Dec-06	5 - 7	1500 U	--	--	7600 U	7600 U	--	3000 U	3000 U	1500 U	1500 U	1500 U	1500 U	25000	2700	1500 U	1500 U	1500 U	1500 U	1500 U
Wye Street	K1	K1 7-9_20061220	20-Dec-06	7 - 9	150 U	--	--	750 U	750 U	--	300 U	300 U	150 U	150 U	150 U	150 U	3300	300	150 U	150 U	750 U	150 U	150 U
Wye Street	K1	K1 9-11_20061220	20-Dec-06	9 - 11	130 U	--	--	660 U	660 U	--	260 U	260 U	130 U	130 U	130 U	130 U	920	140	130 U	130 U	130 U	130 U	130 U
Wye Street	SD-032	UTC-SD-032-0.0/0.5	26-Apr-11	0 - 0.5	5.5 J	25	10 U	46	21 U	29	10 U	--	15	--	10 U	10 U	10 U	12	10 U	10 U	0.37 J	10 U	10 U
Wye Street	SD-032	UTC-SD-032-0.5/2.5	26-Apr-11	0.5 - 2.5	6.3 J	27	8.4 U	37	17 U	31	8.4 U	--	18	--	8.4 U	8.4 U	8.4 U	52	8.4 U	8.4 U	0.41 J	8.4 U	8.4 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5	26-Apr-11	2.5 - 4.5	6.5 J	26 J	10 U	28	20 U	68	10 U	--	14 J	--	10 U	10 U	10 UJ	46 J	10 U	10 U	10 U	10 U	10 U
Wye Street	SD-032	UTC-SD-032-2.5/4.5-R	26-Apr-11	2.5 - 4.5	5.2 J	22 J	7.2 U	23	14 U	52 J	7.2 U	--	12 J	--	7.2 U	7.2 U	7.2 UJ	40 J	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
Wye Street	SD-032	UTC-SD-032-4.5/6.5	26-Apr-11	4.5 - 6.5	10 J	31 J	9 U	22	18 U	150 J	9 U	--	18 J	--	9 U	9 U	9 UJ	72 J	9 U	9 U	0.37 J	9 U	9 U
Wye Street	SD-032	UTC-SD-032-6.5/7.0	26-Apr-11	6.5 - 7	840 U	840 U	840 U	540 J	1700 U	380 J	480 J	--	840 U	--	840 U	840 U	840 U	86 J	840 U	840 U	840 U	840 U	840 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5	26-Apr-11	0.5 - 2.5	640 U	640 U	640 U	1300 U	1300 U	640 U	3100	--	640 U	--	640 U	640 U	76 J	640 U	640 U	640 U	45 J	640 U	640 U
Wye Street	SD-034	UTC-SD-034-0.5/2.5-R	26-Apr-11	0.5 - 2.5	630 U	630 U	630 U	1300 U	1300 U	630 U	3800	--	630 U	--	630 U	630 U	74 J	630 U	630 U	630 U	45 J	630 U	630 U
Wye Street	SD-035	UTC-SD-035-0.0/0.9	26-Apr-11	0 - 0.9	47000 U	3100 J	47000 U	93000 U	93000 U	47000 U	47000 U	--	1100 J	--	47000 U	47000 U	930000	4600 J	47000 U	47000 U	20000 J	47000 U	47000 U
Wye Street	SD-036	UTC-SD-036-0.0/0.5	26-Apr-11	0 - 0.5	1200 U	69 J	1200 U	2300 U	2300 U	1200 U	1200 U	--	1200 U	--	1200 U	1200 U	3500	150 J	1200 U	1200 U	110 J	1200 U	1200 U
Wye Street	SD-036	UTC-SD-036-0.5/2.5	26-Apr-11	0.5 - 2.5	6500 U	290 J	6500 U	13000 U	13000 U	600 J	560 J	--	120 J	--	6500 U	6500 U	22000	3500 J	6500 U	6500 U	1300 J	6500 U	6500 U
Wye Street	SD-036	UTC-SD-036-2.5/3.4	26-Apr-11	2.5 - 3.4	12000 U	370 J	12000 U	23000 U	23000 U	12000 U	580 J	--	12000 U	--	12000 U	12000 U	35000	6200 J	12000 U	12000 U	1200 J	12000 U	12000 U
Wye Street	SD-038	UTC-SD-038-0.0/0.5	27-Apr-11	0 - 0.5	1600 U	100 J	1600 U	3100 U	3100 U	1600 U	1600 U	--	1600 U	--	1600 U	1600 U	330 J	300 J	1600 U	1600 U	1600 U	1600 U	1600 U
Wye Street	SD-038	UTC-SD-038-0.5/2.5	27-Apr-11	0.5 - 2.5	1600 J	31000 J	53000 U	110000 U	110000 U	22000 J	2800 J	--	11000 J	--	53000 U	53000 U	230000	290000	53000 U	53000 U	26000 J	53000 U	53000 U
Wye Street	SD-038	UTC-SD-038-2.5/4.5	27-Apr-11	2.5 - 4.5	66000 U	41000 J	66000 U	130000 U	130000 U	19000 J	66000 U	--	8900 J	--	66000 U	66000 U	62000 J	900000	66000 U	66000 U	7800 J	66000 U	66000 U
Wye Street	SD-038	UTC-SD-038-4.5/6.5	27-Apr-11	4.5 - 6.5	14000 U	7400 J	14000 U	28000 U	28000 U	3100 J	14000 U	--	1600 J	--	14000 U	14000 U	390 J	180000	14000 U	14000 U	14000 U	14000 U	14000 U
Wye Street	SD-038	UTC-SD-038-6.5/8.6	27-Apr-11	6.5 - 8.6	6400 U	970 J	6400 U	13000 U	13000 U	6400 U	6400 U	--	280 J	--	6400 U	6400 U	190 J	28000	6400 U	6400 U	410 J	6400 U	6400 U
Wye Street	SD-040	UTC-SD-040-0.5/2.5	26-Apr-11	0.5 - 2.5	4200 U	160 J	4200 U	8300 U	8300 U	4200 U	4200 U	--	4200 U	--	4200 U	4200 U	600 J	2700 J	4200 U	4200 U	4200 U	4200 U	4200 U
Wye Street	SD-041	UTC-SD-041-0.0/0.5	28-Apr-11	0 - 0.5	130 J	2000 J	6200 U	12000 U	12000 U	1200 J	6200 U	--	610 J	--	6200 U	6200 U	6200 U	530 J	6200 U	6200 U	6200 U	6200 U	6200 U
Wye Street	SD-041	UTC-SD-041-0.5/2.7	28-Apr-11	0.5 - 2.7	130 J	3100 J	7300 U	15000 U	15000 U	1200 J	7300 U	--	830 J	--	7300 U	7300 U	7300 U	92000 J	7300 U	7300 U	7300 U	7300 U	7300 U
Arkema	SD-083	UTC-SD-083-0.0/0.5	15-Jun-11	0 - 0.5	8.5 U	8.5 U	8.5 U	17 U	17 U	8.5 U	8.5 U	--	8.5 U	--	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U
Arkema	SD-083	UTC-SD-083-0.5/2.2	15-Jun-11	0.5 - 2.2	7.9 U	4.4 J	7.9 U	16 U	16 U	7.9 U	7.9 U	--	7.9 U	--	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U	7.9 U
Arkema	SD-085	UTC-SD-085-0.0/0.5	15-Jun-11	0 - 0.5	620 U	960	1200	1200 U	1200 U	620 U	620 U	--	340 J	--	620 U	620 U	620 U	810	620 U	620 U	620 U	620 U	620 U
Arkema	SD-085	UTC-SD-085-0.5/2.5	15-Jun-11	0.5 - 2.5	650 U	580 J	510 J	1300 U	1300 U	650 U	650 U	--	650 U	--	650 U	650 U	650 U	390 J	650 U	650 U	650 U	650 U	650 U
Arkema	SD-085	UTC-SD-085-2.5/4.5	15-Jun-11	2.5 - 4.5	4.6 U	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	4.6 U	--	4.6 U	--	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U
Arkema	SD-085	UTC-SD-085-4.5/5.2	15-Jun-11	4.5 - 5.2	5.7 U	5.7 U	5.7 U	11 U	11 U	5.7 U	5.7 U	--	5.7 U	--	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U
Arkema	SD-045	UTC-SD-045-A-0.0/0.5	27-Apr-11	0 - 0.5	63 J	720 U	720 U	1400 U	1400 U	1400	720 U	--	720 U	--	720 U	720 U	720 U	57 J	720 U	720 U	720 U	720 U	720 U
Arkema	SD-045	UTC-SD-045-A-0.5/1.5	27-Apr-11	0.5 - 1.5	160 J	91 J	1400 U	2800 U	2800 U	6700	1400 U	--	77 J	--	1400 U	1400 U	1400 U	67 J	1400 U	1400 U	1400 U	1400 U	1400 U

Notes:

J = estimated value

R = rejected value

U= result not detected below reporting limit shown

Summary statistics calculated using 1/2 the RL for non-detected results

Field duplicates identified with a "-R" or "X" in the Sample ID

Attachment B
Core Logs

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD001	**Latitude:**	42 12.6223			**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 08.5812	**Penetration (ft):**	· Not Det		
Crew/Company		**Datum:**		**Recovery (ft)**	84"		
		Depth (ft)	21.5' Sounder	**Date/Time:**	0900		
		Tide:	N/A	**Hand Probe Depth (ft)**	NA		
		St. Arrival:	855			**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	0920	**Penetration (ft):**			
Collection:	vibracore	**Logged by:**	C. Nickel	**Recovery (ft)**	NA		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**			
				Hand Probe Depth (ft)			

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5													A	Odor is weak sulfide from 0'-5.5'
	1–2	silt	ML	GLI 4/N	S	W	S	M	FS	W	O	10	90	B	≈1.3'-1.6': layer of silt w/ higher sand content; sand is very fine ≈1.9'-2.3': sediment is sat. w/ water and sloughed out of liner ≈2.6'-2.8': layer of silt w/ higher sand content
	3–5													C	≈3.2'-3.3': SAA ≈3.9'-4.1': SAA ≈4.4'-4.6': SAA ≈5.0'-5.2': SAA
	5.5'–6	sandy silt	ML	GLI 4/N	S	W	S	M	MS	W	O	30	70	D	Odor is weak sulfide from 5.5'-6.7'
	6.7'–7	lean clay	CL	10YR 4/1	[illegible]	S	H	M	MS	W	O	5	95	—	Shells observed at ≈6.7'
	8			EOB @ 6.8'										E	Note: No PID readings collected as no odor, sheen, or staining was observed.
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 6/17/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTCSD001-0-0.5		1105	0-0.5	X	X	X		X			X
B UTCSD001-0.5-2.5-	DUP	1110	0.5-2.5	X	X	X		X	X	X	X
C UTCSD001 2.5-4.5		1115	2.5-4.5	X	X	X		X	X	X	X
D UTCSD001-4.5-6.8	MS/MSD	1120	4.5-6.5	X	X	X		X	X	X	X
E UTCSD001-0.5-2.5-R	DUP	1110	0.5-2.5	X	X	X		X	X	X	X
F			8.5-10.5								

Reviewed by: [signature] Date: 6/17/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD002	Latitude:	42 12.5889		Attempt 1 / Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 08.5834	Penetration (ft):	Not Det.
		Datum:		Recovery (ft)	19"
		Depth (ft)	28' Sounder	Date/Time:	~~0920~~ 936
		Tide:	N/A	Hand Probe Depth (ft)	NM 6/17/2011
		St. Arrival:	0930		Attempt 2 / Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	0950	Penetration (ft):	/
Collection:	vibracore	Logged by:	C. Nickel	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
								Saturated w/water						A	0'-0.2': saturated w/water
	0.5'	clay w/ sand + gravel	CL	10YR 4/2	VF	S	H	M	FG	N	5	5	90		Small pink globs/dots of clay interspersed throughout 0'-1.3'
	1.0'													B	
	1.5'	EOB @ 1.3'													
	2.0'													C	Note: No PID readings collected due to the lack of oder, staining, or sheen.
	2.5'														
	3.0'													D	
	3.5'														
	4.0'													E	
														F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 6/17/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTCSD002-0-0.5	N	1225	0-0.5	X	X	X		X			
B UTCSD002-0.5-1.3	N	1230	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 6/17/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD003	Latitude:	42 12.5622		Attempt 1 / Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 09.6080	Penetration (ft):	Not Det
		Datum:		Recovery (ft)	52"
		Depth (ft)	24.4' Sounder	Date/Time:	1035 6/17/2011
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	1030		Attempt 2 / Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1052	Penetration (ft):	
Collection:	vibracore	Logged by:	C. Nickel	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5 – 1	silt w/ sand.	ML	GLEY 1 3/N	S / VS	N	S	M	FG	W	0	10	90	A	Odor is weak sulfide from 0'-3.4'
	2				↓									B	≈1.3'-3.3': Sediment is saturated with water and sloughed out of liner
	3				VS										≈3.3'-3.4': sand and gravel layer
3.4' – 4.4'	4	clay w/ gravel	CL	10YR 4/2	V. H	S	H	M	MG	N	10	0	90	C	NOTE can not ~~need~~ knead clay (TH)
	5	EOB @ 4.4'													Note: No PID readings collected as no odor, staining, or sheen was observed.
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

6/17/11 — NR TPH 0-0.5

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTCSD003-0-0.5	N	1305	0-0.5	X	●	X		X			
B UTCSD003-0.5-2.5	N	1310	0.5-2.5	X	X	X		X	X	X	X
C UTCSD003-2.5-4.4	N	1315	2.5-4.4	X	X	X		X	X	X	X
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 6/18/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD004 (*)	Latitude:	~~42 83~~ 42 12.5881	Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	-83 08.6173	Penetration (ft):	9.5'
Crew/Company		Datum:		Recovery (ft)	107"
		Depth (ft)	11' 10"	Date/Time:	5/4/2011 825
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	0818	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	0850	Penetration (ft):	
Collection:	vibracore	Logged by:	C.Nickel / A.Goodrick	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5, 1	Sandy silt	ML	GLEY1 3/N	Very soft	N	H	M to W	FG	Weak	5	10	85	A	Weak sulfide odor (very fine sand). From 0.8' to 0.9' layer of sandy ~~[illegible]~~. From 1.1'-1.2' layer of sandy (very fine sand) ~~[illegible]~~
1.2' (Core #1: 1.2'–4.6')	2, 3, 4										0	5	95	B, C	Weak sulfide odor throughout interval (1.2'-9.0')
4.6' (Core #2: 4.6'–9.0')	5, 6, 7, 8	Silt	ML	GLEY1 3/N	Soft	Weak	H	M	FS	Weak				D, E	From 5.8'-6.0' layer of fine sand w/ shells. From 8.4'-8.7' layer of fine sand w/shells
EOB → 9.0'	9, 10													F	

Sample Summary (check boxes for analysis):

5/4/11

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD004/0-0.5	N	1555	0-0.5	X	X	X		X		X	X	
B UTC-SD004/0.5-2.5	N	1600	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD004/2.5-4.5	N	1605	2.5-4.5	X	X	X		X	X	X	X	
D UTC-SD004/4.5-6.5	~~N~~	1610	~~3~~4.5-6.5	X	X	X		X	X	X	X	
E UTC-SD004/6.5-9.0	~~DUP~~ ~~MS/MSD~~	1615	6.5-8.5	X	X	X		X	X	X	X	
F UTC-SD004/6.5-9.0	DUP	1615	~~8.5-10.5~~	X	X	X		X	X	X	X	

Reviewed by: [signature] Date: 5/16/2011

(*) Core collected from target for SD003 & mis-labeled. Will be plotted as-sampled as SD004 ~~b/c SD003~~ b/c target location for SD004 not actually sampled during this event.

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-005	**Latitude:**	42 12.5525		**Attempt 1** / **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 08.6247	**Penetration (ft):**	~4.5'
Crew/Company		**Datum:**		**Recovery (ft)**	52"
		Depth (ft)	18' 9"	**Date/Time:**	5/4/2011 935
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	0925		**Attempt 2** / **Refusal? Y/N**
Vessel:	*R/V Mudpuppy (EPA)*	**St.Depart**	0945	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	E. Johnson / S. Ramamurthy	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	Sandy (fine gravel) Silt	ML	Gley1 3/N	medium - soft	none	Stratified	moist	fine sand	weak sulfide	none	20	80	A	sand seams at 1.5ft, 2.1ft, 3.0ft, 3.4ft (fine sand-medium sand) SP, contains organics.
	1														
	2													B	
	3													C	
	4														
	5	EOB at 4.4'												D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time (5/4/11)	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD005/0-0.5	N	1230	0-0.5	X	X	X		X		X	X	
B UTC-SD005/0.5-2.5	FD	1235	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD005/2.5-4.4	N	1240	2.5-4.5	X	X	X	X	X	X	X	X	
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD006	Latitude:	42 12.5380	Attempt 1	Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 08.653 6153	Penetration (ft):	Not Det
		Datum:		Recovery (ft)	18"
		Depth (ft)	26.9' Sounder	Date/Time:	1125 6/17/2011
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	1120	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1140	Penetration (ft):	
Collection:	vibracore	Logged by:	C. Nickel / A. Goodrich	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0-0.3	Sandy silt	ML	GLEY1 3/N	VS	N	H	Sat. w/water	CS	W	0	15	85	A	0-0.3': Sediment is saturated w/ water and sloughed out of liner; odor is weak sulfide,
0.5'	0.3-1.3	Clay w/ gravel	CL	10YR 4/2	H	S	H	M	FG	N	10	0	90	B	Trace Shells presen from 0.3-1.3'
1.0'															
1.5'	1.3'	EOB @ 1.3'												C	Note: No PID readings collected as no odor, staining, or sheen was observed
2.0'															
2.5'														D	
3.0'															
														E	
														F	

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 6/17/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A	UTCSD006-0-0.5	N	1350	0-0.5	X	X	X		X				
B	UTCSD006-0.5-1.3	N	1355	0.5-2.5 1.3	X	X	X		X	X	X	X	
C				2.5-4.5									
D				3.5-6.5									
E				6.5-8.5									
F				8.5-10.5									

Reviewed by: [signature] Date: 6/18/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD007	Latitude:	42 12.5005	Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	-83 08.~~6486~~ 6468 (H)	Penetration (ft):	6'
Crew/Company		Datum:		Recovery (ft)	53"
		Depth (ft)	22'	Date/Time:	5/4/2011 ~905
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	855	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	925	Penetration (ft):	
Collection:	vibracore	Logged by:	S.Ramamurthy / A. Goodrich	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.4'	0.5	silty sand	SP-SM	GL1 2.5/N	S	N	H	M	CS	W	0	95	5	A	Weak sulfide odor throughout interva
	1	silt	ML	GL1 2.5/N	VS	N	H	M	CS	W	0	90	10	B	~~silt~~ ≈0.8' sand seam
	2														
	3	Fine sand	SP	GL1 2.5/N	F	N	H	M	CS	N	0	95	5	C	Shells in bottom 0.2' (3.8'-4.0') of core
EOB 4'	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 5/4/11	Depth (ft)	PAHs	TPH (DRO/PRO	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD007/0-0.5	N	1700	0-0.5	X	X	X		X	X	X	X	
B UTC-SD007/0.5-2.5	DUP	1705	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD007/2.5-4.0	N	1710	2.5-~~4.5~~ 4.0	X	X	X		X	X	X	X	
D UTC-SD007/0.5-2.5-R	DUP	1705	~~3.5-6.5~~	X	X	X		X	X	X	X	
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-009	**Latitude:**	42 12.4608		**Attempt 1** **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 08.6083	**Penetration (ft):**	6'
Crew/Company		**Datum:**		**Recovery (ft)**	3.6' (44" in field)
		Depth (ft)	20'5"	**Date/Time:**	5/4/2011 10:02
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	1000		**Attempt 2** **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1015	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	S. Ramamurthy	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	~~0.5~~													A	lots of organics @ top 0.1', clamshells & rocks too. Seams of sand @ 2.4'
	0.5		CL	Gley1 2.5/10Y	Med soft → firm	medium	stratified	Moist	fine gravel	None	10%	20%	70%	B	
	1.0														
	1.5													C	
	2.0														
	2.5														
2.8	3.0		SP	Gley 1 3/N	Firm	None	Homogen	Moist	Coarse sand	None	0%	90%	10%	D	
	3.5														
3.6														E	
	4.0			EOB @ 3.6											
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time (5/4/11)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD009-0.0/0.5	N	15:40	0-0.5	X	X	X		X			
B UTC-SD009-0.5/2.5	N	15:45	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD009-2.5/3.6	N	15:50	2.5-4.5	X	X	X		X	X	X	X
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD010	**Latitude:**	42 12.4317		**Attempt 1** Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 08.6742	**Penetration (ft):**	Not Det
Crew/Company		**Datum:**		**Recovery (ft)**	11"
		Depth (ft)	28.6' Sounder	**Date/Time:**	1415 6/17/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1411		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1446	**Penetration (ft):**	/
Collection:	vibracore	**Logged by:**	C. Nickel	**Recovery (ft)**	/
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	/
				Hand Probe Depth (ft)	

PID = 0.0ppm

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0	silty sand	SP-SM	2.5Y 2/1	Soft	none	H	wet	Med. sand	weak sulfide	none	70	30	A	on top <0.1' organics contains shell fragments
0.4	0.5	Clay	CL	Gley 1 4/10Y	Hard	High	H	Moist	C. sand	none	none	10	90	B	no additional comments.
0.7				EOB	@	0.7								C	
	1														
	1.5													D	
	2													E	
	2.5													F	

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A	UTC-SD010 0.0/0.7	N	1630	0-0.5	X	X	X		X	X	X	X	
B				0.5-2.5									
C				2.5-4.5									
D				3.5-6.5									
E				6.5-8.5									
F				8.5-10.5									

Reviewed by: [signature] Date: 6/18/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID: UTC-SD011		**Latitude:**	42 12.3964		**Attempt 1** **Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 8.6819	**Penetration (ft):**	Not Determined
		Datum:		**Recovery (ft)**	18"
		Depth (ft)	30' (Sounder)	**Date/Time:**	4/30/11 11:25
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	1120		**Attempt 2** **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	11:40	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	C. Nichol	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	CH		10YR 4/1	F to H	S	H	M	MG	N	5	5	90	A	Trace shells and coarse sand/gravel in top ~0.2'
	1														
EOB 1.5'															
	2													B	
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

4/30/11

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD-011/0.0-0.5	N	1355	0-0.5	X	X	X		X			X	
B UTC-SD-011/0.5-1.5	N	1400	0.5-2.5	X	X	X		X	X	X	X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

core opened at 1330

Station ID:	SD-012	**Latitude:**	42 12.2341	**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 08.7036	**Penetration (ft):**	Not Determined
Crew/Company		**Datum:**	—	**Recovery (ft)**	1.3'
		Depth (ft)	27.8 (Sounder)	**Date/Time:**	4/30/2011 11:00
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	1050	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	11:20	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	E. Johnson/Sai Ramamurthy	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5		SP-SM	2.5Y 2.5/1	Firm	None	S	Moist	med to fine gravel	None	15	80	5	A	up to 0.8' it lt fine sand From 0.8-1.3' there is a mixture of fine sand and gravel with presence of shells.
	1														
1.3														B	
	2														
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD012/0-0.5	N	1345	0-0.5	X	X	X		X				1 TPH
B UTC-SD012/0.5-1.3	N	1350	0.5-~~2.5~~1.3	X	X	X		X	X	X	X	2 TPH
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD013	Latitude:	42 12.3449		Attempt 1 / Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 08.7372	Penetration (ft):	~~7'7~~ 7'6"
		Datum:		Recovery (ft)	7'1"
		Depth (ft)	15'6"	Date/Time:	845 4/29/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	~8:20		Attempt 2 / Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	9:05	Penetration (ft):	
Collection:	vibracore	Logged by:	C. Nickel/A. Goodrich	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.4'	0.5	ML		GL1 3/N	VS	N	H	M to W	MS	N	5	10	85	A	No comments
	1	SP-SM		GL1 3/N	S to F	N	H	M	FG	N	5	85	10		No Comments
1.5'														B	
	2														
	3	ML		GL1 3/10Y	VS to S (incr w/ depth)	N	H	M	CS	N	0	10	90	C	≈3.1'-3.2' sand layer (SP-SM)
	4														
4.9'	5														
	6													D	
EOB → 6.4'															
	7													E	
	8														
	9													F	
	10														

Core #1 (0.4'–4.9')

Core #2 (4.9'–EOB 6.4')

Sample Summary (check boxes for analysis):

4/29/11

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD013/0-0.5		1235	0-0.5	X	X	X		X				
B UTC-SD013/0.5-2.5		1240	0.5-2.5	X	X	X	X	X	X	X	X	
C UTC-SD013/2.5-4.5		1245	2.5-4.5	X	X	X	X	X	X	X	X	
D UTC-SD013/4.5-6.4	~~Dup~~	1250	~~4.5-6.5~~ 4.5-6.4	X	X	X		X	X	X	X	
E UTC-SD013/4.5-6.4-RDup		1250	~~6.5-8.5~~ 4.5-6.4	X	X	X		X	X	X	X	
F			8.5-10.5									

Reviewed by: [signature] Date: 4/30/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID: SD-014	**Latitude:** 42 12.3480			**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company T.Himmer/CH2M HILL	**Longitude:** 83 8.7484	**Penetration (ft):**		ES 2.3'	
	Datum:	**Recovery (ft)**		1.5'	N
	Depth (ft) 3'3"	**Date/Time:**		915 4/29/2011	
	Tide: N/A	**Hand Probe Depth (ft)**			
	St. Arrival: 910			**Attempt 2**	**Refusal? Y/N**
Vessel: R/V Mudpuppy (EPA)	**St.Depart** 925	**Penetration (ft):**			
Collection: vibracore	**Logged by:** LJ	**Recovery (ft)**			
Collector Information: Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086		**Date/Time:**			
		Hand Probe Depth (ft)			

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
			GM	Gley1 2.5/10Y	soft to Firm	N	S	Moist	coarse gravel	NO	55	40	5	A	Garbage & glass pieces found in the top of the core.
0.5														B	
			CL	Gley1 4/N	S to F	M	S	Moist to wet	coarse gravel	cement or concrete odor Mild	10	30	60	C	odor - cement like Trace Organics
1.0															
														D	
EOB @ 1.5															
	7													E	
2.0	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 4/29/2011	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD014/0-0.5	N	1210	0-0.5	X	X	X		X		X	X
B UTC-SD014/0.5-1.5	N	1215	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 4/30/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Time core opened at 1540

Station ID:	SD-015	Latitude:	42 12.3226			Attempt 1	Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 8.7505	Penetration (ft):	9.5'		
		Datum:		Recovery (ft)	9.3 ft.		
		Depth (ft)	5'	Date/Time:	4/29/2011		
		Tide:	N/A	Hand Probe Depth (ft)	0935		
		St. Arrival:	9:25			Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	9:50	Penetration (ft):			
Collection:	vibracore	Logged by:	E. Johnson / Sai Ramamurthy	Recovery (ft)			
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:			
				Hand Probe Depth (ft)			

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5–9	MH	Clayey silt	GLEY 1 3/10Y (greyish black)	Very soft @ top 1 ft becomes med soft - firm	NONE - Non-Plastic	Homogeneous	V. Moist @ top → less Moist @ bottom	fine sand	None	0%	2%	98	A, B, C, D, E, F	Same material throughout the core. More organic-material (fibers) @ 4.5'. As the depth increased, the sediment got less moist.

Top sloughy sediment contained shiny, silver like mater (Hg??)

0.0/0.5
0.5/2.5
2.5/4.5
4.5/6.5
6.5/9.0 MS/MSD

EOB 9.0

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 4/29/2011	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A SD-015/0.0-0.5	N	1640	0-0.5	X	X	X		X			X
B SD-015/0.5-2.5	N	1645	0.5-2.5	X	X	X		X	X	X	X
C SD-015/2.5-4.5	N	1650	2.5-4.5	X	X	X	X	X	X	X	X
D SD-015/4.5-6.5	N	1655	4.5-6.5	X	X	X		X	X	X	X
E SD-015/6.5-9.0	MS/MSD	~~1655~~ 1700	6.5-~~8.5~~ 9.0	X	X	X		X	X	X	X
F			8.5-10.5								

Reviewed by: [signature] Date: 4/30/2011

MS/MSD = PAH, metals, PCB (aroclor), TOX

First two → core open @1520

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-016	Latitude:	42 12.3115	Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 08.7611	Penetration (ft):	19.5'
Crew/Company		Datum:	~~7~~	Recovery (ft)	~~[illegible]~~ ~~[illegible]~~ 225"
		Depth (ft)	7'6"	Date/Time:	1038 4/29/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	9:50	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	11:30	Penetration (ft):	
Collection:	vibracore	Logged by:	E. Johnson / C. Nickel / Adam Goodrich	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5–1		ML	~~[illegible]~~ 10YR 3/1	VS to S	N	H	wet to moist	med sand	None	0	10	90	A	organic material throughout. This portion of the core did not swell as did the rest
1.5	1.5													B	
	2–3		ML	10YR 3/1	S to F	N	S	moist	fine gravel	None	5	10	85	C	This is the very swelling clay. It has intermittent ~0.4' sand seams throughout. → occur at 8.5', 9.2',
	5–6													D	a 0.3' sand seam at 11.3' a 0.1' sand seam at 9.7' The consistency is variable throughout the interval.
	7–8													E	The intermittent sand seams are SW-SM type.
8.5–8.9	8.5–9	sand seam	SW-SM												
9.2–9.6	9.2–9.6	sand seam	SW-SM											F	
9.7–9.8	10														

Notes: There was a mix up with the cores b/w locations SD-015 and SD-016. We opened all cores and examined them to determine which cores went together and in which order. Characteristics such as swelling, texture/consistency, and stickiness were used.

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	11													G	
11.3 – 11.6		} sand seam SW-SM													
	12														≈12.5' - 14.5': Some Sticks/Organics throughout
	13													H	
	14														
	15														
15.5	16		OL/ OH	Gley1 3/ N	F	mod - weak	homo genous	moist - dry	med sand	weak sulphide	0	10	90	I	Silt with lots of organics, (veg, leaf & twigs & decomposed organics)
end of 4th core @16.4' → 16.4	17														-Huge leaf @ 17.0'
17.6	18		SP-SM	10YR 3/1	Soft to Firm	none	homo genous	moist	coarse sand	none	0	95	5	J	18.4-18.6 - slag like material with shells mixed with coarse sand.
EOB 18.6'	19						EOB - 18.6'							K	
	20														

Sample Summary (check boxes for analysis):

4/29/2011

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	Grainsize	TOC	pH
A UTC-SD016/0-0.5	N	1710	0-0.5	X	X			X			
B UTC-SD016/0.5-2.5	N	1715	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD016/2.5-4.5	N	1720	2.5-4.5	X	X	X		X	X	X	X
D UTC-SD016/4.5-6.5	N	17:25	4.5-6.5	X	X	X		X	X	X	X
E UTC-SD016/6.5-8.5	N	17:30	6.5-8.5	X	X	X		X	X	X	X
F UTC-SD016/8.5-10.5	N	17:40	8.5-10.5	X	X	X	X	X	X	X	X
G UTC-SD016/10.5-12.5	FD	17:45	10.5-12.5	X	X	X		X	X	X	X
H UTC-SD016/12.5-14.5	N	17:50	12.5-14.5	X	X	X	X	X	X	X	X
I UTC-SD016/14.5-16.5	N	17:55	14.5-16.5	X	X	X		X	X	X	X
J UTC-SD016/16.5-18.6	N	18:00	16.5-18.6	X	X	X	X	X	X	X	X
K			18.5-boc								
UTC-SD016/10.5-12.5R	↓	17:45	10.5-12.5R	X	X	X		X	X	X	X

Reviewed by: [signature] Date: 4/30/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD07	**Latitude:**	42 12.2912		**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 08.7716	**Penetration (ft):**	18'	
Crew/Company		**Datum:**	—	**Recovery (ft)**	198"	
		Depth (ft)	8'8"	**Date/Time:**	1335 4/29/2011	
		Tide:	N/A	**Hand Probe Depth (ft)**		
		St. Arrival:	1320		**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1410	**Penetration (ft):**		
Collection:	vibracore	**Logged by:**	C. Nick / A. Goodrich	**Recovery (ft)**		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5									N-W H_2S				A	
	1													B	≈0.6'-1.4': sandy seam (fine sand)
Core #1	2	ML		10YR 3/1	S (sand seams are firm)	W	H	M	FS		0	10	90	B	≈1.6'-1.7': } sandy seams ≈1.8'-2.1': } (fine sand)
	3													C	Sand seams contain heavy organics
	4													C	≈4.2' large piece of gravel
	5													D	
	6	SAA			SAA		SAA			SAA		SAA		D	
Core #2	7													E	≈7.7'-8.0': Sandyseam (fine sand)
	8													E	≈8.5'-8.7' Sandy seam (fine-medium sand) heavy organics
	9													F	
	10													F	≈9.8'-10.2' Sandy seam (fine-coarse) heavy organics

Notes: Opened 4/30/11

from 8.5'-16.0' heavy organic layers 1-2mm throughout ML
trace gravel

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	11		SAA	SAA	SAA	SAA	SAA	SAA	SAA	SAA	SAA	SAA	SAA	G	sand seam @ 12.5'-12.8' medium sand with heavy organic material
	12		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		sand seam @ 13.7-13.8 heavy organics & med. sand.
	13													H	sand seam @ 14.3-14.4' heavy organics and fine sand to fine gravel
	14														
	15													I	From 14.5-15.3 there are intermittanent 2 mm organic layers
	16				EOB		= 16.0'								15.9 to 16.0' sand fine to coarse sand with shells & hash
	17													J	15.8-15.9 have a color change - lighter color ML material Gley 1 5/10Y
	18														
	19													K	From 8.5' to end of core there is trace gravel throughout
	20														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 4/30/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD017/0.0-0.5	N	0855	0-0.5	X	X	X		X				
B UTC-SD017/0.5-2.5	N	0900	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD017/2.5-4.5	N	0905	2.5-4.5	X	X	X	X	X	X	X	X	
D UTC-SD017/4.5-6.5	N	0910	4.5-6.5	X	X	X	~~X~~	X	X	X	X	
E UTC-SD017/6.5-8.5	N	0915	6.5-8.5	X	X	X		X	X	X	X	
F UTC-SD017/8.5-10.5	N	0920	8.5-10.5	X	X	X		X	X	X	X	
G UTC-SD017/10.5-12.5	N/FD	0925	10.5-12.5	X	X	X		X	X	X	X	
H UTC-SD017/12.5-14.5	N	0930	12.5-14.5	X	X	X	X	X	X	X	X	
I UTC-SD017/14.5-16.0	N	~~0940~~ 35	14.5-16.5	X	X	X		X	X	X	X	
J			16.5-18.5									
K			18.5-boc									

* all TPH ha
2 bottles
*FD on all ~~[illegible]~~ even PS

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

core opened at 0845

Station ID:	SD-018	Latitude:	42 12.2685		Attempt 1 Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 08.7823	Penetration (ft):	~12'6"
Crew/Company		Datum:	—	Recovery (ft)	12.3'
		Depth (ft)	12'	Date/Time:	4/29/2011 1501
		Tide:	~~1418~~ N/A	Hand Probe Depth (ft)	
		St. Arrival:	1418		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1535	Penetration (ft):	See log book
Collection:	vibracore	Logged by:	E. Johnson / Sai Ramamurthy	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5		MH/ML elastic silts with sand ↓	~~[illegible]~~ Gley 1 3/N ↓	VS (0–2.7)	None ↓ (to ~4.7)	H ↓	Wet (0–1)	Fine sand ↓	None ↓ (to ~5.8)	0 ↓	5 ↓	95 ↓	A	Top 1' of core is soupy/sloughy material (saturated silt)
	1							Moist ↓						B	
	2														
	3				S ↓									C	
	4														
	5					Mild to Moderate ↓								D	
	6									Mod. sulfide smell ↓					odor gets weaker as you go down the core → odor present starting at ~6.0'
	7													E	In areas where sulfide smell is present, the color is slightly darker
	8														
	9													F	6.5' to 8.5' - sulfide smell is present - strong
	10														

core1 0-4.3
core2 4.3-8.3
core3 8.3-12

sand seam at ~3.2' ~1" seam

sand seam at ~6.1' ~1" seam

sand seam at ~8.0' ~1" seam

sand seam at ~8.4' ~1" sand seam

Notes:

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	11		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	G	
	12														
12.3'															12.3 EOB at 12.3'
	13													H	
	14														
	15													I	
	16														
	17													J	
	18														
	19													K	
	20														

organics at ~10.5' broken woo chips/bar

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time (4/30/11 0930)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congeners	Metals + Hg	Grainsize	TOC	pH		
A	UTC-SD018/0-0.5	N	~~0915~~ 0930	0-0.5	X	X	X		X					2TPH
B	UTC-SD018/0.5-2.5	N	0935	0.5-2.5	X	X	X		X	X	X	X		2TPH
C	UTC-SD018/2.5-4.5	N/FD	0940	2.5-4.5	X	X	X		X	X	X	X		2TPH for both
D	UTC-SD018/4.5-6.5	N	0945	4.5-6.5	X	X	X		X	X	X	X		2TPH
E	UTC-SD018/6.5-8.5	N	0950	6.5-8.5	X	X	X	X	X	X	X	X		2TPH
F	UTC-SD018/8.5-10.5	N	0955	8.5-10.5	X	X	X		X	X	X	X		2TPH
G	UTC-SD018/10.5-12.3	N	1000	10.5-12.5	X	X	X	X	X	X	X	X		2TPH
H				12.5-14.5										
I				14.5-16.5										
J				16.5-18.5										
K				18.5-boc										

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD019	Latitude:	42 12.2461		Attempt 1 Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 08.7757	Penetration (ft):	Est 6.5'
		Datum:	—	Recovery (ft)	63"
		Depth (ft)	27.5 (Sounder)	Date/Time:	1640 4/29/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	1630		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	~1650	Penetration (ft):	/
Collection:	vibracore	Logged by:	A Godlich / C. Nichol	Recovery (ft)	/
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	/
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5 – 2.5	ML		GLI 3/N	St to VS (changes w/ depth)	N	H	W to Sat. (changes w/ depth)	CG	N	5	10	85	A, B	≈1.8'-2.4': interval is saturated; partially sloughed out of core liner
2.5'	2.5 – 5.4	ML		GLI 3/N	S (organic layers are firm)	N	~~H~~ (CSS) S	M	CG	N	5	10	85	C	Layers/seams of fine organic material and sand ≤0.2' thick; organics throughout. Shells are found only in sand layers; High content of organics in sandy seams. ≈5.3' large clam shell
5.4'	5.4 – 5.8	CL		10YR 5/2	F	M to S	H	M	MG	N	5	5	90	D	Fat Clay; shells in clay
EOB → 5.8'	7													E	
	8 – 10													F	

Sample Summary (check boxes for analysis):

4/30/11

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD019/0.0-0.5	N	0750	0-0.5	X		X		X			
B UTC-SD019/0.5-2.5	N	0755	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD019/2.5-4.5	N	0800	2.5-4.5	X	X	X		X	X	X	X
D UTC-SD019 4.5-5.8	N	0805	4.5-6.5	X	X	X		X	X	X	X
E			6.5-8.5								
F			8.5-10.5								

TPH has (2) bottles at 2.5-4.5, 4.5-5.8, 4.5-5.8

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

core opened at 0730

Station ID:	SD-020	**Latitude:**	42° 12.2192		**Attempt 1** Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 08.8014	**Penetration (ft):**	Est 6'
Crew/Company		**Datum:**		**Recovery (ft)**	4.0'
		Depth (ft)	21' (Dropline)	**Date/Time:**	1615 4/29/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	1550		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1620	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	E. Johnson/Sai Ramamurthy	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.6	0.5		SP-SM	Gley 1 3/N	F	N	H	moist	coarse gravel	None	20	75	5	A	Top of core is Fine sand and gravel (0-0.6')
	1–2		MH	Gley 1 4/N	S to F	N	H	moist	fine sand	None	0	5	95	B	
[illegible]	3													C	@2.5' 1" sand seam - really fine sand Firms as you go deeper
3.8	4	GM	GM	Gley 1 3/N	F	N	H	moist	fine gravel	None	~~80~~	20	10		rock, sand with fine gravel at end of core.
					EOB @ 4.0'										
	5–6													D	3.8' to 4.0' is composed ~~of~~ shells and gravel there is fine gravel
	7–8													E	organics found at the bottom of the core.
	9–10													F	

~~Huge single~~ ~~rock located~~ Large ~~petrified~~ rock located at top of core.

Sample Summary (check boxes for analysis):

4/30/11

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD020/0-0.5	N	0750	0-0.5	X		X		X				
B UTC-SD020/0.5-2.5	N	0755	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD020/2.5-4.0	N	0800	2.5-4.5	X	X	X		X	X	X	X	
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

2 TPH samples [illegible]
2 TPH sample jars

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD021	**Latitude:**	42 11.6519		**Attempt 1** / **Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 08.9818	**Penetration (ft):**	Not Det
		Datum:		**Recovery (ft)**	37 d
		Depth (ft)	29' Scunder	**Date/Time:**	0816 6/16/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	810		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	0830	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	A. Goodrich, C. Nichol	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.0 - 0.5	Slag/Sediment	NA	Clear / slag	Crumbly	None	Honey, wet, clasts	wet/clasts, Slag	NA	V. Strong Sweet odor	NA	NA	NA	A	NAPL, pooling clear pieces of Slag/Sed. Surrounded by moist silty medium!
0.8	1 - 2.5	Silty clay	CL	Gley 1 5/10Y	firm	high	Homogenous	moist	fine gravel	weak - mod. sweet odor	5	5	90	B, C	PID readings in clay at 2.5 ft 30ppm
	3	EOB @ 2.8												D	
	4													E	
														F	

TH 6/16/2011 ~~maybe hydraulic / transformer oil~~ sweet smelling liquid

PID in headspace 190ppm

breathing zone 0.0

PID 1ft 60ppm

PID 2.5 30 ppm

PI

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 6/16/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOC
A UTCSD021-0.0-0.5	N	1230	0-0.5	●	X	X	X	X		●	X	X
B UTCSD021-0.5-2.8	N	1235	0.5-2.8	●	X	X	X	X	●	●	X	X
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/14/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD023	Latitude:	42 11.4938		Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 09.0372	Penetration (ft):	Not Det.	
Crew/Company		Datum:		Recovery (ft)	40"	
		Depth (ft)	27' Dropline	Date/Time:	6/16/2011 0932	
		Tide:	N/A	Hand Probe Depth (ft)		
		St. Arrival:	0920		Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart		Penetration (ft):		
Collection:	vibracore	Logged by:	C. Nickel / A. Goodrich	Recovery (ft)		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5 / 1 / 2 / 2.3'	sandy silt w/ gravel	ML	GL1 2.5/N; GL1 3/N	VS	N	H	saturated w/ water	MG	S	15	5	80		0-0.2': Organic layer (sticks + roots) 0-2.3': Odor is strong sulfide ≈1.1' color changes ≈1.6'-2.0': White/gray slag like material mixed throughout
	3 / 4	silty clay w/ gravel	CL	GL1 4/N	F to H	M	H	M	MG	N	10	0	90		
	5	EOB @ 4'												F	

Sample Summary (check boxes for analysis):

6/16/11

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A	UTCSD023-0-0.5	N	1110	0-0.5	X	X	X		X			X	
B	UTCSD023-0.5-2.5	N	1115	0.5-2.5		X	X		X	X	X	X	
C	UTCSD023-2.5-4.0	N	1120	2.5-4.0		X	X		X			X	
D	2.5-4.0-R	FD	1120	3.5-6.5		X	X		X			X	
E				6.5-8.5									
F				8.5-10.5									

Reviewed by: [signature] Date: 6/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD025	**Latitude:**	42 11.4102	**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09 0734	**Penetration (ft):**	Not Det
Crew/Company		**Datum:**		**Recovery (ft)**	20"
		Depth (ft)	30'-Sounder	**Date/Time:**	1047 6/16/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1040	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1101	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	A. Goodrich / C. Nichol	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
														A	Odor is weak sewage-like throughout
	0.5	sandy silt	ML	GL1 5/10Y	VS to S	N	H	saturated w/ water to M	CS	W	O	15	85	B	≈1.0' sediment moisture content changes to moist and is less soft
	1														≈1.6' to 1.7' layer of whitish slag-like material (GL1 8/N)
	1.5														
	2			EOB @ 1.7'										C	
	2.5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 6/16/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTCSD025-0-0.5	N	1520	0-0.5		X	X		X			X	
B UTCSD025-0.5-1.7	N	1525	0.5-1.7		X	X		X			X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD026	**Latitude:**	42 11.3845		**Attempt 1** Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.0932	**Penetration (ft):**	Not Det.
		Datum:		**Recovery (ft)**	14"
		Depth (ft)	25'	**Date/Time:**	1112 6/14/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	1100 TH		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1130	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	A. Goodrich / C. Nickel	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
		sandy silt	ML	GLi 6/10Y	VS	N	H	saturated w/water	CS	W	0	20	80	A	Odor is weak sewage-like throughout. Interval is saturated w/water and sloughy
0.5	0.6'														
1.0		sandy silt	ML	GLi 8/10Y	S	N	H	M	CS	W	0	15	85	B	Odor is weak sewage-like throughout. Small balls/clumps of more firm green material mixed throughout (0-1.3'; see picture) 0.6'-1.3': Sandy silt is mixed with slag-like material
1.5	1.3'	EOB @ 1.3' large cobble-sized clump (photo) at EOB.													
2.0														C	
2.5															
														D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 6/16/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTCSD026-0-0.6	N	1440	0-0.5	X	X	X		X	X	X	X	
B UTCSD026-0.6-1.3	N	1445	0.5-2.5	X	X	X		X			X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD027	**Latitude:**	42 11.3004		**Attempt 1** Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.1241	**Penetration (ft):**	Not set
		Datum:	-	**Recovery (ft)**	44"
		Depth (ft)	30.4' - Sounder	**Date/Time:**	~~1440~~ 6/17/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	817
		St. Arrival:	~~1420~~ 813		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	830	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	C. Nickel	**Recovery (ft)**	NA
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
		Gravelly clay	CL	10YR 4/1	F	W	H	M	CG	N	25	10	65	A	≈0'-0.1': DOB-like material (slag; white); has ~~slight~~ weak hydrocarbon-like odor)
	0.5'														
	1.0' 0.8'													B	
	1.5'	clay w/ gravel	CL	10YR 4/1	VF	S	H	M	MG	N	15	5	80	C	
	2.0'														
	2.5'													D	
	3.0'														
	3.5'	EOB @ 3.5'												E	Note: No PID readings collected as no odor, sheen, or staining was observed
	4.0'														
														F	

Sample Summary (check boxes for analysis):

6/17/11

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTCSD027-0-0.5	N	1150	0-0.5		X	X		X			X	
B UTCSD027-0.5-2.5	DUP	1155	0.5-2.5		X	X		X			X	
C UTCSD027-2.5-3.5	N	1200	2.5-3.5		X	X		X			X	
D UTCSD027-0.5-2.5-D	DUP	1155	3.5-6.5		X	X		X			X	
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/17/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-028	**Latitude:**	42 11.2347	**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 9.1748	**Penetration (ft):**	Not Determined
		Datum:		**Recovery (ft)**	0.6
	USEPA -	**Depth (ft)**	28.6' (Fath)	**Date/Time:**	4/26/2011
	R/V Mudpuppy	**Tide:**	N/A	**Hand Probe Depth (ft)**	8:40
		St. Arrival:	0825	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	E. Johnson/Team	**Recovery (ft)**	See logbook
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
		—	GW	Gley1 2.5Y3/1	S	N	S	moist	coarse gravel	None	80	20	0	A	PID = 0.0
0.3															
	0.5		CL	Gley1 10Y3/1	F	M	H	moist	fine gravel	None	5	5	90	B	PId = 0.0
0.6					EOB @ 0.6'										
	1													C	
	2													D	
	3														
	4													E	
	5														
	6													F	
	7														

no comments

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time/ 12:40	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
12:40 A UTC-SD028-0-0.5	N	4/26/11	0-0.5	X	X	X		X			
B			0.5-2.5								
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Not enough sediment to collect sample for Grainsize, TOC, or pH

Reviewed by: [signature] Date: 4/26/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-029	**Latitude:**	42 11.215		**Attempt** ② **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 9.167	**Penetration (ft):**	1'6"
Crew/Company	R/V Mudpuppy	**Datum:**		**Recovery (ft)**	6"
		Depth (ft)	31'6"	**Date/Time:**	4/25/2011 3:40
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	0320		**Attempt** ① **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	0400	**Penetration (ft):**	4'
Collection:	vibracore	**Logged by:**	C. Nickel / Himm	**Recovery (ft)**	Ø - sed fell out
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	4/25/2011 3:35
				Hand Probe Depth (ft)	

4/26/11

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5		CL	Gley 1 3/N	Firm	W-M	Homogeneous	moist to wet	coarse gravel	None	5	15	80	A	Top 2" gravel with cobbles. 2"-6" lean clay VOC's - 0.0 ppm
	1													B	
	2														
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
09:25	A UTC-SD-029-0.0/0.5	N	4/26/11	0-0.5	X	X	X	X	X	●	X	X	
	B			0.5-2.5									
	C			2.5-4.5									
	D			3.5-6.5									
	E			6.5-8.5									
	F			8.5-10.5									

Sample for Grainsize not collected due to low recovery / not enough volume

Reviewed by: [signature] Date: 4/26/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD030	**Latitude:**	42 11.1990	**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.1798	**Penetration (ft):**	3'
Crew/Company		**Datum:**		**Recovery (ft)**	33"
		Depth (ft)	~~30'9"~~ 30.9' (ft)	**Date/Time:**	1340 5/3/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1335	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1355	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	A.Goodrich / C. Nichol	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	Sandy Clay	ML	10YR 3/1	Firm to V. Firm	Strong plastic	Homogenous	moist	Coarse gravel	none	5	10	85	A	Contains organics at top
	1													B	asphalt-like - brittle material at top 0.2ft
	2														
	3				EOB at		2.5'								
	4													C	
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD030/0.0-0.5	N	1105	0-0.5	X	X	X		X		X	X
B UTC-SD030/0.5-2.5	N	1110	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-081	Latitude:	42° 11.2156	Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83° 9.1916	Penetration (ft):	Not Determined
Crew/Company	USEPA -	Datum:		Recovery (ft)	2.8'
	Mudpuppy	Depth (ft)	23.5'	Date/Time:	4/26/2011 0930
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	0920	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	0945	Penetration (ft):	
Collection:	vibracore	Logged by:	SR / LJ.	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5		GW	2.5Y 2.5/1	S Loose	N Loose	S	Moist to wet	coarse gravel	weak H	90	10	0	A	PID = 0.9 ppm at bottom of SD-081A @ 0.7'
1.2	1		ML	Gley1 2.5/N	VS (soupy)	N	H	wet	fine-med gravel	Med H	5	10	85	B	PID = 0.6 ppm at top of SD-081A @ 0'
	2		ML	Gley1 2.5/N	VS	N	S	wet	med. gravel	Mod. H	20	15	65		
2.2			SW-SC	Gley1 2.5/10Y	S-F	N	H	Moist to wet	coarse gravel	mod H	15	15	70		
2.8'	3				EOB @ 2.8'									C	PID = 2.8ppm @ 0.6' PID = 6.9ppm @ 1.2' pid = 2.4 ppm @ 1.8' PID = 20.9 ppm @ 2.5'
	4														
	5													D	cobble at EOB @ 2.8'
	6														
	7													E	
	8														
	9													F	
	10														

This came as two cores. The top 0-0.7' came as SD-081A and the bottom as SD-081B

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD081 / 0-0.7 (13:05)	N	4/26/11	0-0.5			X		X				
B UTC-SD081 / 0.5-2.8 (13:10)	N/MS/MSD	4/26/11	0.5-2.5	X	X	X		X	X	X	X	[illegible]
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

MS/MSD taken for Metals, PCBs-Aroclors, PAHs, and TPC. TPH

Reviewed by: [signature] Date: 4/26/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-032	**Latitude:**	42 11.2064			**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 9.2026	**Penetration (ft):**	~7'		
Crew/Company		**Datum:**		**Recovery (ft)**	7'		
	R/V Mudpuppy	**Depth (ft)**	14' 8"	**Date/Time:**	10:15 4/26/2011		
		Tide:	N/A	**Hand Probe Depth (ft)**			
		St. Arrival:	10:04			**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	10:30	**Penetration (ft):**			
Collection:	vibracore	**Logged by:**	E. Johnson/ Team	**Recovery (ft)**	See logbook		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**			
				Hand Probe Depth (ft)			

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5–2.4		ML	Gley 1 3/N	VS pudding like	N	H	Moist to wet	Fine gravel	Mild H	5	10	85	A, B	LEL = 3.0, VOC = 4.9 ppm } at 0' top of core; PID = 0.8 ppm @ 0'; PID = 2.3 ppm @ 1'; PID = 2.4 ppm @ 2'
2.4	2.4–3.7		CL	Gley 1 3/N	S-F	N	S	Moist to wet	Fine gravel	weak H	0	5	95	C	PID = 6.4 ppm @ 3'; sand seams from 2.7-2.8'
3.7	3.7–5.3		ML	Gley 1 3/N	*S	N	H	Moist to wet	coarse sand	weak H	0	0	100		PID = 8.4 ppm @ 4'; petroleum odor on the [illegible] at 3.7' - smells like Naphtalene
5.3	5.3–6.3		ML	Gley 1 3/N	VS	N	*S	Moist to wet	coarse gravel	Mild H	10	5	85	D	PID = 7.6 ppm @ 5'; White slag-like material 5.5-5.8'; more gravel from 5.4-5.9'
6.3	6.3–7		CL	Gley 2.5/N	S	N	S	Moist wet	fine gravel	Mild *S	5	10	85		PID = 2.2 @ 6'; LEL = 5
	EOB @ 7'													E	PID = 2.1 @ 7'; LEL = 3
	8–10													F	

* second picture of core is the correct photo. (interval = 2.7-7)

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time (4/26/11)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOC
A	UTC-SD032/0-0.5	N	1500	0-0.5	X	X	X		X		X	X	X
B	UTC-SD032/0.5-2.5	N	1505	0.5-2.5	X	X	X	X	X	X	X	X	X
C	UTC-SD032/2.5-4.5	N/FD	1510	2.5-4.5	X	X	X	X	X	X	X	X	X
D	UTC-SD032/4.5-[illegible]	N	1515	4.5-[illegible]	X	X	X	X	X	X	X	X	X
E	UTC-SD032/6.5-7	N	1520	6.5-8.5	X	X	X		X	X	X	X	X
F				8.5-10.5									

interval 4.5-6.5 (row D)

Reviewed by: [signature] Date: 4/27/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-033	**Latitude:**	42 11.1809		**Attempt 1** / **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.1906	**Penetration (ft):**	3'
Crew/Company		**Datum:**		**Recovery (ft)**	2.6' (32" - boat)
		Depth (ft)	31.7'	**Date/Time:**	1410 5/3/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1410		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	E. Johnson / S. Ramamurthy	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0		ML	Gley1 3/10Y	F	Low	S	Moist	coarse gravel	None	40	20	40	A	Seams of coarse sand present at 1.8-1.9'. ← Faint Napthalene odor in top sand seam
0.5														B	Large stones present at the top of the core.
1															
1.3															
			CL	10YR 4/1	H	Mod to High	H	less moist than above	coarse sand	None	0	20	80	C	sand seam @ 2.5'
2															
2.6			EOB @ 2.6'											D	Napthalene odor at the very bottom of the core
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time (5/4/11)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD033/0-0.5	N	1145	0-0.5	X	X	X		X			
B UTC-SD033/0.5-2.6	N	1150	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-034	Latitude:	42° 11.1875	Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83° 09 .1943	Penetration (ft):	Not Det. WD
Crew/Company	R/V MudPuppy	Datum:		Recovery (ft)	2.5
		Depth (ft)	28.6' (Fathometer)	Date/Time:	4/25/2011 4:00
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	0400	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	4:30	Penetration (ft):	
Collection:	vibracore	Logged by:	E. Johnson/Team	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5		CL	Gley 1 10Y/3	F	M-M	H	Moist to wet	small to med gravel	strong H	5	0	95	A	PID = 0.3 strong odor; PID = 0.0 visible NAPL / coal tar piece @ 1 ft.
	1													B	
1.8			CL	Gley 1 10Y/3	F	M	S	Moist to wet	fine gravel	strong H	10%	0	90	B	Free product glass pieces in bottom portion of boring/core
	2		CH	Gley 1 10Y/3	H	S	H		silt	weak H	0	0	100		
2.5					EOB @ 2.5'			Dry to Moist							
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOC
A UTC-SD034/0-0.5	N	4/26 1010	0-0.5	X	X	X	X	X	X	X	X	●
B UTC-SD034/0.5-2.5	N/FD	4/26 10:15	0.5-2.5	X	X	X	X	X	X	X	X	X
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

No grainsize collected. 0.0-0.5

Reviewed by: [signature] Date: 4/26/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC - SD-035	**Latitude:**	42 11.1885	**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 21.2127	**Penetration (ft):**	1.5'
Crew/Company		**Datum:**		**Recovery (ft)**	15"
	R/V Mudpuppy	**Depth (ft)**	13' 6"	**Date/Time:**	11:25 4/26/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	11:20	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	11:40	**Penetration (ft):**	TH
Collection:	vibracore	**Logged by:**	C.Nickel / Tecon	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	SW-SM	SW-SM	2.5Y 3/2	Firm	None	Homogenous	Moist (with oil)	Coarse Gravel	Very strong Naptha	15%	85%	0%	A	Coal tar Strong napth! odor
0.9	1														
		DOB 0.9 ft.												B	
	1.5														
	2														
														F	

Strong napth. odor
Head space PID 336 VOC ppm
LEL 0
CO 13
PID 0.4ft 135 ppm
PID 0.9 ft 105 VOC ppm
PID - Sample ↳ 80 ppm VOC
PID bottom Head space VOC's 34.3
LEL 2
CO 40
Also coal/dark black cinders found @ ~0.6 ft.

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOC
A UTC-SD-035-0.0/0.9	N	~~11/27/2011~~ 4/27/2011 (TH) 9:05	0-0.5	X	X	X		X	X	X	X	X
B			0.5-2.5									
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 4/27/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD036	**Latitude:**	42 11.1832		**Attempt 1** Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 21.2142	**Penetration (ft):**	not measured
	RV Mudpuppy	**Datum:**	13' 11"	**Recovery (ft)**	~ 6"
		Depth (ft)		**Date/Time:**	10:50 4/26/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	10:46		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	11:10	**Penetration (ft):**	6' - bouncing
Collection:	vibracore	**Logged by:**	C.Nickel / TECM	**Recovery (ft)**	38"
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	4/26/2011
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5		SW	Gley1 2.5/N	F	N	H	moist	mP	H Naptha strong	15	85	0	A	0.1ft layer of dark black cinder & black stained sand.
Some organic matter (sticks + roots) from 0.7'-2.2' →	0.7 / 1		ML	Gley1 3/10Y	S	N	H	Moist	Coarse sand	H Naptha strong	5	10	85	B	Sheen observed
	1.5 / 2		SW	Gley1 3/10Y	Soft to Firm with increasing depths	N	S less gravel @ bottom	moist	Coarse gravel	V strong Naptha odor & H	25	70	5		Heavy sheen observed throughout, strong Naptha odors, chunks of coal tar.
2.5' NAPL observed in center of core; also noted white slag/ash layer →	2.5 / 3													C	3ft - Strong Napthl odor and rubbery cinders, tar-like material highly variable "Coal tar like"
	3.4				DOB = 3.4ft									E	
	4														
	9														
	10											F			

before opening
PID = 303 ppm @ top of core
PID = 20ppm @ 20ft
PID = 16.4ppm @ 1.5ft
PID = 25.1ppm @ 2.5ft
PID = 13.5 @ 3.4ft
PID bottom 139

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOCs
A UTC-SD-036/0-0.5	N	4/27/11-1030	0-0.5	X	X	X		X				X
B UTC-SD-036/0.5-2.5	N	4/27/11-1035	0.5-2.5	X	X	X		X	X	X	X	X
C UTC-SD-036/2.5-3.4	N	4/27/11-1040	2.5-4.5	X	X	X		X		X	X	X
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 4/27/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD037	Latitude:	42 11.1559		Attempt 1 — Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 09.1972	Penetration (ft):	est 23' some pullback
Crew/Company		Datum:		Recovery (ft)	27"
		Depth (ft)	32.2'	Date/Time:	5/2/2011 1450
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	1445		Attempt 2 — Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1510	Penetration (ft):	
Collection:	vibracore	Logged by:	C.Nickel/A.Goodrich	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	gravelly clay	CL	10YR 5/1	soft to firm with depth	strong	homogeneous (H)	moist decreasing w/ depth	coarse gravel	weak	5	10	85	A	top half foot black, sticky material with smell (NAPHLae?) brownish sheen (photo taken) on water that came out of core * cinders on top of ~~sample~~ core. hard clay
	1													B	
	2			EOB @ 1.8'											
	3														
	4													C	
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

5/3/11

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD037-0.0-0.5	N	15:20	0-0.5	X	X	X		X	~~X~~	X	X	
B UTC-SD037-0.5-1.8	N	15:25	0.5-2.5	X	X	X		X	X	X	X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

no grainsize

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD038	**Latitude:**	42° 11.1657		**Attempt 1** Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83° 09.2235	**Penetration (ft):**	8'6"
		Datum:		**Recovery (ft)**	102"
		Depth (ft)	17'	**Date/Time:**	4/27/2011 8:42
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	0832		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	0915	**Penetration (ft):**	/
Collection:	vibracore	**Logged by:**	C. Nickel / A. Goodrich	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5, 1	SW-SM		GLI 2.5/N to GLI 3/N	F	N	H	M	FG	VS	5	85	10	A	≈0.1' layer of cinder/tar at top; Naphtha odor (very strong)
1.2'	2, 3	SM		2.5Y 3/2	St to F (incr. w/ depth)	N	S	M to sat. w/NAPL	CS	VS	0	80	20	B	@ ≈1.5' and ≈2.5' pools of NAPL forming; stratified layers of more sandy material (ML) ~~mixed in~~ 1.3'-1.5' ≈1.8'-2.0'; trace tar/cinder material
3.3'	4, 5, 6, 7, 8	ML (laminated)		GLI 4/N to GLI 5/N w/ depth	S to VS (incr w/ depth)	W	L	M to sat. w/ NAPL	FS	VS	0	5	95	C, D, E	Entire interval is saturated w/oil (NAPL) in b/w each lamination. Intermittent layers of white slag/ash/redox material. Very strong odor throughout
EOB → 8.6'	9, 10													F	

Core #1 (0–3.3'); Core #2 (3.3'–8.6')

headspace top 240ppm VOC 110 ppm CO_2 → shells; coated

PID 0.5ft VOC = 4.7 ppm → Some organic + shells

PID 1.5 VOC = 241 ppm

PID 2.5 VOC = 169 ppm

PID 3.5 VOC = 171 ppm

PID 4.7ft VOC 39.4 ppm

5.5ft = 503 ppm

6.5ft = 16 ppm

Headspace bottom 56.2 ppm

7.5ft = 15.9 ppm

8.5ft = 45.9 ppm

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 4/27/2011	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOCs
A UTC-SD-038-00-0.5	N	1505	0-0.5	X	X	X		X		X		X
B UTC-SD-038-0.5-2.5	FD	1510	0.5-2.5	X	X	X	X	X		X	X	X
C UTC-SD-038-2.5-4.5	N	1515	2.5-4.5	X	X	X		X	X	X	X	X
D UTC-SD-038-4.5-6.5	N	1520	3.5-6.5	X	X	X		X	X	X	X	X
E UTC-SD-038-6.5-8.6	FD	1525	6.5-8.6 (6.5-8.5)	X	X	X	X	X		X	X	X
F			8.5-10.5									

00-0.5 / 0.5-2.5

Reviewed by: [signature] Date: ~~4/2~~ 4/30/2011

no VOC duplicates!

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD039	**Latitude:**	42 11.1538	**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.1288	**Penetration (ft):**	~7' (EST)
		Datum:	—	**Recovery (ft)**	54"
		Depth (ft)	24.8'	**Date/Time:**	1445 5/3/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1440	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1450	**Penetration (ft):**	/
Collection:	vibracore	**Logged by:**	A. Goodrich / C. Nichol	**Recovery (ft)**	/
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	/
				Hand Probe Depth (ft)	/

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5–1	Sandy Clay w/ gravel	CL	Gley 1 10YR/4	VS to S	W	N	Saturated to wet	coarse gravel	M hydrocarbon	5	5	90	A	Slag-cinder smells like hydrocarbon, strong odor at top of boring
	1–4.8	Sandy Clay + Gravel		10YR 3/1	Firm	Strong plasticity	none (Homogeneous)	moist	Coarse gravel	none	5	5 to 10	85 to 90	B, C	2mm drops of brown oil material/NAPL in saturated sediment at surface, ~~[illegible]~~ fine ~~[illegible]~~ See photo, NAPL ~~[illegible]~~ in porespaces
	4.8	EOB 4.8												D, E, F	~~2.3-3.4~~ 2.3-2.5' sand seam, (fine-coarse sand) and gravel (coarse). 1.0-4.8' contains trace shells

Depth below mudline scale: 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

PID
0.6 = 0.0ppm
1.6ft = 0.0ppm
3.1 = 0.0ppm

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A	UTC-SD039/0.0-0.5	N	9:05	0-0.5	X	X	X		X			
B	UTC-SD039/0.5-2.5	N	9:10	0.5-2.5	X	X	X		X	X	X	X
C	UTC-SD039/2.5-4.3	N	9:15	2.5-4.5	X	X	X		X	X	X	X
D				3.5-6.5								
E				6.5-8.5								
F				8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-040	**Latitude:**	42 11.1377		**Attempt 1** ~~2~~	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.2257	**Penetration (ft):**	~4'	
Crew/Company	R/V Mudpuppy	**Datum:**		**Recovery (ft)**	2.5'	
		Depth (ft)	26.5'	**Date/Time:**	4:40 4/25/2011	
		Tide:	N/A	**Hand Probe Depth (ft)**		
		St. Arrival:	4:30		**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	5:00	**Penetration (ft):**	see logbook	
Collection:	vibracore	**Logged by:**	E. Johnson / Team	**Recovery (ft)**		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5 – 1		SW-SM	Gley1 3/N	VS	N	H	wet puddle free product	med gravel	strong H	10%	75	15	A	PID = 5ppm @ 0.5'; PID = 8ppm @ 1'
	2		SP-SM	Gley1 3/N	VS	N	H	wet	fine gravel	strong H	5	85	~~10~~	B	PID = 9.6 @ 1.6'
2.2			SW	"	S	N	H	wet	med to coarse gravel	strong H	5	95	0		2.2' PID = 20.6 @ 2.6'
	3			EOB @ 2.5'											organics at bottom end.
	4													C	@1.8' 1" seam of Gley 6/1 looks like slag.
	5														
	6													D	
	7														free product leaking out of the ~~bottom of~~ ends core
	8													E	
	9														collected three extra 8oz samples with free product for separate analysis.
	10													F	

PID Readings
10 LEL
16.6 for VOCs at bottom of core.
35.5 VOCs
3 LEL at top of core

Sample Summary (check boxes for analysis):

Time	Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOC
11:20	A UTC-SD040/0-0.5	N	4/26/11	0-0.5	X	X	X		X		X	X	X
11:25	B UTC-SD040/0.5-2.5	N	4/26/11	0.5-2.5	X	X	X	X	X	X	X	X	X
	C			2.5-4.5									
	D			3.5-6.5									
	E			6.5-8.5									
	F			8.5-10.5									

No grainsize sample taken

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD041	**Latitude:**	42 11.1470		**Attempt 1** Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.2416	**Penetration (ft):**	~3'6"
Crew/Company		**Datum:**		**Recovery (ft)**	32"
		Depth (ft)	13' 11"	**Date/Time:**	9:25
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	915		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	940	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	C. Nickl/A. Goodrich	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	ML		GLI 3/N	S to VS	N	H	M	FG	W	5	10	85	A	PID 0.5ft VOC 4.0 ppm
	1 — 0.9'														
		SP-SM		GLI 3/N	F	N	H	M	CS	M	5	85	10	B	
	2 — 1.8														PID 1.8 ft VOC 42 ppm LEL = 25
		ML		GLI 5/N	S	W	S	M to sat. w/ NAPL	CS	M	0	10	90		
EOB → 2.7' →	3													C	
	4														PID 2.5 ft VOC = 32
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Side notes:
- = top oil layer of tar/~~slag~~/cinders
- = 0.2'-0.3' some organic matter
- Sheen/NAPL observed throughout interval
- NAPL/oil in pore spaces; debris observed throughout; tar/cinders observed throughout
- NAPL/oil pooling; Hydrocarbon odor
- = 2.3'-2.5' → seam of SW material
- white slag/ash in layers throughout
- oil is present more in SW (sand) layer

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 4/28/2011	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOCs
A UTC-SD041 -0.0/0.5	N	0855	0-0.5	X	X	X		X		X		X
B UTC-SD041 -0.5/2.7	N	0900	0.5-~~2.5~~ 2.7	X	X	X		X	X	X	X	X
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 4/30/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-042	**Latitude:**	42 11.1147		**Attempt 1** **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.2517	**Penetration (ft):**	EST 3-4'
Crew/Company	USEPA -	**Datum:**		**Recovery (ft)**	~~0.7~~ 7" (approx 2" lost from)
	R/V Mudpuppy	**Depth (ft)**	26.5	**Date/Time:**	4/25/2011 5:15
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	5:00		**Attempt 2** **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	5:30	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	Sai R / Team	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	4/26/11 08:30
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	SW		GLEY1 3/10Y	Firm	None	Homo- geneous	moist - wet	Fine gravel	Yes Lt	10%	85%	5%	A	VOC - 5.8 0.0-0.5 Comments
	1														
	2													B	No sheen; ~~strong~~ slight odor
	3														
	4													C	
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
8:45 A UTC-SD-042-0.0/0.5	N	4/26/11	0-0.5	X	X	X	●	X	X	X	X	
B			0.5-2.5									
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 4/26/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD043	Latitude:	42 11.0735		Attempt 1 / Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 09.2700	Penetration (ft):	4'
		Datum:		Recovery (ft)	43"
		Depth (ft)	28.8'	Date/Time:	1515 5/3/2011
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	1510		Attempt 2 / Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	~~1525~~ 1540	Penetration (ft):	
Collection:	vibracore	Logged by:	A. Goodrich / C. Nickel	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

water that came off the top has ch brown sheen. / NAPL

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type w/ gravel	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.3	CL	Sandy Clay	10YR 3/1	F	M	H	wet	CG	M napth	10	10	80	A	- peice of Napthene smelling soak styrafom at top (white). cobble-sized - shells in interval
	0.5														
	1										3%	8%	90%	B	trace organics trace shells
	2	CL	Sandy clay	10YR 3/1	Firm to Very Firm	Strong to Very Strong	Homogenous	moist	Coarse gravel	none					
	3													C	
					EOB @ 3.3'										
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

PID VOC's
0.5ft = 0.3ppm
1.5ft = 0.1ppm

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD043/0.0-0.5	N	1010	0-0.5	X	X	X		X		X	X
B UTC-SD043/0.5-2.5	FD	1015	0.5-2.5	X	X	X	X	X	X	X	X
C UTC-SD043/2.5-3.3	N	1080	2.5-4.5	X	X	X		X	X	X	X
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

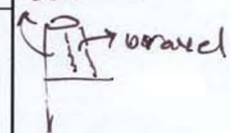
CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD044	**Latitude:**	42 11.0433	0431 } 2nd attempt	**Attempt 1**	**Refusal? Y/N**	
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.3034	3036 }	**Penetration (ft):**		
Crew/Company		**Datum:**			**Recovery (ft)**	NA	
		Depth (ft)	26.7'		**Date/Time:**	1542 5/3/2011	
		Tide:	N/A		**Hand Probe Depth (ft)**	NA	
		St. Arrival:	1540		**Attempt 2**	**Refusal? Y/N**	
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1610		**Penetration (ft):**	3' EST	
Collection:	vibracore	**Logged by:**	S. Ramamurthy		**Recovery (ft)**	24"	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086				**Date/Time:**	1552	
					Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0–0.8 (0.5)		CL	Gley 1 3/N	soft/firm	Med	stratified	Moist	Coarse gravel	mild Naptha odor	30	10	60	A, B	coarse gravel embedded on the clay like material.
0.8	0.8–1.3 (1.0)		SP	Gley 2 2.5/N	firm	None	Homo	moist	coarse sand	moderate Naptha odor	0	90	10	C	black color stained sand with moderate naptnalene odor.
1.3	1.3–2.2 (1.5, 2.0)		CL	10R 4/1	Firm	Moderate	Homogen	moist	fine sand	None	0	5	95		
EOB 2.2	2.5													D	
	7														
	8													E	
	9														
	10													F	

EOB @ 2.2'



Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time (5/3/11)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD044-0.0/0.5	N	18:00	0-0.5	X	X	X		X			
B UTC-SD044-0.5/2.2	N	18:05	0.5-2.5	X	X	X	X	X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/~~2010~~ 2011 (FN)

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD-045A	**Latitude:**	42 11.0177		**Attempt 1** / **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 07.3491	**Penetration (ft):**	
Crew/Company	R/V Mudpuppy	**Datum:**		**Recovery (ft)**	
		Depth (ft)	9'8"	**Date/Time:**	
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	11:01		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	11:40	**Penetration (ft):**	2'
Collection:	vibracore	**Logged by:**	C.Nickl / A. Goodrich	**Recovery (ft)**	11"
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	11:12 4/27/2011
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.1		GW-GM	GL1 3N	Soft	N	H	Moist	Coarse Gravel	Weak	90	5	5	A	Tar-like odor (like asphalt); tar-like substance
0.5'															≈0.5'→10.4 ppm
	0.8'		ML	GL1 3N	Soft	W	[illegible]	M	FS	W	0	5	95	B	
1'			SW-SM	GL2 2.5/10G	S	W	H	M	CG	W	85	10	5		≈1.0'→3.1 ppm Color is black; interval contains material that looks like asphalt; also contains debris & garbage (concrete, nails, glass etc.)
EOB → 1.5'															
2.0'														C	
2.5'															
3.0'														D	
														E	
														F	

PID headspace top
LEL = 2
VOC = 6.3 ppm

PID headspace bottom
VOC = 0.2 ppm
LEL = 0

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 4/27/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOCs
A UTC-SD-045A-0.0/0.5	N	1405	0-0.5	X	X	X		X				X
B UTC-SD-045A-0.5/1.5	N	1410	0.5-2.5	X	X	X		X				X
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 4/27/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD045B	**Latitude:**	42 11.0116		**Attempt 1** / **Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.3417	**Penetration (ft):**	5'
		Datum:		**Recovery (ft)**	33"
		Depth (ft)	23'	**Date/Time:**	4/27/2011 11:30
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	~11:20		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	11:40	**Penetration (ft):**	/
Collection:	vibracore	**Logged by:**	A. Goodrich / C. Nichl	**Recovery (ft)**	/
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	/
				Hand Probe Depth (ft)	/

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5 – 0.7'	GW		GLI 2.5/N	S	N	H	M	SC	S	80	20	0	A	Black tar/asphalt like material that sticks; Odor → asphalt like
	1 – 1.5'	ML		GLI 3/N	S	N	H	M	FS	W	0	10	90	B	Material is coated w/ sticky black material; Slight/weak hydrocarbon odor
	2 – EOB → 2.7'	CL		GLI 4/10Y	F to H incr. w/depth	W to M	H	M to D incr w/depth	FG	N	10	5	85		no comments
	3														
	4													C	
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

PID 0.5ft VOC = 0.2ppm

PID 1.5ft VOC = 0.5ppm

PID 2.5ft VOC = 0.0ppm

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 4/28/2011	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD045B-0.0-0.5	N	9:50	0-0.5	X	X	X		X				
B UTC-SD045B-0.5-2.7	N	9:55	0.5-2.5	X	X	X		X	X	X	X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 4/30/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-047	Latitude:	42 10.9391	Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 9.3751	Penetration (ft):	5'
Crew/Company		Datum:		Recovery (ft)	2.2 ft (30" on boat)
		Depth (ft)	27.91	Date/Time:	1040 5/4/2011
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	1030	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1055	Penetration (ft):	/
Collection:	vibracore	Logged by:	S. Ramamurthy	Recovery (ft)	/
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	/
				Hand Probe Depth (ft)	/

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0		SP-SM	Gley 1 2.5/N	V. soft	None	homogenous	Wet	coarse sand	Napthalene odor	0	70	30	A	
	0.5													B	
	1.0														
1.1															
	1.5		CL	10YR 4/1	Firm	moderate	stratified	Moist	fine sand	None	0	20	80	C	seams of sand mixed with shells
	2.0														
2.1															
	5					EOB @ 2.1									
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID 047	Sample Type (N/FD/MS/MSD)	Sample Date/Time 5/4/11	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD-0.0/0.5	N	14:15	0-0.5	X	X	X		X		X	X
B UT-SD-047-0.5/2.1	~~N~~ MS/MSD	14:20	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

PAH, PCB, Metals ↑MS/MSD↑

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID: UTC-SD048	**Latitude:**	42 10.9017		**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.4206	**Penetration (ft):**	9'	
Crew/Company		**Datum:**		**Recovery (ft)**	106"	
		Depth (ft)	20.6'	**Date/Time:**	11:12 5/4/2011	
		Tide:	N/A	**Hand Probe Depth (ft)**	NA	
		St. Arrival:	1107	**Attempt 2**	**Refusal? Y/N**	
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**		
Collection:	vibracore	**Logged by:**	A. Goodrich / C. N.Chl	**Recovery (ft)**		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5–3.0'	Silt	ML	gley 1 3/10Y	soft to very soft (sloughed)	none	homogeneous	wet to saturated	fine gravel!	weak-moderate sulfide	0%	10%	90%	A, B	asphalt-like sticky material on top of core, Black coating on sediments; soupy material at bottom of 3' Sloughed off - Saturated
	3.0'–7.4	sandy silt	ML	gley 3/10Y	soft	weak	Stratified	moist	Coarse sand fine gravel	weak - hydrocarbon	0%	20%	80%	C, D	0.2' layer of SP containing organics at 3.0' to 3.2'. Sand (med.-ingrained) coated in a black tar/asphalt like substance. Sand seam at 3.9' coated in black tar like substance. Sand seam at 4.1' coated in black tar like substance. 4.5-4.7' sand seam (medium) SP coated in black, sticky material (photo). contains organics
	7.4–7.8	silty sand	SW	SAA	F-Firm	N	H	M	CS	SAA	0	70	30	E	7.4-8.4' heavy organics (roots)
	7.8–8.4	sandy clay	CL	10YR 3/1	Firm	S	H	M	CG	N	5	10	85		Shells from 8.4-8.6'
	EOB @ 8.4'													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 5/4/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD048 / 0-0.5	N	1435	0-0.5	X	X	X		X			X
B UTC-SD048 / 0.5-2.5	N	1440	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD048 / 2.5-4.5	N	1445	2.5-4.5	X	X	X	X	X	X	X	X
D UTC-SD048 / 4.5-6.5	N	1450	3.5-6.5	X	X	X		X	X	X	X
E UTC-SD048 / 6.5-8.4	N	1455	6.5-8.5	X	X	X		X	X	X	X
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD-049B	**Latitude:**	42 10.8674	**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.4670	**Penetration (ft):**	3'6"
		Datum:		**Recovery (ft)**	40"
		Depth (ft)	19'	**Date/Time:**	12:00 4/27/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	11:50	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	12:15	**Penetration (ft):**	/
Collection:	vibracore	**Logged by:**	C. Nickel / A. Goodlich	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5–1	ML		GLI 2.5/10Y	S	N	S	M to W	CG	N (sulfide)	10	10	80	A	Firm, sticky cinder-like material ≈1.2'-1.5' sand content increases
	2–3	ML		GLI 4/10Y (liner w/ depth)	S	N	H	M	FS	N	0	10	90	B	no comments
EOB →	3.5'													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

PID 0.5ft
VOC 0.5 ppm

PID 1.5 ft
VOC 9.0ppm
LEL 13.0

PID 2.5ft
VOC 3.0ppm
LEL 3.0

PID 3.5ft

Sample Summary (check boxes for analysis): 4/28/2011 (TH) ~~4/28/2011~~

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD049B-0.0-0.5	N	11:20	0-0.5	X	X	X		X			
B UTC-SD049B 0.5-2.5	MS/MSD	11:25	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD049B 2.5-3.5	N	11:30	2.5-4.5	X	X	X		X		X	X
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

MS/MSD on PCB, PAH and metals only

Reviewed by: [signature] Date: 4/30/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD050	**Latitude:**	42 10.8290		**Attempt 1** / **Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.4785	**Penetration (ft):**	8.5'
		Datum:		**Recovery (ft)**	79"
		Depth (ft)	24.1'	**Date/Time:**	1430 5/4/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1425		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1455	**Penetration (ft):**	/
Collection:	vibracore	**Logged by:**	C.Nickel/ A.Goodrich	**Recovery (ft)**	/
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	/
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5–4.2'	silt	ML	GLEY 3/N	VS to S increas. w/ depth	N to W incr. w/ depth	H	M	FS	W	0	5	95	A, B, C	Black cinder/slag material at top of interval (≈0.1'); has moderate hydrocarbon odor. Slight sheen on liquid at top of interval. From ≈2.4'-2.5' clay layer present. Sand layer w/ organics (sticks, roots) from ≈2.5'-3.0'
	4.2'–6.5'	silty sand	SP-SM	10YR 2/1	F	N	S	M	FG	W	5	85	10	D	Organics throughout sand interval (shells, etc.). Water in pore spaces of this interval has sheen and weak hydrocarbon odor. Thin layer of shells at 6.5'; layer above clay at ≈6.4' coated black; the clay at 6.5 is not stained
	6.5'–6.6'	sandy clay	CL	10YR 4/1	VF	S	H	M	MS	N	0	10	90		
	EOB 6.6'													E, F	

Margin notes: Core #1 (0–4.2'); Core #2 (4.7'–6.5'); EOB → 6.6'

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD050/0-0.5	N	1145	0-0.5	X	X	X		X	X	X	X	
B UTC-SD050/0.5-2.5	N	1150	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD050/2.5-4.5	N	1155	2.5-4.5	X	X	X		X	X	X	X	
D UTC-SD050 /4.5-6.6	N	1200	4.5-6.5	X	X	X	X	X	X	X	X	
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD051	**Latitude:**	42 10.8071		**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 9.5165	**Penetration (ft):**		NA
Crew/Company		**Datum:**		**Recovery (ft)**	~~2.4~~ (TH) N/A	
		Depth (ft)	~~24.0~~ 18.6'	**Date/Time:**	1705	5/3/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA	
		St. Arrival:	1701		**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1720	**Penetration (ft):**	~3'	
Collection:	vibracore	**Logged by:**	S. Ramamurthy	**Recovery (ft)**	26"	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	1708	5/3/2011
				Hand Probe Depth (ft)		

} Broken catcher

SD-051

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0		ML ↓	GLEY1 3/N	Very soft @ top → firm @ bottom	None ↓	Homogenous	Very ~~soft~~ moist → less moist	Fine sand	None	0%	10%	90%	A	sloughy @ top 0.0/0.8' Same material throughout. sediment swells @ bottom
	0.5													B	
	1.0														
	1.5													C	
	2.0														
2.4	2.5	EOB @ 2.4'												D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time (5/4/11)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A	UTC-SD051-0.0/0.5	N	1100	0-0.5	X	X	X		X			
B	UTC-SD051-0.5/2.4	N	1105	0.5-2.5	X	X	X		X	X	X	X
C				2.5-4.5								
D				3.5-6.5								
E				6.5-8.5								
F				8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD052	**Latitude:**	42 10.7887		**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.5304	**Penetration (ft):**	~2'	
		Datum:		**Recovery (ft)**	21"	
		Depth (ft)	25'	**Date/Time:**	855 5/1/2011	
		Tide:	N/A	**Hand Probe Depth (ft)**		
		St. Arrival:	0845		**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**		
Collection:	vibracore	**Logged by:**	C. Nzel / A. Cook	**Recovery (ft)**		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	ML		GL1 3/N	S	W	H	M to W	CG	N	5	10	85	A	~~Typical weak sediment odor~~ (TH)
	1													B	≈1' organic layer (≈0.3mm) mostly roots; ≈1.6' layer of sand and gravel w/shells (thin layer); ≈1.7' cobble found at end of boring
EOB → 1.7'	2														
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	5/2/11 Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD052/0-0.5	N	1410	0-0.5	X	X	X		X				
B UTC-SD052/0.5-1.7	N	1415	0.5-2.5	X	X	X		X	X	X	X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD053	Latitude:	42 10.7663	Attempt 1	Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 9.5413	Penetration (ft):	Not Est.
		Datum:		Recovery (ft)	53"
		Depth (ft)	27.7' (Sounder)	Date/Time:	5/1/2011 9:20
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	0910	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	0935	Penetration (ft):	
Collection:	vibracore	Logged by:	C. Nickel / A. Goode	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	ML		GL1 3/N	VS to 1.6', S to 2.8'	N	H	M	MG	N	5	10	85	A	≈1.2'-1.3': layer of organic material
	1														≈1.8'-1.8': layer of organic
	2													B	~~Odor is typical soil~~ TH
2.8'	3	SP-SM		GL1 10Y 4/N	F	N	H	M	CS	N	5	90	5		Thin sand on top of clay layer; sand is fine grained and poorly graded
3.0'		CL			F to H	S	H	M	FG	N	5	5	90	C	Some shells found throughout interval
EOB → 4.2	4			GL1 5/10Y											
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 5/2/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD053 / 0-0.5	N	0900	0-0.5	X	X	X		X			
B UTC-SD053 / 0.5-2.5	MS/MSD	0905	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD053 / 2.5-4.2	MS/MSD	0910	2.5-4.5	X	X	X		X	X	X	X
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

MS/MSD For B → Metals, PCB, TPH
C → PAH, TOC, pH

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD054	**Latitude:**	42 10.7786		**Attempt 1** / **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.5603	**Penetration (ft):**	~9.0'
Crew/Company		**Datum:**		**Recovery (ft)**	108"
		Depth (ft)	5'8"	**Date/Time:**	10:20 5/1/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	10:15		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	10:40	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	C. Nichol/A. Goodrich	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5													A	
Core #1	1														
	2													B	
	3													C	Typical sediment color throughout
	4	ML		GL1 3/N	S	N	~~M~~	M (~~[illegible]~~)	CS	N	O	10	90		
	5														≈4.6'-4.8' layer of fine sand and organics
	6													D	
Core #2	7														
	8			GL1										E	≈7.8' layer of fine sand + organics; ≈8.0' transitions to new color
EOB → 9.2'	9														
	10													F	

Sample Summary (check boxes for analysis):

5/2/11

Sample ID		Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A	0-0.5		1105	0-0.5	X	X	X		X				
B	0.5-2.5		1110	0.5-2.5	X	X	X		X	X	X	X	
C	2.5-4.5		1115	2.5-4.5	X	X	X		X	X	X	X	
D	4.5-6.5	DUP	1120	3.5-6.5	X	X	X		X	X	X	X	
E	6.5-9.2	MS/MSD	1125	6.5-8.5	X	X	X	X	X	X	X	X	
F	4.5-6.5-R	DUP	1120	8.5-10.5	X	X	X		X	~~X~~	X	X	

— no grainsize on duplicate
— no grainsize on MS/MSD only 1 bottle

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID: UTC-SD055		**Latitude:**	42 10.7411	**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.5777	**Penetration (ft):**	Est 5.5'
		Datum:	—	**Recovery (ft)**	53"
		Depth (ft)	24.3'	**Date/Time:**	950 5/1/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:		**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	C. Nichol / A. Gooch	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.3'	0.5	ML		GL1 4/10Y	S	N	H	M	CS	N	0	10	90	A	Rather high clay content for ML Trace shells
	1														≈0.3'-1.8' interval is more moist than lower interval
	2	CL		GL1 4/10Y	F	S	H	M	FG	N	5	10	85	B	≈1.8'-4.2' swelled enough to crack core/liner
	3														Clay interval (CL) is very sticky
	4													C	
EOB → 4.4'															
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 5/2/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A	UTC-SD055 / 0-0.5	N	1010	0-0.5	X	X	X		X	–		
B	UTC-SD055 / 0.5-2.5	N	1015	0.5-2.5	X	X	X		X	X	X	X
C	SD055 / 2.5-4.4	N	1020	2.5-4.5	X	X	X		X	X	X	X
D				3.5-6.5								
E				6.5-8.5								
F				8.5-10.5								

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD056	**Latitude:**	42 10.7081		**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.6063	**Penetration (ft):**	EST 6'	
Crew/Company		**Datum:**		**Recovery (ft)**	68"	
		Depth (ft)	25.5'	**Date/Time:**	11:00	5/1/2011
		Tide:	N/A	**Hand Probe Depth (ft)**		
		St. Arrival:	1050		**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**		
Collection:	vibracore	**Logged by:**	C. Nichols / L. Goodrich	**Recovery (ft)**		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.3'	0.5	ML		GLY 4/10Y	S	W	H	M	FG	N	5	5	90	A	~~Normal / Typical sediment odor~~ (TH)
Core #1	1														
	2	CL		GLY 5/10Y	F	S	H	M	~~MG~~ (CG) CG	N	5	10	85	B	~~Typical sediment color~~ (TH)
	3														
	4													C	
Core #2	5														
EOB → 5.2'															
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 5/2/11	Depth (ft)	PAHs	TPH (DRO/PRO	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD056/0-0.5	N	1305	0-0.5	X	X	X		X			
B UTC-SD056/0.5-2.5	N	1310	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD056/2.5-5.2	N	1315	2.5-4.5	X	X	X		X	X	X	X
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID: UTC-SD057A		**Latitude:**	42 10.7132		**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.6212	**Penetration (ft):**	EST 3'	
		Datum:		**Recovery (ft)**	21"	
		Depth (ft)	8' 8"	**Date/Time:**	1510 5/4/2011	
		Tide:	N/A	**Hand Probe Depth (ft)**		
		St. Arrival:	1455		**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1530	**Penetration (ft):**		
Collection:	vibracore	**Logged by:**	A. Goodrich / C. Nichol	**Recovery (ft)**	See 57B	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5 – 1.4	Silt	ML	2.5/N Gley1	Soft	Weak	H	moist	MS	moderate sulfide	0	10	90	A	Black Staining on sediments
1.4 – 1.9	2	Clayey silt	ML	2.5/N Gley1	S	W	H	M	MS	M sulfide	0	10	90	B	Black staining on sediments
	3			EOB @ 1.9											
	4													C	
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

no grains 2-?

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD057A/0.0-0.5	~~12:40~~ N	12:40	0-0.5	X	X	X		X	~~X~~	X	X
B UTC-SD057A/0.5-1.9	~~12:45~~ N	12:45	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD057-B	Latitude:	42 10.7132		Attempt 1 Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 09.6216	Penetration (ft):	
Crew/Company		Datum:		Recovery (ft)	See 57A
		Depth (ft)	Est 8'8"	Date/Time:	
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	1455		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1530	Penetration (ft):	3'
Collection:	vibracore	Logged by:	S. Ramamorthy	Recovery (ft)	19"
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	1516 5/4/2011
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	Silt	ML ↓	Gley1 8/N ↓	Soft	None	Homogenous	Moist	fine sand	Moderate sulfide	0%	10%	90%	A	Moderate sulfide odor.
	1.0													B	
	1.5														
1.8	2.0													C	
					EOB @ 1.8'										
	2.5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time (5/5/11)	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD-057B-0.0/0.5	N	12:45	0-0.5	X	X	X		X			
B UTC-SD-057B-0.5/1.8	N	12:50	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-058	Latitude:	42 10.6704	Attempt 1	Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 09.646	Penetration (ft):	5'
		Datum:		Recovery (ft)	34"
		Depth (ft)	22'	Date/Time:	1550 5/4/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	1546	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1600	Penetration (ft):	NA
Collection:	vibracore	Logged by:	S. Ramamurthy	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0		CL ↓	10YR 4/1	Firm → Hard	High	Homogenous	Moist → less Moist	coarse sand	None	0%	80%	20%	A	Thick clay expanding/stuck to the core.
	0.5													B	
	1.0														
	1.5													C	
	2.0														
2.5'	2.5														
	3.0	EOB @ 2.5'												D	
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time (5/5/11)	Depth (ft)	PAHs	TPH (DRO/PRO	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD-058-0.0/0.5	N	11:50	0-0.5	X	X	X		X	●	X	X
B UTC-SD-058-0.5/2.5	N	11:55	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD060	Latitude:	42 10.6427		Attempt 1 Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 09.6821	Penetration (ft):	3' est
Crew/Company		Datum:		Recovery (ft)	30"
		Depth (ft)	6'11"	Date/Time:	1620 5/4/2011
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	1617		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1645	Penetration (ft):	NA
Collection:	vibracore	Logged by:	S.Ramamurthy/ A. Goodrich	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	Silt	ML	GLEY1 3/10Y	VS	W	H	M to W	CS	W	0	5	95	A	Weak sulfide odor throughout interval (~0-1.7')
	1													B	
1.7'	2	Silty Clay	CL	GLEY1 3/10Y	F	S	H	M	CS	N	0	0	100		
2.2'		Silty sand	SW-SC	10YR 4/1	F	N	H	M	CS	N	0	90	10		
EOB 2.5'															
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	5/4/11 Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD060/0-0.5	N	1840	0-0.5	X	X	X		X		X	X
B UTC-SD060 /0.5-2.5	N	1845	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC - SD061	Latitude:	42 10.6183 A#2 10.6228	Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 09.1952 9.6960	Penetration (ft):	~2'
Crew/Company		Datum:		Recovery (ft)	1.5-2' rock - discarded
		Depth (ft)	5'11 (2nd Att)	Date/Time:	1653 5/4/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	1645	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1740	Penetration (ft):	8'
Collection:	vibracore	Logged by:	G. Nickel / A. Goodrich	Recovery (ft)	90"
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	1700 5/4/2011
				Hand Probe Depth (ft)	NA

WD = 5'11"

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	Sandy silt	ML	Gl1 3/N	VS to S	N	I	M to W	EG	W	0	10	90	A	Top interval is slaughty / soupy; weak sulfide odor in top ≈2.5'
	1														
	2				S	W								B	At 1.7' silt becomes more firm and has slightly higher plasticity
	3														
	4													C	Layer of organics from ≈4.1'-4.7' (layer is 75% organic, 10% sand 15% silt) Organic layer also contains garbage and has weak sulfide odor
	5													D	From 5.7'-5.9' silt has significant amt of gravel
5.9'	6	Clay w/ gravel sand	CL	Gl1 5(G)	F	S	I	M	CG	N	10	10	80		
6.4'	7	Sandy silt	ML	Gl1 3/N	S	W	I	M	FS	N	0	10	90		
EOB 7.2'															
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 5/5/11	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD061/ 0-0.5	N	0935	0-0.5	X	X	X		X		X	X	
B UTC-SD061 / 0.5-2.5	N	0940	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD061/ 2.5-4.5	DUP	0945	2.5-4.5	X	X	X		X	X	X	X	
D UTC-SD061 /4.5-6.5	N	0950	4.5-6.5	X	X	X		X	X	X	X	
E UTC-SD061 /6.5-7.2	N	0955	6.5-~~8.5~~ 7.2	X	X	X		X	X	X	X	
F UTC-SD061/ 2.5-4.5	DUP	0945	~~8.5-10.5~~	X	X	X		X	X	X	X	

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-062	**Latitude:**	42 10.4237	**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.8528	**Penetration (ft):**	2'
		Datum:		**Recovery (ft)**	2.4'
		Depth (ft)	7'8"	**Date/Time:**	0835 5/2/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	0830	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	0850	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	E. Johnson / S. Ramamurthy	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.25	0	slough and silt	ML No sand only fines	Gley 1 2.5N (dark black)	VS	N	basically homogenous but with some organic material	moist	fine sand	strong metal slag very pungent	0	0	100	A, B	VOC = 1.4 @ 0.4' VOC = 0.7 @ 1.0' VOC = 0 @ 1.5' very pungent odor Dark black material looks like organic matter in center of interval (0-0.8')
0.5															
0.8														C	
1			CL-CH	Gley 1 5/5G grayish green	VF	strongly cemented	H	moist	silt	moderate odor same odor as above interval	0	0	100	D	seams of yellowish colored clay - looks like staining. Large wood chunk - saturated - found in lower interval
1.5														E	
2														F	
2.5		EOB @ 2.4'													

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A	UTC-SD062/0-0.5	N	5/3/11 1525	0-0.5	X	X	X		X			
B	UTC-SD062/0.5-2.4	N	5/3/11 1530	0.5-2.5	X	X	X	X	X	X	X	X
C				2.5-4.5								
D				3.5-6.5								
E				6.5-8.5								
F				8.5-10.5								

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-063	**Latitude:**	42 10.3952		**Attempt 1** / **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.8302	**Penetration (ft):**	3'
Crew/Company		**Datum:**		**Recovery (ft)**	2.2' (28" - boat)
		Depth (ft)	38.9'	**Date/Time:**	0903 5/2/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	0900		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	0915	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	E. Johnson / S. Ramamurthy	**Recovery (ft)**	NA
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5		CL	10YR 5/1	F	Mod	H	Moist	fine gravel	None	5	15	80	A	There is more gravel at the top up to ~0.8'. As depth increases gravel content decreases.
0.8	1		CL		↓ H	↓	↓	↓	↓	↓				B	Consistency increases with depth (Firm to hard)
	2														Slight discoloration at end of core
2.3															color change to gray/black at the end of core.
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time (5/3/11)	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD063 0-0.5	N	1450	0-0.5	X	X	X		X			
B UTC-SD063 0.5-2.2	N	1455	0.5-2.5	X	X	X	X	X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: Tm Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD064	Latitude:	42 10.3753		Attempt 1 Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 09.8300	Penetration (ft):	3' est
		Datum:		Recovery (ft)	~33"
		Depth (ft)	32.5'	Date/Time:	0925 5/2/2011
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	0920		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	0940	Penetration (ft):	NA
Collection:	vibracore	Logged by:	C. Nickel/A. Goodrich	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	Sandy clay w/ gravel	CL	GL1 5/10Y Greenish Gray	F	[illegible] S	H	W to M	CG	N	15	10	75	A	Observed trace black sand at ≈ 0.2'
	1														
	2													B	
EOB → 2.7'															
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 5/3/11	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD064/0-0.5	N	1155	0-0.5	X	X	X		X				
B UTC-SD064/0.5-2.7	N	1200	0.5-2.5	X	X	X		X	X	X	X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	SD-065	Latitude:	42 10.3507	Attempt 1	Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 09.8459	Penetration (ft):	3'
Crew/Company		Datum:	—	Recovery (ft)	2.5'
		Depth (ft)	28.9'	Date/Time:	~~N/A~~
		Tide:	N/A	Hand Probe Depth (ft)	955 5/2/2011
		St. Arrival:	0948	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	10:05	Penetration (ft):	
Collection:	vibracore	Logged by:		Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

@ 17:20

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5 – 2.5		CL	10R 5/1	firm to hard	High to moderate (deeper)	Homogenous	Moist to less moist (deeper)	coarse gravel	None	10	10	80	A, B, C	Top 2' had some fine gravel & sand intermittently mixed with clay.
EOB	2.5														
	3.0			EOB @ 2.5'										D	
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time (5/2/11)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A	UTC-SD-065 0.0/0.5	N	17:25	0-0.5	X	X	X		X			
B	UTC-SD-065 0.5/2.5	N	17:30	0.5-2.5	X	X	X		X	X	X	X
C	0.5/2.5-R	FD	17:30	2.5-4.5	X	X	X		X	X	X	X
D				3.5-6.5								
E				6.5-8.5								
F				8.5-10.5								

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD066	Latitude:	42 10.3456	Attempt 1	Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 09.8762	Penetration (ft):	Est 9'
		Datum:		Recovery (ft)	106"
		Depth (ft)	19.7	Date/Time:	1022 5/2/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	10:15	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	10:40	Penetration (ft):	
Collection:	vibracore	Logged by:		Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
Core #1 (0–3.7)	0.5–3	sandy silt	ML	GL1 3/N	VS to S	W to W	H	W to S	MS	N	0	5	95	A, B	≈1.6'-2.0' sediment is saturated and tends to slash off
3.7	3–5	sandy silt	ML	GL1				M	MS	N	0	5	95	C	≈3.4'-3.6' sediment is saturated and tends to slough off
Core #2 (5–9); 6.1	6.1–9	sandy clay	CL	10R 6/N	F	S	H	M	CS	N	0	10	90	D, E	6.1'-9' clay layer is much more dry than layers above; small pink spots (dry spots) found from 6.1'-7.1'
EOB → 9'	9–10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 5/2/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD066/0-0.5	N	1725	0-0.5	X	X	X		X			
B UTC-SD066/0.5-2.5	N	1730	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD066/2.5-4.5	N	1735	2.5-4.5	X	X	X	X	X	X	X	X
D UTC-SD066/4.5-6.5	N	1740	4.5-6.5	X	X	X		X	X	X	X
E UTC-SD066/6.5-9	N	1745	6.5-8.5	X	X	X		X	X	X	X
F			8.5-10.5								

Reviewed by: [signature] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD067	**Latitude:**	42 10.3222	**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.8967	**Penetration (ft):**	9'
		Datum:		**Recovery (ft)**	9'
		Depth (ft)	6'4"	**Date/Time:**	1055 5/2/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	10:40	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	C. Nickel	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5													A	
	1				VS-Soft										asphalt / concrete odor.
	2	Sandy (very fine gravel) silt	ML	Gley1 3/N dark greenish brown	Soft	weak	homogeneous	Moist-wet / wet-sat. (sloppy)	Medium sand	weak concrete / asphalt	none ~~trace~~ ~	10%	90%	B	top is really sloppy
	3														thin, white, short fibers throughout
	4													C	
	5														
	6													D	
	7													E	
	8														
EOB →	9 8.9'														
						EOB = 8.9'								F	
	10														

Sample Summary (check boxes for analysis):

5/2/11

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD067/0.0-0.5	N	1545	0-0.5	X	X	X		X			X	
B UTC-SD067/0.5-2.5	N	1550	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD067/2.5-4.5	N	1555	2.5-4.5	X	X	X		X	X	X	X	
D UTC-SD067/4.5-6.5	MS/MSD	1600	3.5-6.5	X	X	X	X	X	X	X	X	
E UTC-SD067/6.5-8.9	N	1605	6.5-8.5	X	X	X		X	X	X	X	
F 6.5-8.9-R	DUP	1605	8.5-10.5	X	X	X		X	X	X	X	

MS/MSD

→ PCBs Congeners only

Reviewed by: [illegible] Date: 5/3/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD068	**Latitude:**			**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**		**Penetration (ft):**		
Crew/Company		**Datum:**		**Recovery (ft)**		
		Depth (ft)		**Date/Time:**		
		Tide:	N/A	**Hand Probe Depth (ft)**		
		St. Arrival:			**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Mudpuppy (EPA)*	**St.Depart**		**Penetration (ft):**		
Collection:	vibracore	**Logged by:**	C.Nickel / A.Goodrich	**Recovery (ft)**		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.4'	0.5	clayey silt	ML	GL1 3/N	S	W	H	M	FS	W	5	5	90	A	Odor is weak sulfide
	1	sandy clay w/ gravel	CL	10YR 4/1	F	S	H	M	MG	N	10	10	80		Trace shells throughout interval
	2													B	Clay interval (≈0.4' to 4.8') has pinkish spots (10R 6/6) of clay
	3			GL1 4/10Y											≈2.8'-3.0' layer of ~~coarse~~ fine sand/silty sand. Color changes at ≈3.0'
	4													C	
EOB → 4.8'	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 5/3/11	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD068 / 0-0.5	N	1255	0-0.5	X	X	X		X				
B UTC-SD068 / 0.5-2.5	N	1300	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD068 / 2.5-4.8	N	1305	2.5-4.5	X	X	X		X	X	X	X	
D			3.5-6.5	[illegible]								
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: Date:

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: April 25 - May 5, 2011 (expected)

Station ID:	UTC-SD072	**Latitude:**	42 11.2117		**Attempt 1** / **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.1531	**Penetration (ft):**	Est 4'
Crew/Company		**Datum:**		**Recovery (ft)**	43"
		Depth (ft)	32.8'	**Date/Time:**	1420 5/2/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1414		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	C.Nickel/A.Goodrich	**Recovery (ft)**	NA
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	silty clay w/ gravel	CL	10YR 5/1	S	M	H	M	CG	M	15	5	80	A	Moderate methane-like odor ~~[illegible]~~
	1	silty clay	CL	10YR 5/1	F to VF	S	H	M	FG	M	5	5	90	B	≈0.9' PID → 20.4 ppm ≈1.0' Observed black material that is sticky w/strong odor
	2														
	3														
EOB → 3.3'														C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 5/3/11	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize (asp)	TOC	pH	
A UTC-SD072 / 0-0.5	N	1435	0-0.5	X	X	X		X	■	X	X	
B UTC-SD072 / 0.5-2.5	DUP	1440	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD072 / 2.5-3.3	N	1445	2.5-4.5	X	X	X		X	X	X	X	
D UTC-SD072 / 0.5-2.5	RDUP	1440	3.5-6.5	X	X	X		X	X	X	X	
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 5/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD-073	**Latitude:**	42 11.2115		**Attempt 1** / **Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.1404	**Penetration (ft):**	Not Det
		Datum:		**Recovery (ft)**	3'
		Depth (ft)	33'	**Date/Time:**	6/14/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	0808		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	0900	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	S. Maihofer, C. Nicklee	**Recovery (ft)**	NA
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.2	0	Silty gravel	GW-GC	Gley1 N3/101	S-F	L-M	S	M	MG	N	60	10	30	A	GW-GC, contains shells
	0.5 – 2.9	Sandy clay with gravel	CL	Gley1 3/10Y	Firm - HARD	High - moderate	Homogeneous w/ gravel seams at 1.6'	moist	S gravel	mild LPG odor	5	5	90	B, C, D	mild odor is from ~ 1.2'- 1.7'
EOB 2.9	3														
														E	
														F	

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time (6/14/2011)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A	UTC-SD073-0.0-0.5	N	12:15	0-0.5	X	X	X		X			
B	UTC-SD073-0.5-2.9	N	12:26	0.5-2.5	X	X	X		X	X	X	X
C				2.5-4.5								
D				3.5-6.5								
E				6.5-8.5								
F				8.5-10.5								

Reviewed by: [signature] Date: 6/19/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	UTC-SD074	**Latitude:**	42 11.2003		**Attempt 1** Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.1494	**Penetration (ft):**	Not determined
		Datum:		**Recovery (ft)**	61"
		Depth (ft)	33	**Date/Time:**	0910
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	0905		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	0930	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	C. Nikl / S. Rom.	**Recovery (ft)**	N/A
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5													A	Sloughy at the top
	1–2	gravelly clay	CL	Gley 1 4/10Y	Hard	High	Stratified/ ~~Hom~~ w/gravelly layers	moist	med. gravel	none	10	10	80	B	Few black cinders @ top
2.3'	3–5	Silty Clay	CL	Gley 1/4/10Y	Hard	High	homogeneous	moist	fine gravel	none	0	15	85	C	
	5–6	EOB @ 5'												D	
	7–8													E	
	9–10													F	

Sample Summary (check boxes for analysis):

6/14/2011

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD-074-0.0/0.5	N	10:15	0-0.5	X	X	X		X			X
B UTC-SD-074-0.5/2.5	N	10:20	0.5-2.5	X	X	X		X	X	X	X
C UTC-SD-074-2.5/5.0	N	10:25	2.5-4.5	X	X	X		X	X	X	X
D UTC-SD-074-2.5/5.0	FD	10:25	3.5-6.5	X	X	X		X	X	X	X
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 6/14/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD-075	**Latitude:**	42 11.1937		**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.1640	**Penetration (ft):**	Not Determined	
		Datum:		**Recovery (ft)**	34"	
		Depth (ft)	33'	**Date/Time:**	9:47 6/14/2011	
		Tide:	N/A	**Hand Probe Depth (ft)**	NA	
		St. Arrival:	941		**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	10:00	**Penetration (ft):**	NA	
Collection:	vibracore	**Logged by:**	S. Mihofer / S. Ramamurthy	**Recovery (ft)**		
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**		
				Hand Probe Depth (ft)		

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
silty clay w/ fine sand & gravel	0.5 – 1	[illegible]	CL	[illegible]	firm	M	H	M	mg	N	2%	10%	88%	A	some sand seams at 0.4 ft
	2		CL	[illegible]	hard	H	H	less M	vg	N	5%	5%	90%	B	huge rock at 1.6 sand seams at 2.2
2.5	3			EOB @ 2.5'										C	
	4													C	
	5													D	
	6													D	
	7													E	
	8													E	
	9													F	
	10													F	

PID: 22 ppm (headspace)

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time (6/14/2011)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOCs
A	UTC-SD075-0.0/0.5	N	11:05	0-0.5	X	X	X		X				
B	UTC-SD075-0.5/2.5	N	11:10	0.5-2.5	X	X	X	X	X	X	X	X	
C				2.5-4.5									
D				3.5-6.5									
E				6.5-8.5									
F				8.5-10.5									

Reviewed by: [signature] Date: 6/14/2011

observed ~~product~~ slight sheen in headspace when opening

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	UTC-SD076	**Latitude:**	42 11.~~1737~~ 1732	**Attempt 1/2**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83. 09.~~1718~~ 1722	**Penetration (ft):**	
		Datum:		**Recovery (ft)**	NA. brown noseicones
		Depth (ft)	33'	**Date/Time:**	
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	1024	**Attempt ~~2~~ 3**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	11:01	**Penetration (ft):**	Not set
Collection:	vibracore	**Logged by:**	C.Nickel	**Recovery (ft)**	29"
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	6/14/2011 10:50
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0 – 2 (0.5, 1)	Sandy Clay w/gravel	CL	Gley 1 4/10Y	Hard ← Firm	High	Homogneous	Moist	medium ~~fine~~ gravel	none	5	10	85	A, B, C	headspace + liquid came off with brown. Shen But Brown Shen was not observed on core.
	5						EOB @ 2.2'							D	
	6–10													E, F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 6/14/2011	Depth (ft)	PAHs	TPH (DRO/PRO	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD076 0.0-0.5	N	13:00	0-0.5	X	X	X		X			X
B UTC-SD076 0.5-2.2	N	13:05	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 6/14/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD077	Latitude:	42 11.1644		Attempt 1 Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 9.1891	Penetration (ft):	Not Det.
		Datum:		Recovery (ft)	<1'
		Depth (ft)	33'	Date/Time:	11:20 6/14/2011
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	11:10		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart		Penetration (ft):	Not Det
Collection:	vibracore	Logged by:	A.Goodrich	Recovery (ft)	11"
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	6/14/11 11:25
				Hand Probe Depth (ft)	NA

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	silty clay w/ gravel	CL	GL1 5/N	F	S	H	M	FG	N	5	0	95	A	
	1														
		EOB @0.9' BGS												B	
	2														
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTCSD077-0-0.9		6/14/11 1235	0-0.9'	X	X	X		X	X	X	X	
B			0.5-2.5									
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/14/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011

Station ID:	SD-078	**Latitude:**	42 11.1522	**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 9.1877	**Penetration (ft):**	Not Det
Crew/Company		**Datum:**		**Recovery (ft)**	19"
		Depth (ft)	33.5'	**Date/Time:**	1410 6/14/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1350	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1425	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	S.Ramamurthy	**Recovery (ft)**	NA
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0 – 0.5	silty clay	CL	GLEY 1 4/10Y	firm	High - moderate	Homogenous	Moist	Coarse gravel	None	15%	10%	75%	A, B	Soft sediment (siltyclay) @ top 2" gravel present intermittently.
	1.0													C	
	1.5	EOB @ 1.3'												D	
	2.0													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time (6/14/2011)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD-078-0.0/0.5		15:50	0-0.5	X	X	X		X			
B UTC-SD-078-0.5/1.3		15:55	0.5-1.3	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 6/14/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD-079	**Latitude:**	42 11.1452	**Attempt 1**	**Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 09.2053	**Penetration (ft):**	Not Det.
Crew/Company		**Datum:**		**Recovery (ft)**	52"
		Depth (ft)	31.2'	**Date/Time:**	1452 6/14/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1433	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	S. Meihofer / C. Nichol	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.3	0–0.5	Clayey gravelly sand	SC/GC	Gley 1 4/10Y	M	W	H	Moist	1MG	N	70	10	20	A	large shell fragments
	0.5–4	gravely clay, decreasing gravel w/depth	CL	Gley1 10Y	firm, f.trace	High	Homogeneous	moist	Med. gravel	None	10%	10%	80%	B, C, D, E	no comments
4.2		EOB @ 4.2'												F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 6/14/2011	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD079 0.0/0.5	N	1555	0-0.5	X	X	X		X				
B UTC-SD079 - 0.5/2.5	N	16:00	0.5-2.5	X	X	X		X	X	X	X	
C UTC-SD079 - 2.5/4.2	N	16:05	2.5-4.5	X	X	X		X	X	X	X	
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/14/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD090	**Latitude:**	42 11.1299		**Attempt 1** / **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 9.2054	**Penetration (ft):**	Not rec.
Crew/Company		**Datum:**		**Recovery (ft)**	37"
		Depth (ft)	33.5' (Sounded)	**Date/Time:**	15:32 6/14/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1520		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1545	**Penetration (ft):**	~~/~~
Collection:	vibracore	**Logged by:**	Crystal Nickel, Sara Malhotra	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	~~6/15/11 1630~~ TH
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0	Gravelly clay	CL	6/1 4/10Y	Firm to hard	Stong H		M	MG	n	15	10	75	A	no PID reading (PID=0.0) TH
	1.6													B	
	2	silty clay	CL	6/1 4/10Y	firm	strong H		M	CS	n	0	5	95		
	3.2													C	no additional comments
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

Sample Summary (check boxes for analysis):

6/15/2011

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTCSD080-61511/0-.5	N	0830	0-0.5	X	X	X		X		X	X	
B UTCSD080-61511/.5-2.5	N	0835	0.5-2.5	X	X	X	X	X	X	X	X	
C UTCSD080-61511/8-5-2.5R	FD	0835	2.5-4.5	X	X	X	X	X	X	X	X	
D UTCSD080-61511/2.5-3.2	N	0840	3.5-6.5	X	X	X	X	X	X	X	X	
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD081	Latitude:	42 11.1118		Attempt 1 Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 09.2159	Penetration (ft):	Not Det
Crew/Company		Datum:		Recovery (ft)	35"
		Depth (ft)	33.8'	Date/Time:	1610 ~~6/14/2011~~ 6/14/2011
		Tide:	N/A	Hand Probe Depth (ft)	NA
		St. Arrival:	1600		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	~1625	Penetration (ft):	NA
Collection:	vibracore	Logged by:	Crystal Nickel, Sara Maihofer	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	~~6/15/11 / 1000~~
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0													A	no PID reading, PID=0.0 (TH)
	0.5														no additional comments
	1													B	
	2	Silty Clay with trace gravel	CL	Gley 4/10Y	Hard ⟵ Firm	V. strong ⟵ strong	Homogeneous	moist	6 in CB; fine gravel	none	trace	5% 3%	97%	C	
	3	EOB @ 2.9'												D	large cobble at EOB takes up most of core.
	4													E	
														F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD081-0.0-0.5	N	10:00	0-0.5	X	X	X		X			X
B UTC-SD081-0.0-0.5	MS/MSD	10:05	~~0.5-2.5~~	X	X	X	X	X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

one grainsize ms/msp

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD 082	**Latitude:**	42 11.0999		**Attempt 1** / **Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.2338	**Penetration (ft):**	Not Det
		Datum:		**Recovery (ft)**	~~35+~~ 21"
		Depth (ft)	32.1 (Sounder)	**Date/Time:**	~~[illegible]~~
		Tide:	N/A	**Hand Probe Depth (ft)**	1640 6/14/2011
		St. Arrival:	1635		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	A. Goodrich	**Recovery (ft)**	NA
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	Silty sand	SP-SM	GLI 3/N	F	W	H	M	CG	M	5	85	10	A	≈0.2' PID = 1.9 ppm
	1	silty clay	CL	GLI 5/10Y	F	M	H	M	MS	W	0	10	90	B	≈0.6' PID = 1.3 ppm
	2														≈1.4' PID = 0 ppm
		EOB @ 1.6' BGS													
	3														
	4													C	
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

→ Trace tar/wax-like material in top ≈0.1'

=> Moderate/Mild hydrocarbon odor in sand layer

=> Weak hydrocarbon odor in clay layer

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 6/15/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTCSD082-0-0.5	N	0920	0-0.5	X	X	X	X	X				
B UTCSD082-0.5-1.6	N	0925	0.5-~~2.5~~ 1.6	X	X	X	X	X	X	X	X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD 083	Latitude:	42 11.0887		Attempt 1 Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 09.2823	Penetration (ft):	4-4.5'
		Datum:		Recovery (ft)	27"
		Depth (ft)	26.8' (Sounded)	Date/Time:	0810 6/15/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	0750		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	0825	Penetration (ft):	
Collection:	vibracore	Logged by:	Crystal Nickel, Sara Malhotra	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	6/15/11 1050
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5 / 1 / 2 / 2.2	silt w/ sand seams	ML	GLEY 1 3/10Y	M	W	S	M	CS	M-S naphthalene	0	5	95	A, B	PID = 1ppm headspace; odor in headspace; sheen seen in headspace; sand seams @ 0.1, 0.7-0.8, 1-1.2, 1.9-2.1
		EOB @ 2.2												C	sand seams are poorly graded, fine to coarse, black stained + odor, organics + shells in sand.
	4														
	5													D	Reduced (white) material @ 1.2-1.3 + 1.8-1.9
	6														Large cobble @ EOB
	7													E	Free product in pore space of silt.
	8														Halo ax in 0-0.5 + 0.5-2.2; clay seam @ 2-2.2; EOB @ 2.2
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time (6/15/11)	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOCs
AVTC SD083 61511 / 0-.5	N	10:50	0-0.5	✓	X	✓	ND	✓				X
BVTC SD083 61511 / .5-2.2	N	10:55	0.5-2.5	✓	X	✓	✓	X	✓	✓	X	X
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD084	**Latitude:**	42 11.0814	**Attempt 1**	**Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.2531	**Penetration (ft):**	Est 8'
		Datum:		**Recovery (ft)**	3'
		Depth (ft)	30.5' (sounded)	**Date/Time:**	0839 6/15/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	0835	**Attempt 2**	**Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**		**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	A.Goodrich	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.2'	0.5	clayey sand w/gravel	SC	GL1 5/10Y	F	M	H	M	CG	N	10	25	65	A	≈0.5'-0.6': sand and gravel layer
	1	sandy clay w/gravel	CL	GL1 5/10Y	F	S	H	M	CG	N	5	10	85	B	
	2														
		EOB @ 2'													
	3														
	4													C	
	5														
	6													D	
	7														
	8													E	
	9														
	10													F	

PID (ppm)
≈0.5' : 0.1 ppm
≈1.0' : 0.0 ppm
≈1.5' : 0.0 ppm

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time 6/15/11	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTCSD084-0-0.5	N	1110	0-0.5	X	X	X		X			X	
B UTCSD084-0.5-2.0	N	1115	0.5-2.0	X	X	X		X	X	X	X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD085	Latitude:	42 11.0619	Attempt 1	Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 09.3014	Penetration (ft):	
		Datum:		Recovery (ft)	62"
		Depth (ft)	22'	Date/Time:	915 6/15/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	905	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart		Penetration (ft):	
Collection:	vibracore	Logged by:	Crystal Nickel / Sara Mai[illegible]	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	61511 / 1200
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0 – 1.4 (0.5, 1)	Sandy Silt	ML	Gley 1 2.5/10Y	med soft ← firm	none/weak	Homogenous	moist	med. sand	strong napthalene-like	none	10	90	A, B	PID=1.7, LEL=4 @ headspace. Sand seam at surface, contains shells. ① halox-like material present.
1.4	1.4 – 1.9	Silty Sand	Sandy Silt	Gley 1 2.5/N	v. soft	none	Hom.	Saturated	f. sand	strong napthalene	none	70	30	C	Sand is coated/sheen, contains organic NAPL present ① halox-like material present
1.9	1.9 – 5.2 (2, 3, 4, 5)	Clay with gravel	CL	Gley 1 4/10Y, 10YR	firm → HARD	V. high	Homogenous	moist	sm. gravel	none	5	5	90	D, E, F	no additional comments. ① - Halowax?

Sample Summary (check boxes for analysis): EOB @ 5.2' 6/15/2011

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOC
A UTC-SD085-0.0/0.5	N	12:30	0-0.5	X	X	X		X				X
B UTC-SD085/0.5-2.5	N	12:35	0.5-2.5	X	X	X	X	X	X	X	X	X
C UTC-SD085/2.5-4.5	N	12:40	2.5-4.5	X	X	X		X	X	X	X	X
D UTC-SD085/4.5-5.2	N	12:45	3.5-6.5	X	X	X		X	X	X	X	X
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD086	Latitude:	42 11 ~~.0360~~ .0566	Attempt 1	Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	Longitude:	83 09 ~~.2929~~ .2859	Penetration (ft):	EST 5'
		Datum:		Recovery (ft)	~~2-2.5'~~ 19"
		Depth (ft)	29.8' Sounder	Date/Time:	0950 6/15/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	0930	Attempt 2	Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	10:00	Penetration (ft):	
Collection:	vibracore	Logged by:	S. Mahon / C.N. Chel	Recovery (ft)	N/A
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0 – 1.5	Sandy Clay (Silty Clay)	CL	Gray / 4/10Y	Firm	Strong (mod	Homogeneous	moist	small gravel /	none	trace	5	95	A	PID 0.2
														B	no additional comments
	2.0				EOB @ 1.6'									C	
														D	
														E	
														F	

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTC-SD086-0.0-0.5	N	11:45	0-0.5	X	X	X		X			
B UTC-SD086-0.5-1.6	N	11:50	0.5-2.5	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD087	Latitude:	42 11.0361		Attempt 1 Refusal? Y/N
Sampling	T.Himmer/CH2M HILL	Longitude:	83 09.2929	Penetration (ft):	E5T 5'
Crew/Company		Datum:		Recovery (ft)	28"
		Depth (ft)	28' Sounder	Date/Time:	1035 6/15/2011
		Tide:	N/A	Hand Probe Depth (ft)	
		St. Arrival:	1030		Attempt 2 Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	St.Depart	1045	Penetration (ft):	NA
Collection:	vibracore	Logged by:	Sara Malhofer	Recovery (ft)	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			Date/Time:	~~6/15/11 / 205~~
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0 – 2.4	Silty Clay	CL	Gley1 4/10Y	Firm w/ M. High	~~Homogenous~~	Homogenous	moist	fine gravel	~~trace~~ none	~~none~~ trace	none	98%	A, B, C	no PID reading; ~~As noted~~ contains trace shell fragments throughout.
		EOB @ 2.4												D, E, F	

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A	UT-SD087-0.0-0.5	N	1420	0-0.5	X	X	X		X			X	X
B	UTC-SD087-0.5-2.4	N	1425	0.5-2.5	X	X	X		X	X	X	X	
C	UTC-SD087-0.5-2.4-R	FD	14:25	2.5-4.5	X	X	X		X	X	X	X	
D				3.5-6.5									
E				6.5-8.5									
F				8.5-10.5									

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD088	**Latitude:**	42 11.0300		**Attempt 1** **Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.3251	**Penetration (ft):**	EST 6'
		Datum:		**Recovery (ft)**	19"
		Depth (ft)	25.5' Dropline	**Date/Time:**	1105 6/15/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	1058		**Attempt 2** **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1117	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	A. Goodrich	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0.5	Clay w/ sand + gravel	CL	GL1 4/10Y	F	M	H	M	CG	W	10	5	85	A	Halawax-like material in top ≈0.1'; Staining observed in top ≈0.2' (grayish-black)
	1	Clay w/	CL	GL1 4/10Y	F to H	S	H	M	FG	N	0	5	95	B	Odor in top ≈0.5' is weak naphthalene-like
	-1.6'														
	2	EOB @1.6'													
	3													C	
	4														
	5													D	
	6														
	7													E	
	8														
	9													F	
	10														

PID
≈0.5' : 0.1 ppm
≈1.0' : 0.1 ppm

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time 6/15/11	Depth (ft)	PAHs	TPH (DRO/PRC	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH
A UTCSD088-0-0.5	N	1430	0-0.5	X	X	X		X			
B UTCSD088-0.5-1.6	N	1435	0.5-1.6	X	X	X		X	X	X	X
C			2.5-4.5								
D			3.5-6.5								
E			6.5-8.5								
F			8.5-10.5								

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD089	**Latitude:**	42 11.0140		**Attempt 1** / **Refusal? Y/N**
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.3124	**Penetration (ft):**	EST 5.5
		Datum:		**Recovery (ft)**	17"
		Depth (ft)	31 Sounder	**Date/Time:**	11:25 6/15/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	
		St. Arrival:	1123		**Attempt 2** / **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1140	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	S. Marhofer	**Recovery (ft)**	NA
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	0 - 0.5 - 1 - 1.5	Silty clay	CL	Gray 4/10Y	med. soft & firm	medium	homogenous	v. moist & moist	small gravel	none	5	~~trace~~ 5	90	A, B	no PID ①; Shells in 0.5-1.4; no additional comments; ① PID=0
	1.5	EOB @ 1.4												C	
	2														
	2.5													D	
	3														
	3.5													E	
	4														
	4.5													F	
	5														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTC-SD089 0.0-0.5	N	1455	0-0.5	X		X		X				
B UTC-SD089 0.5-1.4	N	1500	0.5-2.5	X	X	X		X	X	X	X	
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/15/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD090	**Latitude:**	42 11.0037		**Attempt 1** Refusal? Y/N
Sampling Crew/Company	T.Himmer/CH2M HILL	**Longitude:**	83 09.3557	**Penetration (ft):**	Est 1-1.5'
		Datum:		**Recovery (ft)**	1/11
		Depth (ft)	9'10"	**Date/Time:**	1455 6/15/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1440		**Attempt 2** Refusal? Y/N
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1510	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	C.Nichu	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.5'	0'	sandy silt w/ gravel	ML	GL1 2.5/ 10Y	VS	W	H	Saturated to wet	MG	M	5	15	80	A	Trace halowax-like material in top 0.1' of core. Odor is moderate hydrocarbon-like odor throughout (0'-0.9'). Entire interval is saturated with water; sloshed out of core while cutting open
1'	0.9'													B	
1.5'		EOB @ 0.9'													
2'														C	
														D	
	6														
	7													E	
	8														
	9													F	
	10														

Sample Summary (check boxes for analysis):

Sample ID	Sample Type (N/FD/MS/MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	
A UTCSD090-0-0.9	N	6/16/11 0955	0-0.9	X	X	X	X	X		X	X	
B			0.5-2.5									
C			2.5-4.5									
D			3.5-6.5									
E			6.5-8.5									
F			8.5-10.5									

Reviewed by: [signature] Date: 6/16/2011

CH2MHILL

Site Name: Upper Trenton Channel
Project Number: 419593.FI.01
Project Location: Wayne County, Michigan
Survey Duration: June 13 - June 20, 2011 (expected)

Station ID:	SD093	**Latitude:**	42 11.6371		**Attempt 1** **Refusal? Y/N**
Sampling	T.Himmer/CH2M HILL	**Longitude:**	83 08.984	**Penetration (ft):**	Not Det
Crew/Company		**Datum:**		**Recovery (ft)**	20"
		Depth (ft)	~~26~~ 32.4' Scru	**Date/Time:**	1505 6/19/2011
		Tide:	N/A	**Hand Probe Depth (ft)**	NA
		St. Arrival:	1500		**Attempt 2** **Refusal? Y/N**
Vessel:	R/V Mudpuppy (EPA)	**St.Depart**	1510	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	S. Romanosky C. Nichl	**Recovery (ft)**	
Collector Information:	Theresa Himmer/CH2M HILL, theresa.himmer@ch2m.com, 781.378.2086			**Date/Time:**	
				Hand Probe Depth (ft)	

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
0.3	0.1	Silty gravel	GP-GM	5Y 4/2	S	none	H	3	C.G	~~S.S.A.B~~ like	60	20	20	A	PID@0.5' = 85 PPM
	0.5 – 1.0	Silty Clay	CL	gley 1 4/10Y	MF ← F	Strong	Homogeneous	M	C. Sand	Sweet odor, strong hydraulic oil-like odor	0	10	90	B, C	PID@1.2' = 107 PPM
	1.5	EOB @ 1.3'												D	
														E	
	6.0													F	

Sample Summary (check boxes for analysis):

	Sample ID	Sample Type (N/FD/MS/ MSD)	Sample Date/Time	Depth (ft)	PAHs	TPH (DRO/PRO)	PCB Aroclors	PCB Congener	Metals + Hg	Grainsize	TOC	pH	VOC
A	UTCSD093-0-0.5	N	1630	0-0.5	X	X	X		X			X	X
B	UTCSD093-0.5-1.3	N	1635	0.5-2.5	X	X	X		X	X	X	X	X
C				2.5-4.5									
D				3.5-6.5									
E				6.5-8.5									
F				8.5-10.5									

Reviewed by: 6/18/2011 [signature] Date:

Appendix B
Database Compilation Summary

ARCADIS

Appendix B

Upper Trenton Channel
Sediment Database, Version 2.0
Compilation Summary

Upper Trenton Channel Sediment Database, Version 2.0 Compilation Summary

Table of Contents

Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan

Upper Trenton Channel Sediment Database, Version 2.0
Compilation Summary

Introduction

The Detroit River (the River), Michigan has been the focus of a number of sediment investigations completed by both public and private entities since the 1980s that have documented impaired sediments. The Trenton Channel is located within the Detroit River Area of Concern (AOC) and separates Grosse Ile from the Michigan mainland. The current Great Lakes Legacy Act (GLLA) project – *Upper Trenton Channel Remedial Investigation and Feasibility Study* (RI/FS) is focusing on an approximately 3-mile section of the Upper Trenton Channel (UTC). One task associated with the current GLLA project is the compilation of electronic data from various river studies into one master database.

This summary includes a description of the UTC sediment database completed according to the scope of work (SOW) submitted to United States Environmental Protection Agency Great Lakes National Program Office (USEPA GLNPO) on February 21, 2011 (ARCADIS 2011a). The SOW included the compilation of existing sediment data for the UTC into a single database and submittal of a final UTC Sediment Database to be included as an appendix to the project report.

This summary was prepared by ARCADIS on behalf of the non-federal partners, BASF Corporation and Legacy Site Services, LLC, agent of Arkema Inc., as part of the ongoing RI/FS in the UTC near Wyandotte, Michigan.

Database Compilation

Compilation of the UTC Sediment Database, Version 2.0 consisted of the following steps:

- Identification and acquisition of all existing UTC sediment analytical data readily-available in electronic format. A list of studies included in the UTC Sediment Database is provided in Table 1.
- Submittal of proposed database structure and available electronic data files for USEPA review (ARCADIS 2011b, 2011c).
- Compilation of available electronic sediment data into one database.
- One interim release of the database for USEPA review and use (ARCADIS 2011d).
- Addition of data generated during the 2011 supplemental sampling to database.
- Release of the final UTC Sediment Database as part of this submittal.

Database Description

The UTC Sediment Database is in Microsoft Access format and is consistent with the GLLA Reporting Standard (USEPA 2010). The database structure is outlined in Figure 1.

As shown in detail in Table 1, the UTC Sediment Database includes all readily-available sample coordinates, chemical and geotechnical laboratory data, and field parameter data. Data sources include

USEPA GLNPO, Michigan Department of Environmental Quality, private corporations and publically available data reports. Over 1800 samples have been compiled in the UTC Sediment Database with collection dates ranging from 1991 to 2011. Physical core descriptions and field data other than location coordinates are not included in the database at this time. The database does not include data from any cores collected only for lithological description purposes.

References

ARCADIS 2011a. Remedial Investigation/Feasibility Study, Upper Trenton Channel, Detroit River, Michigan – Draft Non-Federal Partner Scope of Work – Database Compilation Task Plan. Submitted to USEPA GLNPO. February 21, 2011.

ARCADIS 2011b. PDF file of Sediment Data Files in Electronic Format. Electronic submittal to USEPA GLNPO. March 10, 2010.

ARCADIS 2011c. PDF file of Relationships for Upper Trenton Channel Sediment Database. Electronic submittal to USEPA GLNPO. March 17, 2011.

ARCADIS 2011d. Electronic submittal to USEPA GLNPO of the Upper Trenton Channel Sediment Database, Version 1.0. June 16, 2011.

USEPA 2010. Great Lakes Legacy Act Data Reporting Standard, Version 1.0. March 2010. Prepared by United States Environmental Protection Agency Great Lakes National Program Office.

Tables

Upper Trenton Channel, Detroit River, Michigan
Content Summary of the Upper Trenton Channel Sediment Database, Version 2.0
Released January 2012

Program	Date	Dioxin	PCBs	PCB Congeners	VOCs	SVOCs [1]	PAHs [2]	Mercury	Other Metals	TOC	Reactive Cyanide (and Cyanide)	pH (Laboratory Measurement)	Other Lab Analytes [3]	pH (Field Measurement)	Surface Water Field Parameters [4]	Grain Size Data	Coordinates	Source Data Type [5]	Total Number of Locations	Total Number of Samples
Beak Consultants - Detroit River Sediment Sampling	1991							•	•		•						•	A	**40**	**40**
1993-96 MDEQ Trenton Channel Sediment Sampling	1993-96		•				•	•	•								•	A	**31**	**78**
2000 MDEQ Trenton Channel Sediment Sampling	2000		•				•	•	•				•				•	A	**13**	**119**
GLIER Detroit River Sediment Survey	May & June 1999 (2 Samples)		•				•	•	•	•			•			•	•	B	**2**	**4**
2004 MDEQ/USEPA - Riverview / Firestone Sediment Sampling	2004	•	•		•	•	•	•	•				•				•	C	**25**	**129**
2005 MDEQ Trenton Channel Sediment Sampling	October 12, 2005					•	•	•	•				•					C	**20**	**24**
2005 Arkema Sediment Investigation - East Plant	October 20/21, 2005					•	•	•	•				•				•	C	**9**	**28**
2006 Arkema Sediment Investigation	August 2006					•	•	•	•				•				•	C	**11**	**29**
2006 GLNPO Sampling near US Steel	June 2006		•			•		•	•								•	C	**9**	**18**
GLNPO Great Lakes Sediment Database (GLSED) Remedial Investigation and Focused Feasibility Study	December 2006 & July 2007		•		•	•	•	•	•				•			•	•	C	**49**	**224**
2007 MDEQ Sampling at BASF North Works	August 2007	•	•			•	•	•	•		•						•	C	**10**	**60**
USEPA Split Samples from ARCADIS Sediment Characterization/Remedial Evaluation Interim Measures Investigation for BASF North Works	2009				•	•	•		•				•				•	C	**12**	**17**
ARCADIS Phase II Sediment Investigation for BASF North Works	2008		•		•	•	•	•	•	•	•	•	•			•	•	D	**56**	**323**
ARCADIS Sediment Characterization/Remedial Evaluation Interim Measures Investigation for BASF North Works	2009				•	•	•	•	•	•	•		•	•	•	•	•	D	**98**	**237**
2011 GLNPO Upper Trenton Channel GLLA Sampling	June 2011		•	•	•	•	•	•	•	•		•	•			•	•	D	**124**	**450**
	Total Number of Reportable Results [6]	585	6,243	19,670	9,325	56,817		1,264	13,198	712	424	365	5,303	170	139	8,974			**499**	**1827**

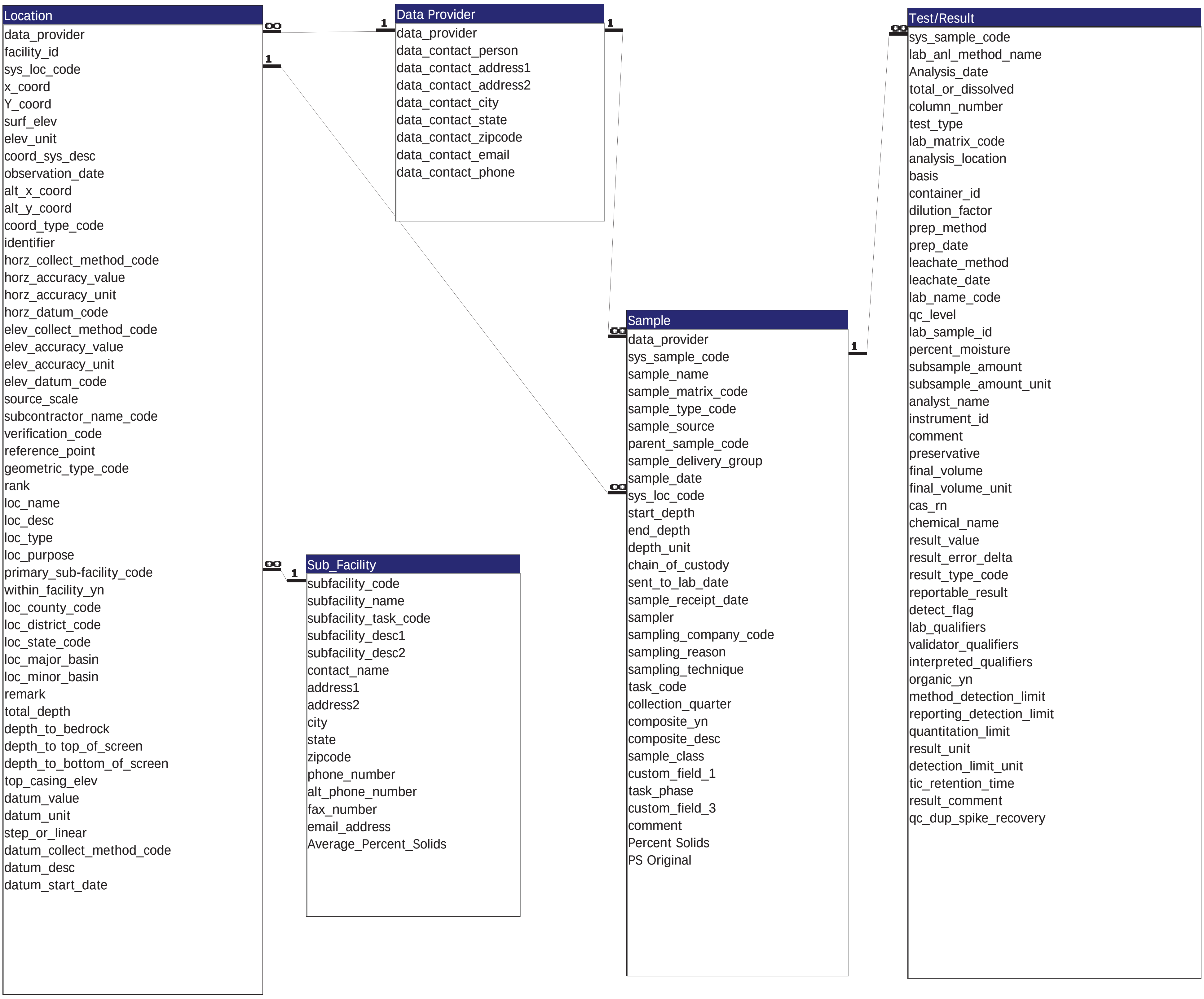
Notes:
1. SVOCs include PCN results for 2005 and 2006 Arkema Sediment Investigations and 2004 MDEQ/USEPA - Riverview/Firestone Sediment Sampling.
2. MDEQ 1993-96 and 2000 data only reports Total PAH values, other data sets contain results for individual PAH compounds.
3. Other lab analytes include: alkalinity, ammonia, chloride, sulfate, pesticides, phenol, solids, TCLP, and other lab methods.
4. Surface water field parameters include: conductivity, flow rate, water depth, pH, temperature, turbidity and Trident Probe pore water pH.
5. Source Data Type
   A Data tables prepared by ARCADIS by data entry from reports
   B Data downloaded by ARCADIS from online database
   C Data compiled by others and transmitted to ARCADIS
   D EDD file from lab
6. Total number of results based on lab methods designated in original electronic files.

ARCADIS

Figures

Upper Trenton Channel, Detroit River, Michigan

Figure 1 - Relationships for Upper Trenton Channel Sediment Database, Version 2.0



Appendix C
Sediment Thickness Survey Evaluation Summary

ARCADIS

Appendix C

Sediment Thickness Assessment Summary

Sediment Thickness Assessment Summary

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Sediment Thickness Assessment Data Summary

Introduction

The Detroit River (the River), Michigan has been the focus of a number of sediment investigations completed by both public and private entities since the 1980s that have documented impaired sediments. The Trenton Channel is located within the Detroit River Area of Concern (AOC) and separates Grosse Ile from the Michigan mainland. The current Great Lakes Legacy Act (GLLA) project – *Upper Trenton Channel Remedial Investigation and Feasibility Study* (RI/FS) is focusing on an approximately 3-mile section of the Upper Trenton Channel (UTC). One task associated with the current GLLA project is the collection of supplemental sediment thickness data and mapping of sediment thickness.

This data summary includes the raw field data and sediment thickness evaluation completed according to the scope of work (SOW) submitted to United States Environmental Protection Agency Great Lakes National Program Office (USEPA GLNPO) on June 1, 2011 (ARCADIS 2011a). The SOW included measurement of sediment thickness within the project extent of the UTC, and subsequent mapping of estimated sediment thickness using all available data with the end goal of understanding physical characteristics of the sediment bed in the UTC project area and obtaining an estimate of the total volume of sediments present.

This summary was prepared by ARCADIS on behalf of the non-federal partners, BASF Corporation and Legacy Site Services, LLC, agent of Arkema Inc., as part of the ongoing RI/FS in the UTC near Wyandotte, Michigan.

Task Objectives

The principle focus of the sediment thickness assessment task is to evaluate the presence or absence of soft sediments and to document the thickness and stratigraphy of sediment above the underlying regional clay or bedrock at selected locations. Prior sampling has established the presence of a distinct stiff clay layer underlying the sediments in many areas. A prior investigation completed by Ocean Surveys, Inc. (OSI) along the Arkema East Plant property estimated sediment thickness and sediment volume over stiff clay (CRA 2005).

The SOW includes soft sediment thickness evaluation using a combination of probing with a rod, and collection of core samples at a sub-set of probing locations to document stratigraphy and confirm probe indications of soft sediment thickness and thickness of sediment above the stiff clay layer. Soft sediment thickness is defined as sediment that is probe-able using manual force. The sediment thickness evaluation included locations within the project area downstream of the North Works facility where supplemental data are needed, including additional limited locations along the Arkema property to further investigate some features noted during hydrographic survey work.

Sediment thickness field objectives included the following:

- Probing using manual force with a metal rod at approximately 83 locations, as proposed in the SOW, and recording of Global Positioning System (GPS) location coordinates, water depth, probe depth, and sediment texture at each location.

- Collection of sediment cores using ARCADIS Vibracore equipment at approximately 25% of the 83 probe locations, and recording of GPS coordinates, core recovery, and water depth at each location.

- Opening and inspection of every collected sediment core to collect photographs, stratigraphy descriptions, and sediment thickness above native clay.

Sediment thickness measurement deliverables outlined in the SOW included:

- Field logs and a summary of visual observations of samples

- Photographs of collected cores

- Summary tables of measured sediment thickness

- Plots of sediment bed elevation and thickness along transects

- GIS maps depicting the sediment thickness measured during the sampling event, interpolated sediment thickness maps, and an estimate of sediment volume by sub-area estimated from the interpolated thicknesses

A summary of field activities completed to meet these objectives is provided below, as are the specified deliverables.

Field Activity Summary

Field work was completed between June 7, 2011 and June 15, 2011 by ARCADIS on behalf of the non-federal partners.

A total of 87 locations in the UTC were probed with a rod to characterize the location and extent of soft sediments. These locations were selected to provide appropriate spatial coverage when combined with the previous sampling work completed by USEPA GLNPO in 2006/2007 and 2011, as described in the SOW. Probed locations are shown in Figures 1a through f, and location coordinates recorded using Real Time Kinetic (RTK) Differential Global Positioning System (DGPS) are provided in Table 1 (ARCADIS 2011b).

Sediment probing was completed from an ARCADIS work boat as close as possible to the locations outlined in the SOW. A metal probing rod ¾ inches in diameter and marked with depth intervals was inserted into the sediment until refusal using manual force from the work boat. The location coordinates, water depth, and probing depth of sediment were recorded as well as any observations about sediment texture noted during probing. Probing locations are summarized by sub-area in Table 2 and field data collected during probing are provided in Table 3.

Sediment cores were collected at approximately 30% of the probing locations for inspection to document additional stratigraphy and confirm sediment thickness. Sediment core locations were adjusted from the locations proposed in the SOW based on sediment probing results to target sediment depositional areas, and were distributed throughout the study area to provide appropriate spatial coverage. The locations where sediment cores were collected are shown on Figures 1a through f and location coordinates recorded using RTK DGPS are provided in Table 1 (ARCADIS 2011b).

Sediment coring was performed using a Vibracore from the ARCADIS core sampling boat until refusal as outlined in the Vibracore Sediment Collection and Processing standard operating procedure (SOP) provided in the SOW. Sediment core locations are summarized by sub-area in Table 2.

Table 2 – Summary of Probing and Core Locations by Sub-area

Sub-area Name	Total Probing Locations	Total Core Locations	Transect Locations
City of Wyandotte	28	11	2 transects – 4-5 probing locations on each
BASF – South Works	25	6	4 transects – 3-4 probing locations on each
Arkema East Plant	15	6	2 transects – 4 probing locations on each
Materials Processing, Inc.	9	1	1 transect – 4 probing locations
McLouth Steel	10	2	1 transect – 4 probing locations

Cores were returned to the BASF Riverview facility for inspection. Each core was cut open, and the stratigraphy recorded in field notes and by photographs. Core processing was completed following the procedures outlined in the Vibracore Sediment Collection and Processing SOP (attached to the SOW). Core processing field notes are provided in Attachment 1 (ARCADIS 2011c) and photographs with stratigraphy descriptions are provided in Attachment 2.

Materials used during core processing, disposable personal protective equipment, and all sediment from collected sediment cores (no sediment was collected for analysis) was contained in storage drums and disposed of as Investigation-Derived Waste.

Field Observations

Field measurements of probe-able sediment thickness in the project area ranged from 0.2 to 11.9 feet with an average probe depth of 3.3 feet. Probing depths are summarized by sub-area in Table 4 below.

Table 4 – Summary of Probing Depth by Sub-area

Sub-area Name	Minimum Probe Depth (feet)	Maximum Probe Depth (feet)	Average Probe Depth (feet)
City of Wyandotte	0.2	7.0	2.3
BASF - South Works	0.7	10.3	3.6
Arkema	1.1	11.9	3.4
Materials Processing, Inc.	1.2	8.0	3.6
Downstream of Grosse Ile Bridge	1.0	7.8	3.5

Sediment materials described during the field probing event were primarily sand over hard bottom or clay. Along the City of Wyandotte and BASF-South Works sub-areas, some areas of gravel or silt were observed. Areas of gravel were also observed along the Arkema and Downstream of Grosse Ile Bridge sub-areas. Full probing material descriptions and field data are included in Table 3.

Sediment cores collected in the project area had an average total recovery of 6.3 feet with a range of 0.7 feet to 16.0 feet of sediment recovered. Sediment recoveries are summarized by sub-area in Table 5 below. Generally, sediment cores consisted of gray brown or dark gray sand and silt layers over brown native clay, with some instances of gravel, slag, and other material observed. Detailed core stratigraphies are provided in the core processing field notes (Attachment 1) and photo log (Attachment 2).

Table 5 – Summary of Total Core Recovery by Sub-area

Sub-area Name	Minimum Recovery Depth (feet)	Maximum Recovery Depth (feet)	Average Recovery Depth (feet)
City of Wyandotte	0.7	10.0	5.2
BASF- South Works	3.7	11.6	6.3
Arkema	2.2	16.0	7.8
Materials Processing, Inc.	3.8	3.8	3.8
Downstream of Grosse Ile Bridge	7.3	9.1	8.2

Cores collected along the City of Wyandotte sub-area consisted primarily of sand and silt layers over native clay with a few exceptions. Location PR-44 had little recovery of gravel and cobble and location PR-16 consisted of gravel over native clay. Locations PR-08 and PR-15 did not recover any native clay. PR-08 recovered over 4 feet of sand and PR-15 recovered over 5 feet of silt and 0.3 feet of sand.

Cores collected at the north end of the BASF – South Works sub-area generally consisted of clayey silt over native clay. Location T4-01 consisted of sand and clay layers with slag and coal debris. No native clay was recovered at T4-01. Sand over off-white silty material was recovered at both T5-01 and PR-24. Native clay was recovered below the white material at location PR-24, but no native clay was recovered at T5-01. Location T6-01 consisted of sand over native clay.

Mostly fine sand and clayey silt over native clay was recovered in cores along the Arkema sub-area. Trace slag was observed in many cores, and one location in this sub-area recovered no clay (PR-47).

Only one core was collected along the Materials Processing, Inc. sub-area. This core consisted of silt and sandy clay only, no native clay was recovered.

The two cores collected in the sub-area Downstream of Grosse Ile Bridge both consisted of clayey silt and gravel over native clay.

Data Analysis

Sediment thickness data used for this analysis included: prior sediment coring investigations in the UTC performed by the Michigan Department of Environmental Quality (MDEQ; 1993-1996, 2000, 2004, and 2007), Beak Consultants (1993), Conestoga Rovers and Associates (CRA; 2005), MACTEC (2005), USEPA GLNPO (2010) (Table 6), and most recently by CH2MHILL (Table 7) and ARCADIS (Table 1 and Table 3) as part of the current project (Figure 1a-f). Since differences exist between sediment probe depth and sediment core recovery above clay (Figure 2), soft material thickness and a sediment thickness were defined. For the purposes of data analysis, soft material thickness (Figure 3a-g) was defined as the total core recovery (or probe depth when coring was not performed) for samples with data reports available or the deepest sample depth as recorded in the UTC Sediment Database (version 1.0; ARCADIS 2011d).

Sediment thickness (Figure 4a-g) is defined as the depth from the top of the sediment to the top of the native clay as recorded in available boring logs. The primary objective of the sediment thickness data analysis was to evaluate the presence or absence of soft sediments (referred to in this report as "soft material") and to evaluate the thickness and stratigraphy of sediment above the underlying clay or bedrock at select vibracore locations.

Based on field observations of vibracore stratigraphy, a distinct layer of native clay was observed in 19 of the 26 vibracores collected by ARCADIS in 2011 (Table 1). The sediment thickness above the native clay observed in ARCADIS collected cores ranged from 0.1 to 10.9 feet, with an average thickness of 3.1 feet. Sediment thickness data from other sources (Tables 6 and 7) did not always specifically define the native clay layers; however, some boring logs were available for interpretation and identification of the clay layer. Combining all available sediment thickness data estimates the sediment thickness above the native clay layer to range from 0 to 10.9 feet with an average of 2.0 feet. Sediment thickness appeared greatest between river miles 1.0 to 2.0 (City of Wyandotte sub-area) and between river miles 3.0 to 3.5 (Arkema sub-area), with the least amount of sediment above clay between river miles 2.0 to 3.0 (BASF South Works sub-area) (see Figure 5).

Soft material thickness ranged from 0 to 19.6 feet with an average soft material thickness of 4.5 feet. The average thickness of soft material was similar by sub-area (City of Wyandotte = 4.5 feet; BASF South Works = 3.9 feet; Arkema = 4.5 feet; MPI = 3.9 feet; Downstream Grosse Ile = 5.8 feet) (see Figures 6 and 7). The total volume of soft material was estimated by sub-area (Table 8) by interpolating soft material thickness from the available data presented on Figures 8a-h which show soft material thickness for each sample location. The interpolated soft material thickness surface generally showed deeper pockets of soft material near shore and thinner soft material layers farther from shore. Based on the analysis presented in these maps, the total soft material volume in the UTC project area is approximately 366,000 cubic yards. A summary of soft material volume by sub-area is provided in Table 8.

In the fall of 2005, OSI surveyed an area approximately 2,800 feet long and extending 300 feet offshore along the Arkema East Plant Shoreline to estimate the sediment volume (CRA 2005). OSI's survey included a combination of multi-beam depth sounding, side scan sonar imaging, sub-bottom profiling, geotechnical probing, and vibratory coring. Based on the results from the probing/coring and surveys of the area, OSI estimated that 67,500 cubic yards of sediment overlie the clay layer in the area. OSI's estimate is lower than the volume estimated for the area in 2011 (87,000 cubic yards) most likely because the 2011 estimate considered the volume of soft material compared to the 2005 OSI estimate which computed the volume of sediment above the clay layer. As noted in the 2011 study, the total thickness of soft material is generally greater than the sediment layer above clay.

A series of cross-section figures (Attachment 3) were developed based on the ten sampling transects established in the field. Probing or coring locations along the transects ranged from approximately 75 to 300 feet from the shoreline. Each cross-section shows the bathymetric sediment surface and both the sediment thickness (when available) and soft material thickness.

In summary, based on the findings of the data analysis of sediment thickness and soft material thickness, there was a distinct layer of native clay material observed at an average depth of 2.0 feet. The sediment thickness above native clay ranged from 0 to 10.9 feet. The average thickness of soft material is approximately 4.5 feet and ranged from 0 to 19.6 feet. The total volume of soft material in the study area is approximately 366,000 cubic yards.

References

ARCADIS 2011a. Remedial Investigation/Feasibility Study, Upper Trenton Channel, Detroit River, Michigan – Draft Non-Federal Partner Scope of Work – Sediment Thickness Measurement Task Plan. Submitted to USEPA GLNPO. June 1, 2011.

ARCADIS 2011b. Excel file of coordinates, probing depth and Vibracore recovery for all sediment probe and core locations completed in June 2011. Electronic submittal to USEPA GLNPO. August 11, 2011.

ARCADIS 2011c. PDF file of core logs for all sediment core locations completed in June 2011. Electronic submittal to USEPA GLNPO. August 31, 2011.

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ARCADIS

Tables

Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan
Sediment Thickness Assessment Summary

Table 1 – ARCADIS 2011 Sediment Probe and Core Location Coordinates and Thickness Data

Location ID	Location Type	Easting[1]	Northing[1]	Sediment Surface Elevation (feet)[2]	Probe Depth (feet)[4]	Vibracore Recovery (feet)[4]	Depth to Native Clay (feet)[5]
PR-01	Probe	13454824.7	261408.7	558.6 [3]	11.9	--	--
PR-01	Vibracore	13454822.2	261415.4	557.6 [3]	--	16	10.9
PR-02	Probe	13454558.5	260744.0	555.9	3.0	--	--
PR-03	Probe	13454527.8	260614.4	554.7	3.3	--	--
PR-04	Probe	13454480.0	260465.4	554.8	5.3	--	--
PR-04	Vibracore	13454480.6	260466.3	554.6	--	9.7	5.2
PR-05	Probe	13454313.2	259751.9	545.8	2.1	--	--
PR-06	Probe	13454201.4	259628.3	547.5	4.8	--	--
PR-07	Probe	13454169.2	259460.6	547.6	5.0	--	--
PR-07	Vibracore	13454163.8	259462.1	547.8	--	5.6	2.5
PR-08	Probe	13454224.6	259340.5	547.2	3.3	--	--
PR-08	Vibracore	13454224.2	259338.9	547.1	--	4.8	NCR
PR-09	Probe	13453916.5	258743.2	543.6	1.7	--	--
PR-10	Probe	13453859.8	258474.3	541.4	2.0	--	--
PR-11	Probe	13453675.9	258301.6	550.3	1.8	--	--
PR-11	Vibracore	13453672.2	258303.7	551.5	--	8.4	0.3
PR-12	Probe	13453598.5	258018.6	547.9	1.1	--	--
PR-13	Probe	13453665.1	257765.7	539.1	1.5	--	--
PR-14	Probe	13453456.9	257512.5	548.5	1.5	--	--
PR-14	Vibracore	13453459.6	257507.2	547.1	--	2.2	0.45
PR-15	Probe	13453361.1	257075.9	549.0	3.0	--	--
PR-15	Vibracore	13453358.8	257079.9	549.2	--	6.1	NCR
PR-16	Probe	13453361.8	256856.5	542.7	2.0	--	--
PR-16	Vibracore	13453361.4	256860.3	542.8	--	4.2	0.1
PR-17	Probe	13453288.5	256502.8	550.0	2.0	--	--
PR-18	Probe	13453165.6	256003.5	553.8	2.0	--	--
PR-18	Vibracore	13453167.1	256004.8	553.7	--	3.7	1.8
PR-19	Probe	13453182.6	255635.2	541.7	1.6	--	--
PR-20	Probe	13453045.5	255254.5	545.7	4.0	--	--
PR-21	Probe	13452841.2	254312.1	546.1	0.7	--	--
PR-22	Probe	13452788.3	254026.8	546.3	5.5	--	--
PR-23	Probe	13452574.6	253613.0	549.7	5.2	--	--
PR-24	Probe	13452523.0	253394.2	548.2	4.8	--	--

Project Number: B0042929.0102.00006
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Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan
Sediment Thickness Assessment Summary

Table 1 – ARCADIS 2011 Sediment Probe and Core Location Coordinates and Thickness Data

Location ID	Location Type	Easting[1]	Northing[1]	Sediment Surface Elevation (feet)[2]	Probe Depth (feet)[4]	Vibracore Recovery (feet)[4]	Depth to Native Clay (feet)[5]
PR-24	Vibracore	13452521.3	253395.3	548.1	--	4.3	1.9
PR-25	Probe	13452469.3	253225.5	545.4	2.1	--	--
PR-26	Probe	13452409.3	253144.7	547.2	3.0	--	--
PR-27	Probe	13451876.7	252112.7	555.0	4.0	--	--
PR-28	Probe	13451812.9	251992.4	553.5	4.3	--	--
PR-28	Vibracore	13451815.3	251994.1	553.4	--	7.9	2.0
PR-29	Probe	13451451.4	251358.3	558.3	3.5	--	--
PR-30	Probe	13451391.5	251128.6	552.0	6.4	--	--
PR-31	Probe	13451212.5	250902.9	556.3	10.3	--	--
PR-31	Vibracore	13451210.0	250909.5	556.8	--	11.6	8.9
PR-32	Probe	13451203.4	250715.5	546.7	5.2	--	--
PR-33	Probe	13450827.7	250042.1	541.2	1.5	--	--
PR-34	Probe	13450760.5	249920.1	542.0	1.8	--	--
PR-35	Probe	13450480.6	249932.9	569.4 [3]	5.5	--	--
PR-35	Vibracore	13450487.2	249934.0	568.6 [3]	--	5	NCR
PR-36	Probe	13450608.9	249759.2	542.8	3.0	--	--
PR-37	Probe	13450474.6	249515.7	542.8	2.2	--	--
PR-38	Probe	13449566.8	247788.3	545.1	7.3	--	--
PR-38	Vibracore	13449459.3	247799.2	541.8	--	2.8	0.1
PR-39	Probe	13449512.0	247687.3	543.6	1.8	--	--
PR-40	Probe	13449312.8	247337.0	546.8	1.0	--	--
PR-41	Probe	13449278.7	247204.3	547.2	0.6	--	--
PR-42	Probe	13449282.1	246850.9	549.5	1.7	--	--
PR-43	Probe	13449277.4	246721.7	549.6	2.0	--	--
PR-44	Probe	13453777.5	258715.7	564.4 [3]	4.0	--	--
PR-44	Vibracore	13453777.5	258715.7	564.4 [3]	--	0.7	NCR
PR-45	Probe	13453364.5	257271.7	565.7 [3]	2.0	--	--
PR-46	Probe	13453242.8	256520.8	568.6 [3]	0.5	--	--
PR-47	Probe	13451318.8	251165.2	568.6 [3]	0.2	--	--
PR-47	Vibracore	13451318.8	251165.2	568.6 [3]	--	1.9	NCR
T01-01	Probe	13454298.4	259871.2	546.7	2.0	--	--
T01-01	Vibracore	13454295.1	259869.7	546.7	--	6.1	0.1

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Table 1 – ARCADIS 2011 Sediment Probe and Core Location Coordinates and Thickness Data

Location ID	Location Type	Easting[1]	Northing[1]	Sediment Surface Elevation (feet)[2]	Probe Depth (feet)[4]	Vibracore Recovery (feet)[4]	Depth to Native Clay (feet)[5]
T01-02	Probe	13454329.5	259854.3	545.6	1.0	--	--
T01-03	Probe	13454375.4	259833.0	546.1	1.5	--	--
T01-04	Probe	13454411.2	259834.8	546.6	3.0	--	--
T02-01	Probe	13453958.6	259173.7	563.9 [3]	5.0	--	--
T02-02	Probe	13454010.7	259158.0	553.3	1.0	--	--
T02-03	Probe	13454057.9	259143.6	548.8	5.3	--	--
T02-03	Vibracore	13454053.0	259139.8	549.4	--	6.6	4.4
T02-04	Probe	13454106.4	259129.5	544.7	2.0	--	--
T02-05	Probe	13454147.5	259111.5	543.8	3.0	--	--
T03-01	Probe	13453069.5	255492.9	554.3	0.2	--	--
T03-02	Probe	13453103.6	255488.4	547.0	3.4	--	--
T03-02	Vibracore	13453104.3	255487.7	547.0	--	2.6	0.2
T03-03	Probe	13453136.8	255476.5	544.6	2.0	--	--
T03-04	Probe	13453172.7	255470.0	542.3	1.6	--	--
T04-01	Probe	13452974.1	254984.9	549.0	4.9	--	--
T04-01	Vibracore	13452973.9	254985.4	549.0	--	5.2	NCR
T04-02	Probe	13452997.3	254977.3	546.4	4.0	--	--
T04-03	Probe	13453018.5	254970.6	543.5	1.5	--	--
T04-04	Probe	13453044.9	254962.3	541.9	1.0	--	--
T05-01	Probe	13452708.1	254006.8	552.2	7.8	--	--
T05-01	Vibracore	13452707.5	254006.1	552.2	--	9.4	NCR
T05-02	Probe	13452733.2	253994.5	549.6	7.1	--	--
T05-03	Probe	13452755.6	253994.1	546.6	1.0	--	--
T05-04	Probe	13452780.2	253986.8	545.3	2.2	--	--
T06-01	Probe	13452325.5	252988.9	547.1	3.4	--	--
T06-01	Vibracore	13452328.9	252990.4	547.0	--	6.6	1.8
T06-02	Probe	13452357.4	252979.7	546.0	1.8	--	--
T06-03	Probe	13452383.9	252967.3	544.3	2.8	--	--
T07-01	Probe	13451708.5	251774.4	551.5	3.4	--	--
T07-01	Vibracore	13451705.5	251775.6	551.9	--	7.3	2.2
T07-02	Probe	13451751.3	251750.2	547.3	3.1	--	--
T07-03	Probe	13451791.3	251730.7	546.1	2.0	--	--
T07-04	Probe	13451833.2	251699.9	544.3	1.2	--	--

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Table 1 – ARCADIS 2011 Sediment Probe and Core Location Coordinates and Thickness Data

Location ID	Location Type	Easting[1]	Northing[1]	Sediment Surface Elevation (feet)[2]	Probe Depth (feet)[4]	Vibracore Recovery (feet)[4]	Depth to Native Clay (feet)[5]
T08-01	Probe	13450948.2	250505.0	555.2	8.0	--	--
T08-01	Vibracore	13450953.6	250503.3	554.6	--	9.1	5.6
T08-02	Probe	13451000.4	250474.9	551.6	7.8	--	--
T08-03	Probe	13451055.4	250446.2	545.7	2.8	--	--
T08-03	Vibracore	13451054.9	250445.5	545.7	--	3.8	2.8
T08-04	Probe	13451108.3	250419.4	543.2	2.5	--	--
T09-01	Probe	13450160.5	249343.6	554.2	1.7	--	--
T09-02	Probe	13450227.1	249299.9	544.5	2.3	--	--
T09-03	Probe	13450291.2	249248.7	542.6	2.0	--	--
T09-04	Probe	13450352.3	249198.9	540.6	4.0	--	--
T10-01	Probe	13449087.0	247031.4	551.3	7.0	--	--
T10-01	Vibracore	13449081.3	247040.4	554.9	--	10	8.0
T10-02	Probe	13449164.8	247016.8	546.8	1.6	--	--
T10-03	Probe	13449252.8	246999.0	549.2	1.0	--	--
T10-04	Probe	13449345.7	246980.0	541.7	0.5	--	--

Notes
1 Horizontal coordinates referenced to State Plane, Michigan South Zone (NAD83, U.S. feet).
2 Elevations referenced in National Geodetic Vertical Datum (NGVD29) and measured during multibeam bathymetric survey performed by Aqua Survey, Inc. on April 12-14, 2011.
3 Location is outside of bathymetric survey area and elevation is field measurement taken during sediment probing and vibracore collection performed by ARCADIS June 7-15, 2011.
4 Sediment probing depths and vibracore recovery measured by ARCADIS during field activities June 7-15, 2011.
5 Depth to native clay from sediment surface measured by ARCADIS during processing of vibracores collected June 7-15, 2011.
NCR No native clay recovered.

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Table 3 - ARCADIS 2011 Sediment Probing Field Data

Location	Sub-Area	Date	Water Depth (ft)	Probe Depth (ft)	Probe Description
PR-01	City of Wyandotte	6/7/2011	16.0	11.9	Coarse sand - Loose silt - Hard bottom
PR-02	City of Wyandotte	6/7/2011	18.0	3.0	Gravel - Silt - Rock
PR-03	City of Wyandotte	6/7/2011	20.0	3.3	Silt - Stiff clay
PR-04	City of Wyandotte	6/7/2011	21.0	5.3	Gravel - Silt/Sand - Hard bottom
PR-05	City of Wyandotte	6/7/2011	29.0	2.1	Gravel - Stiff clay
PR-06	City of Wyandotte	6/9/2011	28.0	4.8	Gravel - Silt/Sand - Clay
PR-07	City of Wyandotte	6/9/2011	27.2	5.0	Sand - Clay
PR-08	City of Wyandotte	6/9/2011	27.9	3.3	Gravel - Silt/Sand - Hard bottom
PR-09	City of Wyandotte	6/7/2011	32.0	1.7	Loose silt - Sand - Hard bottom
PR-10	City of Wyandotte	6/7/2011	34.0	2.0	Sand - Gravel - Stiff clay
PR-11	City of Wyandotte	6/7/2011	23.5	1.8	Sand - Gravel - Stiff clay
PR-12	City of Wyandotte	6/7/2011	26.5	1.1	Sand - Gravel - Stiff clay
PR-13	City of Wyandotte	6/7/2011	36.0	1.5	Silt/Sand - Stiff clay
PR-14	City of Wyandotte	6/7/2011	28.5	1.5	Sand - Stiff clay
PR-15	City of Wyandotte	6/7/2011	26.8	3.0	Sand - Gravel - Cobble - Stiff clay
PR-16	City of Wyandotte	6/7/2011	33.0	2.0	Sand - Stiff clay
PR-17	BASF - South Works	6/7/2011	26.0	2.0	Gravel - Stiff clay
PR-18	BASF - South Works	6/7/2011	22.0	2.0	Silt/Sand - Gravel
PR-19	BASF - South Works	6/7/2011	34.0	1.6	Sand/Gravel - Stiff clay
PR-20	BASF - South Works	6/7/2011	30.0	4.0	Silt/Sand - Clay
PR-21	BASF - South Works	6/7/2011	29.5	0.7	Sand and Gravel - Hard bottom
PR-22	BASF - South Works	6/7/2011	29.2	5.5	Sand/Trace gravel - Clay
PR-23	BASF - South Works	6/8/2011	27.0	5.2	Sand/Silt - Stiff bottom
PR-24	BASF - South Works	6/8/2011	29.0	4.8	Sand/Silt - Stiff bottom
PR-25	BASF - South Works	6/8/2011	30.0	2.1	Sand - Clay
PR-26	BASF - South Works	6/8/2011	28.0	3.0	Sand - Clay
PR-27	Arkema	6/8/2011	20.0	4.0	Sand/Silt - Hard bottom
PR-28	Arkema	6/8/2011	22.0	4.3	Sand - Clay
PR-29	Arkema	6/8/2011	12.0	3.5	Sand/Gravel - Hard bottom
PR-30	Arkema	6/8/2011	23.0	6.4	Sand - Stiff bottom
PR-31	Arkema	6/8/2011	17.2	10.3	Sand - Stiff bottom
PR-32	Arkema	6/8/2011	26.0	5.2	Sand - Stiff bottom
PR-33	Materials Processing, Inc (MPI)	6/8/2011	33.2	1.5	Sand - Hard bottom
PR-34	Materials Processing, Inc (MPI)	6/8/2011	33.0	1.8	Sand - Clay
PR-35	Materials Processing, Inc (MPI)	6/8/2011	5.0	5.5	Loose silt - Hard bottom
PR-36	Materials Processing, Inc (MPI)	6/8/2011	32.0	3.0	Sand - Clay
PR-37	Materials Processing, Inc (MPI)	6/8/2011	33.0	2.2	Sand - Clay
PR-38	Downstream of Grosse Ile Bridge	6/8/2011	30.0	7.3	Silt/Sand - Hard bottom
PR-39	Downstream of Grosse Ile Bridge	6/8/2011	32.0	1.8	Gravel - Clay
PR-40	Downstream of Grosse Ile Bridge	6/8/2011	28.0	1.0	Gravel - Clay
PR-41	Downstream of Grosse Ile Bridge	6/8/2011	28.5	0.6	Gravel - Clay
PR-42	Downstream of Grosse Ile Bridge	6/8/2011	26.0	1.7	Gravel - Clay
PR-43	Downstream of Grosse Ile Bridge	6/8/2011	25.0	2.0	Gravel - Clay
PR-44	City of Wyandotte	6/15/2011	10.2	4.0	Sand - Gravel - Rock - Hard Bottom
PR-45	City of Wyandotte	6/15/2011	9.0	2.0	Cobble - Gravel - Rock
PR-46	City of Wyandotte	6/15/2011	6.0	0.5	Cobble - Gravel - Rock
PR-47	Arkema	6/15/2011	5.8	0.2	Dense Gravel
T10-01	Downstream of Grosse Ile Bridge	6/8/2011	23.0	7.0	Loose silt - Sand - Hard bottom
T10-02	Downstream of Grosse Ile Bridge	6/8/2011	28.9	1.6	Sand - Clay
T10-03	Downstream of Grosse Ile Bridge	6/8/2011	26.5	1.0	Gravel - Clay
T10-04	Downstream of Grosse Ile Bridge	6/8/2011	33.0	0.5	Gravel
T1-01	City of Wyandotte	6/7/2011	28.0	2.0	Sand/Gravel - Stiff clay
T1-02	City of Wyandotte	6/7/2011	29.5	1.0	Stiff clay
T1-03	City of Wyandotte	6/7/2011	28.5	1.5	Gravel - Stiff clay
T1-04	City of Wyandotte	6/7/2011	28.0	3.0	Loose gravel - Stiff clay

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Table 3 - ARCADIS 2011 Sediment Probing Field Data

Location	Sub-Area	Date	Water Depth (ft)	Probe Depth (ft)	Probe Description
T2-01	City of Wyandotte	6/9/2011	11.0	5.0	Loose silt - Hard bottom
T2-02	City of Wyandotte	6/9/2011	22.0	1.0	Sand/Gravel - Rock
T2-03	City of Wyandotte	6/9/2011	27.5	5.3	Gravel - Silt/Sand - Hard bottom
T2-04	City of Wyandotte	6/9/2011	31.0	2.0	Silt - Sand/Gravel - Hard bottom
T2-05	City of Wyandotte	6/9/2011	31.0	3.0	Sand/Gravel - Clay
T3-01	BASF - South Works	6/7/2011	24.0	0.2	Gravel and cobble
T3-02	BASF - South Works	6/7/2011	29.5	3.4	Sand - Stiff clay
T3-03	BASF - South Works	6/7/2011	31.0	2.0	Clay
T3-04	BASF - South Works	6/7/2011	33.0	1.6	Sand - Stiff clay
T4-01	BASF - South Works	6/7/2011	27.0	4.9	Sand and Gravel - Clay
T4-02	BASF - South Works	6/7/2011	28.2	4.0	Sand and Gravel - Clay
T4-03	BASF - South Works	6/7/2011	33.0	1.5	Sand - Clay
T4-04	BASF - South Works	6/7/2011	35.0	1.0	Sand - Clay
T5-01	BASF - South Works	6/8/2011	23.1	7.8	Gravel - Silt/Sand - Hard Bottom
T5-02	BASF - South Works	6/8/2011	26.0	7.1	Gravel - Silt/Sand - Hard bottom
T5-03	BASF - South Works	6/8/2011	28.0	1.0	Sand/Gravel
T5-04	BASF - South Works	6/8/2011	30.0	2.2	Sand/Gravel
T6-01	BASF - South Works	6/8/2011	29.1	3.4	Silt/Sand - Clay
T6-02	BASF - South Works	6/8/2011	29.2	1.8	Sand - Clay
T6-03	BASF - South Works	6/8/2011	31.2	2.8	Gravel - Sand - Clay
T7-01	Arkema	6/8/2011	23.0	3.4	Sand - Clay
T7-02	Arkema	6/8/2011	27.9	3.1	Sand - Clay
T7-03	Arkema	6/8/2011	29.0	2.0	Sand - Clay
T7-04	Arkema	6/8/2011	31.0	1.2	Sand - Clay
T8-01	Arkema	6/8/2011	19.9	8.0	Sand/Silt - Stiff bottom (Clay)
T8-02	Arkema	6/8/2011	24.0	7.8	Sand/Silt - Stiff bottom
T8-03	Arkema	6/8/2011	30.0	2.8	Sand - Hard bottom
T8-04	Arkema	6/8/2011	31.0	2.5	Sand - Stiff bottom
T9-01	Materials Processing, Inc (MPI)	6/8/2011	21.0	1.7	Sand - Clay
T9-02	Materials Processing, Inc (MPI)	6/8/2011	31.0	2.3	Sand - Clay
T9-03	Materials Processing, Inc (MPI)	6/8/2011	32.0	2.0	Sand - Clay
T9-04	Materials Processing, Inc (MPI)	6/8/2011	34.0	4.0	Sand - Stiff bottom

Notes
1 Field data collected by ARCADIS June 7-15, 2011.

Table 6 - Prior Investigations Upper Trenton Channel Sediment Thickness Data

Location	Sub-area	Easting	Northing	River Mile	Sample Type	Vibracore Penetration Depth (feet)	Recovered Vibracore	Depth to Top of Native Clay (ft)	Soft Material Thickness/Probe Depth (ft)[1]	Sediment Thickness (ft)[2]	Depth Data Source
S1	City of Wyandotte	13454760.71	261263.5973	1.14	--	--	--	--	10.5	--	UTC RI Report [A]
DN-MARINA	City of Wyandotte	13454587.29	261059.9531	1.19	--	--	--	--	8.8	--	Database EDD [B]
S2	City of Wyandotte	13454569.94	260779.7443	1.24	--	--	--	--	7.3	--	UTC RI Report [A]
A1	City of Wyandotte	13454448.18	260395.2975	1.32	--	--	--	--	5.3	--	UTC RI Report [A]
A11	City of Wyandotte	13454359.56	260153.4704	1.37	--	--	--	--	6.0	--	UTC RI Report [A]
DN-WYAN	City of Wyandotte	13454406.73	260121.8945	1.37	--	--	--	--	3.0	--	Database EDD [B]
B2	City of Wyandotte	13454356.05	260022.2153	1.39	--	--	--	--	3.9	--	UTC RI Report [A]
B1	City of Wyandotte	13454294.96	259937.5039	1.41	--	--	--	--	3.0	--	UTC RI Report [A]
B3	City of Wyandotte	13454258.62	259827.6399	1.43	--	--	--	--	1.8	--	UTC RI Report [A]
B4	City of Wyandotte	13454222.7	259688.6256	1.46	--	--	--	--	2.5	--	UTC RI Report [A]
C1	City of Wyandotte	13454104.72	259603.0894	1.48	--	--	--	--	6.0	--	UTC RI Report [A]
C4	City of Wyandotte	13454167.92	259542.0486	1.49	--	--	--	--	4.7	--	UTC RI Report [A]
C11	City of Wyandotte	13454076.98	259460.5494	1.51	--	--	--	--	8.3	--	UTC RI Report [A]
C5	City of Wyandotte	13454078.88	259329.3729	1.53	--	--	--	--	6.2	--	UTC RI Report [A]
C6	City of Wyandotte	13453955.48	259243.759	1.56	--	--	--	--	9.5	--	UTC RI Report [A]
C7	City of Wyandotte	13453895.12	259108.0355	1.58	--	--	--	--	3.3	--	UTC RI Report [A]
C3	City of Wyandotte	13453985.05	259072.8934	1.58	--	--	--	--	6.4	--	UTC RI Report [A]
C8	City of Wyandotte	13453905.57	258947.8265	1.61	--	--	--	--	3.5	--	UTC RI Report [A]
C12	City of Wyandotte	13453830.56	258888.4265	1.63	--	--	--	--	5.0	--	UTC RI Report [A]
C9	City of Wyandotte	13453831.93	258793.6879	1.64	--	--	--	--	1.4	--	UTC RI Report [A]
D4	City of Wyandotte	13453850.77	258615.3776	1.67	--	--	--	--	2.0	--	UTC RI Report [A]
D5	City of Wyandotte	13453724.13	258566.1636	1.69	--	--	--	--	3.5	--	UTC RI Report [A]
D6	City of Wyandotte	13453748.39	258387.9317	1.72	--	--	--	--	1.5	--	UTC RI Report [A]
D2	City of Wyandotte	13453710.6	258190.5783	1.76	--	--	--	--	4.5	--	UTC RI Report [A]
D3	City of Wyandotte	13453677.17	258066.1792	1.78	--	--	--	--	4.8	--	UTC RI Report [A]
E3	City of Wyandotte	13453557.79	257889.5118	1.82	--	--	--	--	3.2	--	UTC RI Report [A]
E1	City of Wyandotte	13453471.39	257680.5214	1.87	--	--	--	--	3.6	--	UTC RI Report [A]
E2	City of Wyandotte	13453452.28	257315.7892	1.93	--	--	--	--	5.8	--	UTC RI Report [A]
E21	City of Wyandotte	13453424.69	257162.3185	1.96	--	--	--	--	2.0	--	UTC RI Report [A]
F1	City of Wyandotte	13453243.91	256733.2901	2.04	--	--	--	--	5.3	--	UTC RI Report [A]
E6	City of Wyandotte	13453288.26	256664.685	2.06	--	--	--	--	2.0	--	UTC RI Report [A]
F12	BASF - South Works	13453233.19	256350.4566	2.12	--	--	--	--	2.0	--	UTC RI Report [A]
F2	BASF - South Works	13453243.05	256230.3289	2.14	--	--	--	--	6.8	--	UTC RI Report [A]
F4	BASF - South Works	13453212.44	256098.6821	2.17	--	--	--	--	3.8	--	UTC RI Report [A]
F6	BASF - South Works	13453182.61	255912.3784	2.20	--	--	--	--	3.3	--	UTC RI Report [A]
F5	BASF - South Works	13453144.89	255897.2548	2.21	--	--	--	--	5.2	--	UTC RI Report [A]
G1	BASF - South Works	13453121.61	255820.3825	2.22	--	--	--	--	1.8	--	UTC RI Report [A]
G11	BASF - South Works	13453078.18	255637.5269	2.26	--	--	--	--	7.8	--	UTC RI Report [A]
G3	BASF - South Works	13453106.78	255346.3758	2.31	--	--	--	--	2.3	--	UTC RI Report [A]
G12	BASF - South Works	13452995.45	255173.4726	2.35	--	--	--	--	4.3	--	UTC RI Report [A]

Table 6 - Prior Investigations Upper Trenton Channel Sediment Thickness Data

Location	Sub-area	Easting	Northing	River Mile	Sample Type	Vibracore Penetration Depth (feet)	Recovered Vibracore	Depth to Top of Native Clay (ft)	Soft Material Thickness/Probe Depth (ft)[1]	Sediment Thickness (ft)[2]	Depth Data Source
H1	BASF - South Works	13452941.58	254775.4375	2.42	--	--	--	--	1.4	--	UTC RI Report [A]
H11	BASF - South Works	13452784.18	254226.4806	2.53	--	--	--	--	4.0	--	UTC RI Report [A]
H13	BASF - South Works	13452731.15	254145.5345	2.55	--	--	--	--	11.0	--	UTC RI Report [A]
H12	BASF - South Works	13452710.79	254054.1266	2.57	--	--	--	--	10.0	--	UTC RI Report [A]
H3	BASF - South Works	13452780.11	253945.7909	2.58	--	--	--	--	5.3	--	UTC RI Report [A]
I1	BASF - South Works	13452645.93	253852.7399	2.61	--	--	--	--	11.3	--	UTC RI Report [A]
I2	BASF - South Works	13452648.46	253677.8376	2.64	--	--	--	--	6.3	--	UTC RI Report [A]
I3	BASF - South Works	13452593.63	253345.3916	2.70	--	--	--	--	4.4	--	UTC RI Report [A]
I12	BASF - South Works	13452405.57	253229.6971	2.74	--	--	--	--	5.5	--	UTC RI Report [A]
J1	BASF - South Works	13452261.78	252863.1681	2.81	--	--	--	--	7.3	--	UTC RI Report [A]
VC-18	BASF - South Works	13452399.91	252727.0831	2.82	Vibracore	5.3	5.3	0.4	--	0.4	Boring Logs [C]
VC-26	BASF - South Works	13452252.63	252774.0613	2.83	Vibracore	5.0	--	2.3	--	2.3	Boring Logs [C]
VC-27	BASF - South Works	13452297.5	252747.6785	2.83	--	5.3	--	--	5.3	--	Boring Logs [C]
VC-28	BASF - South Works	13452343.51	252720.9189	2.83	Vibracore	3.9	--	--	3.9	--	Boring Logs [C]
VC-29	BASF - South Works	13452388.38	252694.5361	2.83	Vibracore	5.4	--	--	5.4	--	Boring Logs [C]
VC-22	BASF - South Works	13452178.26	252696.7066	2.85	Vibracore	2.2	--	--	2.2	--	Boring Logs [C]
VC-23	BASF - South Works	13452225.4	252669.5701	2.85	Vibracore	7.3	--	4.0	--	4.0	Boring Logs [C]
VC-24	BASF - South Works	13452272.53	252642.0566	2.85	Vibracore	2.5	--	--	2.5	--	Boring Logs [C]
VC-25	BASF - South Works	13452320.05	252614.1664	2.85	Vibracore	4.0	--	--	4.0	--	Boring Logs [C]
VC-19	Arkema	13452119.06	252613.4126	2.87	Direct Push	8.5	--	--	8.5	--	Boring Logs [C]
VC-20	Arkema	13452164.69	252588.5374	2.87	Vibracore	5.0	--	--	5.0	--	Boring Logs [C]
VC-21	Arkema	13452210.31	252562.1547	2.87	Vibracore	5.0	--	--	5.0	--	Boring Logs [C]
K1	Arkema	13452076.45	252557.9988	2.88	--	--	--	--	12.0	--	UTC RI Report [A]
VC-2	Arkema	13452115.41	252480.925	2.89	Vibracore	11.1	11.1	10.0	--	10.0	Boring Logs [C]
VC-1	Arkema	13452070.36	252501.785	2.89	Vibracore	10.9	10.9	--	10.9	--	Boring Logs [C]
VC-4	Arkema	13451681	251808.3264	3.04	Vibracore	9.1	9.1	7.0	--	7.0	Boring Logs [C]
VC-5	Arkema	13451727.84	251781.2464	3.04	Vibracore	6.4	6.4	2.1	--	2.1	Boring Logs [C]
VC-10	Arkema	13451358.04	251071.0379	3.19	Vibracore	10.3	10.3	8.0	--	8.0	Boring Logs [C]
VC-8	Arkema	13451298.23	251102.7778	3.19	Vibracore	3.2	3.2	--	3.2	--	Boring Logs [C]
FS0402	Arkema	13450956.4	250541.3	3.32	--	--	--	--	7.9	--	Prior Investigation Report [D]
VC-15	Arkema	13450930.08	250336.4893	3.35	Vibracore	6.7	6.7	--	6.7	--	Boring Logs [C]
VC-13	Arkema	13450865.6	250366.4293	3.35	Vibracore	4.0	4.0	--	4.0	--	Boring Logs [C]
FS0401	Arkema	13450841.3	250355.7	3.36	--	--	--	--	8.9	--	Prior Investigation Report [D]
FS0403	Arkema	13450699.35	250175.3946	3.40	--	--	--	--	8.9	--	Prior Investigation Report [D]
51 C1 Firestone Up	Materials Processing, Inc.	13450629.59	250109.2492	3.42	--	--	--	--	6.4	--	Prior Investigation Report [E]
FS-01	Materials Processing, Inc.	13450553.15	250020.68	3.44	--	--	--	--	8.8	--	Prior Investigation Report [D]
FS-02	Materials Processing, Inc.	13450554.16	249950.83	3.45	--	--	--	--	3.7	--	Prior Investigation Report [D]
FS-03	Materials Processing, Inc.	13450430.12	249809.98	3.49	--	--	--	--	6.7	--	Prior Investigation Report [D]
66C1 FRSTN Mid45 P	Materials Processing, Inc.	13450406.74	249809.98	3.49	--	--	--	--	3.4	--	Prior Investigation Report [E]

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Table 6 - Prior Investigations Upper Trenton Channel Sediment Thickness Data

Location	Sub-area	Easting	Northing	River Mile	Sample Type	Vibracore Penetration Depth (feet)	Recovered Vibracore	Depth to Top of Native Clay (ft)	Soft Material Thickness/Probe Depth (ft)[1]	Sediment Thickness (ft)[2]	Depth Data Source
FS-04	Materials Processing, Inc.	13450383.23	249614.91	3.52	--	--	--	--	2.7	--	Prior Investigation Report [D]
FS0404	Materials Processing, Inc.	13450271.82	249593.5478	3.54	--	--	--	--	3.0	--	Prior Investigation Report [D]
FS-05	Materials Processing, Inc.	13450173.51	249335.53	3.59	--	--	--	--	2.0	--	Prior Investigation Report [D]
FS0405	Materials Processing, Inc.	13449993.71	249124.396	3.64	--	--	--	--	8.4	--	Prior Investigation Report [D]
MC-14	Downstream of Grosse Ile Bridge	13449293.68	247828.68	3.92	--	--	--	--	4.4	--	Prior Investigation Report [D]
MC-15	Downstream of Grosse Ile Bridge	13449200.29	247574.1	3.97	--	--	--	--	3.7	--	Prior Investigation Report [D]
MC04-09	Downstream of Grosse Ile Bridge	13449104	247262.9315	4.03	--	--	--	--	13.8	--	Prior Investigation Report [D]
Beak-73	Downstream of Grosse Ile Bridge	13448995.32	247301.4298	4.03	--	--	--	--	19.7	--	Prior Investigation Report [F]
MC-16	Downstream of Grosse Ile Bridge	13449143.8	247218.52	4.03	--	--	--	--	8.4	--	Prior Investigation Report [D]
MC-17	Downstream of Grosse Ile Bridge	13449068.27	247096.55	4.06	--	--	--	--	9.2	--	Prior Investigation Report [D]
MC04-10	Downstream of Grosse Ile Bridge	13449069.03	247001.9004	4.08	--	--	--	--	13.3	--	Prior Investigation Report [D]
25C1 MNCKDNS Nrshr	Downstream of Grosse Ile Bridge	13449048.72	246979.0416	4.08	--	--	--	--	4.3	--	Prior Investigation Report [E]
MC-18	Downstream of Grosse Ile Bridge	13449020.95	246897.87	4.10	--	--	--	--	9.0	--	Prior Investigation Report [D]
MC04-11	Downstream of Grosse Ile Bridge	13449025.71	246749.5081	4.12	--	--	--	--	11.8	--	Prior Investigation Report [D]

Notes

1 "Soft Material Thickness" represents the total core recovery depth for samples with data reports available, or the deepest sample depth as recorded in the UTC Sediment Database, Version 1.0.
2 "Sediment Thickness" is the depth from the top of the sediment to the top of the "native clay" as recorded in available boring logs.
3 Data for vibracore locations obtained from field stratigraphy logs.
4 Depth Interval Data Sources:
- A - USEPA GLNPO. 2010. Trenton Channel Remedial Investigation Report, Interim Final. July 2010.
- B - Laboratory EDD files compiled in the Upper Trenton Channel Sediment Database, Version 1.0. Submitted to USEPA GLNPO June 16, 2011.
- C - CRA. 2005. East Plant Sediment Survey Report, Arkema, Inc. Riverview/Wyandotte, Michigan. December 2005.
- D - MACTEC. 2005. Draft Feasibility Report, Detroit River - Riverview Site, Riverview, Michigan. March 2005.
- E - MDEQ. 1997. Results of the Trenton Channel Project Sediment Surveys 1993-1996. July 1997.
- F - Beak Consultants Limited. 1993. Environmental Assessment of Detroit River Sediments and Benthic Macroinvertebrate Communities - 1991. June 1993.

Table 7 - USEPA GLNPO 2011 Sediment Core and Grab Sample Location Coordinates and Thickness Data

Location	Sub-area	Easting	Northing	Date	River Mile	Water Depth (ft)	Sample Type	Recovered Vibracore (ft)	Depth to Top of Native Clay (ft)	Soft Material Thickness/Probe Depth[2] (ft)	Sediment Thickness[3] (ft)
SG-001	BASF - North Works	-83 08.4471	42 12.9778	4/30/2011	0.71	29.4	Grab	--	--	--	--
SG-002	BASF - North Works	-83 08.4965	42 12.8179	4/30/2011	0.90	24.4	Grab	--	--	--	--
SG-003	BASF - North Works	-83 08.5609	42 12.6655	4/30/2011	1.08	19.9	Grab	--	--	--	--
SG-005	BASF - North Works	-83 08.454	42 13.036	4/30/2011	0.64	26.6	Grab	--	--	--	--
SG-006	BASF - North Works	-83 08.4468	42 12.9276	4/30/2011	0.76	23.6	Grab	--	--	--	--
SG-007	BASF - North Works	-83 08.5288	42 12.7425	4/30/2011	0.99	20.1	Grab	--	--	--	--
SD-001	City of Wyandotte	-83 08.5812	42 12.6223	6/17/2011	1.14	21.5	Vibracore	6.8	6.7	--	6.7
SD-002	City of Wyandotte	-83 08.5834	42 12.5889	6/17/2011	1.17	28.0	Vibracore	1.3	0	--	0.0
SD-004	City of Wyandotte	-83 08.6173	42 12.5881	5/4/2011	1.19	11.8	Vibracore	9.0	--	9.0	--
SD-003	City of Wyandotte	-83 09.6080	42 12.5622	6/17/2011	1.20	24.4	Vibracore	4.4	3.4	--	3.4
SD-005	City of Wyandotte	-83 08.6247	42 12.5225	5/4/2011	1.25	18.8	Vibracore	4.4	--	4.4	--
SD-006	City of Wyandotte	-83 08.6153	42 12.5380	6/17/2011	1.24	26.9	Vibracore	1.3	0.3	--	0.3
SD-007	City of Wyandotte	-83 08.6468	42 12.5005	5/4/2011	1.29	22.0	Vibracore	4	--	4	--
SD-008	City of Wyandotte	-83 08.6513	42 12.4502	6/17/2011	1.34	--	Vibracore	--	--	--	--
SD-009	City of Wyandotte	-83 08.6683	42 12.4608	5/4/2011	1.34	20.4	Vibracore	3.6	0	--	0.0
SD-010	City of Wyandotte	-83 08.6742	42 12.4317	6/17/2011	1.37	28.6	Vibracore	0.7	0.5	--	0.5
SG-008	City of Wyandotte	-83 08.5889	42 12.6082	4/30/2011	1.15	20.0	Grab	--	--	--	--
SG-009	City of Wyandotte	-83 08.6199	42 12.5651	4/30/2011	1.21	20.6	Grab	--	--	--	--
SG-010	City of Wyandotte	-83 08.6157	42 12.5506	4/30/2011	1.22	27.2	Grab	--	--	--	--
SG-011	City of Wyandotte	-83 08.6405	42 12.5177	4/30/2011	1.27	25.0	Grab	--	--	--	--
SG-012	City of Wyandotte	-83 08.6531	42 12.4713	4/30/2011	1.32	28.2	Grab	--	--	--	--
SG-013	City of Wyandotte	-83 08.6606	42 12.4328	4/30/2011	1.36	--	--	--	--	0	--
SG-014	City of Wyandotte	-83 08.6745	42 12.4244	4/30/2011	1.38	27.7	Grab	--	--	--	--
SD-011	City of Wyandotte	-83 08.6819	42 12.3964	4/30/2011	1.41	30.0	Vibracore	1.5	--	1.5	--
SD-012	City of Wyandotte	-83 08.7036	42 12.3341	4/30/2011	1.48	27.8	Vibracore	1.3	--	1.3	--
SD-013B	City of Wyandotte	-83 08.7372	42 12.3449	4/29/2011	1.48	15.5	Vibracore	6.4	--	6.4	--
SD-014	City of Wyandotte	-83 08.7484	42 12.3480	4/29/2011	1.49	3.3	Vibracore	1.5	0.5	--	0.5
SD-015	City of Wyandotte	-83 08.7565	42 12.3226	4/29/2011	1.52	5.0	Vibracore	9		9	--
SD-016	City of Wyandotte	-83 08.7611	42 12.3115	4/29/2011	1.53	7.5	Vibracore	18.6		18.6	--
SD-017	City of Wyandotte	-83 08.7716	42 12.2912	4/29/2011	1.56	8.8	Vibracore	16		16	--
SD-018	City of Wyandotte	-83 08.7823	42 12.2685	4/29/2011	1.58	12.0	Vibracore	12.3		12.3	--
SD-019	City of Wyandotte	-83 08.7775	42 12.2461	4/29/2011	1.60	27.5	Vibracore	5.8	5.8	--	5.8
SD-020	City of Wyandotte	-83 08.8014	42 12.2192	4/29/2011	1.64	--	Vibracore	4	--	--	--
SG-015	City of Wyandotte	-83 08.6631	42 12.4083	4/30/2011	1.39	29.2	Grab	--	--	--	--
SG-016	City of Wyandotte	-83 08.6968	42 12.3754	4/30/2011	1.44	29.6	Grab	--	--	--	--
SG-017	City of Wyandotte	-83 08.6827	42 12.3539	5/1/2011	1.45	28.9	Grab	--	--	--	--
SG-018	City of Wyandotte	-83 08.7039	42 12.3457	5/1/2011	1.47	28.9	Grab	--	--	--	--
SG-019	City of Wyandotte	-83 08.7063	42 12.3230	5/1/2011	1.49	27.4	Grab	--	--	--	--
SG-020	City of Wyandotte	-83 08.7326	42 12.3140	5/1/2011	1.51	27.9	Grab	--	--	--	--
SG-021	City of Wyandotte	-83 08.7748	42 12.2252	5/1/2011	1.62	31.5	Grab	--	--	--	--
SD-021	BASF - South Works	-83 08.9818	42 11.6519	6/16/2011	2.31	29.0	Vibracore	2.8	0.8	--	0.8
SD-022	BASF - South Works	-83 09.0354	42 11.5231	6/16/2011	2.46	--	--	--	--	--	--
SD-023	BASF - South Works	-83 09.0372	42 11.4983	6/16/2011	2.49	27.0	Vibracore	4	2.3	--	2.3
SD-024	BASF - South Works	-83 09.0686	42 11.4540	6/16/2011	2.55	--	--	--	--	--	--
SD-025	BASF - South Works	-83 09.0734	42 11.4102	6/16/2011	2.60	30.0	Vibracore	1.7	--	1.7	--

Table 7 - USEPA GLNPO 2011 Sediment Core and Grab Sample Location Coordinates and Thickness Data

Location	Sub-area	Easting	Northing	Date	River Mile	Water Depth (ft)	Sample Type	Recovered Vibracore (ft)	Depth to Top of Native Clay (ft)	Soft Material Thickness/Probe Depth[2] (ft)	Sediment Thickness[3] (ft)
SD-026	BASF - South Works	-83 09.0932	42 11.3845	6/16/2011	2.63	25.0	Vibracore	1.3	--	1.3	--
SD-027	BASF - South Works	-83 09.1241	42 11.3064	6/17/2011	2.72	30.4	Vibracore	3.5	0.1	--	0.1
SD-093	BASF - South Works	-83 08.9841	42 11.6371	6/17/2011	2.32	32.3	Vibracore	1.3	--	1.3	--
SD-028	BASF - South Works	-83 9.1748	42 11.2347	4/26/2011	2.82	28.6	Vibracore	0.6	0.5	--	0.5
SD-072	BASF - South Works	-83 09.1531	42 11.2117	5/2/2011	2.83	32.8	Vibracore	3.3	0.0	--	0.0
SD-029	BASF - South Works	-83 09.167	42 11.215	4/25/2011	2.83	31.5	Vibracore	0.5	0.0	--	0.0
SG-023	BASF - South Works	-83 09.1601	42 11.2099	5/5/2011	2.83	32.2	Grab	--	--	--	--
SG-024	BASF - South Works	-83 09.1853	42 11.2189	5/5/2011	2.84	26.4	Grab	--	--	--	--
SG-025	BASF - South Works	-83 09.1799	42 11.1946	5/5/2011	2.86	31.9	Grab	--	--	--	--
SD-031	BASF - South Works	-83 09.1916	42 11.2156	4/26/2011	2.85	23.5	Vibracore	2.8	--	2.8	--
SD-030	BASF - South Works	-83 09.1798	42 11.1990	5/3/2011	2.86	30.9	Vibracore	2.5	--	2.5	--
SD-032	BASF - South Works	-83 09.2026	42 11.2064	4/26/2011	2.86	14.7	Vibracore	7	--	7	--
SD-073	BASF - South Works	-83 09.1404	42 11.2115	6/14/2011	2.83	33.0	Vibracore	2.9	0.2	--	0.2
SD-074	BASF - South Works	-83 09.1494	42 11.2003	6/14/2011	2.84	33.0	Vibracore	5	0.0	--	0.0
SD-075	BASF - South Works	-83 09.1640	42 11.1937	6/14/2011	2.85	33.0	Vibracore	2.5	0.0	--	0.0
SD-034	Arkema	-83 09.1943	42 11.1875	4/25/2011	2.87	28.6	Vibracore	2.5	--	2.5	--
SD-033	Arkema	-83 09.1906	42 11.1809	5/3/2011	2.88	31.7	Vibracore	2.7	--	2.7	--
SG-026	Arkema	-83 09.1939	42 11.1734	5/5/2011	2.89	31.2	Grab	--	--	--	--
SD-035	Arkema	-83 09.2145	42 11.1885	4/26/2011	2.89	13.5	Vibracore	0.9	--	0.9	--
SD-036	Arkema	-83 09.2142	42 11.1832	4/26/2011	2.89	13.9	Vibracore	3.4	--	3.4	--
SD-037	Arkema	-83 09.1972	42 11.1559	5/2/2011	2.90	32.2	Vibracore	1.8	--	1.8	--
SD-038	Arkema	-83 09.2235	42 11.1657	4/27/2011	2.91	17.0	Vibracore	8.6	--	8.6	--
SG-027	Arkema	-83 09.2081	42 11.1500	5/5/2011	2.91	31.2	Grab	--	--	--	--
SG-028	Arkema	-83 09.2266	42 11.1614	5/5/2011	2.92	16.6	Grab	--	--	--	--
SD-039	Arkema	-83 09.2288	42 11.1538	5/3/2011	2.92	24.8	Vibracore	4.5	1.0	--	1.0
SD-040	Arkema	-83 09.2257	42.11.1377	4/25/2011	2.94	26.5	Vibracore	2.5	--	2.5	--
SD-041	Arkema	-83 09.2416	42 11.1470	4/27/2011	2.94	13.9	Vibracore	2.7	--	2.7	--
SG-029	Arkema	-83 09.2368	42 11.1350	5/5/2011	2.94	26.1	Grab	--	--	--	--
SD-042	Arkema	-83 09.2517	42 11.1147	4/25/2011	2.97	26.5	Vibracore	0.5	--	0.5	--
SG-030	Arkema	-83 09.2617	42 11.0968	5/5/2011	2.99	28.0	Grab	--	--	--	--
SG-031	Arkema	-83 09.2851	42 11.0721	5/5/2011	3.03	34.0	Grab	--	--	--	--
SD-076	Arkema	-83 09.1722	42 11.1732	6/14/2011	2.88	33.0	Vibracore	2.2	0.0	--	0.0
SD-077	Arkema	-83 09.1891	42 11.1664	6/14/2011	2.89	33.0	Vibracore	0.9	0.0	--	0.0
SD-078	Arkema	-83 09.1877	42 11.1522	6/14/2011	2.91	33.5	Vibracore	1.3	0.2	--	0.2
SD-079	Arkema	-83 09.2055	42 11.1452	6/14/2011	2.92	31.2	Vibracore	4.2	0.0	--	0.0
SD-080	Arkema	-83 09.2054	42 11.1299	6/14/2011	2.94	33.5	Vibracore	3.2	0.0	--	0.0
SD-081	Arkema	-83 09.2156	42 11.1118	6/14/2011	2.96	33.8	Vibracore	2.9	0.0	--	0.0
SD-082	Arkema	-83 09.2338	42 11.0999	6/14/2011	2.98	32.1	Vibracore	1.6	0.2	--	0.2
SD-083	Arkema	-83 09.2823	42 11.0887	6/15/2011	3.01	26.8	Vibracore	2.2	0.2	--	0.2
SD-084	Arkema	-83 09.2531	42 11.0814	6/15/2011	3.00	30.5	Vibracore	2.3	--	2.3	--
SD-085	Arkema	-83 09.3044	42 11.0619	6/15/2011	3.05	22.0	Vibracore	5.2	1.9	--	1.9
SD-086	Arkema	-83 09.2859	42 11.0566	6/15/2011	3.04	29.8	Vibracore	1.6	0.0	--	0.0
SD-087	Arkema	-83 09.2929	42 11.0361	6/15/2011	3.07	28.0	Vibracore	2.4	0.0	--	0.0
SD-088	Arkema	-83 09.3251	42 11.0300	6/15/2011	3.09	25.5	Vibracore	1.6	0.0	--	0.0
SD-089	Arkema	-83 09.3124	42 11.0140	6/15/2011	3.10	31.0	Vibracore	1.4	0.0	--	0.0

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Table 7 - USEPA GLNPO 2011 Sediment Core and Grab Sample Location Coordinates and Thickness Data

Location	Sub-area	Easting	Northing	Date	River Mile	Water Depth (ft)	Sample Type	Recovered Vibracore (ft)	Depth to Top of Native Clay (ft)	Soft Material Thickness/Probe Depth[2] (ft)	Sediment Thickness[3] (ft)
SD-090	Arkema	-83 09.3557	42 11.0037	6/15/2011	3.13	9.8	Vibracore	0.9	0.0	--	0.0
SD-091	Arkema	-83 09.3414	42 10.9966	6/15/2011	3.13	--	--	--	--	--	--
SD-092	Arkema	-83 09.2184	42 11.1917	6/16/2011	2.88	--	--	--	--	--	--
SD-043	Arkema	-83 09.2700	42 11.0735	5/3/2011	3.02	28.8	Vibracore	3.6	0.5	--	0.5
SD-044	Arkema	-83 09.3036	42 11.0431	5/3/2011	3.06	26.7	Vibracore	2.2	0.0	--	0.0
SG-032	Arkema	-83 09.3262	42 11.0100	5/5/2011	3.11	28.0	Grab	--	--	--	--
SD-045a	Arkema	-83 09.3491	42 11.0177	4/27/2011	3.11	9.7	Vibracore	1.5	--	1.5	--
SD-045b	Arkema	-83 09.3417	42 11.0116	4/27/2011	3.11	23.0	Vibracore	2.7	--	2.7	--
SD-046	Arkema	-83 09.3594	42 10.9738	5/3/2011	3.16	--	--	--	--	0	--
SD-047	Arkema	-83 09.3751	42 10.9391	5/4/2011	3.19	27.9	Vibracore	2.1	1.1	--	1.1
SG-033	Arkema	-83 09.4002	42 10.9479	5/5/2011	3.20	16.5	Grab	--	--	--	--
SD-048	Arkema	-83 09.4206	42 10.9017	5/4/2011	3.25	20.6	Vibracore	8.4	--	8.4	--
SG-034	Arkema	-83 09.4440	42 10.8676	5/5/2011	3.30	25.0	Grab	--	--	--	--
SD-049b	Arkema	-83 09.4670	42 10.8674	4/27/2011	3.31	19.0	Vibracore	3.5	--	3.5	--
SD-050	Arkema	-83 09.4785	42 10.8290	5/4/2011	3.35	24.1	Vibracore	6.6	6.5	--	6.5
SD-051	Arkema	-83 09.5164	42 10.8064	5/3/2011	3.39	18.6	Vibracore	2.4	--	2.4	--
SG-035	Arkema	-83 09.4939	42 10.7997	5/5/2011	3.39	30.4	Grab	--	--	--	--
SD-052	Materials Processing, Inc (MPI)	-83 09.5304	42 10.7887	5/1/2011	3.42	25.0	Vibracore	1.7	--	1.7	--
SD-053	Materials Processing, Inc (MPI)	-83 09.5413	42 10.7663	5/1/2011	3.44	27.7	Vibracore	4.2	3.0	--	3.0
SD-054	Materials Processing, Inc (MPI)	-83 09.5603	42 10.7786	5/1/2011	3.45	5.7	Vibracore	9.2	--	9.2	--
SG-036	Materials Processing, Inc (MPI)	-83 09.5670	42 10.7622	5/5/2011	3.46	20.6	Grab	--	--	--	--
SD-055	Materials Processing, Inc (MPI)	-83 09.5777	42 10.7411	5/1/2011	3.49	24.3	Vibracore	4.4	0.3	--	0.3
SG-038	Materials Processing, Inc (MPI)	-83 09.5855	42 10.7206	5/5/2011	3.51	27.0	Grab	--	--	--	--
SG-037	Materials Processing, Inc (MPI)	-83 09.6012	42 10.7324	5/5/2011	3.51	19.2	Grab	--	--	--	--
SD-056	Materials Processing, Inc (MPI)	-83 09.6063	42 10.7081	5/1/2011	3.53	25.5	Vibracore	5.2	--	5.2	--
SD-057	Materials Processing, Inc (MPI)	-83 09.6216	42 10.7132	5/4/2011	3.54	8.7	Vibracore	1.8	--	1.8	--
SG-039	Materials Processing, Inc (MPI)	-83 09.6371	42 10.6948	5/5/2011	3.56	16.0	Grab	--	--	--	--
SG-040	Materials Processing, Inc (MPI)	-83 09.6211	42 10.6791	5/5/2011	3.57	30.0	Grab	--	--	--	--
SD-058	Materials Processing, Inc (MPI)	-83 09.6461	42 10.6704	5/4/2011	3.59	22.0	Vibracore	2.5	0	--	0.0
SG-041	Materials Processing, Inc (MPI)	-83 09.6589	42 10.6667	5/5/2011	3.60	16.9	Grab	--	--	--	--
SG-042	Materials Processing, Inc (MPI)	-83 09.6480	42 10.6462	5/5/2011	3.61	31.6	Grab	--	--	--	--
SD-059	Materials Processing, Inc (MPI)	-83 09.6563	42 10.6361	5/4/2011	3.63	--	--	--	--	0	--
SD-060	Materials Processing, Inc (MPI)	-83 09.6821	42 10.6427	5/4/2011	3.64	6.9	Vibracore	2.5	1.7	--	1.7
SD-061	Materials Processing, Inc (MPI)	-83 09.6960	42 10.6228	5/4/2011	3.66	5.9	Vibracore	7.2	5.9	--	5.9
SD-062	Downstream of Grosse Ile Bridge	-83 09.8528	42 10.4237	5/2/2011	3.93	7.7	Vibracore	2.4	0.8	--	0.8
SD-063	Downstream of Grosse Ile Bridge	-83 09.8302	42 10.3952	5/2/2011	3.94	38.9	Vibracore	2.3	0	--	0.0
SD-064	Downstream of Grosse Ile Bridge	-83 09.8300	42 10.3753	5/2/2011	3.95	32.5	Vibracore	2.7	0	--	0.0
SD-065	Downstream of Grosse Ile Bridge	-83 09.8459	42 10.3507	5/2/2011	3.98	28.9	Vibracore	2.5	0	--	0.0
SD-066	Downstream of Grosse Ile Bridge	-83 09.8762	42 10.3456	5/2/2011	4.01	19.7	Vibracore	9	6.1	--	6.1
SD-067	Downstream of Grosse Ile Bridge	-83 09.8967	42 10.3222	5/2/2011	4.04	6.3	Vibracore	8.9	--	8.9	--
SD-068	Downstream of Grosse Ile Bridge	-83 09.8894	42 10.2957	5/2/2011	4.06	--	Vibracore	4.8	0.4	--	0.4
SD-069	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--
SD-070	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--
SD-071	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--
SG-043	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--

Table 7 - USEPA GLNPO 2011 Sediment Core and Grab Sample Location Coordinates and Thickness Data

Location	Sub-area	Easting	Northing	Date	River Mile	Water Depth (ft)	Sample Type	Recovered Vibracore (ft)	Depth to Top of Native Clay (ft)	Soft Material Thickness/Probe Depth[2] (ft)	Sediment Thickness[3] (ft)
SG-044	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--
SG-045	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--
SG-046	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--
SG-047	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--
SG-048	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--
SG-049	Downstream of Grosse Ile Bridge	NA	NA	NA	NA	NA	Not sampled	--	--	--	--

Notes
1 USEPA GLNPO 2011 sediment cores and grab samples collected April 25 - May 5, 2011 and June 14-17, 2011.
2 "Soft Material Thickness" for GLNPO samples represents the total recovered Vibracore sample length when a "native clay" material was not identified in the boring log.
3 "Sediment Thickness" is the depth from the top of the sediment to the top of the "native clay".

Table 8 - Estimated Volume of Soft Material Based on Interpolated Surface

Property (Sub-area)	Approximate Shoreline Length (miles)	Total Volume of Soft Material[1] (cy)
City of Wyandotte	0.98	122,000
BASF South Works	0.77	65,000
Arkema	0.54	87,000
Materials Processing Inc. (MPI)	0.31	46,000
Downstream of Grosse Ile Bridge	0.20	46,000
	Total	366,000

Notes

1. "Soft Material Thickness" represents the total core recovery depth for samples with data reports available, or the deepest sample depth as recorded in the UTC Sediment Databse, Version 1.0.
2. 2011 sediment data are from ARCADIS 2011 and GLNPO 2011. Prior investigation data are from Beak 1991, MDEQ 1993-1996, MDEQ 2000, MDEQ 2004, MDEQ 2007, CRA 2005/2006, GLNPO 2006/2007.
3. Ocean Surveys, Inc. completed extensive probing and sediment thickness measurement work along the Arkema property in 2005 which is not represented in the estimates of total volume of soft material.
4. Ocean Surveys, Inc. estimated a volume of 67,500 cubic yards of unconsolidated sediments overlying stiff clay along an area (2,800 feet long and extending 300 feet offshore) of the Arkema East Plant shoreline. (CRA. 2005. East Plant Sediment Survey Report, Arkema Inc., Riverview/Wyandotte, Michigan. Conestoga-Rovers & Associates. December 2005. Appendix A – Ocean Surveys, Inc. Final Report, Marine Site Investigation, Detroit River, Arkema East Plant. December 8, 2005.)

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Figures

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
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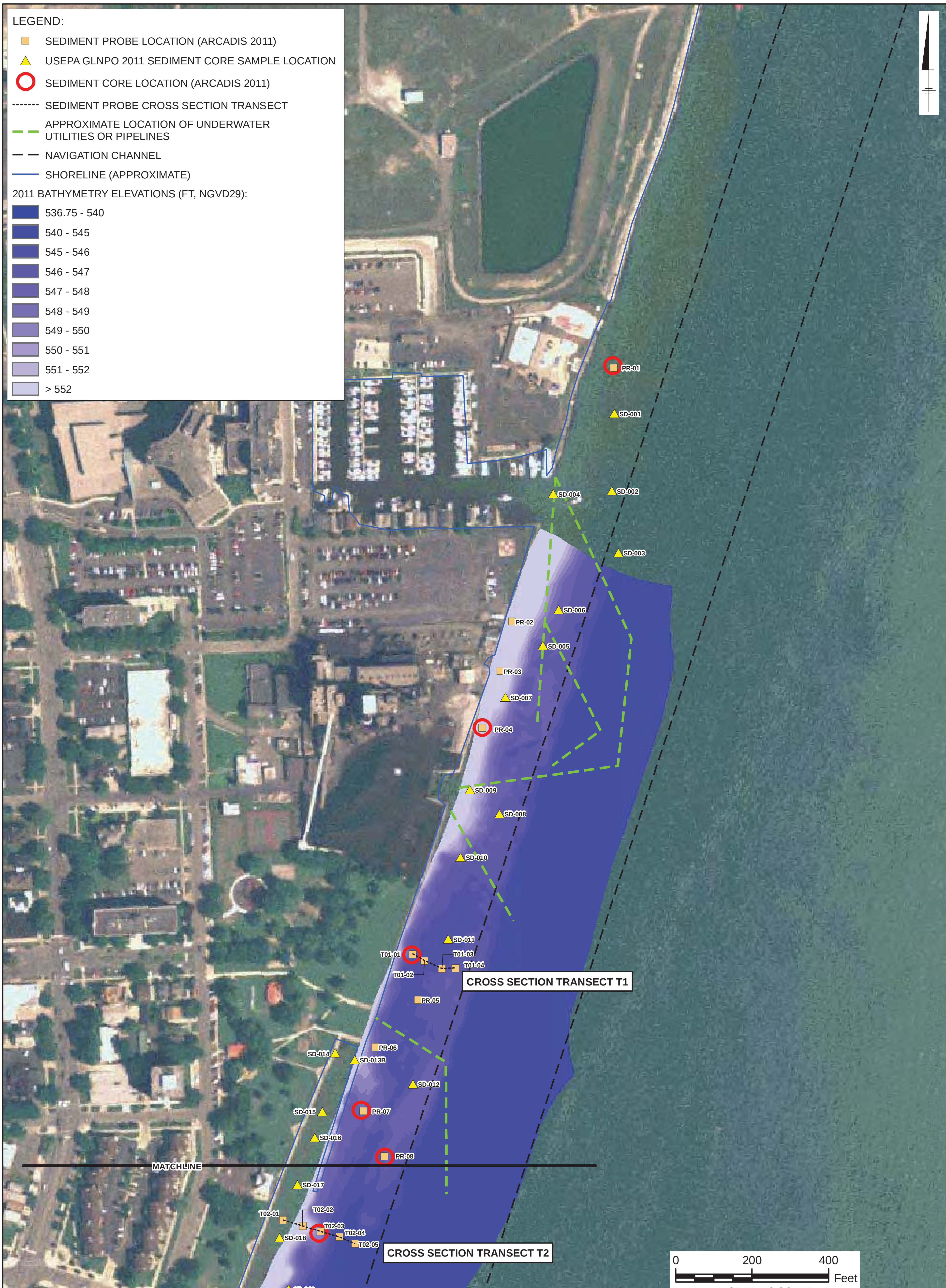

NOTES:

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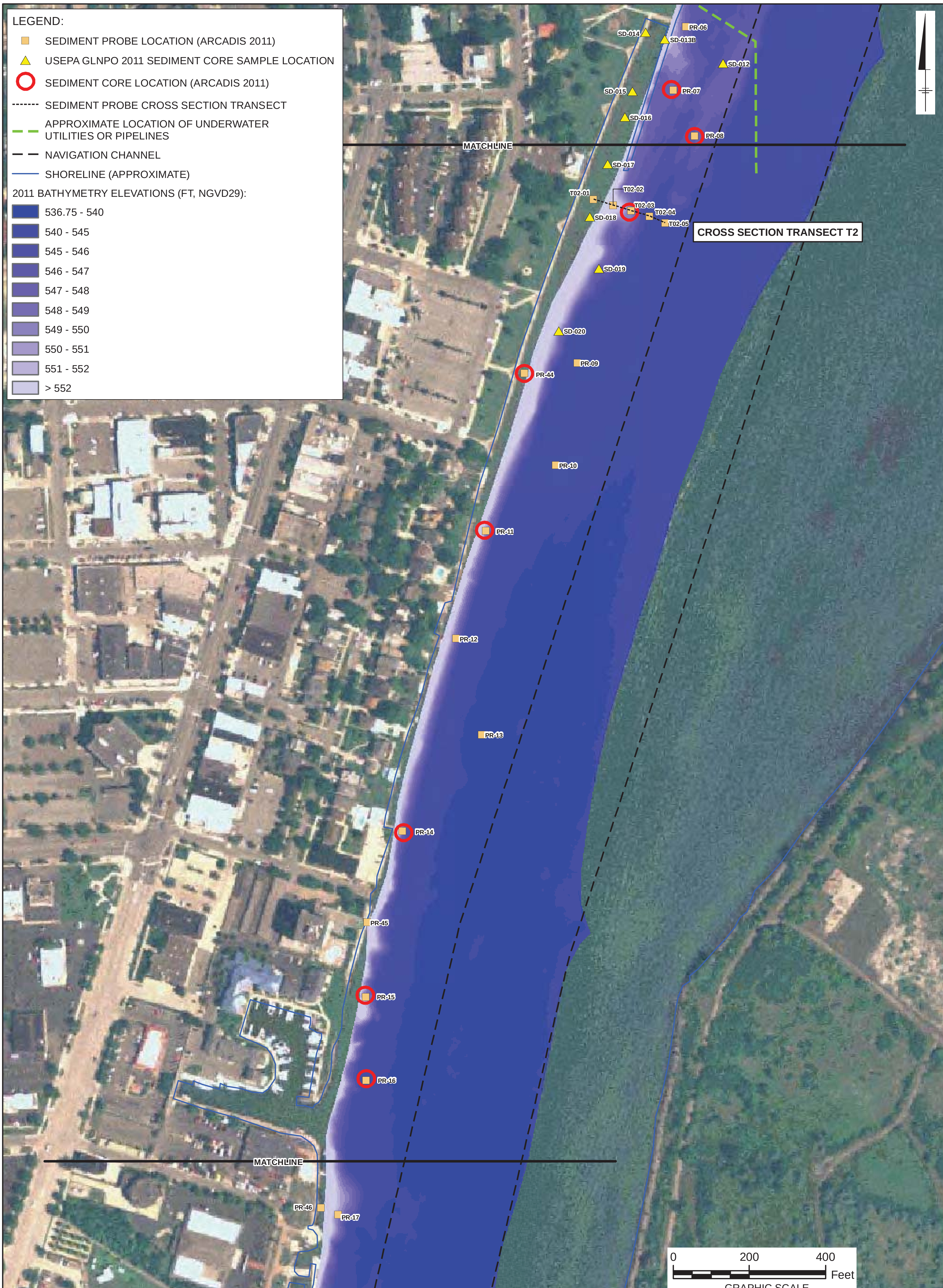
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

2011 SEDIMENT PROBING AND CORE LOCATIONS

ARCADIS

FIGURE
1a



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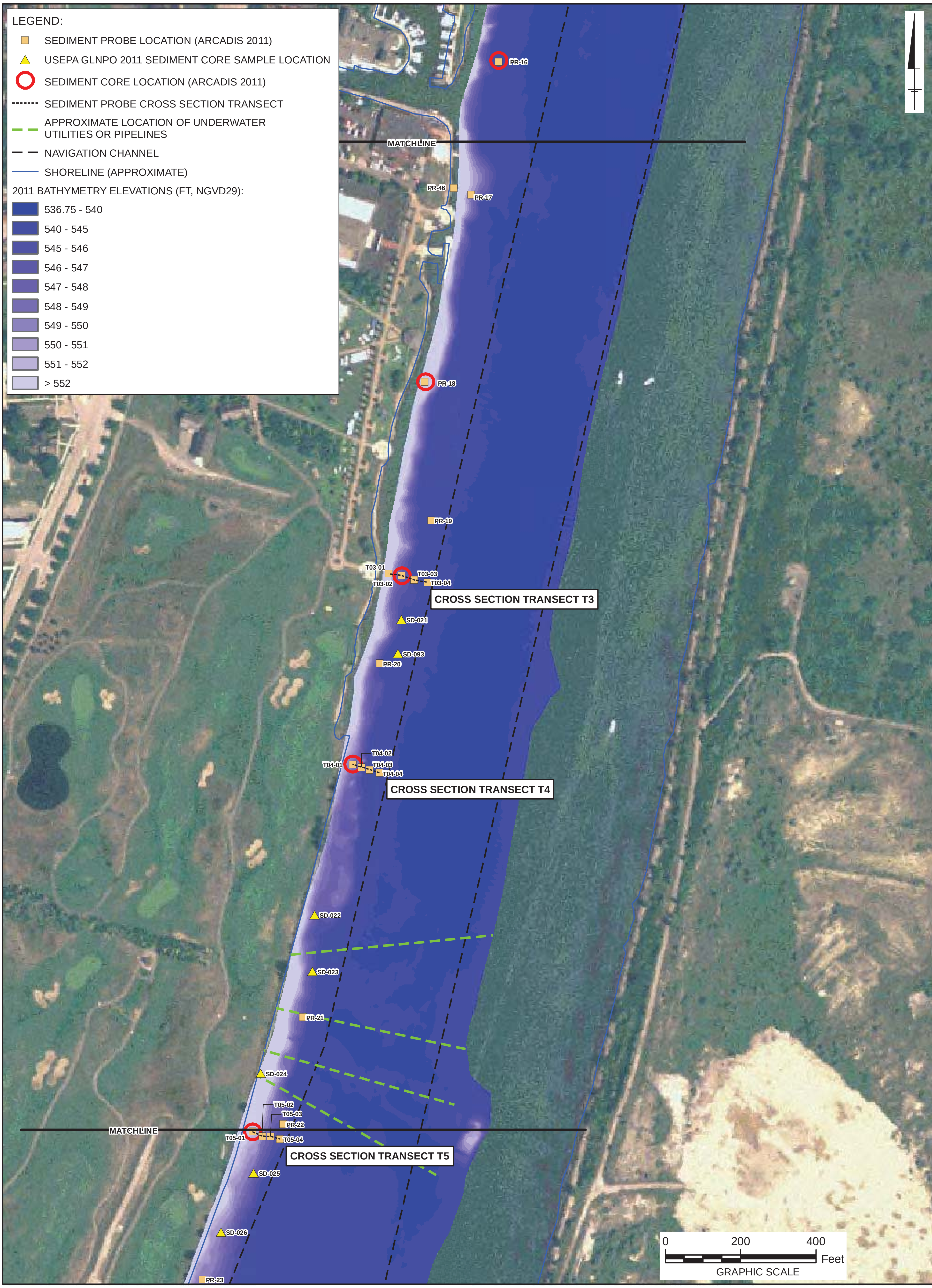
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

2011 SEDIMENT PROBING AND CORE LOCATIONS

ARCADIS

FIGURE
1b



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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

2011 SEDIMENT PROBING AND CORE LOCATIONS

ARCADIS

FIGURE
1c

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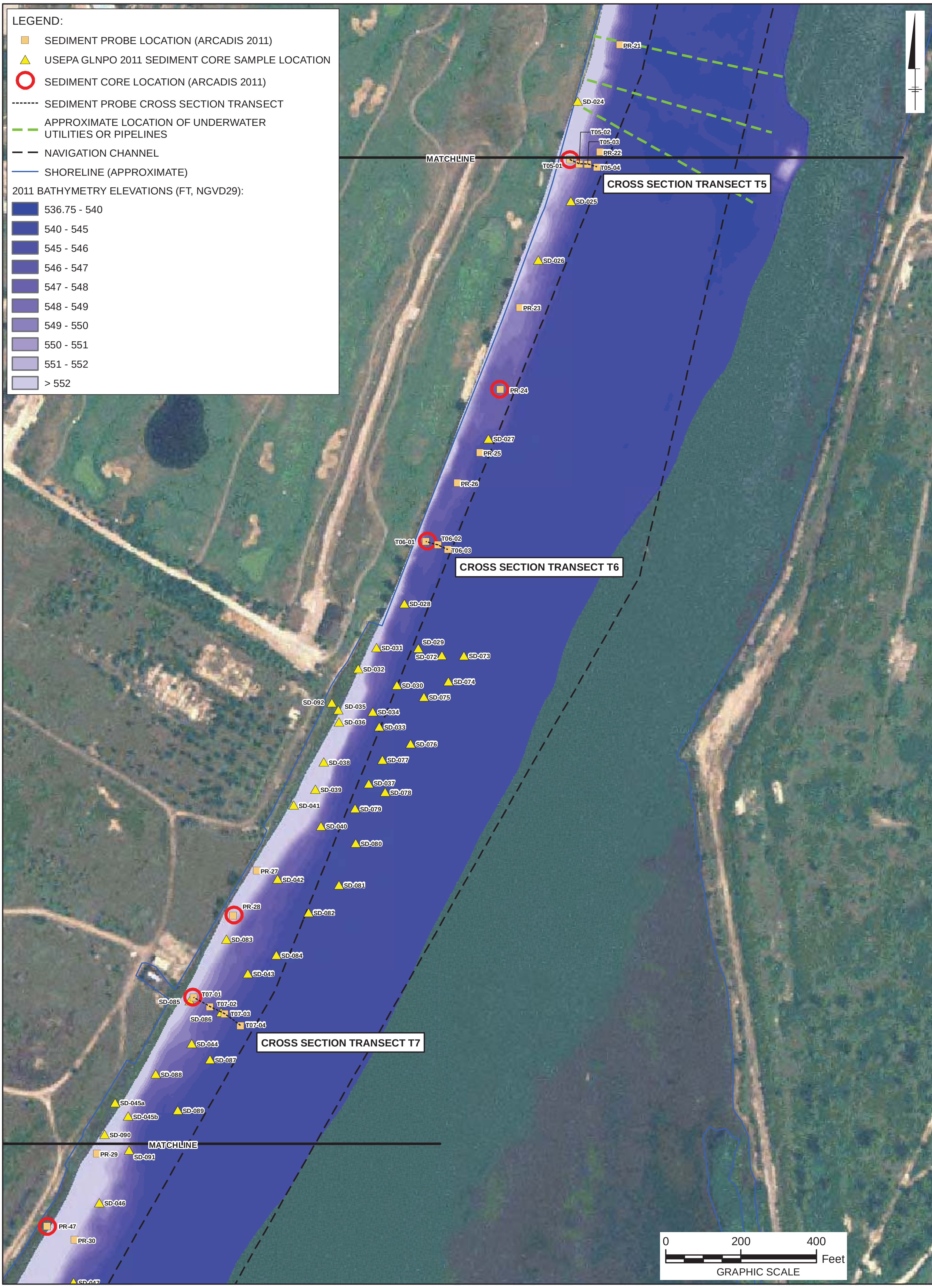

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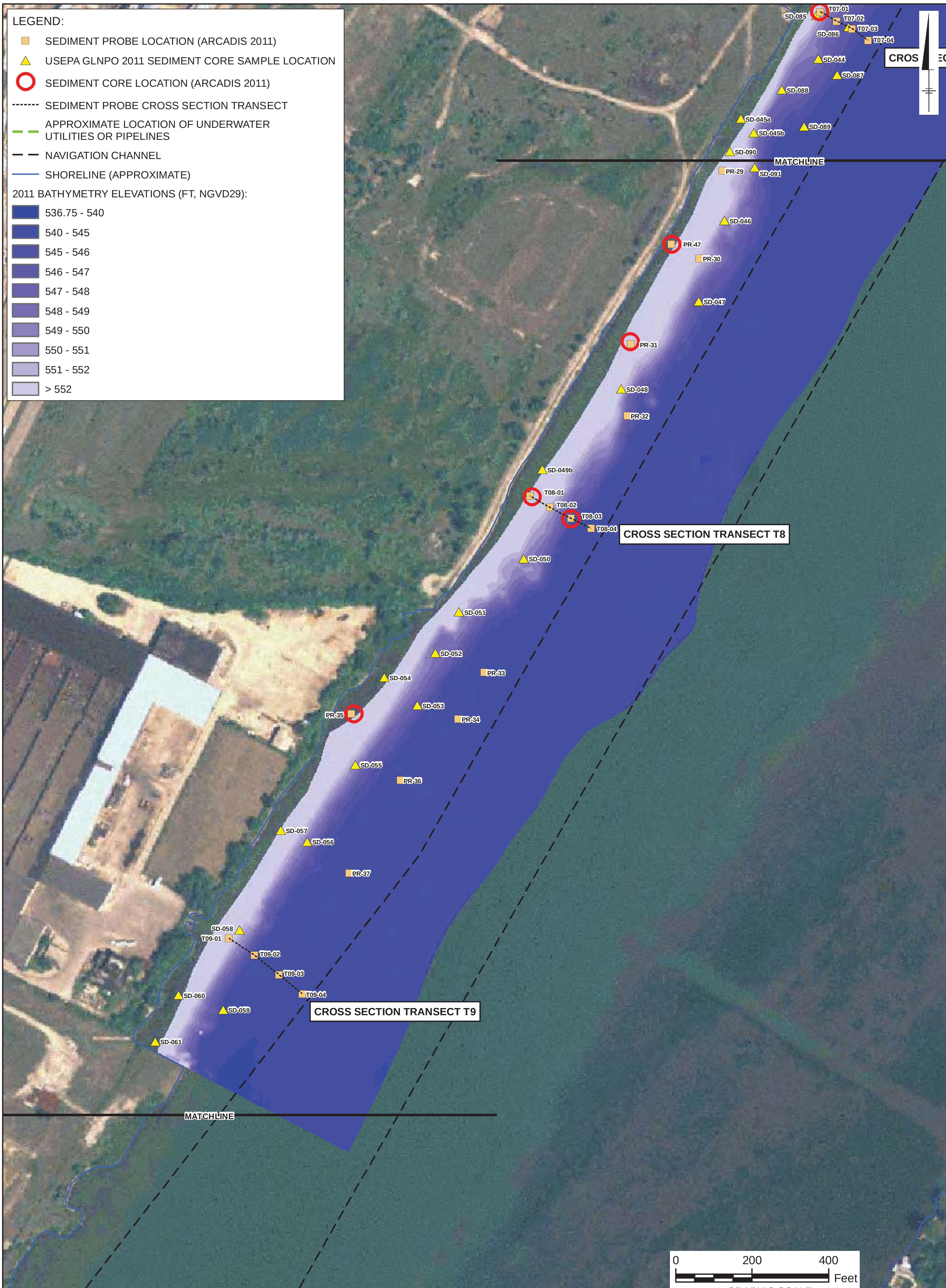
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

2011 SEDIMENT PROBING AND CORE LOCATIONS

ARCADIS

FIGURE
1d



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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

2011 SEDIMENT PROBING AND CORE LOCATIONS

ARCADIS

FIGURE
1e

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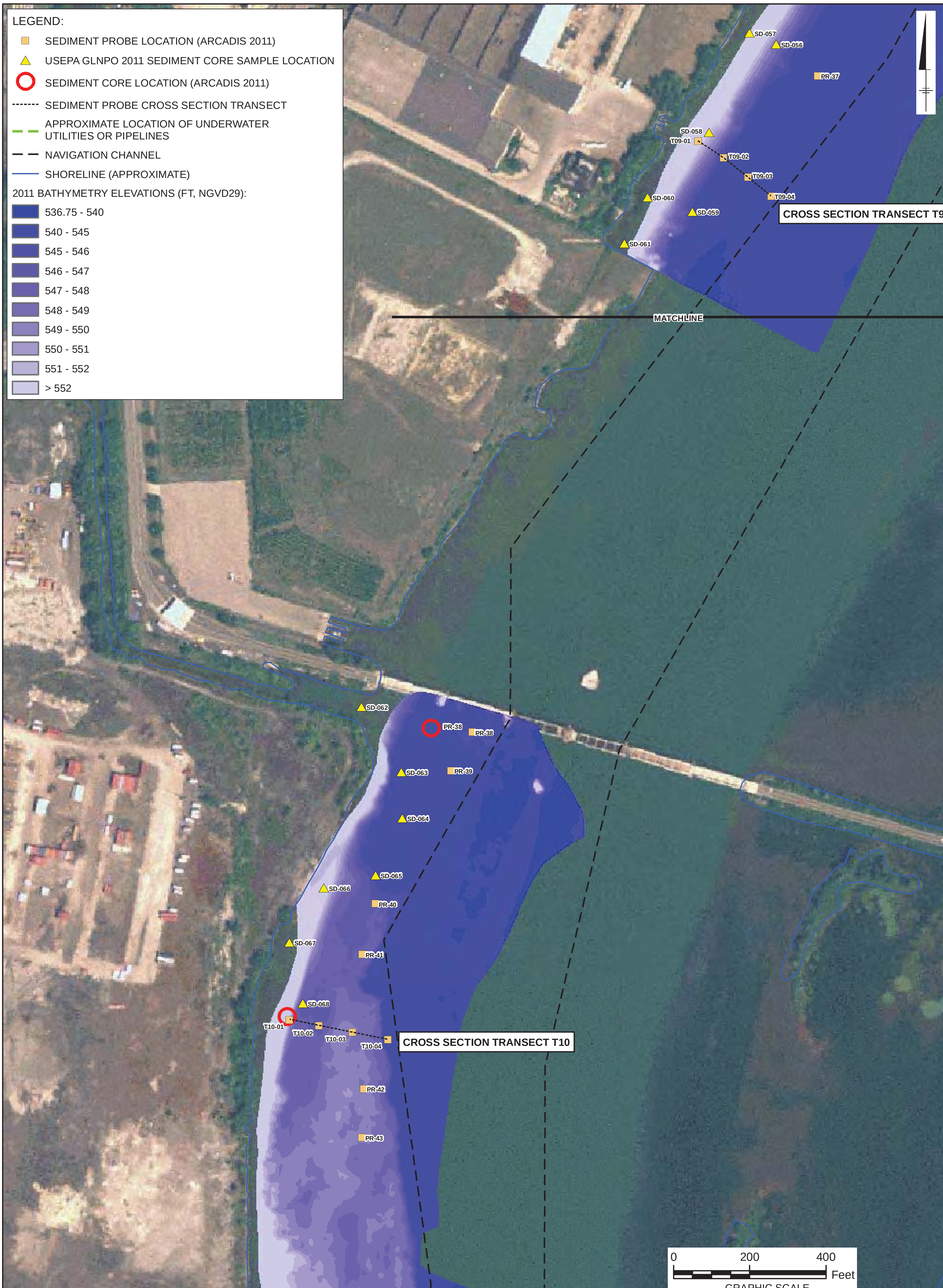

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

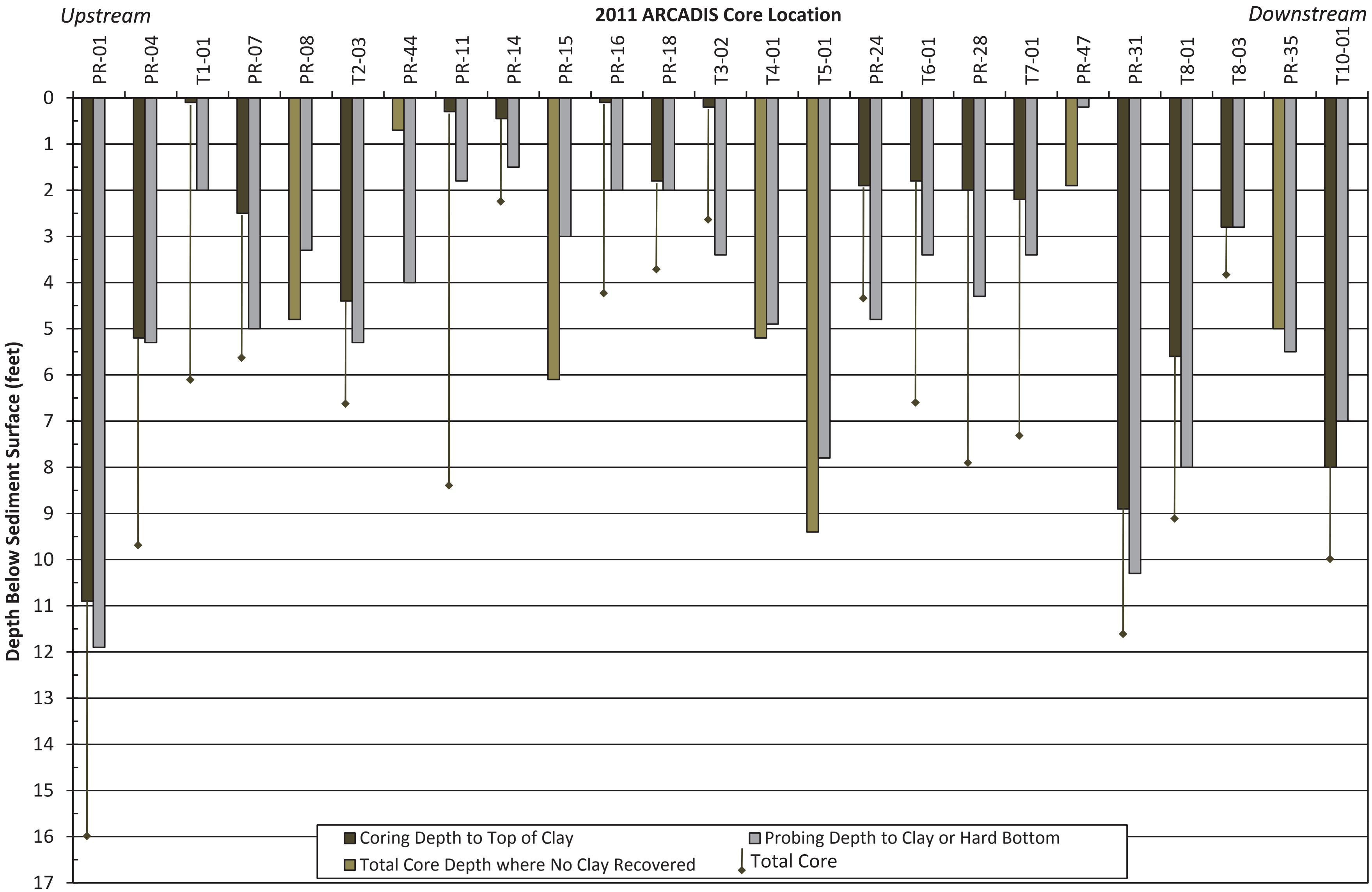
2011 SEDIMENT PROBING AND CORE LOCATIONS

ARCADIS

FIGURE
1f

Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan
Sediment Thickness Assessment Summary

Figure 2 - Co-Located Sediment Probe and Core Depths to Clay or Hard Bottom



Project Number: B0042929.0102.00006
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NOTES:

1. "SOFT MATERIAL THICKNESS" REPRESENTS THE TOTAL CORE RECOVERY DEPTH FOR SAMPLE WITH DATA REPORTS AVAILABLE, OR THE DEEPEST SAMPLE DEPTH AS RECORED IN THE UTC SEDIMENT DATABASE VERSION 1.0.
2. 2011 SEDIMENT DATA ARE FROM ARCADIS 2011 AND GLNPO 2011. PRIOR INVESTIGATION SEDIMENT DATA ARE FROM BEAK 1991, MDEQ 1993-1996, MDEQ 2000, MDEQ 2004, MDEQ 2007, CRA 2005/2006, GLNPO 2006/2007.
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6. OCEAN SURVEYS, INC. COMPLETED EXTENSIVE PROBING AND SEDIMENT THICKNESS MEASUREMENT WORK ALONG THE ARKEMA PROPERTY IN 2005 WHICH IS NOT REPRESENTED ON THESE FIGURES.
7. AERIAL IMAGE OBTAINED FROM 2005 NATIONAL AERIAL IMAGERY PROGRAM, UNITED STATES DEPARTMENT OF AGRICULTURE. THE 2005 AERIAL PRE-DATES REMEDIAL CONSTRUCTION ACTIVITIES AT THE BASF RIVERVIEW SITE.

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS DATA LOCATIONS

ARCADIS

FIGURE
3a

NOTES:

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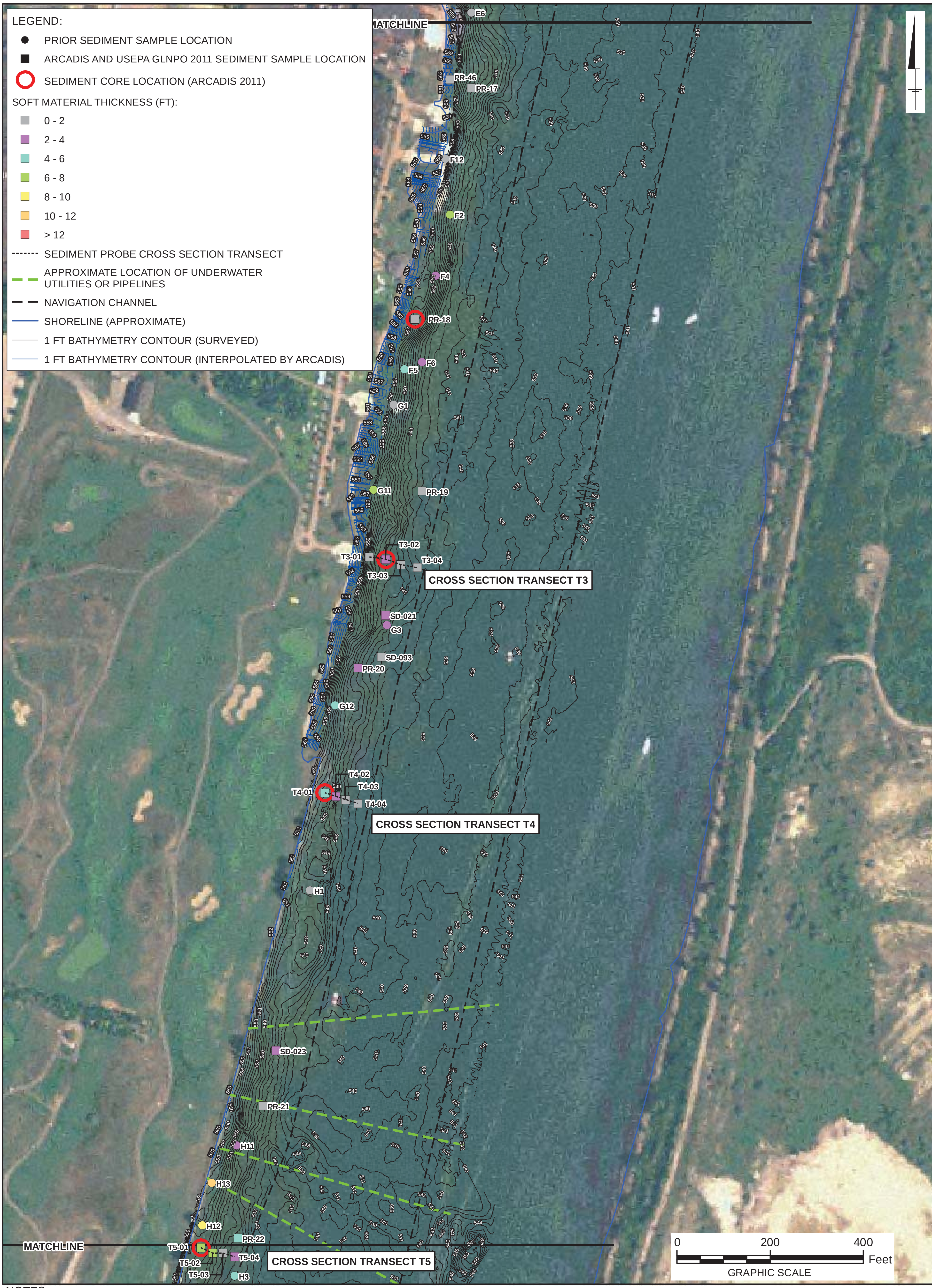
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS DATA LOCATIONS

ARCADIS

FIGURE
3b



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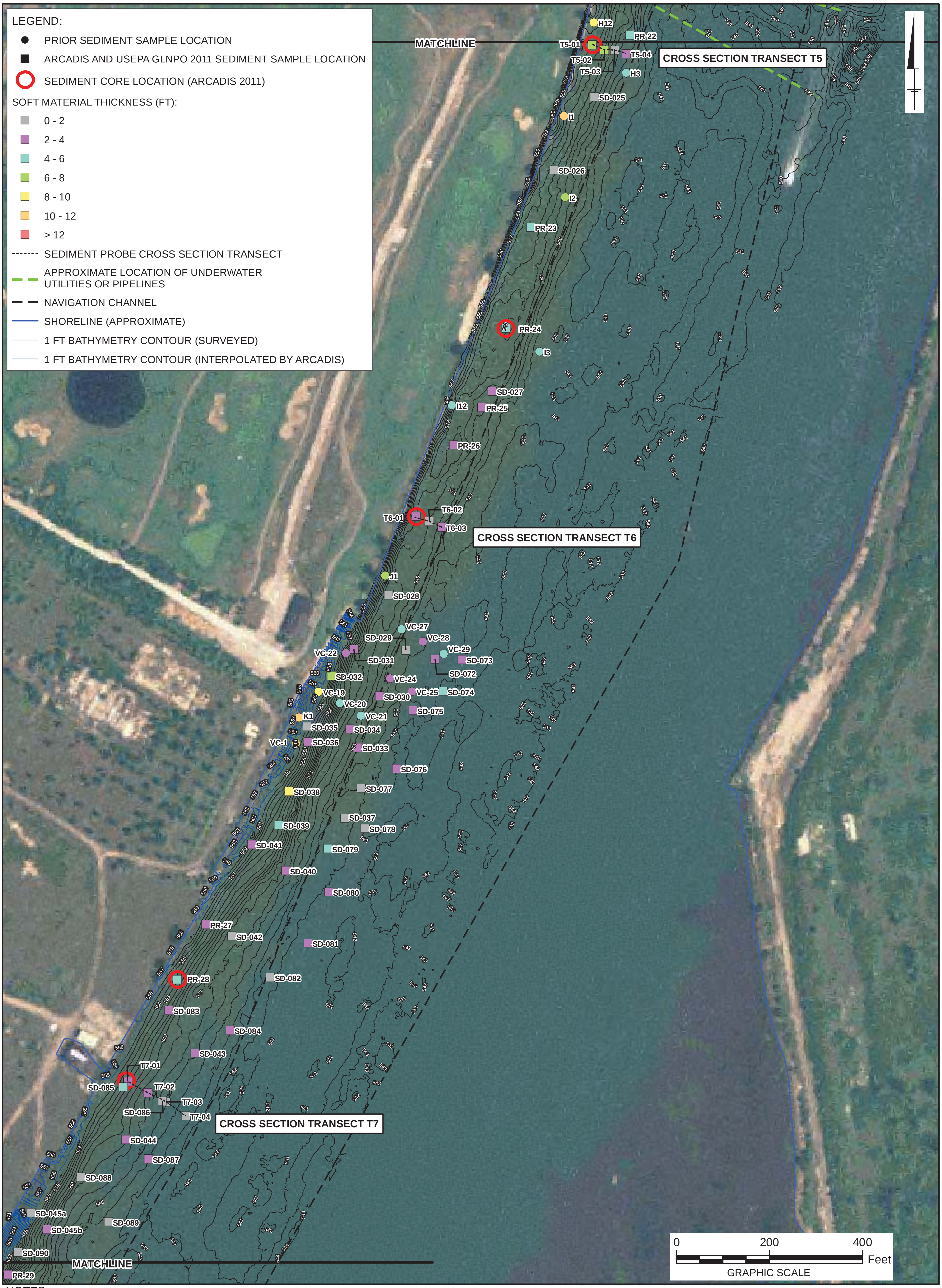
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS DATA LOCATIONS

ARCADIS

FIGURE
3c

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Soft Material Thickness Cross Sections- Map Book_v2.mxd 12/21/2011 10:29:51 AM (Page 4 of 7)



NOTES:

1. "SOFT MATERIAL THICKNESS" REPRESENTS THE TOTAL CORE RECOVERY DEPTH FOR SAMPLE WITH DATA REPORTS AVAILABLE, OR THE DEEPEST SAMPLE DEPTH AS RECORED IN THE UTC SEDIMENT DATABASE VERSION 1.0.
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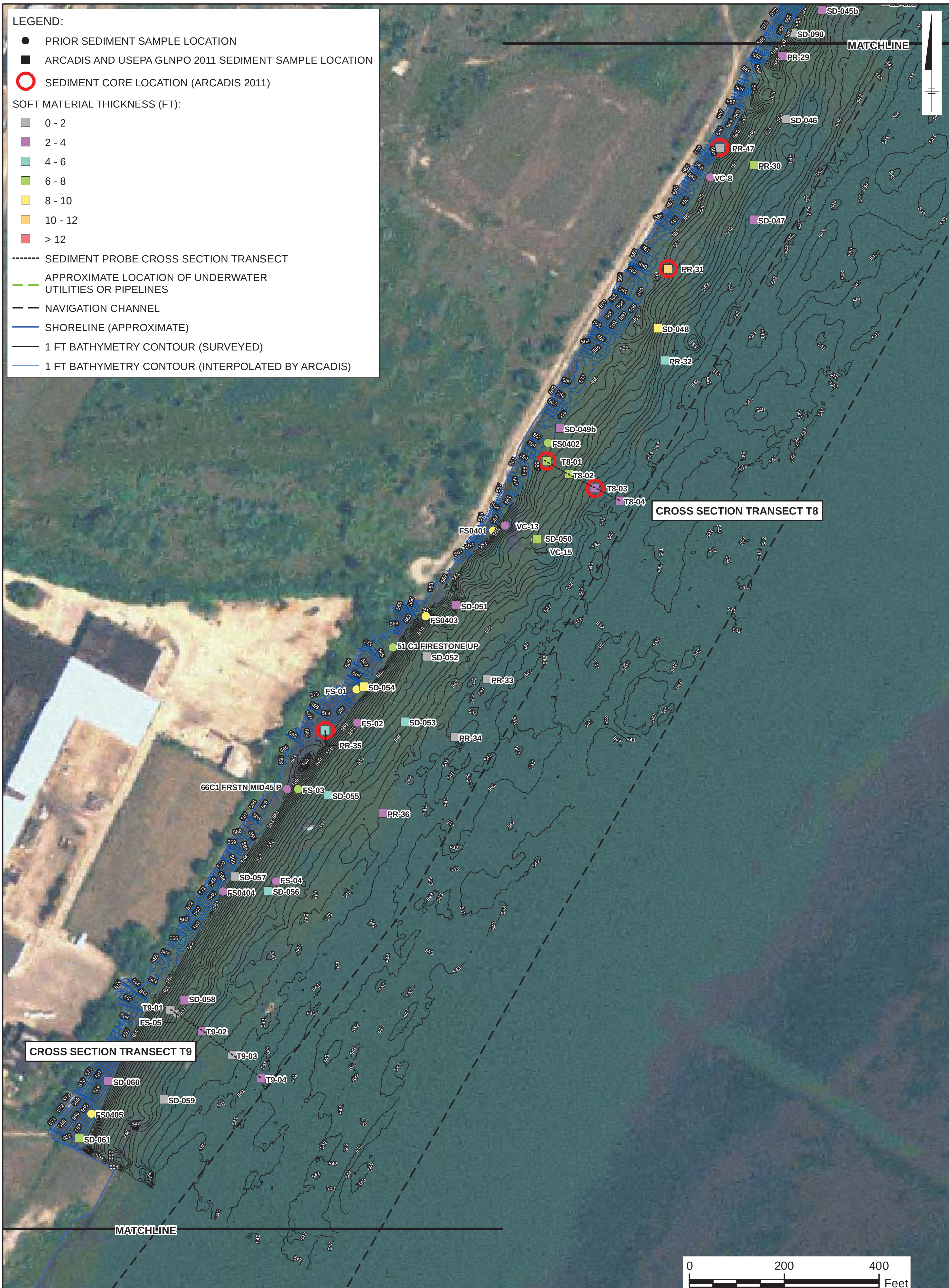
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS DATA LOCATIONS

ARCADIS

FIGURE
3d

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Soft Material Thickness Cross Sections- Map Book_v2.mxd 12/21/2011 10:29:51 AM (Page 5 of 7)



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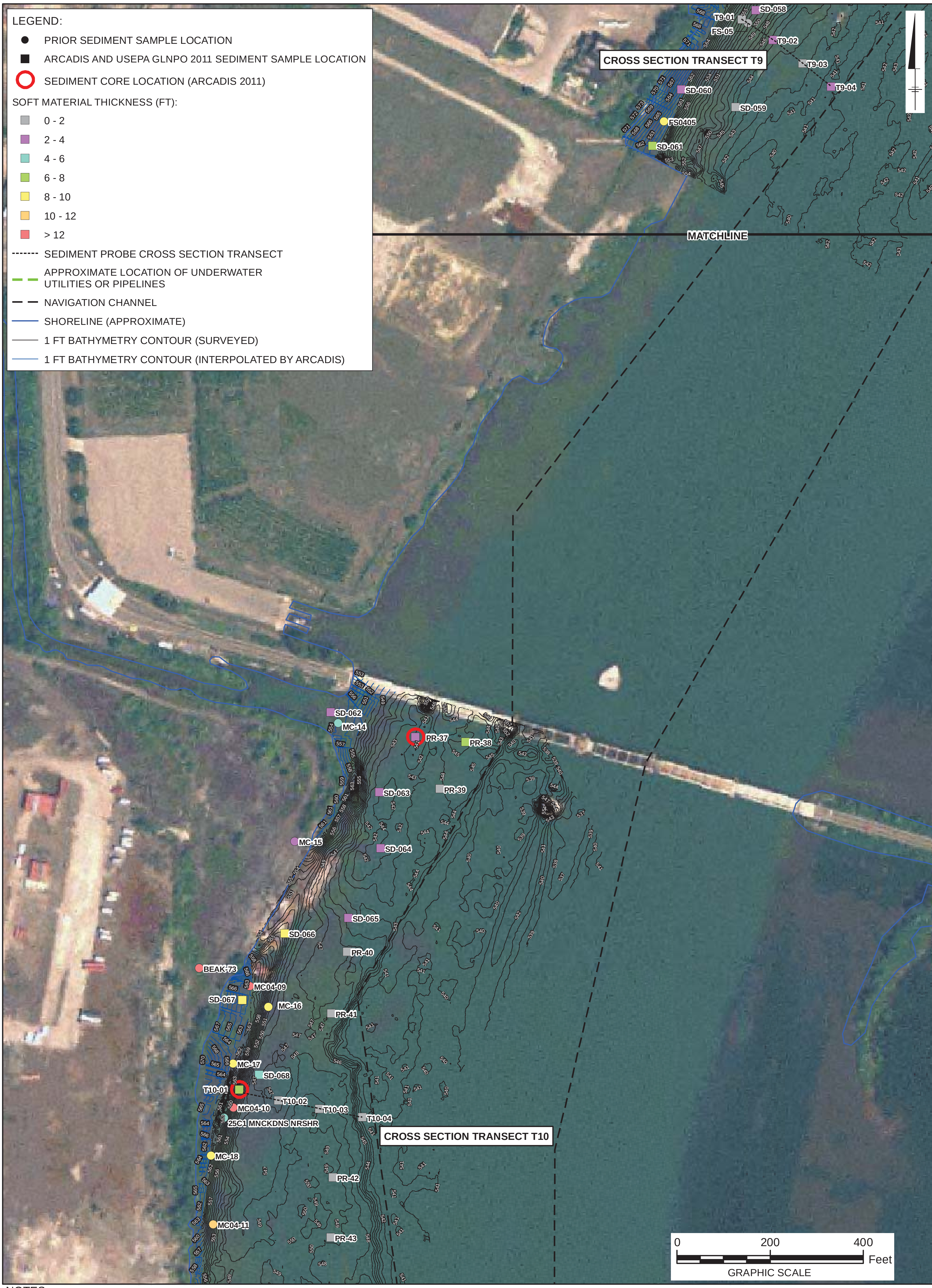
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS DATA LOCATIONS

ARCADIS

FIGURE
3e

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Soft Material Thickness Cross Sections- Map Book_v2.mxd 12/21/2011 10:29:51 AM (Page 6 of 7)



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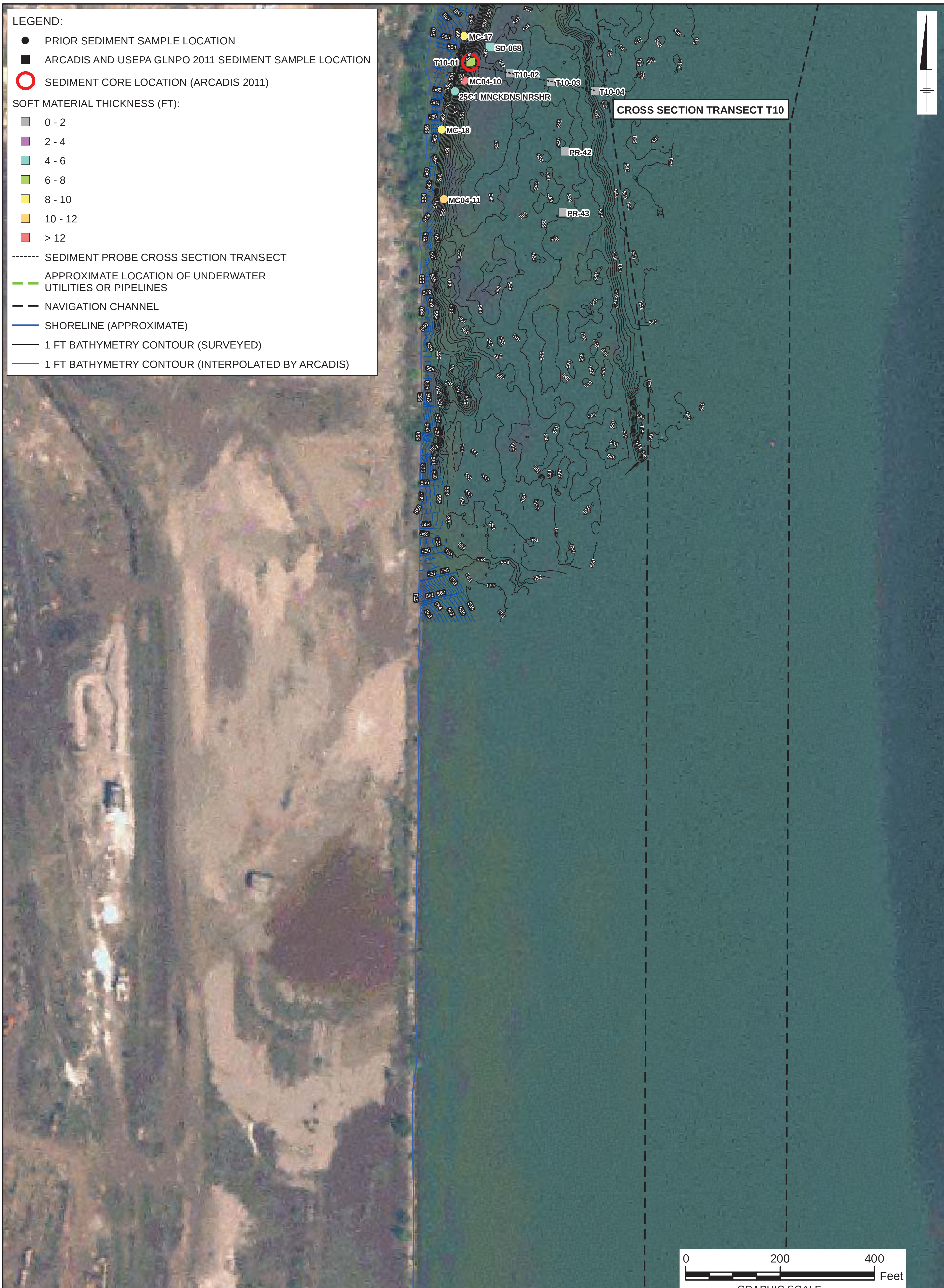
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS DATA LOCATIONS

ARCADIS

FIGURE
3f



NOTES:

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS DATA LOCATIONS

ARCADIS

FIGURE
3g

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Sediment Thickness Above Clay revd - Map Book_v2.mxd 12/21/2011 10:47:20 AM (Page 1 of 7)

NOTES:

1. "SEDIMENT THICKNESS" IS THE DEPTH FROM THE TOP SEDIMENT TO THE TOP OF NATIVE CLAY AS RECORDED IN AVAILABLE BORING LOGS.
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SEDIMENT THICKNESS ABOVE CLAY FOR CORE LOCATIONS WHERE CLAY IDENTIFIED

ARCADIS

FIGURE
4a

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Sediment Thickness Above Clay revd - Map Book_v2.mxd 12/21/2011 10:47:20 AM (Page 2 of 7)

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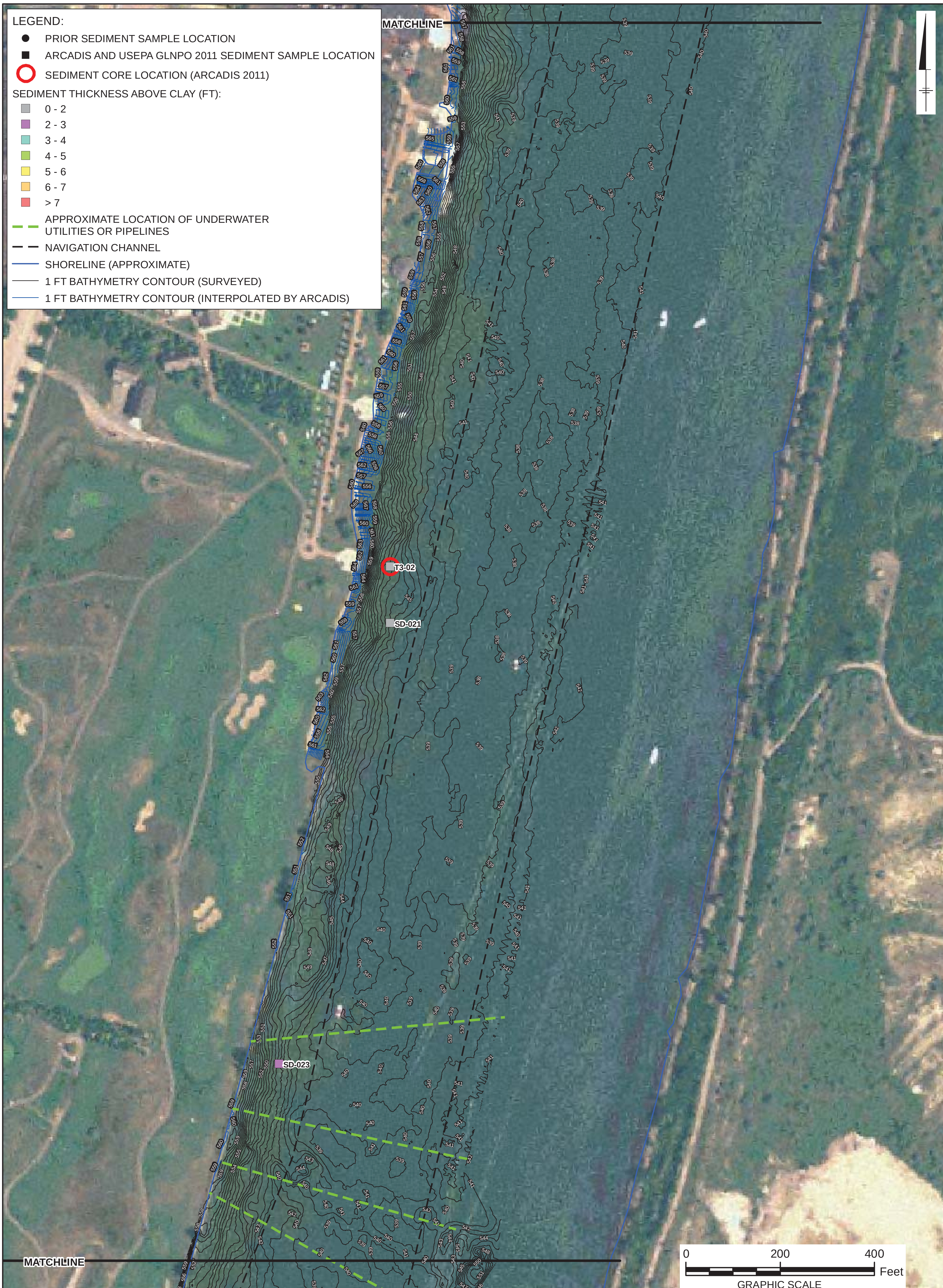
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS ASSESSMENT SUMMARY

SEDIMENT THICKNESS ABOVE CLAY FOR CORE LOCATIONS WHERE CLAY IDENTIFIED

ARCADIS

FIGURE
4b



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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

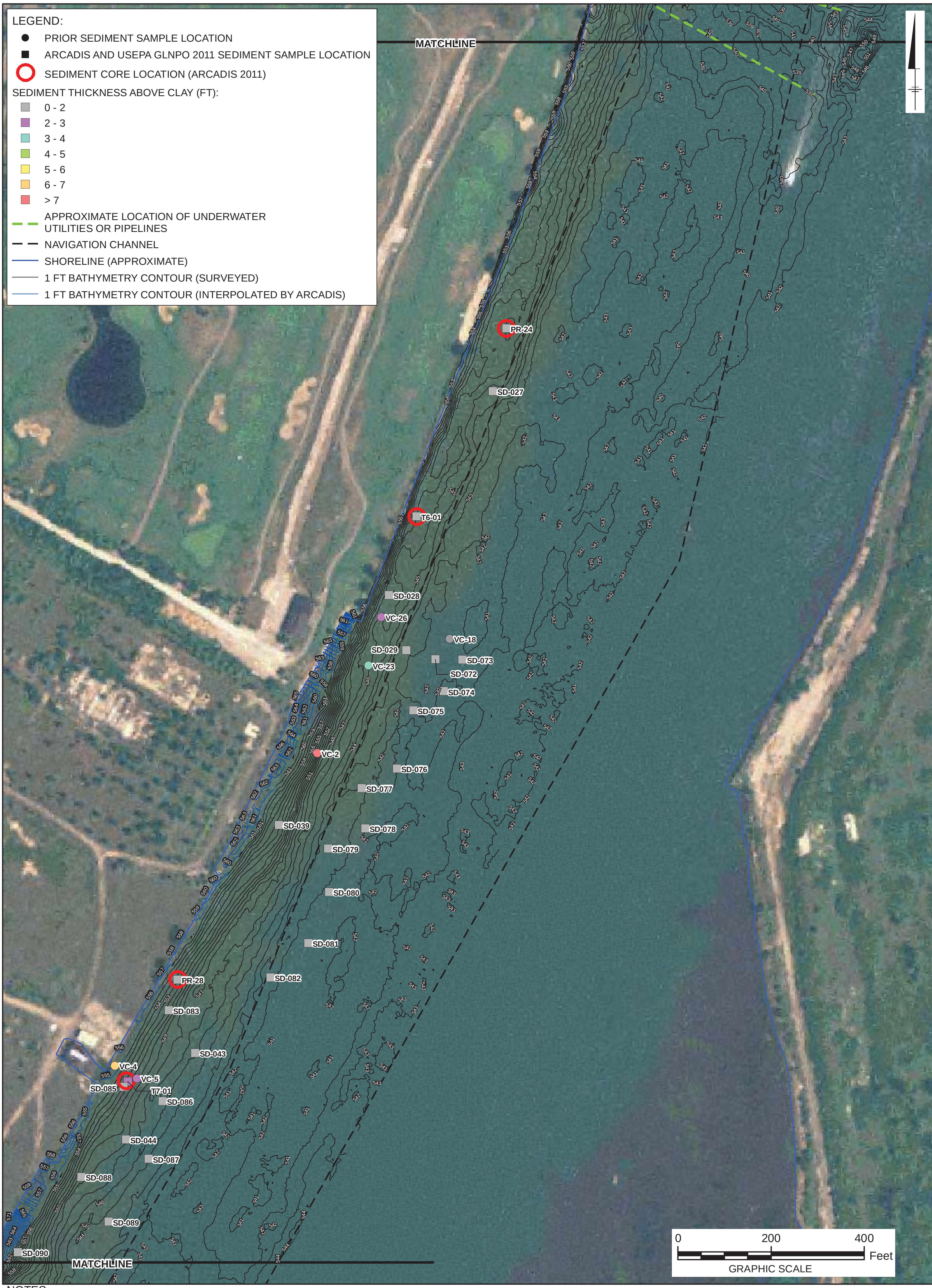
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SEDIMENT THICKNESS ABOVE CLAY FOR CORE LOCATIONS WHERE CLAY IDENTIFIED

ARCADIS

FIGURE
4c

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Sediment Thickness Above Clay revd - Map Book_v2.mxd 12/21/2011 10:47:20 AM (Page 4 of 7)



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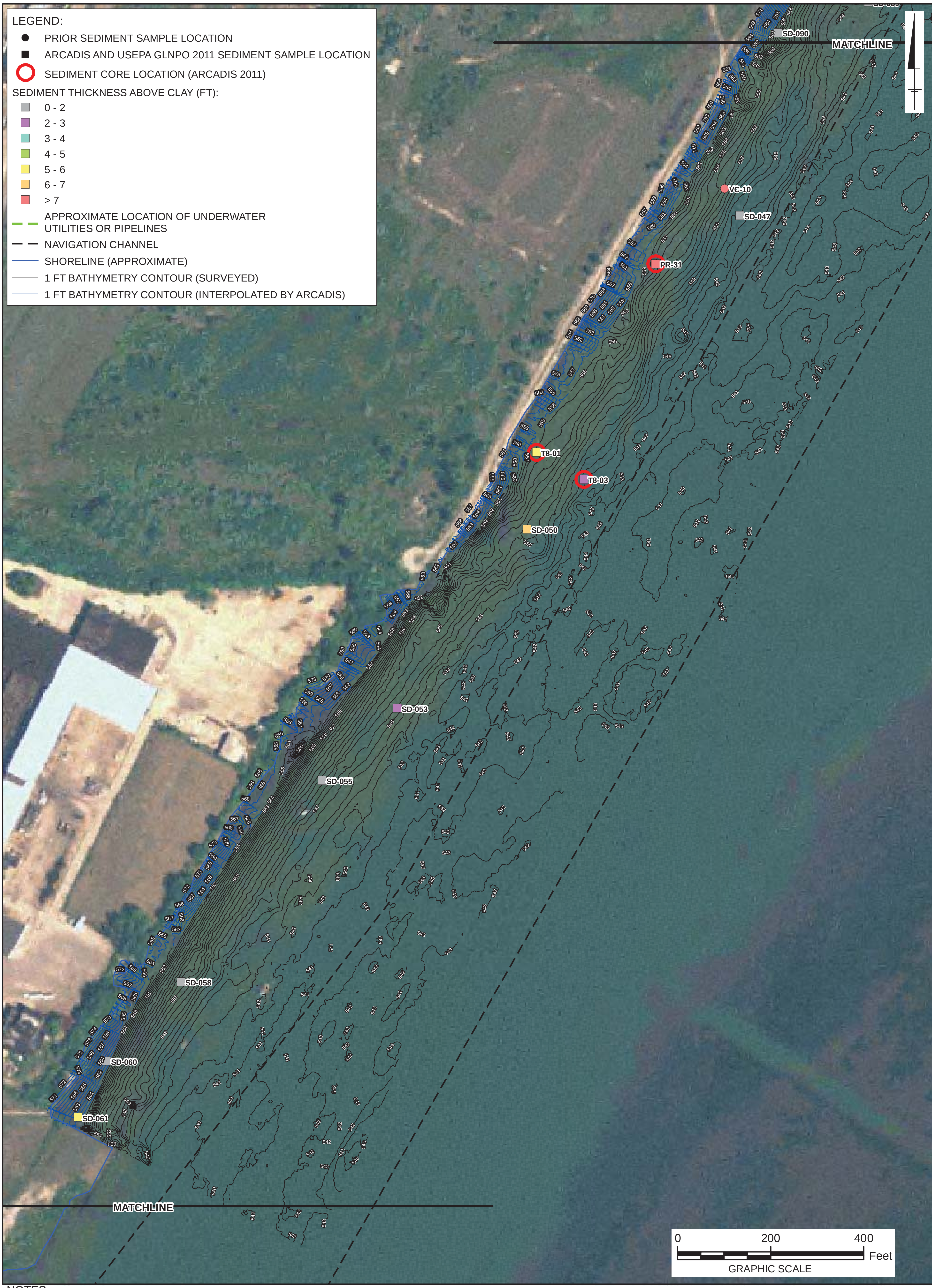
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS ASSESSMENT SUMMARY

SEDIMENT THICKNESS ABOVE CLAY FOR CORE LOCATIONS WHERE CLAY IDENTIFIED

ARCADIS

FIGURE
4d



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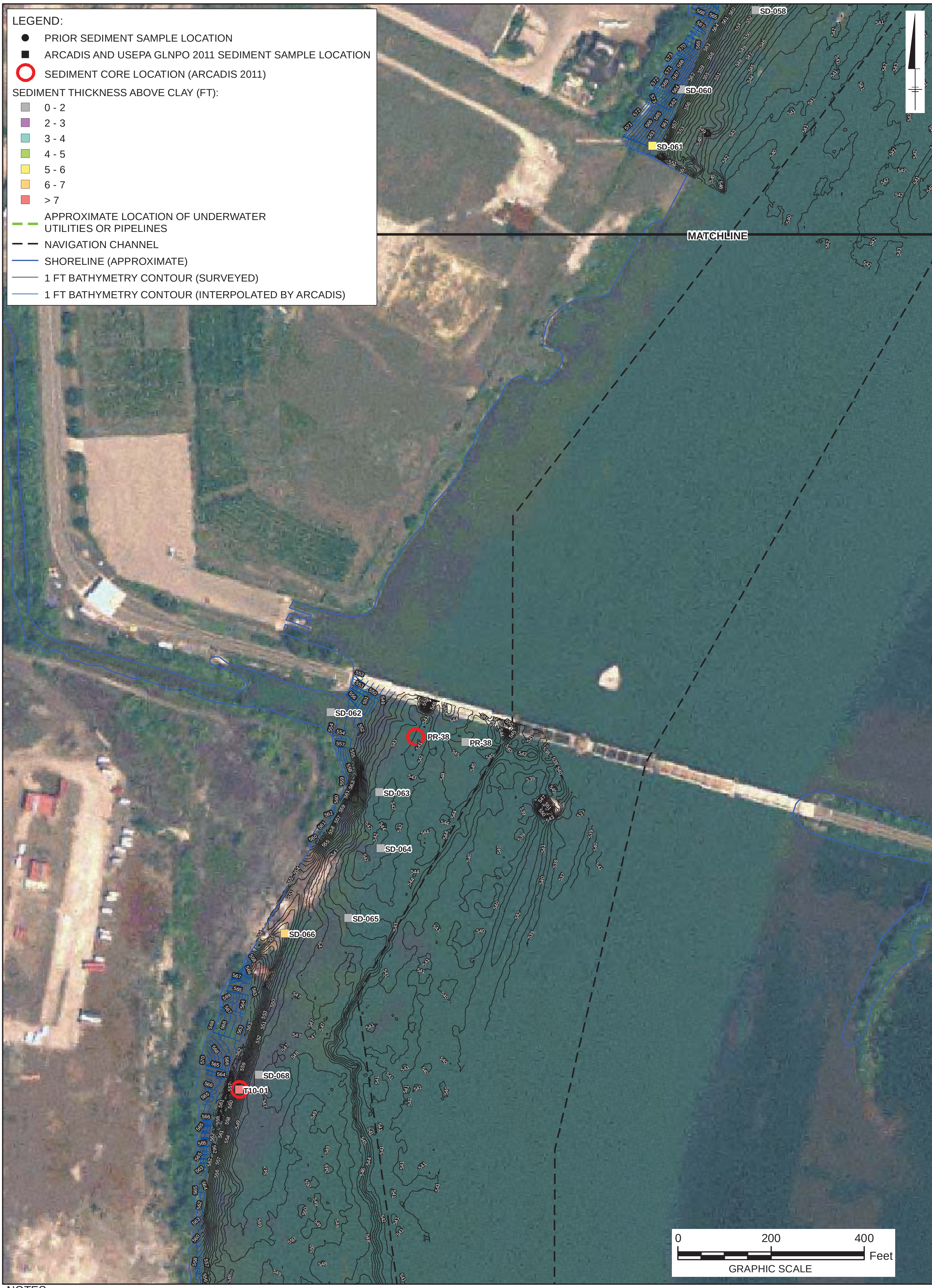
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SEDIMENT THICKNESS ABOVE CLAY FOR CORE LOCATIONS WHERE CLAY IDENTIFIED

ARCADIS

FIGURE
4e

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Sediment Thickness Above Clay revd - Map Book_v2.mxd 12/21/2011 10:47:20 AM (Page 6 of 7)



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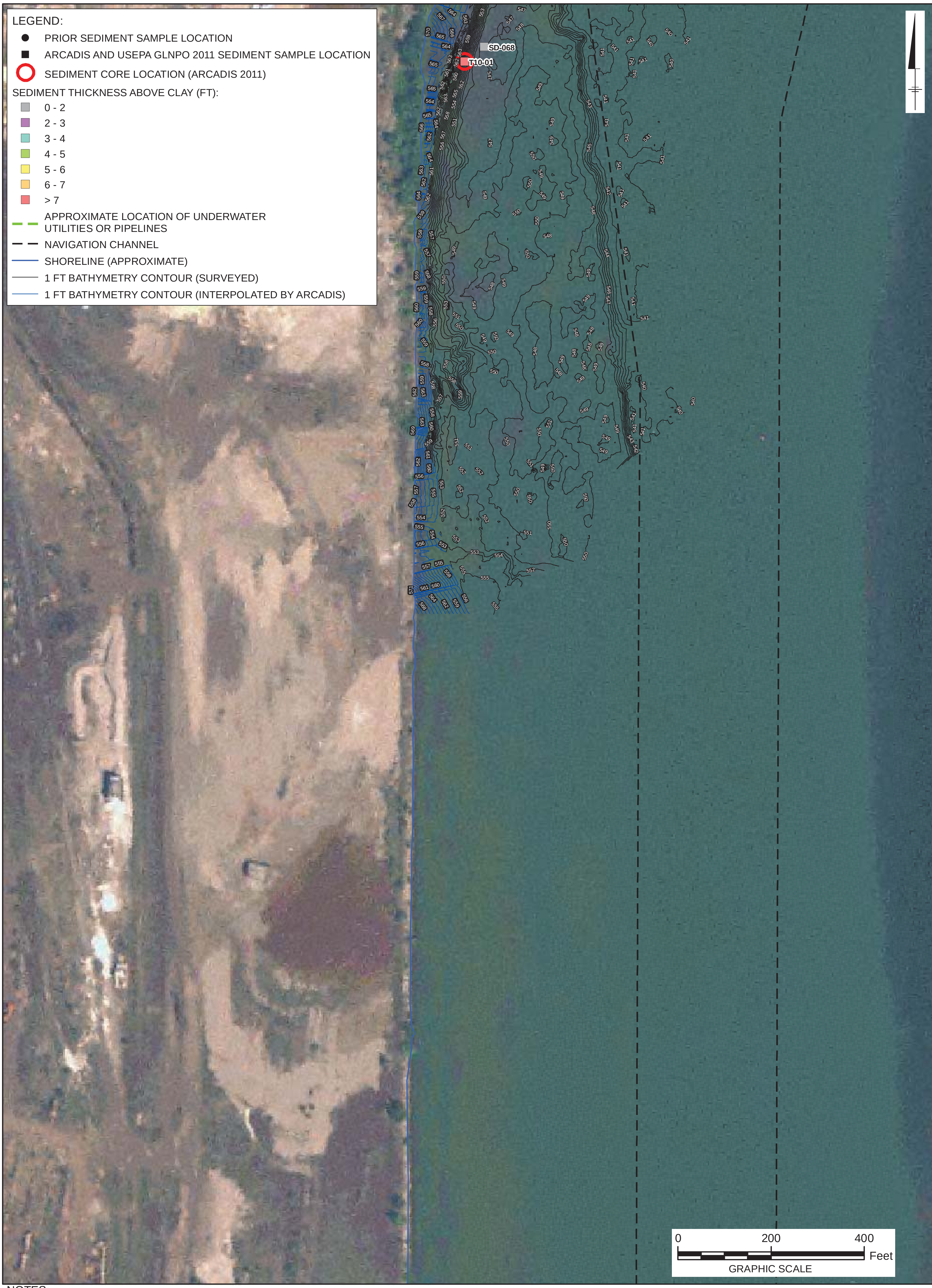
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SEDIMENT THICKNESS ABOVE CLAY FOR CORE LOCATIONS WHERE CLAY IDENTIFIED

ARCADIS

FIGURE
4f



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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS ASSESSMENT SUMMARY

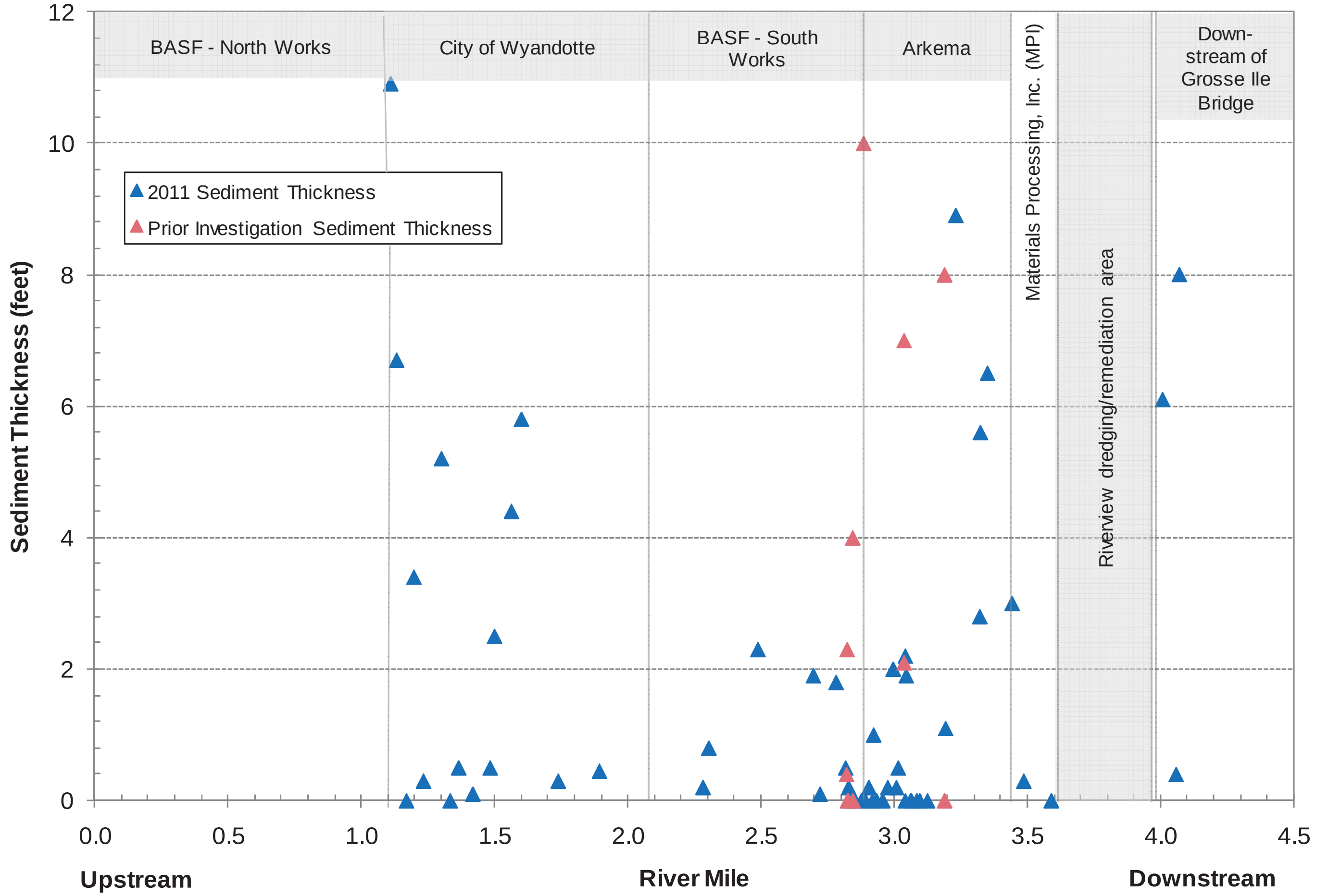
SEDIMENT THICKNESS ABOVE CLAY FOR CORE LOCATIONS WHERE CLAY IDENTIFIED

ARCADIS

FIGURE
4g

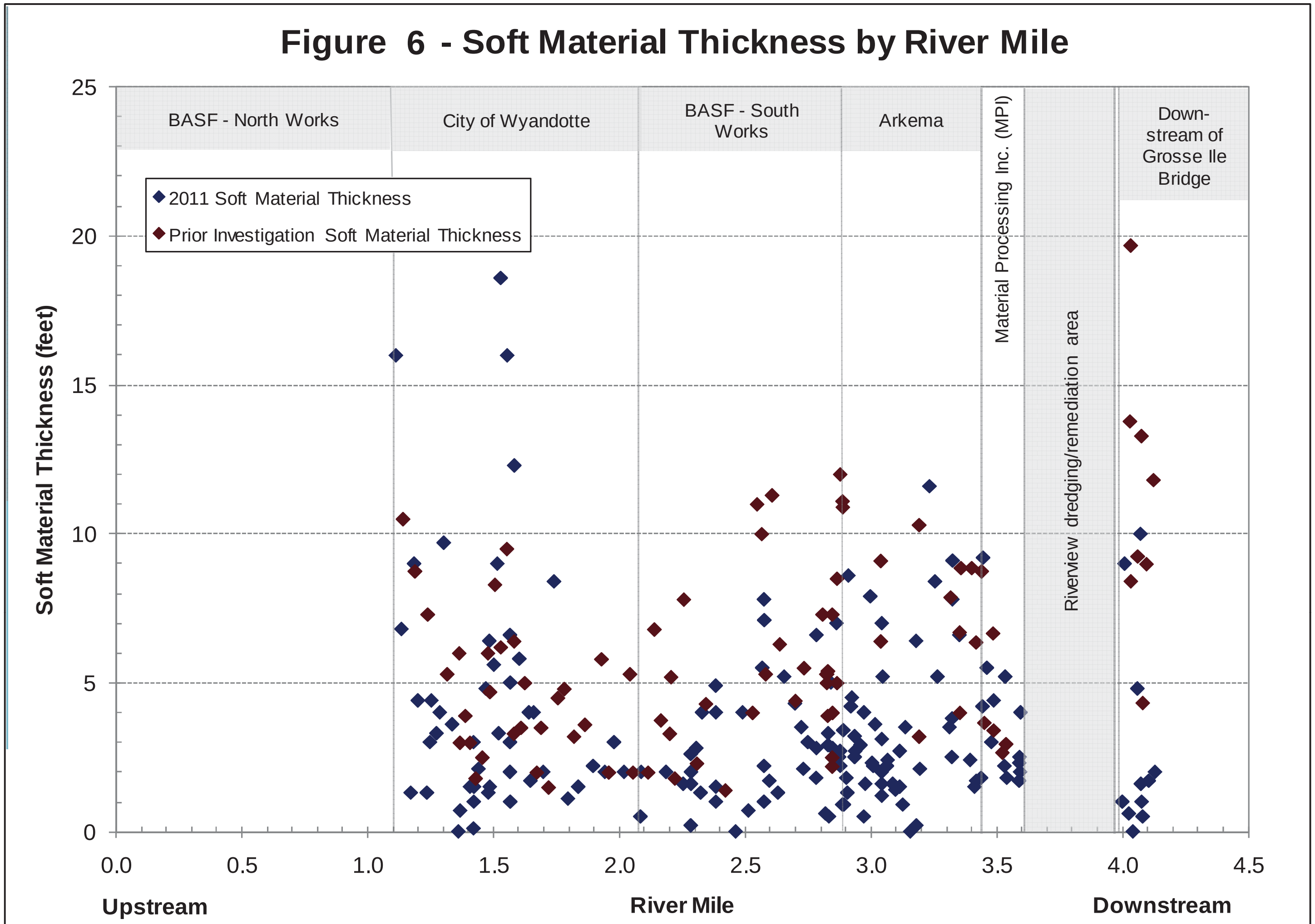
Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan
Sediment Thickness Assessment Summary

Figure 5 - Sediment Thickness Above Clay by River Mile



Notes:
1. "Sediment Thickness" is the depth from the top of sediment to the top of native clay as recorded in available boring logs.
2. Sediment data are from ARCADIS 2011 and GLNPO 2011 and prior investigation data are from CRA 2005/2006. No sediment stratigraphy information available for prior investigation data from Beak 1991, MDEQ 1993-1996, MDEQ 2000, MDEQ 2004, MDEQ 2007, CRA 2005/2006, GLNPO 2006/2007.
3. Ocean Surveys, Inc. completed extensive probing and sediment thickness measurement work along the Arkema property in 2005

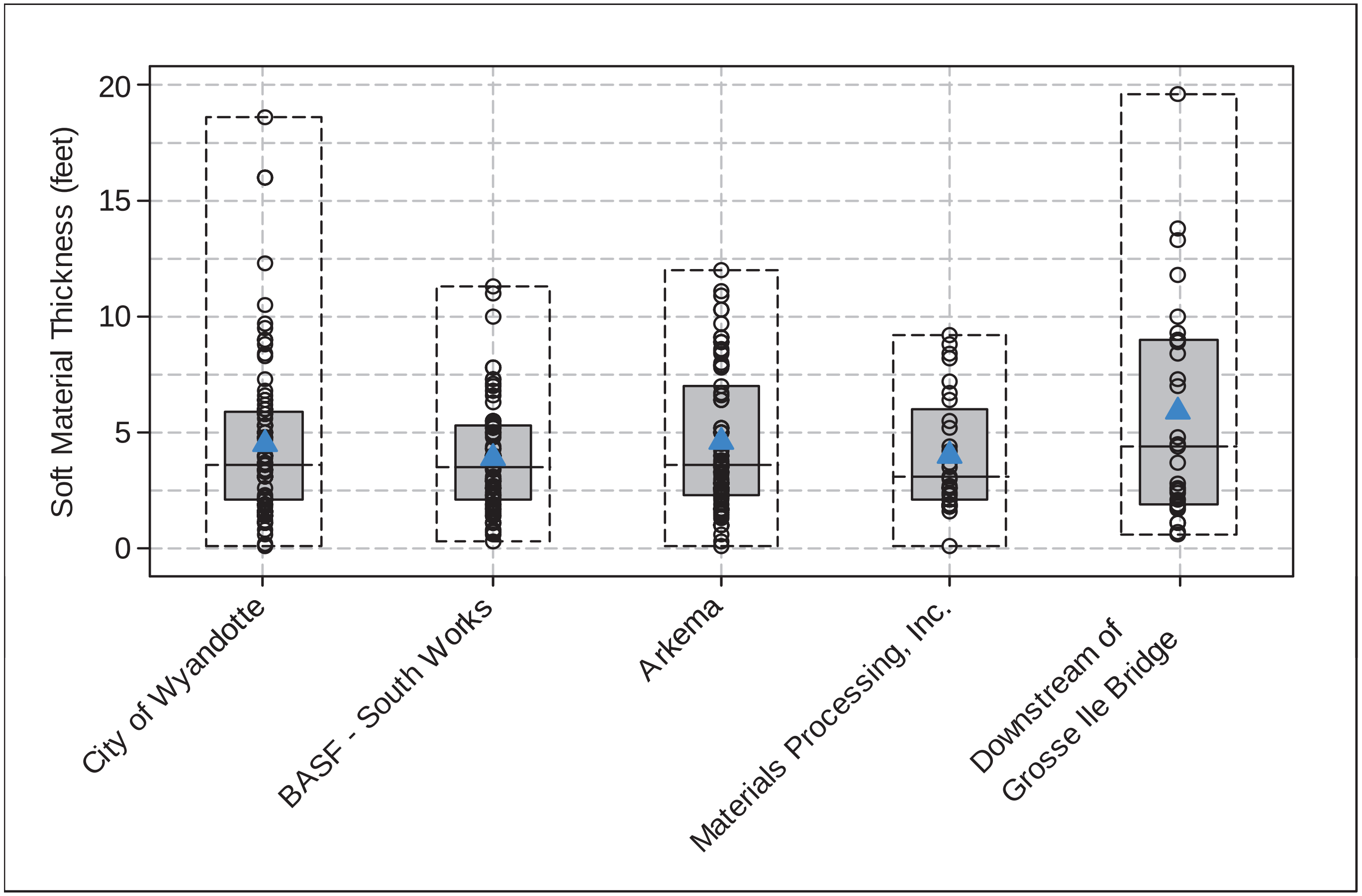
Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan
Sediment Thickness Assessment Summary

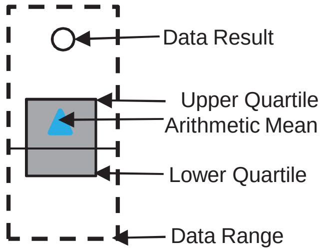


Notes:
1. "Soft Material Thickness" represents the total core recovery depth for sample with data reports available, or the deepest sample depth as recorded in the UTC sediment database version 1.0.
2. Sediment data are from ARCADIS 2011 and GLNPO 2011 and prior investigation data are from Beak 1991, MDEQ 1993-1996, MDEQ 2000, MDEQ 2004, MDEQ 2007, CRA 2005/2006, GLNPO 2006/2007.
3. Ocean Surveys, Inc. completed extensive probing and sediment thickness measurement work along the Arkema property in 2005 which is not represented on this figure.

Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan
Sediment Thickness Assessment Summary

Figure 7 - Soft Material Sediment Thickness by Sub-area



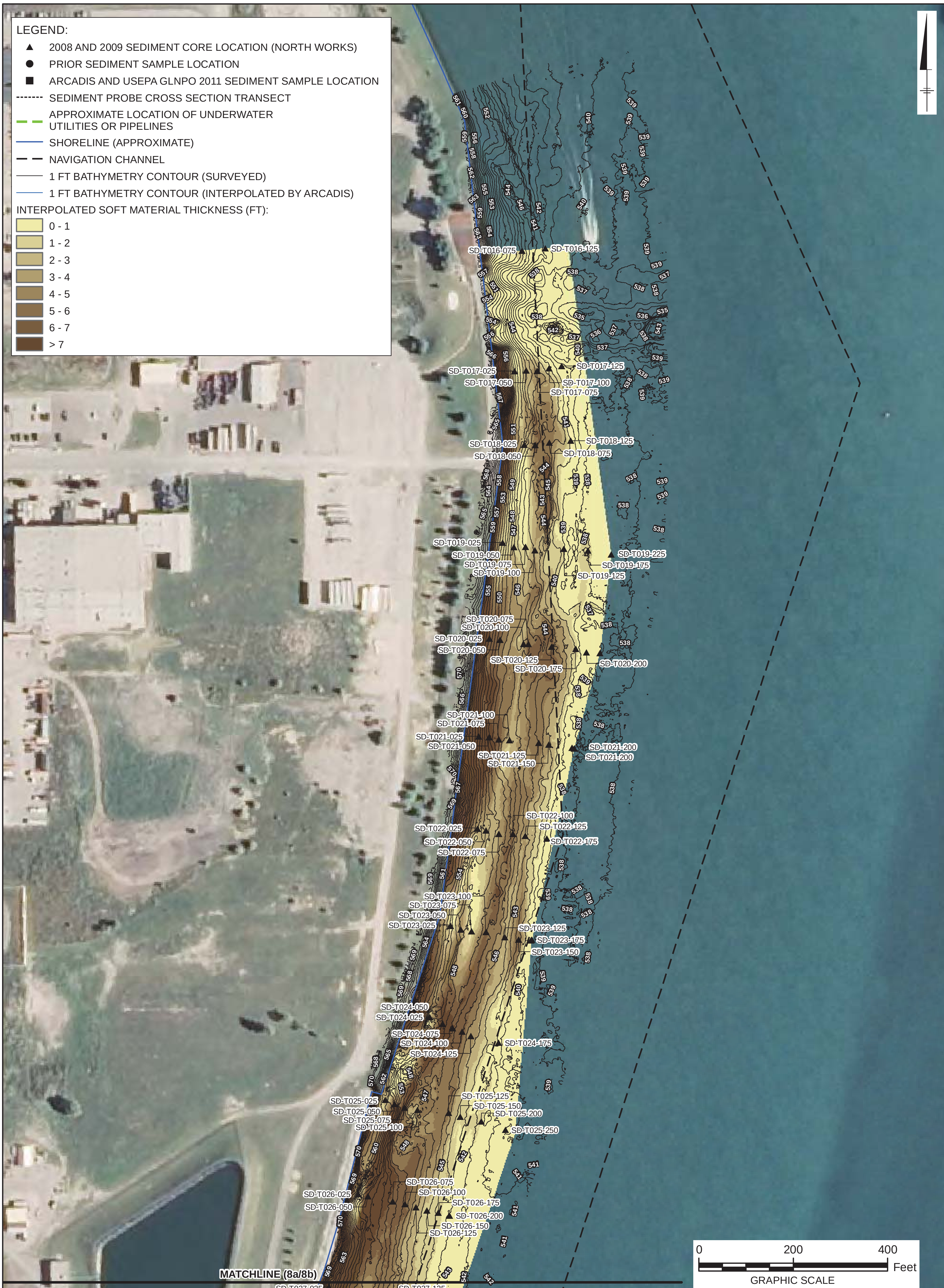


Notes:

1. "Soft Material Thickness" represents the total core recovery depth for sample with data reports available, or the deepest sample depth as recorded in the UTC sediment database version 1.0.

2. Sediment data for boxplots are from ARCADIS 2011 and GLNPO 2011 and prior investigation data are from Beak 1991, MDEQ 1993-1996, MDEQ 2000, MDEQ 2004, MDEQ 2007, CRA 2005/2006, GLNPO 2006/2007.

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Interpolated Soft Material Thickness Interpolation CrossSections - Map Book_v4.mxd 12/21/2011 10:13:02 AM (Page 1 of 8)



NOTES:

1. "SOFT MATERIAL THICKNESS" REPRESENTS THE TOTAL CORE RECOVERY DEPTH FOR SAMPLE WITH DATA REPORTS AVAILABLE, OR THE DEEPEST SAMPLE DEPTH AS RECORED IN THE UTC SEDIMENT DATABASE VERSION 1.0.
2. SOFT MATERIAL THICKNESS WAS INTERPOLATED FROM PRIOR SEDIMENT SAMPLE DATA (BEAK 1991, MDEQ 1993-1996, MDEQ 2000, MDEQ 2004, MDEQ 2007, CRA 2005/2006, GLNPO 2006/2007) AND MORE RECENT DATA COLLECTED IN 2011 BY ARCADIS AND USEPA GLNPO.
3. OCEAN SURVEYS, INC. COMPLETED EXTENSIVE PROBING AND SEDIMENT THICKNESS MEASUREMENT WORK ALONG THE ARKEMA PROPERTY IN 2005 WHICH IS NOT REPRESENTED ON THESE FIGURES.
4. AERIAL IMAGE OBTAINED FROM 2009 NATIONAL AERIAL IMAGERY PROGRAM, UNITED STATES DEPARTMENT OF AGRICULTURE.
5. MULTIBEAM BATHYMETRIC SURVEYS PERFORMED BY AQUASURVEY, INC. ON JULY 9,2009 AND APRIL 12-14, 2011. NEAR SHORE BATHYMETRY INTERPOLATED BY ARCADIS.

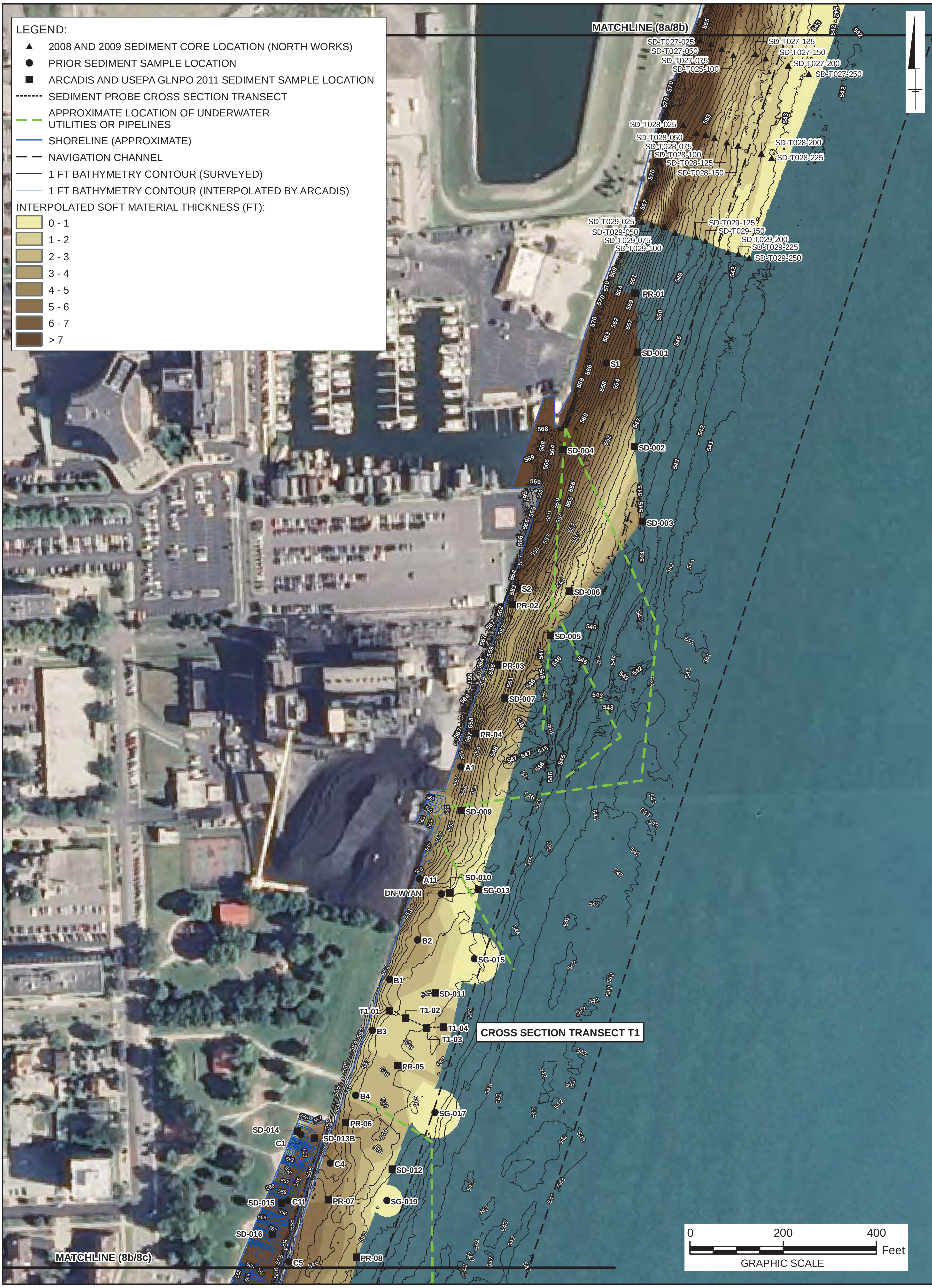
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS INTERPOLATED SURFACE

ARCADIS

FIGURE
8a

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Interpolated Soft Material Thickness Interpolation CrossSections - Map Book_v4.mxd 12/21/2011 10:13:02 AM (Page 2 of 8)



NOTES:

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS INTERPOLATED SURFACE

ARCADIS

FIGURE
8b

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Interpolated Soft Material Thickness Interpolation CrossSections - Map Book_v4.mxd 12/21/2011 10:13:02 AM (Page 3 of 8)

NOTES:

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2. SOFT MATERIAL THICKNESS WAS INTERPOLATED FROM PRIOR SEDIMENT SAMPLE DATA (BEAK 1991, MDEQ 1993-1996, MDEQ 2000, MDEQ 2004, MDEQ 2007, CRA 2005/2006, GLNPO 2006/2007) AND MORE RECENT DATA COLLECTED IN 2011 BY ARCADIS AND USEPA GLNPO.
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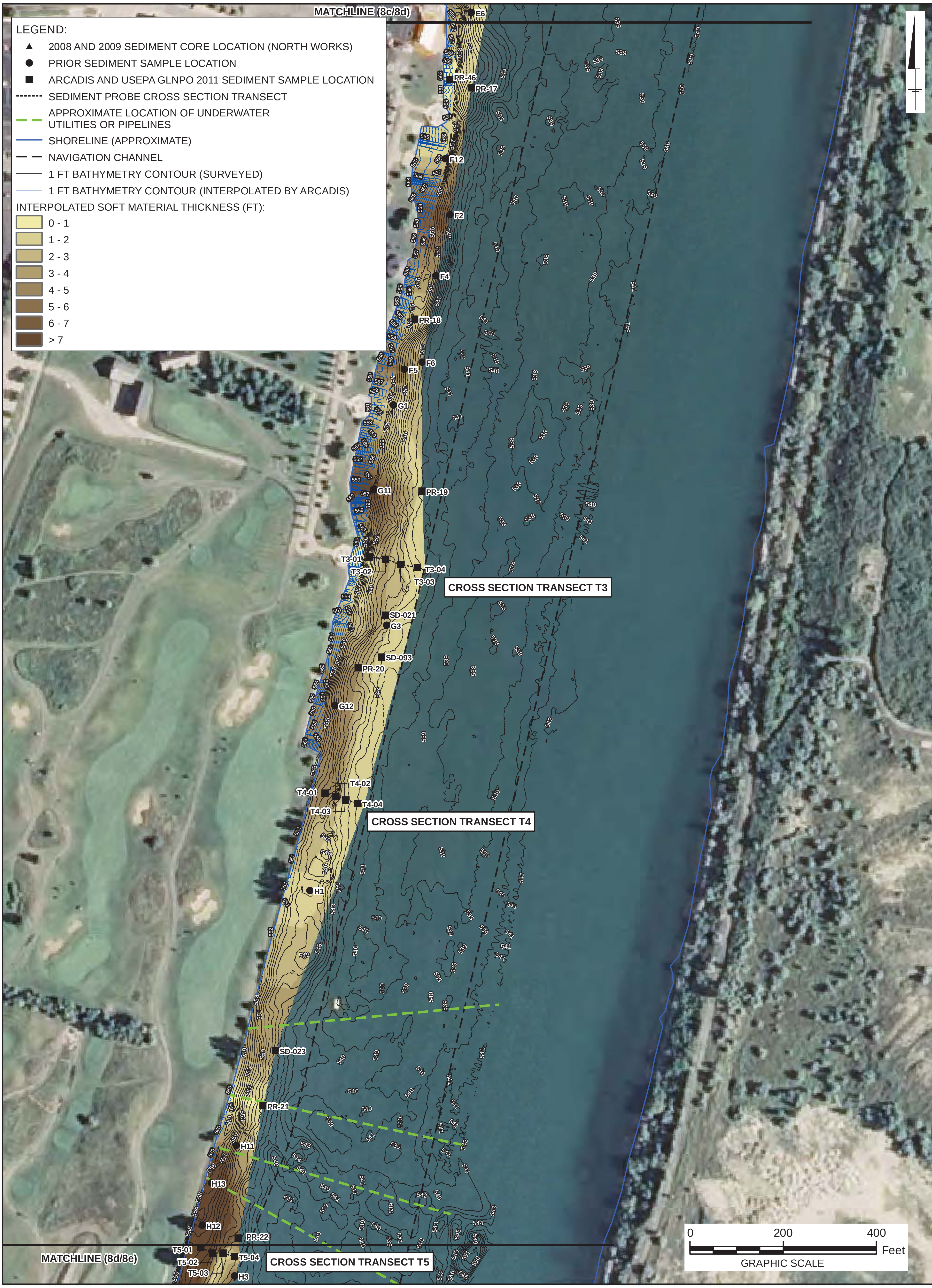
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS INTERPOLATED SURFACE

ARCADIS

FIGURE **8c**



NOTES:

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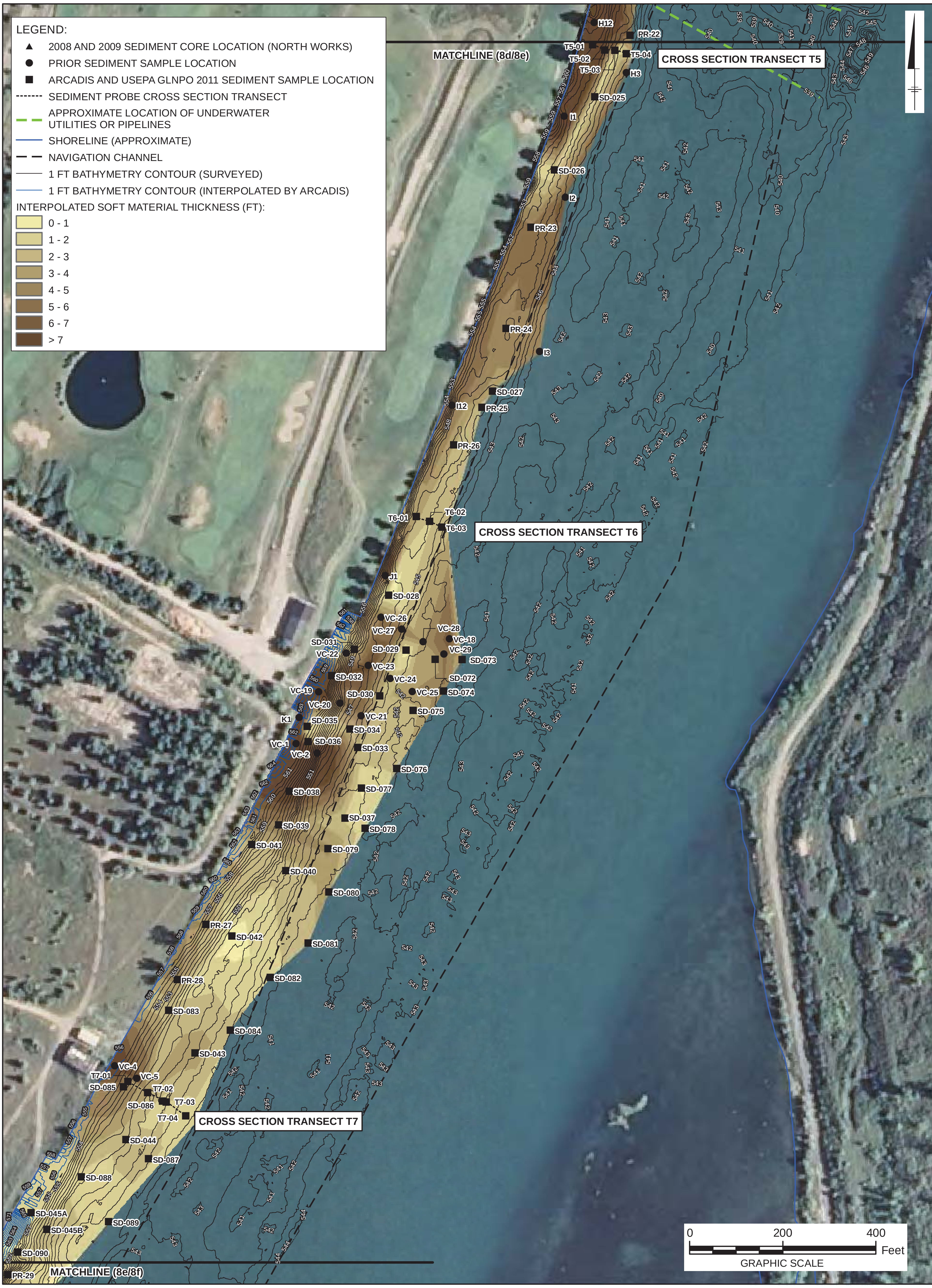
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS INTERPOLATED SURFACE

ARCADIS

FIGURE
8d

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Interpolated Soft Material Thickness Interpolation CrossSections - Map Book_v4.mxd 12/21/2011 10:13:02 AM (Page 5 of 8)



NOTES:

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS INTERPOLATED SURFACE

ARCADIS

FIGURE
8e

NOTES:

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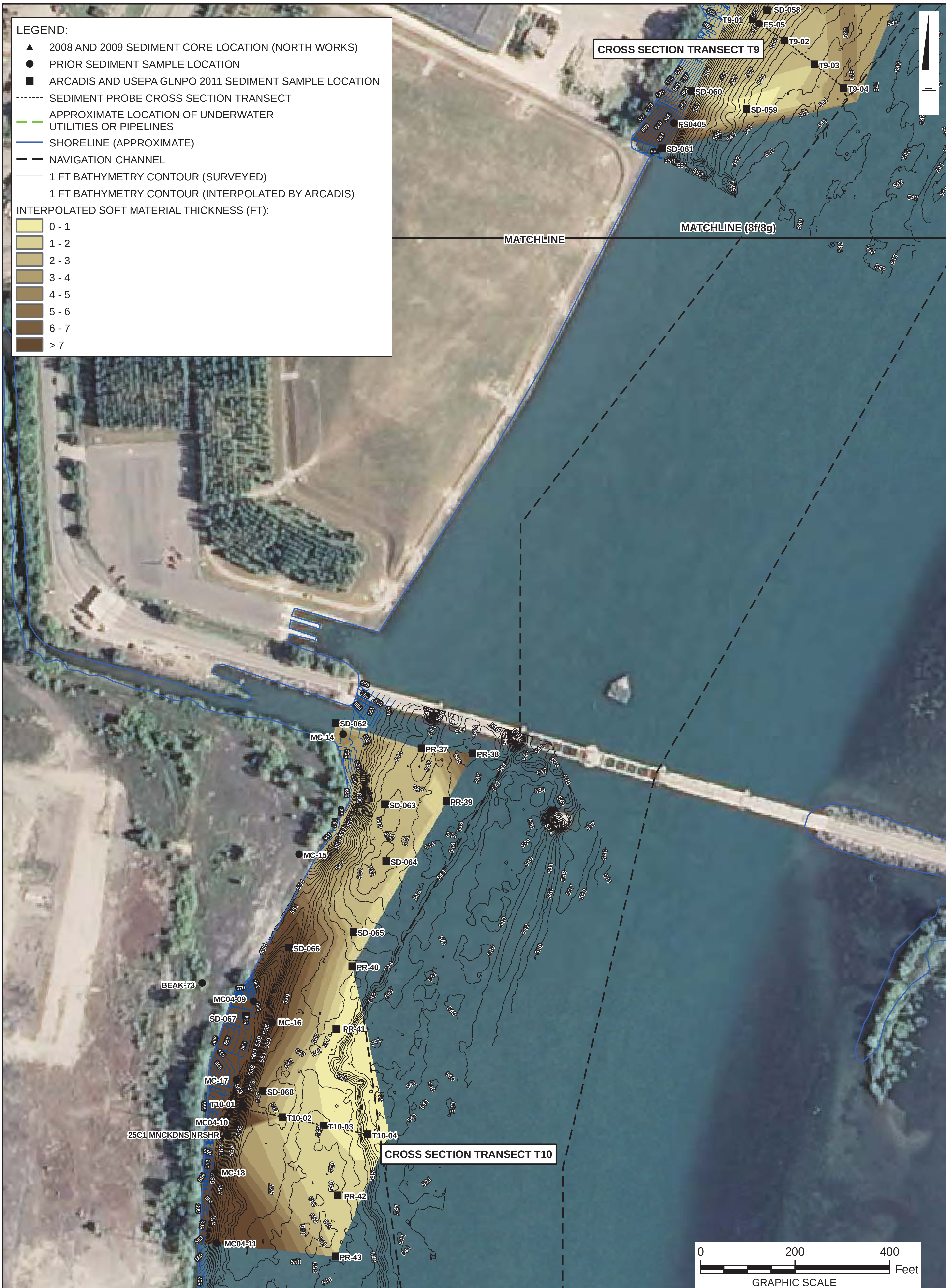
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS INTERPOLATED SURFACE

ARCADIS

FIGURE
8f

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Interpolated Soft Material Thickness Interpolation CrossSections - Map Book_v4.mxd 12/21/2011 10:13:02 AM (Page 7 of 8)



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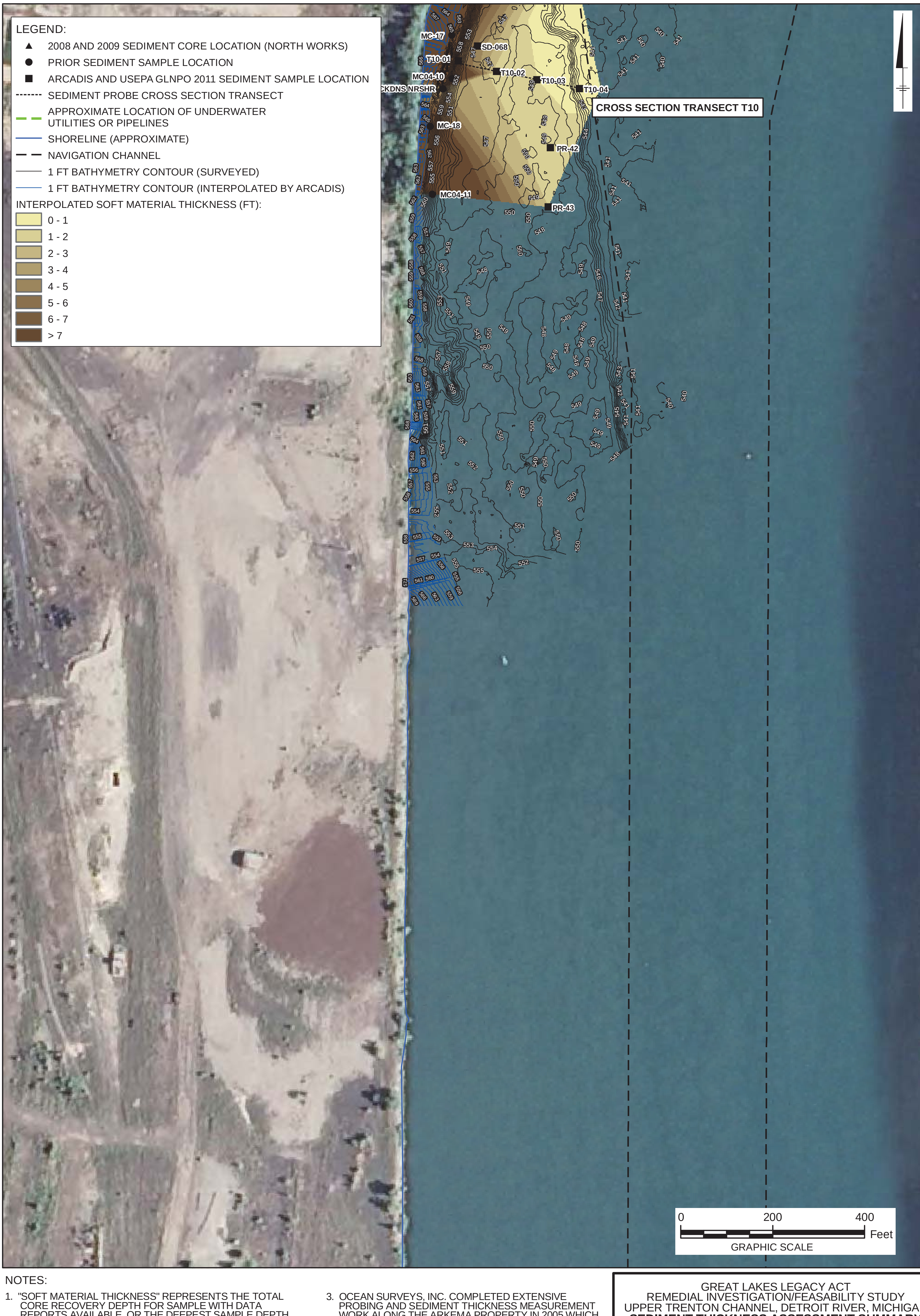
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS INTERPOLATED SURFACE

ARCADIS

FIGURE
8g

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
BASF - Trenton Channel (B0042929.0102.00003)
Q:\BASF_DetroitRiver_MI\TrentonChannel\SupplementalSampling_DataReport\mxd\Supplemental Sample Locations Interpolated Soft Material Thickness Interpolation CrossSections - Map Book_v4.mxd 12/21/2011 10:13:02 AM (Page 8 of 8)



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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASABILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS ASSESSMENT SUMMARY

SOFT MATERIAL THICKNESS INTERPOLATED SURFACE

ARCADIS

FIGURE
8h

ARCADIS

Attachment 1

ARCADIS 2011 Sediment Core Processing Field Notes

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/12/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Partly Cloudy, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T7-01	1015 6/10/2011	23	7	7.3	3.4

Description:

0.0 - 0.2' Gray brown fine sand, trace fine to coarse gravel, trace silt
0.2 - 1.3' Gray brown clayey silt, trace fine sand interbedding, trace white laminations, odor
1.3 - 1.5' Gray brown fine sand, trace medium to coarse sand, trace organics (wood), trace NAPL, odor
1.5 - 2.0' Gray brown clayey silt, trace white laminations, odor
2.0 - 2.2' Dark gray brown slag, little silt, trace fine to coarse gravel, trace NAPL, odor
2.2 - 7.3' Brown clay, trace fine to medium gravel, moderately stiff to stiff, no odor

Sample IDs:

No Samples Collected

Photos: Yes

Analysis:

No Samples Collected

Additional Notes:

Breathing Zone PID = 0.0 ppm

At 2 ft PID = 20.7 ppm

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/12/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Partly Cloudy, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-28	0945 6/10/2011	22	8	7.9	4.3

Description:
0.0 - 0.1' Brown slag, trace fine to coarse sand, trace fine to coarse gravel, sheens, odor
0.1 - 1.7' Dark gray clayey silt, trace fine sand laminations, trace white laminations
1.7 - 2.0' Dark gray fine sand, trace organics (wood, shells), sheens, odor
2.0 - 7.9' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: Breathing Zone PID = 0.0 ppm

PID at 0.0 ft = 0.4 ppm

PID at 1.8 ft = 0.4 ppm

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/12/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Partly Cloudy, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T6-01	0915 6/10/2011	28	8	6.6	3.4

Description:
0.0 - 1.2' Gray brown fine to medium sand, trace coarse sand, trace fine to coarse gravel, trace silt
1.2 - 1.8' Dark gray fine sand, trace medium to coarse sand, trace silt, slight odor
1.8 - 6.6' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

Breathing Zone PID = 0.0 ppm

PID 1.5' = 3.1 ppm

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-11	6-11-11 1110	24	9	8.4	1.8

Description:
0.0 - 0.3' Dark gray brown fine to coarse sand, little fine to medium gravel
0.3 - 8.4' Gray clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: Yes

Analysis:
No Samples Collected

Additional Notes:

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T8-01	6-11-11 840	20	10	9.1	8

Description:
0.0 - 5.6' Gray brown loose silt, trace clay, fine sand seam (4.3 to 4.7')
5.6 - 9.1' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-04	6-12-11 1600	21	10	9.7	5.3

Description:
0.0 - 0.2' Dark gray fine to coarse sand and fine to coarse gravel,
0.2 - 2.2' Dark gray brown fine sand, some silt, trace fine to coarse gravel
2.2 - 4.2' Gray brown silt, trace clay, trace fine sand,
4.2 - 5.2' Gray brown fine sand, trace silt, trace shells
5.2 - 9.1' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T10-01	6-12-11 1000	21	10	10	7

Description:
0.0 - 8.0' Dark gray brown clayey silt, trace organics (vegetation), odor
8.0 - 10.0' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

PID at 1.0' = 3.5 ppm; PID at 2.0' = 4.0 ppm; PID at 3.0' = 8.1 ppm; PID at 4.0' = 4.8 ppm; PID at 5.0' = 2.7 ppm;

PID at 6.0' = 4.7 ppm; PID at 7.0' = 15.8 ppm; PID at 8.0' = 9.9 ppm; PID at 9.0' = 1.2 ppm

SAMPLE COLLECTION FIELD LOG

ARCADIS

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-31	6-10-11 1040	18	12	11.6	10.3

Description:
0.0 - 0.6' Dark gray to black fine sand, trace slag
0.6 - 1.3' Dark gray fine sand, little silt
1.3 - 3.8' Dark gray clayey silt, loose
3.8 - 3.9' Dark gray fine sand, trace organics, trace silt
3.9 - 8.6' Gray brown silty clay, soft
8.6 - 8.9' Dark gray brown fine sand, trace silt, trace fine to coarse gravel
8.9 - 11.6' Gray clay, trace fine gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-01	6-12-11 1530	17	16	16	11.9

Description:
0.0 - 2.8' Gray brown very loose silt, trace fine sand
2.8 - 8.0' Dark gray brown clayey silt, trace organics (vegetation), trace slag, trace light gray material at 8.0'
8.0 - 10.2' Gray brown loose silt, trace fine sand, trace light gray material
10.2 - 10.9' Gray brown fine sand, trace silt, trace shells
10.9 - 16.0' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-38A	6-12-11 1100	34	10	2.8	7.3

Description:
0.0 - 0.1' Brown fine to medium gravel, trace coarse gravel
0.1 - 2.8' Brown clay, trace fine to coarse gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: 2 Attempts were made to collect core at probing location PR-38, no sediment recovery due to very fast water current. Core location moved west of probing location PR-38, behind bridge support to area of slower current.

SAMPLE COLLECTION FIELD LOG

ARCADIS

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T8-03	6-10-11 1105	30	5	3.8	2.8

Description:
0.0 - 1.8' Dark gray fine sand, trace silt, trace shells
1.8 - 2.8' Gray brown fine to medium sand, trace coarse sand, trace shells
2.8 - 3.8' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-18	6-09-11 1325	21	9	3.7	2

Description:
0.0 - 1.8' Dark gray silty clay, trace organics (vegetation)
1.8 - 3.7' Gray brown silty clay, trace fine to medium gravel, moderately stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: 4 Attempts

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-35	6-10-11 1145	6	6.5	5	5.5

Description:
0.0 - 3.5' Gray brown loose silt, trace clay, slight odor
3.5 - 4.0' Gray sandy clay, stiff
4.0 - 5.0' Orange brown fine sand, trace silt, dense

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: 3 Attempts, Refusal

PID at 1.0' = 10.1 ppm; PID at 2.0' = 5.7 ppm; PID at 3.0' = 11.0 ppm; PID at 4.0' = 0.0 ppm

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T4-01	6-9-11 1355	27	8	5.2	4.9

Description:

0.0 - 1.0' Dark gray fine to medium sand, little coarse sand, little silt, trace fine to medium gravel, trace slag, trace coal, strong odor
1.0 - 1.6' Brown clay, moderately stiff
1.6 - 3.2' Dark gray silty fine sand, trace medium to coarse sand, trace coal, trace slag, odor
3.2 - 3.6' Brown clay, moderately stiff
3.6 - 4.5' Dark gray brown silty fine sand, trace medium to coarse sand, trace coal, trace slag, odor
4.5 - 5.2' Dark gray fine sand, trace medium to coarse sand, trace fine gravel, trace shells, odor

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: Breathing Zone PID = 0.0 ppm

PID at 0.8' = 1202ppm; PID at 2.3' = 464 ppm; PID at 3.8' = 833 ppm; PID at 4.5' = 1361 ppm

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T2-03	6-14-11 0745	26	8	6.6	5.3

Description:
0.0 - 0.8' Dark gray brown very loose silt, trace fine to coarse sand, trace slag
0.8 - 2.0' Dark gray fine sand, little fine to coarse gravel, trace silt
2.0 - 2.4' Gray brown clayey silt, soft
2.4 - 4.4' Dark gray brown fine sand, little organics (vegetation), trace silt, slight odor
4.4 - 6.6' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: PID at 1.0' = 1.7 ppm; PID at 2.0' = 9.8 ppm; PID at 3.0' = 11.4 ppm; PID at 4.0' = 10.4 ppm
PID at 5.0' = 0.0 ppm; PID at 6.0' = 0.0 ppm; Breathing zone PID = 0.0 ppm

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-15	6-11-11 1045	24	10	6.1	3

Description:
0.0 - 3.0' Dark gray very loose silt, trace fine sand, trace slag, trace animal bone
3.0 - 4.0' Dark gray loose silt, little slag, trace fine sand, trace metal, trace fine to medium gravel
4.0 - 5.8' Dark gray very loose silt, trace slag, trace fine sand
5.8 - 6.1' Dark gray fine to coarse sand and fine to medium gravel, trace metal

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: 5 Attempts

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-08	6-14-11 0710	28	6	4.8	3.3

Description:
0.0 - 0.7' Dark gray fine sand, little organics (vegetation, twigs), trace silt, trace fine gravel
0.7 - 2.0' Dark gray brown fine sand, little silt, trace medium to coarse sand, trace fine to medium gravel, trace slag
2.0 - 4.8' Dark gray brown fine sand, trace shells, trace silt, slight odor

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: 3 Attempts, Refusal

Slight sheens noticed during cutting, specific source location in core could not be identified.

PID at 1.0' = 0.0 ppm; PID at 2.0' = 1.6 ppm; PID at 3.0' = 5.1 ppm; PID at 4.0' = 2.3 ppm; Breathing zone PID = 0.0 ppm

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-24	6-10-11 850	28	10	4.3	4.8

Description:
0.0 - 0.5' Gray brown fine to coarse sand, trace slag, trace fine to medium gravel
0.5 - 1.9' Gray changing to off-white silty material
1.9 - 4.3' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-14	6-9-11 1120	29	3	2.2	1.5

Description:
0.0 - 0.45' Dark gray fine to coarse sand and fine to coarse gravel, trace shells
0.45 - 2.2' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: Refusal

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T3-02	6-11-11 0930	29	5	2.6	3.4

Description:
0.0 - 0.2' Gray brown clayey silt, trace fine to coarse gravel, loose
0.2 - 2.6' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: 3 Attempts

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T1-01	6-12-11 1700	30	10	6.1	2

Description:
0.0 - 0.1' Dark gray brown fine to coarse sand, trace fine to medium gravel
0.1 - 6.1' Brown clay, trace fine to coarse gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-07	6-14-11 0630	28	8	5.6	5

Description:
0.0 - 2.0' Dark gray fine sand, trace medium to coarse sand, trace fine to medium gravel, trace shells
2.0 - 2.5' Gray brown fine to medium sand, trace fine to medium gravel, trace shells
2.5 - 5.6' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

SAMPLE COLLECTION FIELD LOG

ARCADIS

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-16	6-9-11 1200	33	4.9	4.2	2

Description:
0.0 - 0.1' Fine to medium gravel
0.1 - 4.2' Brown clay, trace fine to medium gravel, moderately stiff to stiff

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/14/2011

Project #: B0042929.0102.00003

Field Personnel: R. Kuhn, T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Sunny, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
T5-01	6-9-11 1500	23	12	9.4	7.8

Description:
0.0 - 0.2' Brown fine sand, trace silt
0.2 - 7.9' Gray brown fine sand/silt grain sized material
7.9 - 9.4' Off-white silt grain sized material

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes:

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS **Sampling Date:** 6/16/2011

Project #: B0042929.0102.00003

Field Personnel: T. O'Rourke, J. Geurts **Sample Matrix:** Sediment

Weather: Rain, 70s **Sampling Method:** 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-44	6-15-11 1345	10.2	2	0.7	4

Description:
0.0 - 0.5 Gray black fine to coarse gravel, trace fine to medium sand, trace silt
0.5 - 0.7 Cobble

Sample IDs:
No Samples Collected

Photos: Yes

Analysis:
No Samples Collected

Additional Notes: 3 Attempts, Refusal

ARCADIS

SAMPLE COLLECTION FIELD LOG

Project Title: Upper Trenton Channel RI/FS

Sampling Date: 6/16/2011

Project #: B0042929.0102.00003

Field Personnel: T. O'Rourke, J. Geurts

Sample Matrix: Sediment

Weather: Rain, 70s

Sampling Method: 3" Vibracore

Sample Location	Time	Water Depth (ft)	Penetration Depth (ft)	Recovery Depth (ft)	Probe Depth (ft)
PR-47	6-15-11 1440	5.8	6	1.9	0.2

Description:
0.0 - 0.9 Gray black very fine to fine sand, trace mica
0.9 - 1.1 Gray black fine to medium sand, trace broken brick, trace fine to medium gravel
1.1 - 1.9 Gray black medium to coarse sand and fine to medium gravel, trace large gravel, trace broken brick, trace glass, trace debris

Sample IDs:
No Samples Collected

Photos: yes

Analysis:
No Samples Collected

Additional Notes: 3 Attempts, Refusal

ARCADIS

Attachment 2

ARCADIS 2011 Sediment Core Processing Photo Log

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 2.8	Gray brown very loose silt, trace fine sand

08/16/11 Developed by: JDO
C:\Documents and Settings\josso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−01

ARCADIS

FIGURE
1

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 2.8	Gray brown very loose silt, trace fine sand
2.8 − 8	Dark gray brown clayey silt, trace organics (vegetation), trace slag, trace light gray material at 8.0’

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−01

ARCADIS

FIGURE
2

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.8 − 8	Dark gray brown clayey silt, trace organics (vegetation), trace slag, trace light gray material at 8.0’

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

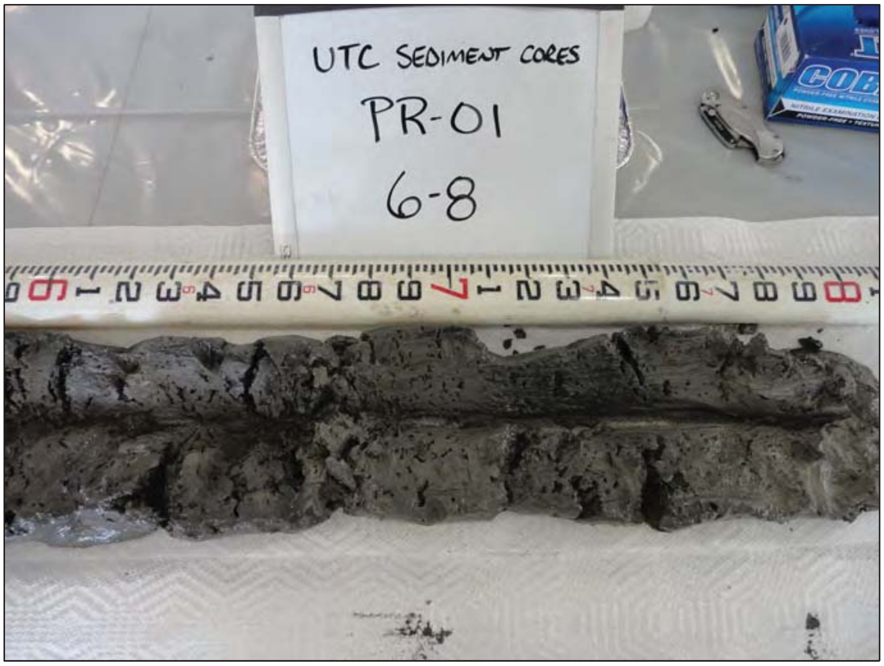
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−01

ARCADIS

FIGURE
3



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.8 − 8	Dark gray brown clayey silt, trace organics (vegetation), trace slag, trace light gray material at 8.0’

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

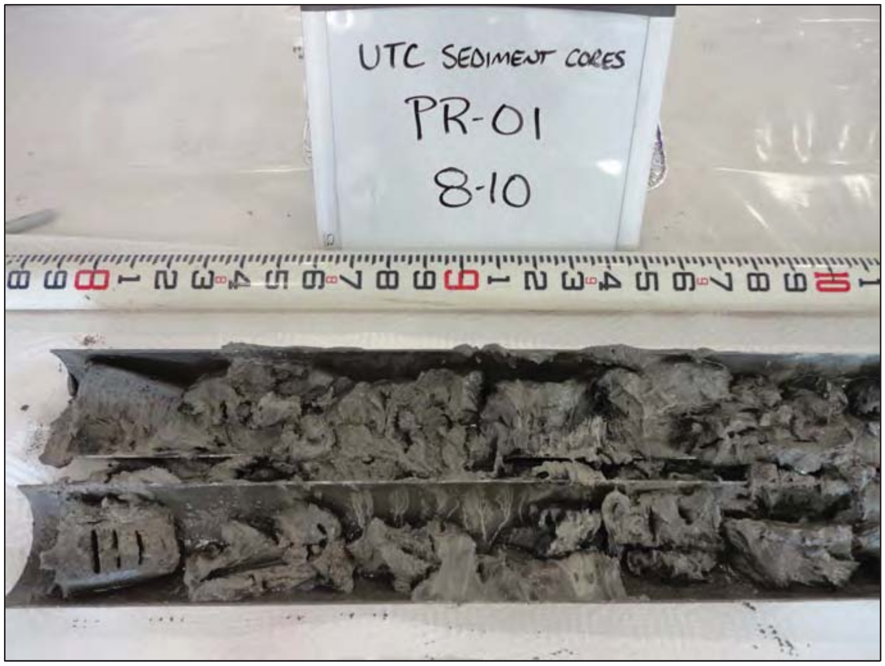
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−01

ARCADIS

FIGURE
4

08/16/11 Developed by: JDO
C:\Documents and Settings\josso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
8.0 − 10.2	Gray brown loose silt, trace fine sand, trace light gray material

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

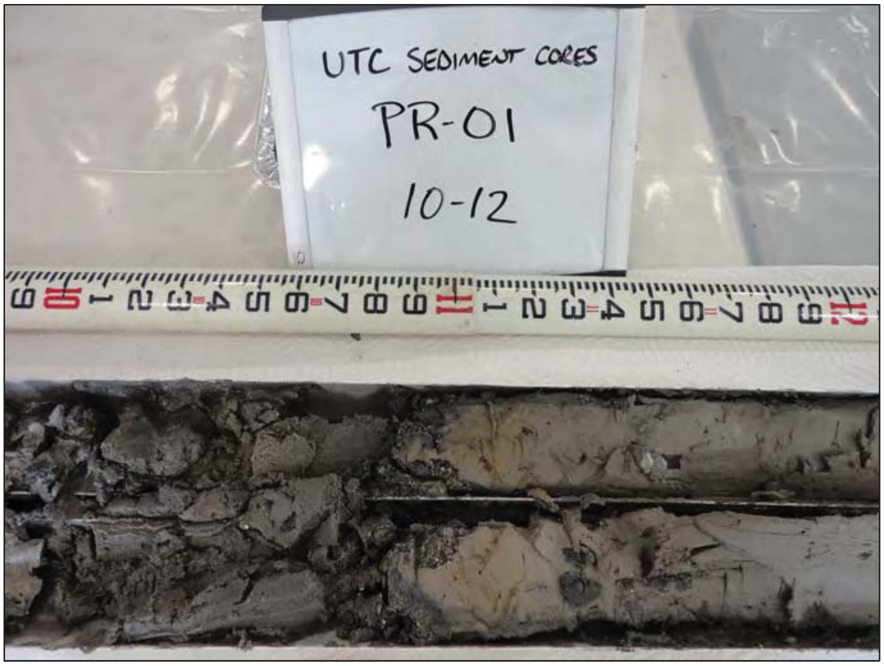
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−01

ARCADIS

FIGURE
5

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
10.2 − 10.9	Gray brown fine sand, trace silt, trace shells
10.9 − 16.0	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−01

ARCADIS

FIGURE
6

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
10.9 − 16.0	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−01

ARCADIS

FIGURE
7

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
10.9 − 16.0	Brown clay, trace fine to medium gravel, moderately stiff to stiff

08/16/11 Developed by: JDO
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−01

ARCADIS

FIGURE
8

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.2	Dark gray fine to coarse sand and fine to coarse gravel,
0.2 − 2.2	Dark gray brown fine sand, some silt, trace fine to coarse gravel

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−04

ARCADIS

FIGURE
9

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.2 − 2.2	Dark gray brown fine sand, some silt, trace fine to coarse gravel
2.2 − 4.2	Gray brown silt, trace clay, trace fine sand,

08/16/11 Developed by: JDO
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−04

ARCADIS

FIGURE 10

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.2 − 4.2	Gray brown silt, trace clay, trace fine sand,
4.2 −5.2	Gray brown fine sand, trace silt, trace shells
5.2 −9.1	Brown clay, trace fine to medium gravel, moderately stiff to stiff

08/16/11 Developed by: JDO
C:\Documents and Settings\lossol\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−04

ARCADIS

FIGURE
11

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
5.2 −9.1	Brown clay, trace fine to medium gravel, moderately stiff to stiff

08/16/11 Developed by: JDO
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−04

ARCADIS

FIGURE
12

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
5.2 −9.1	Brown clay, trace fine to medium gravel, moderately stiff to stiff

08/16/11 Developed by: JDO
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−04

ARCADIS

FIGURE
13

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 2.0	Dark gray fine sand, trace medium to coarse sand, trace fine to medium gravel, trace shells

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

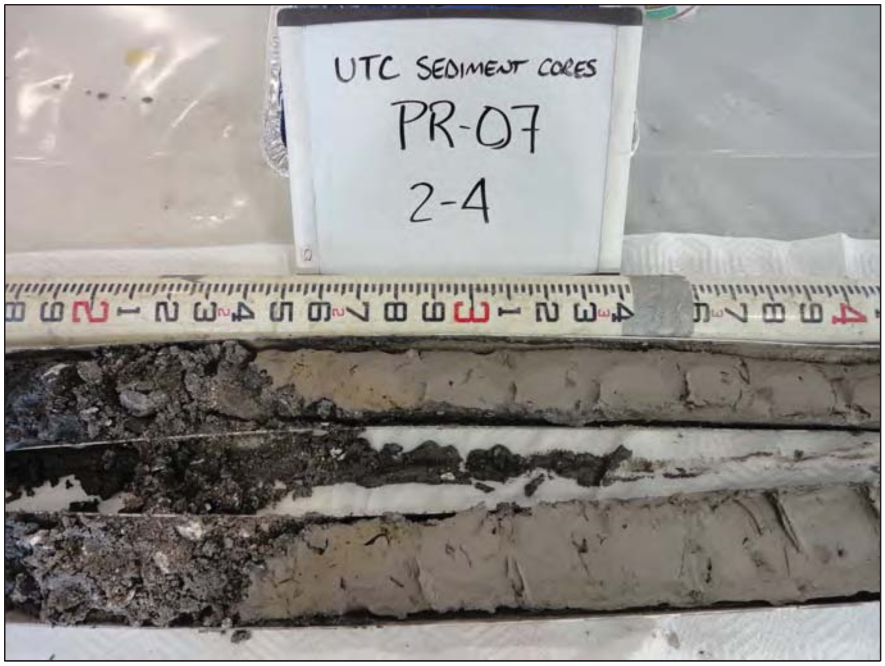
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−07

ARCADIS

FIGURE
14

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.0 − 2.5	Gray brown fine to medium sand, trace fine to medium gravel, trace shells
2.5 − 5.6	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

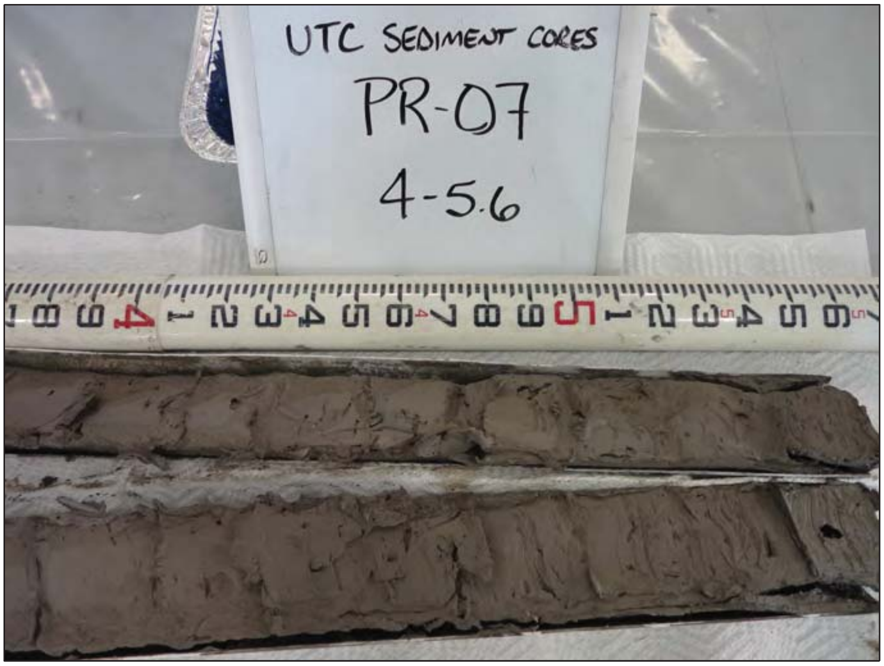
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−07

ARCADIS

FIGURE
15

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.5 − 5.6	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−07

ARCADIS

FIGURE
16

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.7	Dark gray fine sand, little organics (vegetation, twigs), trace silt, trace fine gravel
0.7 − 2.0	Dark gray brown fine sand, little silt, trace medium to coarse sand, trace fine to medium gravel, trace slag

08/16/11 Developed by: JDO
C:\Documents and Settings\osso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−08

ARCADIS

FIGURE
17

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.0 − 4.8	Dark gray brown fine sand, trace shells, trace silt, slight odor

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−08

ARCADIS

FIGURE
18

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.3	Dark gray brown fine to coarse sand, little fine to medium gravel
0.3 − 8.4	Gray clay, trace fine to medium gravel, moderately stiff to stiff

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−11

ARCADIS

FIGURE
19

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.3 − 8.4	Gray clay, trace fine to medium gravel, moderately stiff to stiff

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REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−11

ARCADIS

FIGURE
20

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.3 − 8.4	Gray clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−11

ARCADIS

FIGURE 21

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.3 − 8.4	Gray clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−11

ARCADIS

FIGURE
22

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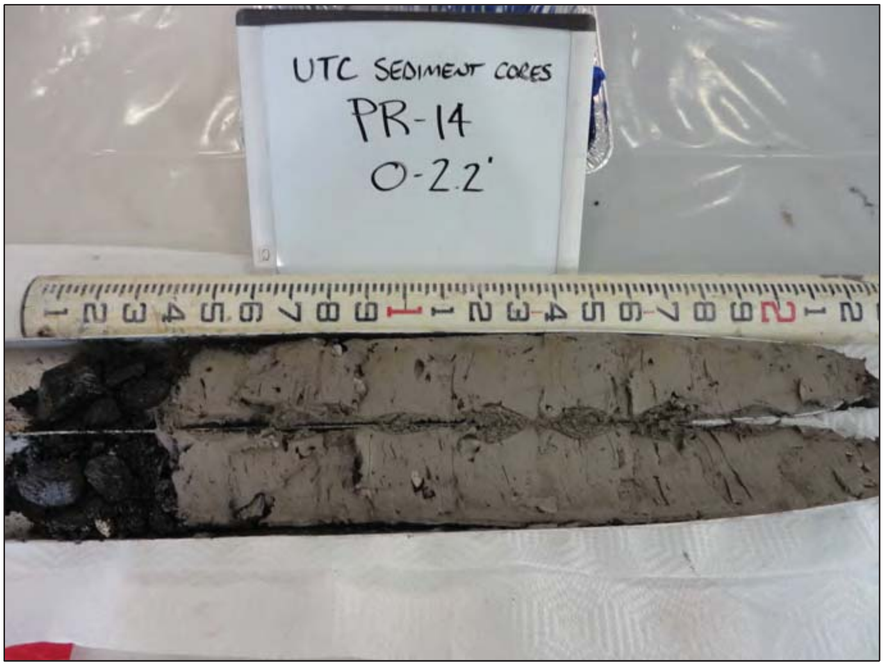

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.45	Dark gray fine to coarse sand and fine to coarse gravel, trace shells
0.45 − 2.2	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−14

ARCADIS

FIGURE 23

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 3.0	Dark gray very loose silt, trace fine sand, trace slag, trace animal bone

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−15

ARCADIS

FIGURE
24

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 3.0	Dark gray very loose silt, trace fine sand, trace slag, trace animal bone
3.0 − 4.0	Dark gray loose silt, little slag, trace fine sand, trace metal, trace fine to medium gravel

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−15

ARCADIS

FIGURE
25

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
4.0 − 5.8	Dark gray very loose silt, trace slag, trace fine sand
5.8 − 6.1	Dark gray fine to coarse sand and fine to medium gravel, trace metal

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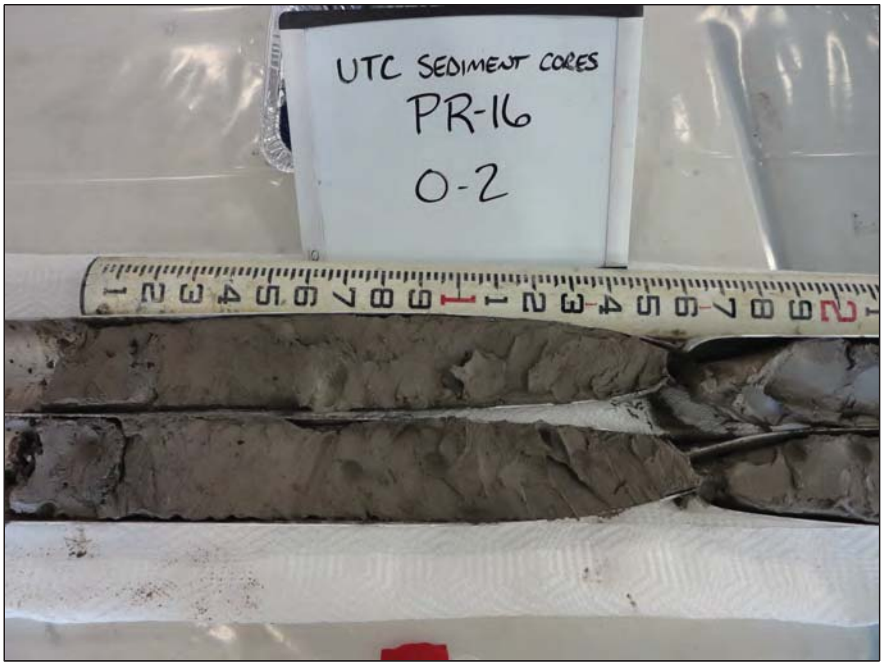
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−15

ARCADIS

FIGURE
26



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.1	Fine to medium gravel
0.1 − 4.2	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−16

ARCADIS

FIGURE
27

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.1 − 4.2	Brown clay, trace fine to medium gravel, moderately stiff to stiff

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−16

ARCADIS

FIGURE
28

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 1.8	Dark gray silty clay, trace organics (vegetation)
1.8 − 3.7	Gray brown silty clay, trace fine to medium gravel, moderately stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−18

ARCADIS

FIGURE
29

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
1.8 − 3.7	Gray brown silty clay, trace fine to medium gravel, moderately stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−18

ARCADIS

FIGURE
30

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.5	Gray brown fine to coarse sand, trace slag, trace fine to medium gravel
0.5 − 1.9	Gray changing to off−white silty material
1.9 − 4.3	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−24

ARCADIS

FIGURE
31

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
1.9 − 4.3	Brown clay, trace fine to medium gravel, moderately stiff to stiff

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−24

ARCADIS

FIGURE
32

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.1	Brown slag, trace fine to coarse sand, trace fine to coarse gravel, sheens, odor
0.1 − 1.7	Dark gray clayey silt, trace fine sand laminations, trace white laminations
1.7 − 2.0	Dark gray fine sand, trace organics (wood, shells), sheens, odor

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−28

ARCADIS

FIGURE
33

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.0 – 7.9	Brown clay, trace fine to medium gravel, moderately stiff to stiff

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR–28

ARCADIS

FIGURE
34

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.0 − 7.9	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−28

ARCADIS

FIGURE
35

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.0 − 7.9	Brown clay, trace fine to medium gravel, moderately stiff to stiff

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−28

ARCADIS

FIGURE
36

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.6	Dark gray to black fine sand, trace slag
0.6 − 1.3	Dark gray fine sand, little silt
1.3 − 3.8	Dark gray clayey silt, loose

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−31

ARCADIS

FIGURE
37

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
1.3 − 3.8	Dark gray clayey silt, loose
3.8 − 3.9	Dark gray fine sand, trace organics, trace silt
3.9 − 8.6	Gray brown silty clay, soft

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−31

ARCADIS

FIGURE
38

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
3.9 − 8.6	Gray brown silty clay, soft

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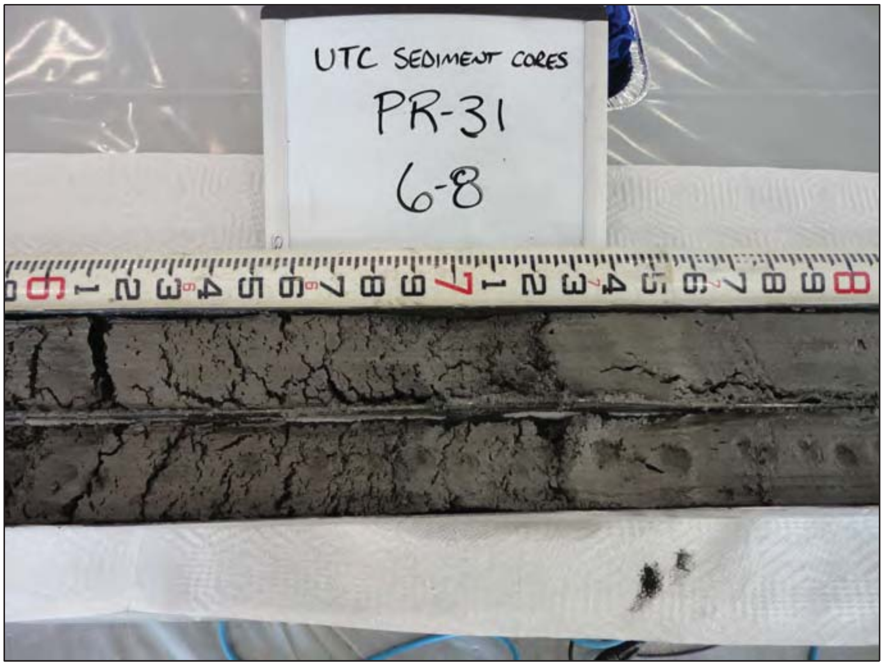
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−31

ARCADIS

FIGURE
39



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
3.9 − 8.6	Gray brown silty clay, soft

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−31

ARCADIS

FIGURE
40

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
3.9 − 8.6	Gray brown silty clay, soft
8.6 − 8.9	Dark gray brown fine sand, trace silt, trace fine to coarse gravel
8.9 − 11.6	Gray clay, trace fine gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−31

ARCADIS

FIGURE
41

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
8.9 – 11.6	Gray clay, trace fine gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR–31

ARCADIS

FIGURE
42

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0 − 3.5	Gray brown loose silt, trace clay, slight odor

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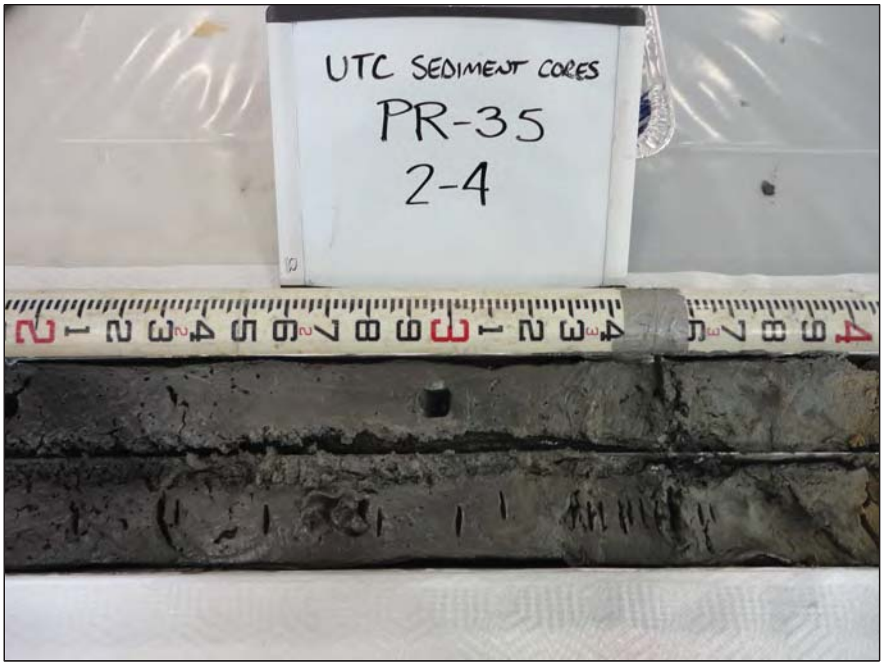
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−35

ARCADIS

FIGURE
43



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0 − 3.5	Gray brown loose silt, trace clay, slight odor
3.5 − 4.0	Gray sandy clay, stiff

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REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−35

ARCADIS

FIGURE
44

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
4.0 − 5.0	Orange brown fine sand, trace silt, dense

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−35

ARCADIS

FIGURE
45

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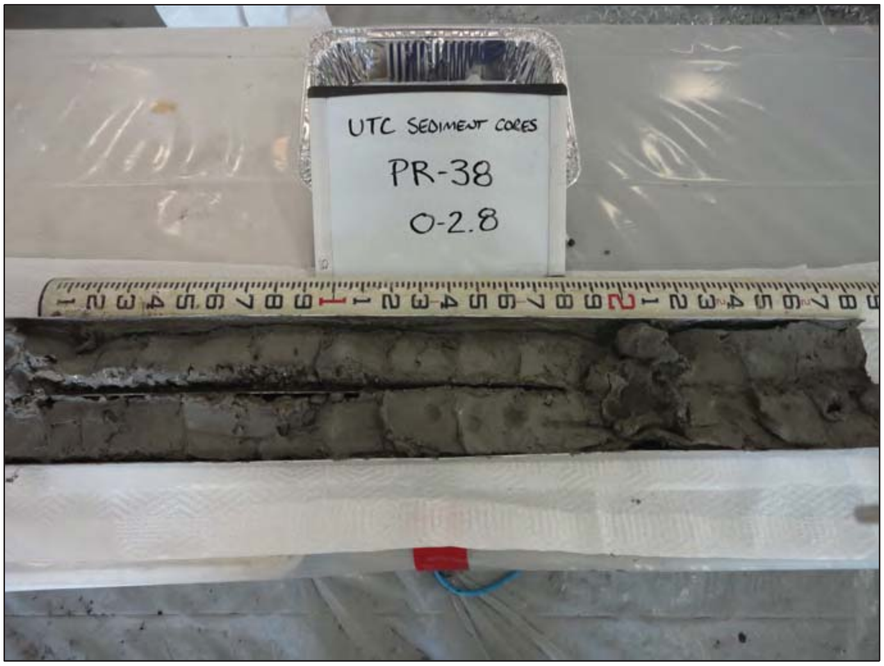

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.1	Brown fine to medium gravel, trace coarse gravel
0.1 − 2.8	Brown clay, trace fine to coarse gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−38A

ARCADIS

FIGURE
46

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.5	Gray black fine to coarse gravel, trace fine to medium sand, trace silt
0.5 − 0.7	Cobble

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−44

ARCADIS

FIGURE
47

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.9	Gray black very fine to fine sand, trace mica
0.9 − 1.1	Gray black fine to medium sand, trace broken brick, trace fine to medium gravel
1.1 − 1.9	Gray black medium to coarse sand and fine to medium gravel, trace large gravel, trace broken brick, trace glass, trace debris

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−47

ARCADIS

FIGURE
48

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
1.1 − 1.9	Gray black medium to coarse sand and fine to medium gravel, trace large gravel, trace broken brick, trace glass, trace debris

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: PR−47

ARCADIS

FIGURE
49

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.1	Dark gray brown fine to coarse sand, trace fine to medium gravel
0.1 − 6.1	Brown clay, trace fine to coarse gravel, moderately stiff to stiff

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T1−01

ARCADIS

FIGURE
50

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.1 − 6.1	Brown clay, trace fine to coarse gravel, moderately stiff to stiff

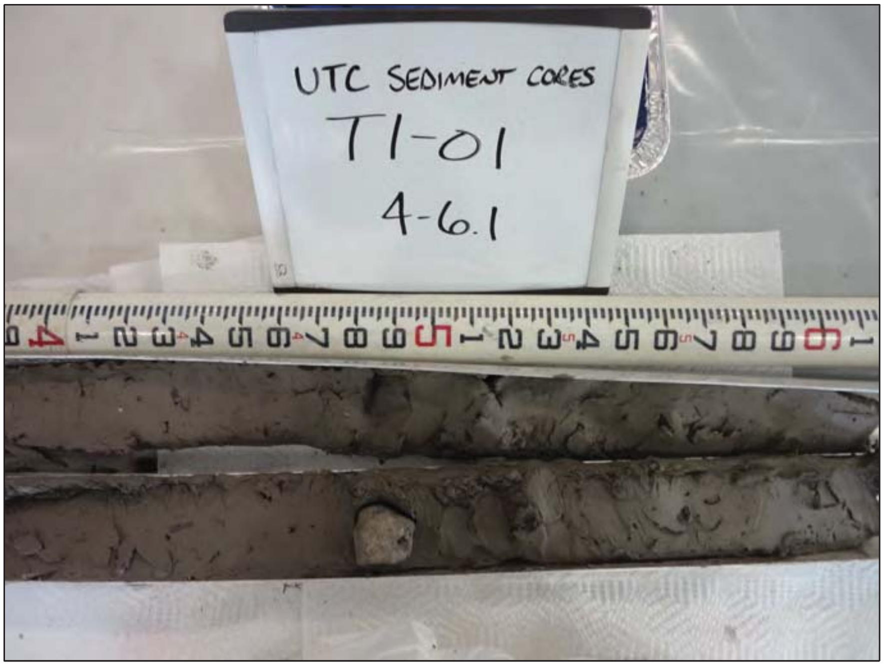
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T1−01

ARCADIS

FIGURE
51



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.1 − 6.1	Brown clay, trace fine to coarse gravel, moderately stiff to stiff

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T1−01

ARCADIS

FIGURE
52

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.8	Dark gray brown very loose silt, trace fine to coarse sand, trace slag
0.8 − 2.0	Dark gray fine sand, little fine to coarse gravel, trace silt

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T2−03

ARCADIS

FIGURE
53

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.0 − 2.4	Gray brown clayey silt, soft
2.4 − 4.4	Dark gray brown fine sand, little organics (vegetation), trace silt, slight odor

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T2−03

ARCADIS

FIGURE
54

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.4 − 4.4	Dark gray brown fine sand, little organics (vegetation), trace silt, slight odor
4.4 − 6.6	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T2−03

ARCADIS

FIGURE
55

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.2	Gray brown clayey silt, trace fine to coarse gravel, loose
0.2 − 2.6	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T3−02

ARCADIS

FIGURE
56

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 1.0	Dark gray fine to medium sand, little coarse sand, little silt, trace fine to medium gravel, trace slag, trace coal, strong odor
1.0 − 1.6	Brown clay, moderately stiff
1.6 − 3.2	Dark gray silty fine sand, trace medium to coarse sand, trace coal, trace slag, odor

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T4−01

ARCADIS

FIGURE
57

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
1.6 − 3.2	Dark gray silty fine sand, trace medium to coarse sand, trace coal, trace slag, odor
3.2 − 3.6	Brown clay, moderately stiff
3.6 − 4.5	Dark gray brown silty fine sand, trace medium to coarse sand, trace coal, trace slag, odor

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T4−01

ARCADIS

FIGURE
58

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
3.6 − 4.5	Dark gray brown silty fine sand, trace medium to coarse sand, trace coal, trace slag, odor
4.5 − 5.2	Dark gray fine sand, trace medium to coarse sand, trace fine gravel, trace shells, odor

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T4−01

ARCADIS

FIGURE
59

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.2	Brown fine sand, trace silt
0.2 − 7.9	Gray brown fine sand/silt grain sized material

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

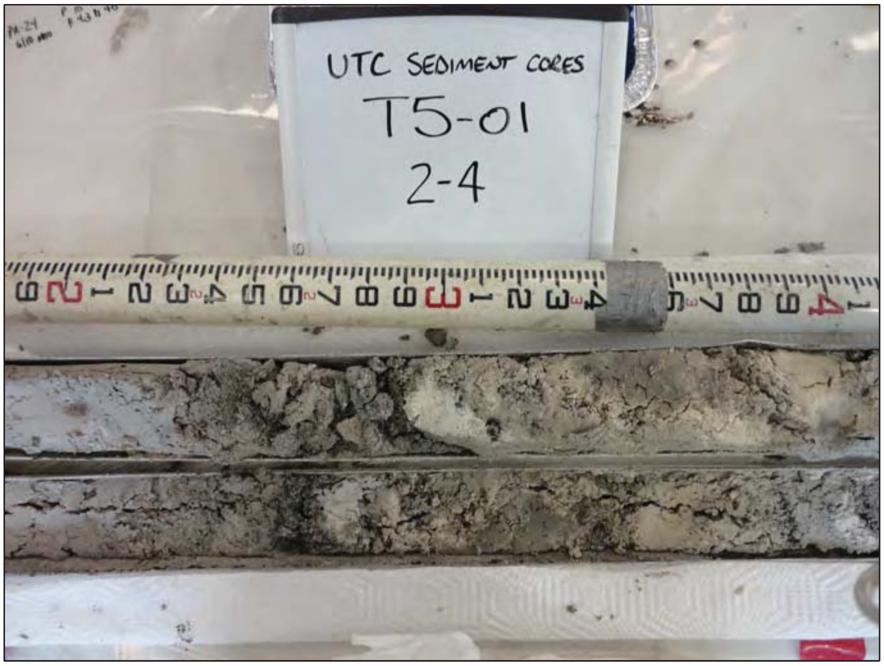
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T5−01

ARCADIS

FIGURE
60

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.2 − 7.9	Gray brown fine sand/silt grain sized material

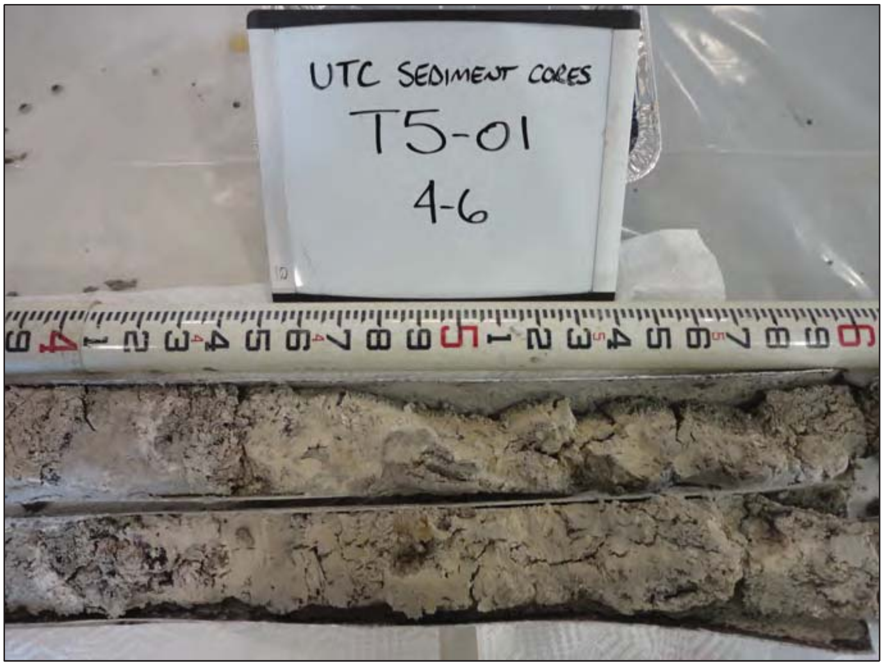
08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T5−01

ARCADIS

FIGURE
61



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.2 − 7.9	Gray brown fine sand/silt grain sized material

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

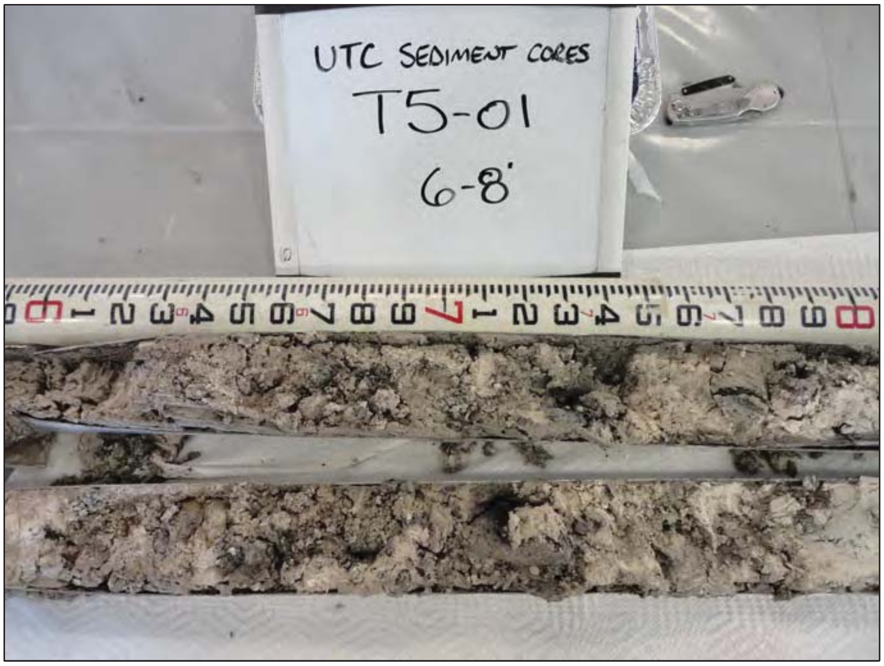
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T5−01

ARCADIS

FIGURE
62

08/16/11 Developed by: JDO
C:\Documents and Settings\josso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.2 − 7.9	Gray brown fine sand/silt grain sized material

08/16/11 Developed by: JDO
C:\Documents and Settings\josso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T5−01

ARCADIS

FIGURE
63

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
7.9 − 9.4	Off−white silt grain sized material

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T5−01

ARCADIS

FIGURE
64

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 1.2	Gray brown fine to medium sand, trace coarse sand, trace fine to coarse gravel, trace silt
1.2 − 1.8	Dark gray fine sand, trace medium to coarse sand, trace silt, slight odor
1.8 − 6.6	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T6−01

ARCADIS

FIGURE
65

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
1.8 − 6.6	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T6−01

ARCADIS

FIGURE
66

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
1.8 – 6.6	Brown clay, trace fine to medium gravel, moderately stiff to stiff

08/16/11 Developed by: JDO
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T6–01

ARCADIS

FIGURE
67

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 0.2	Gray brown fine sand, trace fine to coarse gravel, trace silt
0.2 − 1.3	Gray brown clayey silt, trace fine sand interbedding, trace white laminations, odor
1.3 − 1.5	Gray brown fine sand, trace medium to coarse sand, trace organics (wood), trace NAPL, odor
1.5 − 2.0	Gray brown clayey silt, trace white laminations, odor

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T7−01

ARCADIS

FIGURE
68

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.0 − 2.2	Dark gray brown slag, little silt, trace fine to coarse gravel, trace NAPL, odor
2.2 − 7.3	Brown clay, trace fine to medium gravel, moderately stiff to stiff, no odor

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T7−01

ARCADIS

FIGURE
69

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.2 − 7.3	Brown clay, trace fine to medium gravel, moderately stiff to stiff, no odor

08/16/11 Developed by: JDO
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T7−01

ARCADIS

FIGURE
70

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
2.2 − 7.3	Brown clay, trace fine to medium gravel, moderately stiff to stiff, no odor

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T7−01

ARCADIS

FIGURE
71

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 5.6	Gray brown loose silt, trace clay, fine sand seam (4.3 to 4.7')

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T8−01

ARCADIS

FIGURE
72

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 – 5.6	Gray brown loose silt, trace clay, fine sand seam (4.3 to 4.7’)

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T8–01

ARCADIS

FIGURE
73

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 5.6	Gray brown loose silt, trace clay, fine sand seam (4.3 to 4.7')
5.6 − 9.1	Brown clay, trace fine to medium gravel, moderately stiff to stiff

08/16/11 Developed by: JDO
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T8−01

ARCADIS

FIGURE
74

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
5.6 − 9.1	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T8−01

ARCADIS

FIGURE
75

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
5.6 − 9.1	Brown clay, trace fine to medium gravel, moderately stiff to stiff

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T8−01

ARCADIS

FIGURE
76

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 1.8	Dark gray fine sand, trace silt, trace shells
1.8 − 2.8	Gray brown fine to medium sand, trace coarse sand, trace shells

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T8−03

ARCADIS

FIGURE
77

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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
1.8 − 2.8	Gray brown fine to medium sand, trace coarse sand, trace shells
2.8 − 3.8	Brown clay, trace fine to medium gravel, moderately stiff to stiff

08/16/11 Developed by: JDO
C:\Documents and Settings\losso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T8−03

ARCADIS

FIGURE
78

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 8.0	Dark gray brown clayey silt, trace organics (vegetation), odor

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T10−01

ARCADIS

FIGURE
79

08/16/11 Developed by: JDO
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DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 8.0	Dark gray brown clayey silt, trace organics (vegetation), odor

08/16/11 Developed by: JDO
C:\Documents and Settings\josso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

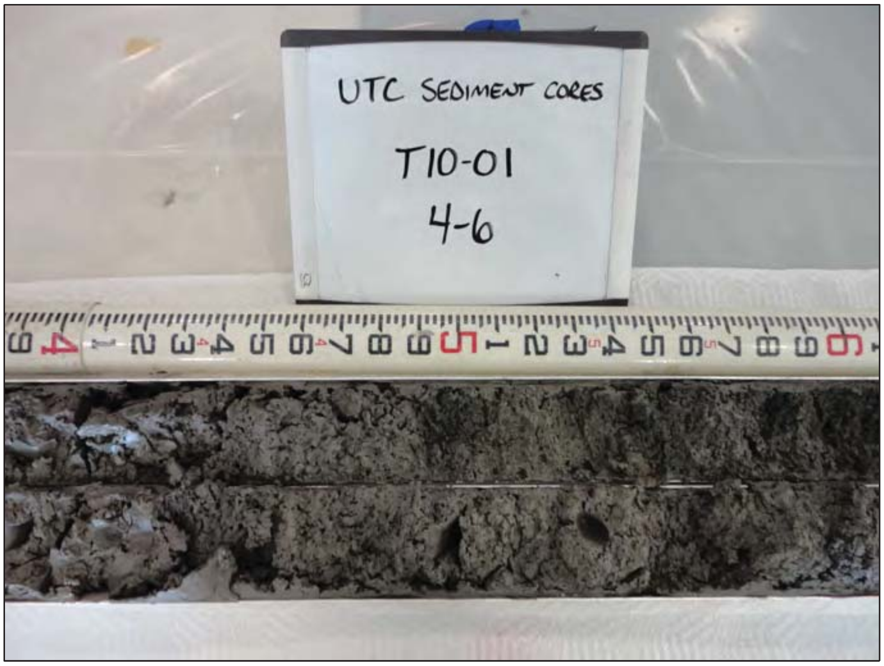
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T10−01

ARCADIS

FIGURE
80



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 8.0	Dark gray brown clayey silt, trace organics (vegetation), odor

08/16/11 Developed by: JDO
C:\Documents and Settings\josso\My Documents\MATLAB Scripts\BASF\July 2011 Lithologies\DR_CoreLithology_20110721.m

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T10−01

ARCADIS

FIGURE
81

DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
0.0 − 8.0	Dark gray brown clayey silt, trace organics (vegetation), odor

08/16/11 Developed by: JDO
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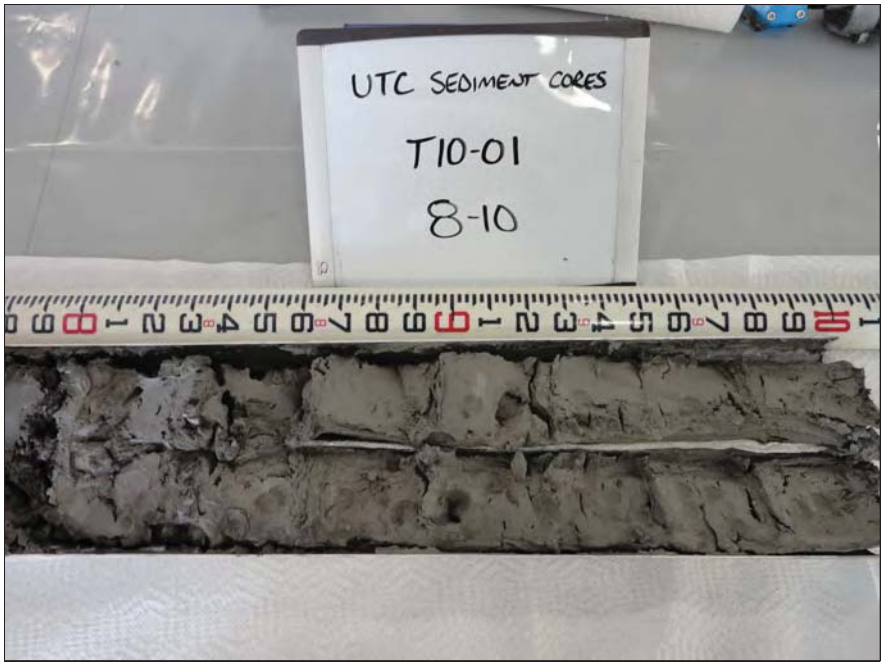
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T10−01

ARCADIS

FIGURE
82



DEPTH INTERVAL (INCHES)	LITHOLOGY DESCRIPTION
8.0 − 10.0	Brown clay, trace fine to medium gravel, moderately stiff to stiff

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN

SEDIMENT THICKNESS DATA SUMMARY

SEDIMENT CORE LITHOLOGY: T10−01

ARCADIS

FIGURE
83

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ARCADIS

Attachment 3

ARCADIS 2011 Transect Cross-Sectional Profiles

CITY:SYRACUSE DIV/GROUP:ENVCAD DB:N. SMITHGALL A. SAMIOS LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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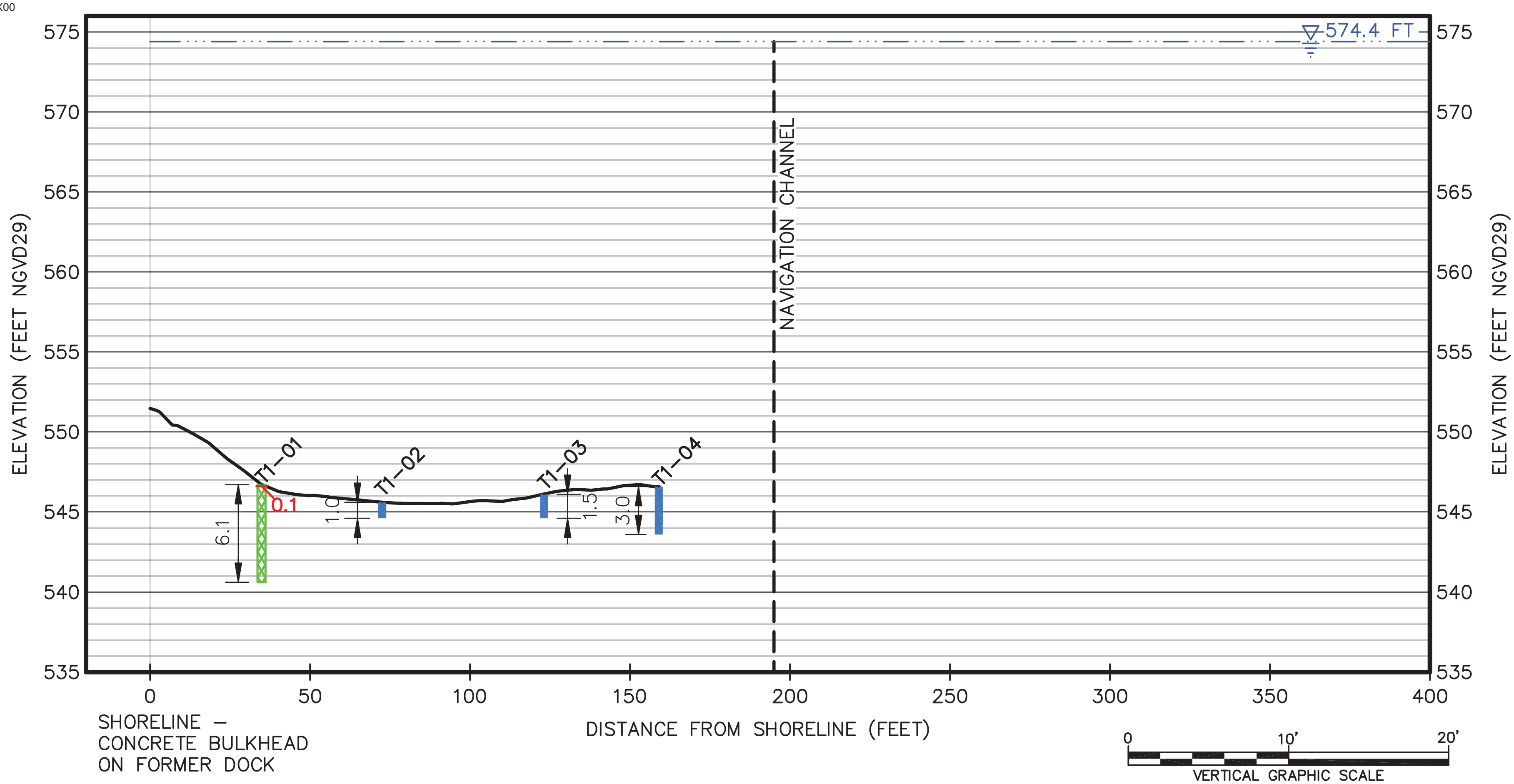
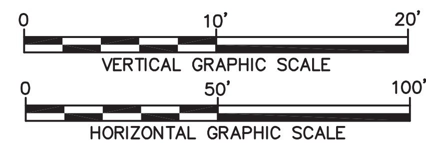
XREFS: 42929X00 IMAGES: PROJECTNAME: ----





LEGEND:

- SEDIMENT SURFACE
- 574.7 FT — WATER SURFACE ELEVATION
- 3.0 — SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY
- −4.4 — SEDIMENT THICKNESS IN FEET

NOTES:

1. SEDIMENT SURFACE OBTAINED FROM MULTIBEAM BATHYMETRIC SURVEY PERFORMED BY AQUA SURVEY, INC. ON APRIL 12–14, 2011.
2. SEDIMENT SURFACE AREAS OUTSIDE OF BATHYMETRIC SURVEY COVERAGE ESTIMATED FROM FIELD MEASUREMENT TAKEN DURING SEDIMENT PROBING AND VIBRACORE COLLECTION PERFORMED BY ARCADIS JUNE 7–15, 2011.
3. WATER SURFACE ELEVATION, PROBE DEPTH, VIBRACORE RECOVERY, AND SEDIMENT THICKNESS MEASURED BY ARCADIS JUNE 7–15, 2011.

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T1
CITY OF WYANDOTTE

ARCADIS

FIGURE
1

CITY:SYRACUSE DIV/GROUP:ENVCAD DB:N. SMITHGALL A. SAMIOS LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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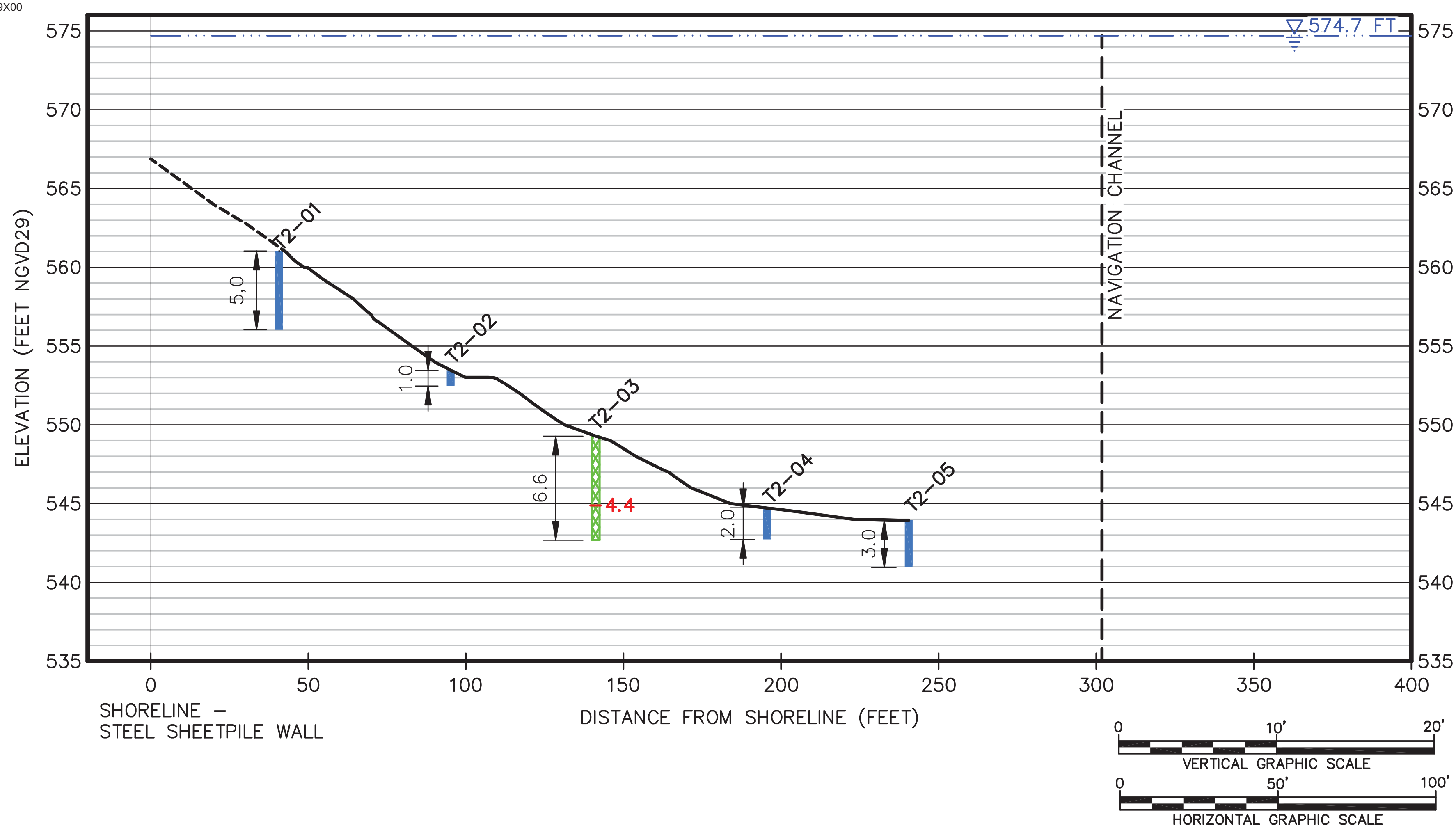

LEGEND:

- SEDIMENT SURFACE
- ESTIMATED SEDIMENT SURFACE (SEE NOTE 4)
- 574.7 FT — WATER SURFACE ELEVATION
- 3.0 — SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY
- –4.4 — SEDIMENT THICKNESS IN FEET

NOTES:

1. SEDIMENT SURFACE OBTAINED FROM MULTIBEAM BATHYMETRIC SURVEY PERFORMED BY AQUA SURVEY, INC. ON APRIL 12–14, 2011.
2. SEDIMENT SURFACE AREAS OUTSIDE OF BATHYMETRIC SURVEY COVERAGE ESTIMATED FROM FIELD MEASUREMENT TAKEN DURING SEDIMENT PROBING AND VIBRACORE COLLECTION PERFORMED BY ARCADIS JUNE 7–15, 2011.
3. WATER SURFACE ELEVATION, PROBE DEPTH, VIBRACORE RECOVERY, AND SEDIMENT THICKNESS MEASURED BY ARCADIS JUNE 7–15, 2011.
4. DASHED LINE IS AN ESTIMATED SEDIMENT SURFACE BECAUSE DATA WAS NOT AVAILABLE FOR THIS AREA FROM THE MULTIBEAM BATHYMETRIC SURVEY.

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T2
CITY OF WYANDOTTE

ARCADIS

FIGURE
2

CITY:SYRACUSE DIV/GROUP:ENVCAD DB:N. SMITHGALL A. SAMIOS LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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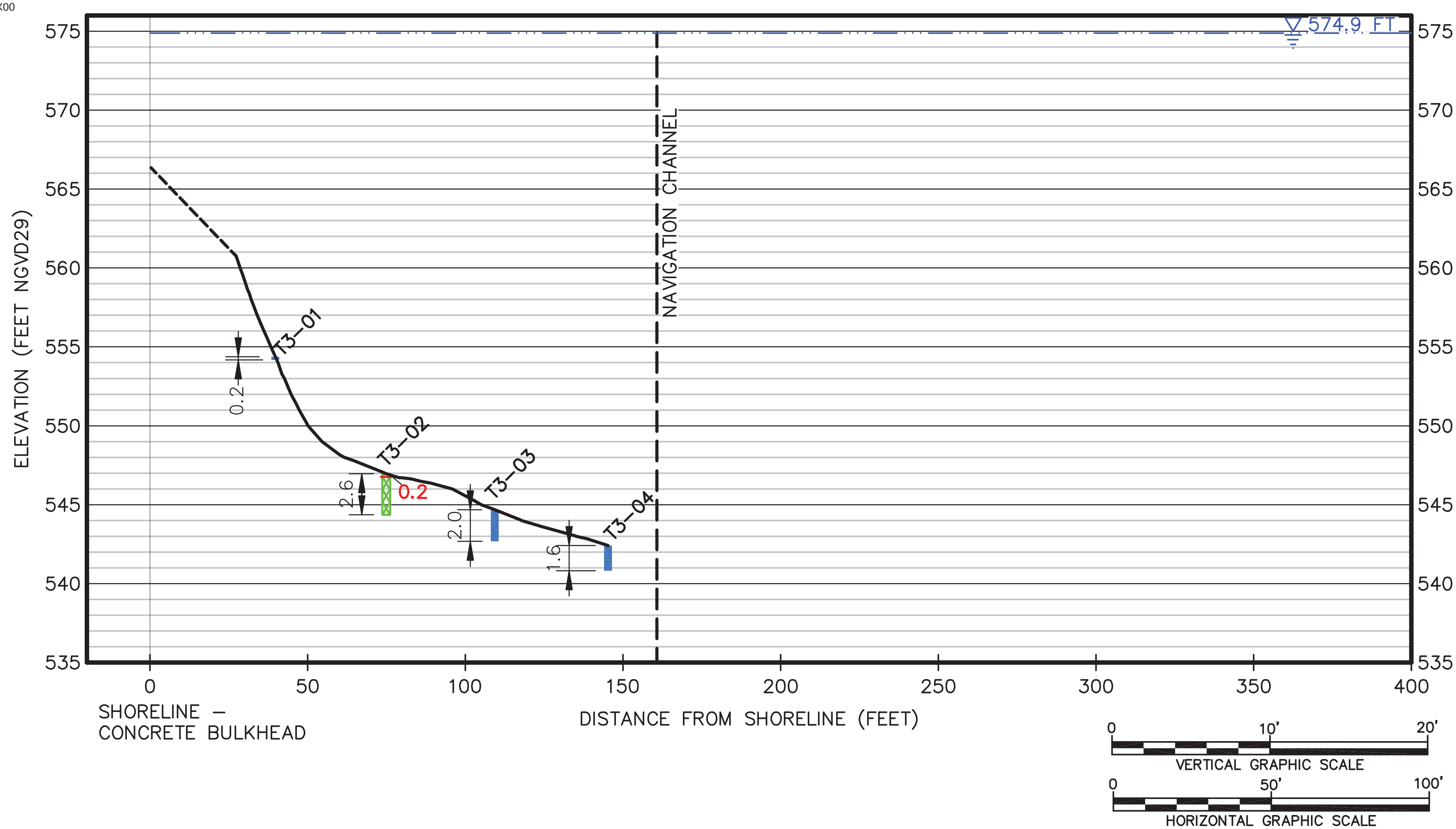
XREFS: IMAGES: PROJECTNAME: ----
42929X00



LEGEND:

- SEDIMENT SURFACE
- ESTIMATED SEDIMENT SURFACE (SEE NOTE 4)
- 574.7 FT — WATER SURFACE ELEVATION
- 3.0 — SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY
- –4.4 — SEDIMENT THICKNESS IN FEET

NOTES:

1. SEDIMENT SURFACE OBTAINED FROM MULTIBEAM BATHYMETRIC SURVEY PERFORMED BY AQUA SURVEY, INC. ON APRIL 12–14, 2011.
2. SEDIMENT SURFACE AREAS OUTSIDE OF BATHYMETRIC SURVEY COVERAGE ESTIMATED FROM FIELD MEASUREMENT TAKEN DURING SEDIMENT PROBING AND VIBRACORE COLLECTION PERFORMED BY ARCADIS JUNE 7–15, 2011.
3. WATER SURFACE ELEVATION, PROBE DEPTH, VIBRACORE RECOVERY, AND SEDIMENT THICKNESS MEASURED BY ARCADIS JUNE 7–15, 2011.
4. DASHED LINE IS AN ESTIMATED SEDIMENT SURFACE BECAUSE DATA WAS NOT AVAILABLE FOR THIS AREA FROM THE MULTIBEAM BATHYMETRIC SURVEY.

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T3
BASF - SOUTH WORKS

ARCADIS

FIGURE
3

CITY:SYRACUSE DIV/GROUP:ENVCAD DB:N. SMITHGALL A. SAMIOS LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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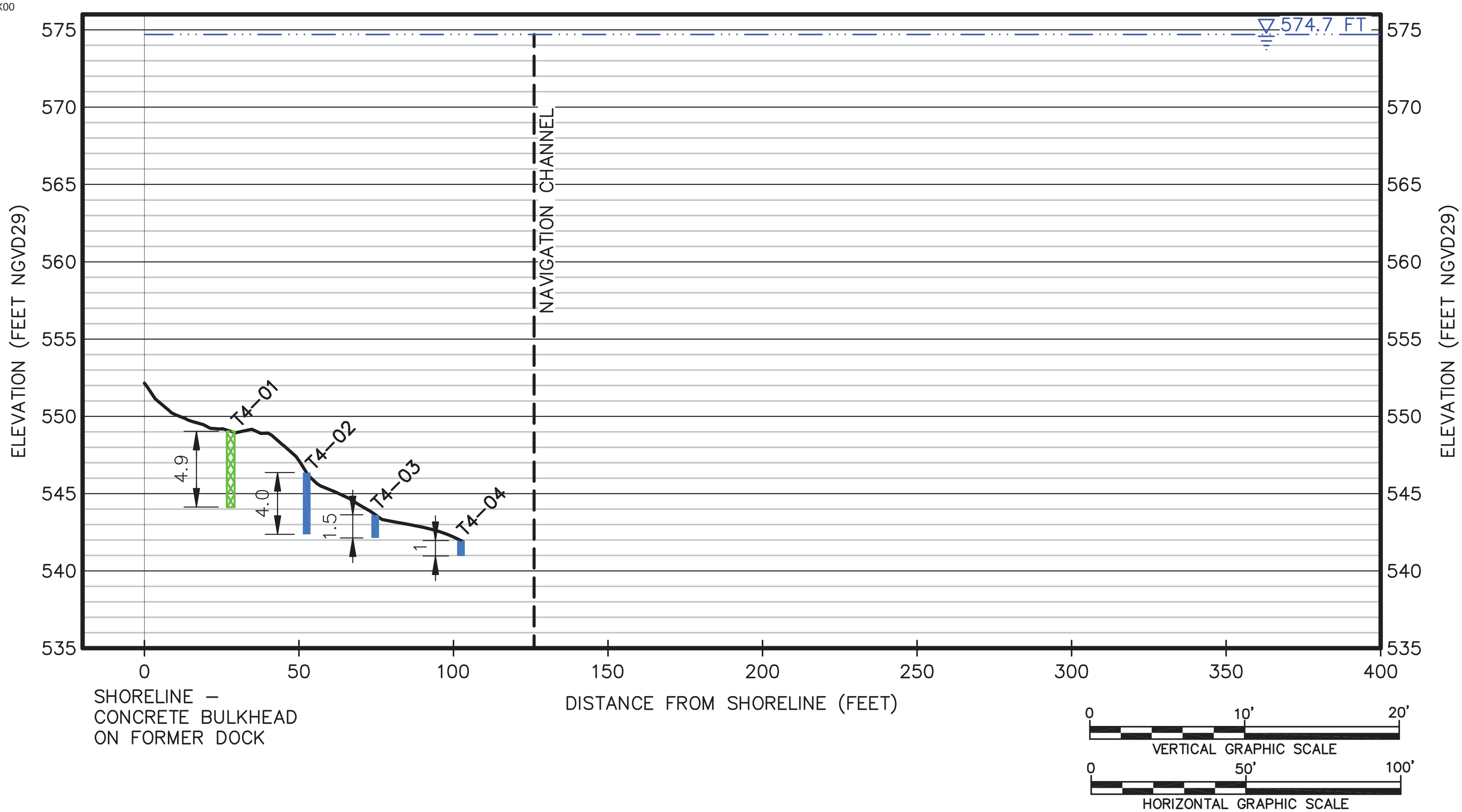

LEGEND:

- SEDIMENT SURFACE
- 574.7 FT — WATER SURFACE ELEVATION
- 3.0 — SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY*

NOTES:

1. SEDIMENT SURFACE OBTAINED FROM MULTIBEAM BATHYMETRIC SURVEY PERFORMED BY AQUA SURVEY, INC. ON APRIL 12–14, 2011.
2. SEDIMENT SURFACE AREAS OUTSIDE OF BATHYMETRIC SURVEY COVERAGE ESTIMATED FROM FIELD MEASUREMENT TAKEN DURING SEDIMENT PROBING AND VIBRACORE COLLECTION PERFORMED BY ARCADIS JUNE 7–15, 2011.
3. WATER SURFACE ELEVATION, PROBE DEPTH, VIBRACORE RECOVERY, AND SEDIMENT THICKNESS MEASURED BY ARCADIS JUNE 7–15, 2011.

* A NATIVE CLAY LAYER WAS NOT OBSERVED FOR THE VIBRACORE IN THIS TRANSECT, THEREFORE A SEDIMENT THICKNESS ABOVE NATIVE CLAY WAS NOT AVAILABLE

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T4
BASF - SOUTH WORKS

ARCADIS

FIGURE 4

CITY:SYRACUSE DIV/GROUP:ENVCAD DB:N. SMITHGALL A. SAMIOS LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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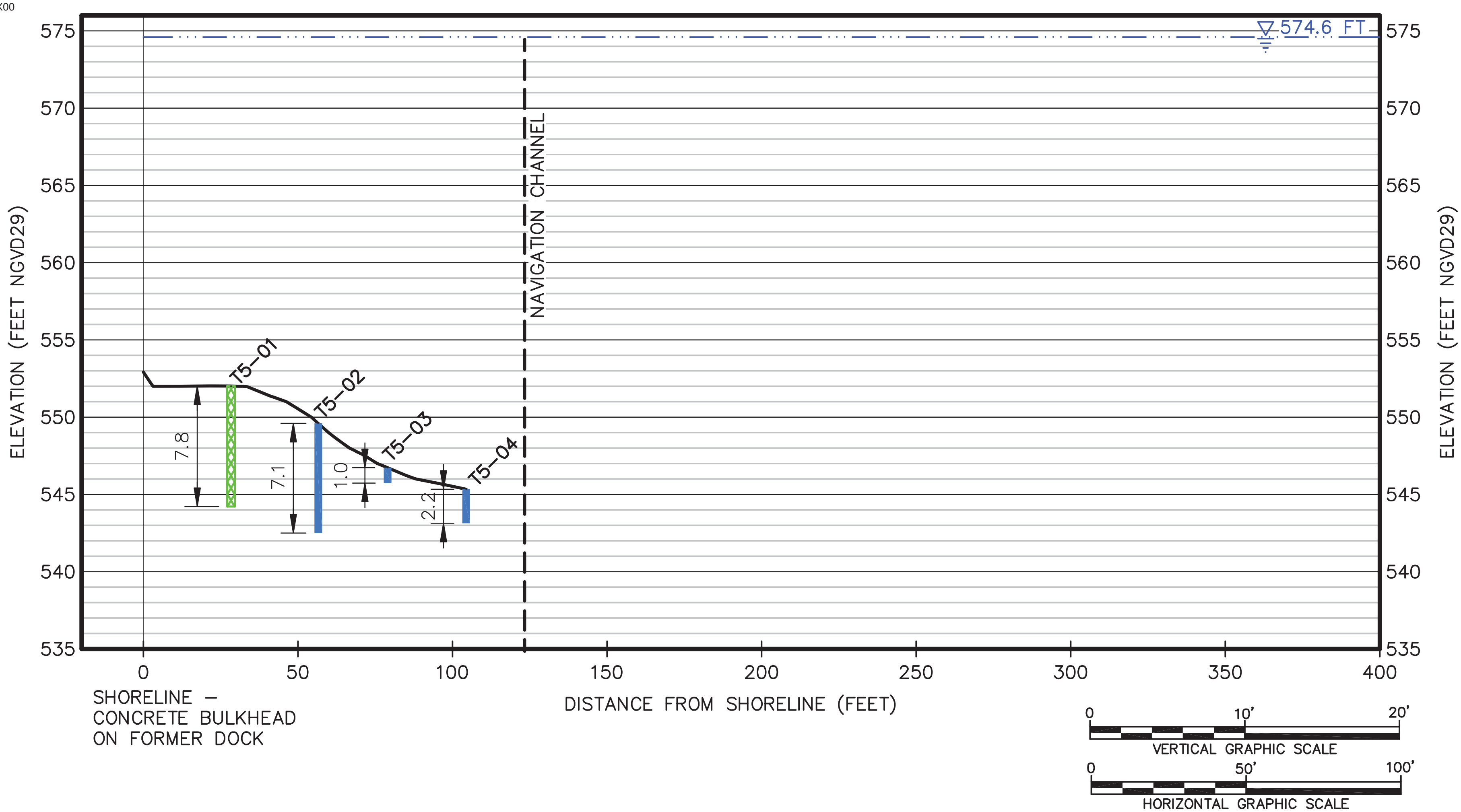

LEGEND:

- SEDIMENT SURFACE
- 574.7 FT WATER SURFACE ELEVATION
- 3.0 SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY*

NOTES:

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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T5
BASF - SOUTH WORKS

ARCADIS

FIGURE
5

CITY:SYRACUSE DIV/GROUP:ENVCAD DB:N. SMITHGALL A. SAMIOS LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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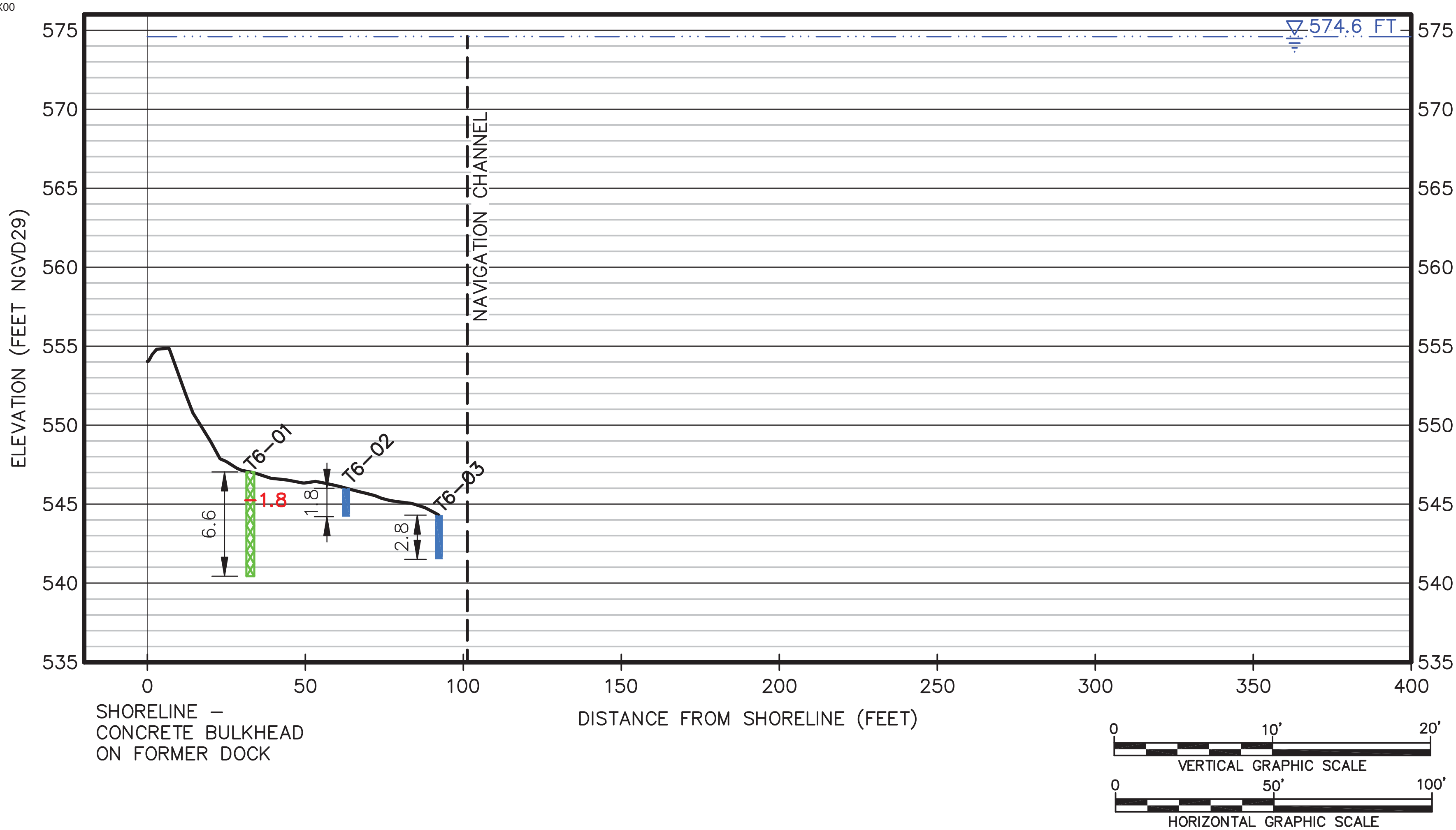

LEGEND:

- SEDIMENT SURFACE
- 574.7 FT — WATER SURFACE ELEVATION
- 3.0 — SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY
- −4.4 — SEDIMENT THICKNESS IN FEET

NOTES:

1. SEDIMENT SURFACE OBTAINED FROM MULTIBEAM BATHYMETRIC SURVEY PERFORMED BY AQUA SURVEY, INC. ON APRIL 12–14, 2011.
2. SEDIMENT SURFACE AREAS OUTSIDE OF BATHYMETRIC SURVEY COVERAGE ESTIMATED FROM FIELD MEASUREMENT TAKEN DURING SEDIMENT PROBING AND VIBRACORE COLLECTION PERFORMED BY ARCADIS JUNE 7–15, 2011.
3. WATER SURFACE ELEVATION, PROBE DEPTH, VIBRACORE RECOVERY, AND SEDIMENT THICKNESS MEASURED BY ARCADIS JUNE 7–15, 2011.

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T6
BASF - SOUTH WORKS

ARCADIS

FIGURE
6

CITY:SYRACUSE DIV/GROUP:ENVCAD DB:N. SMITHGALL A. SAMIOS LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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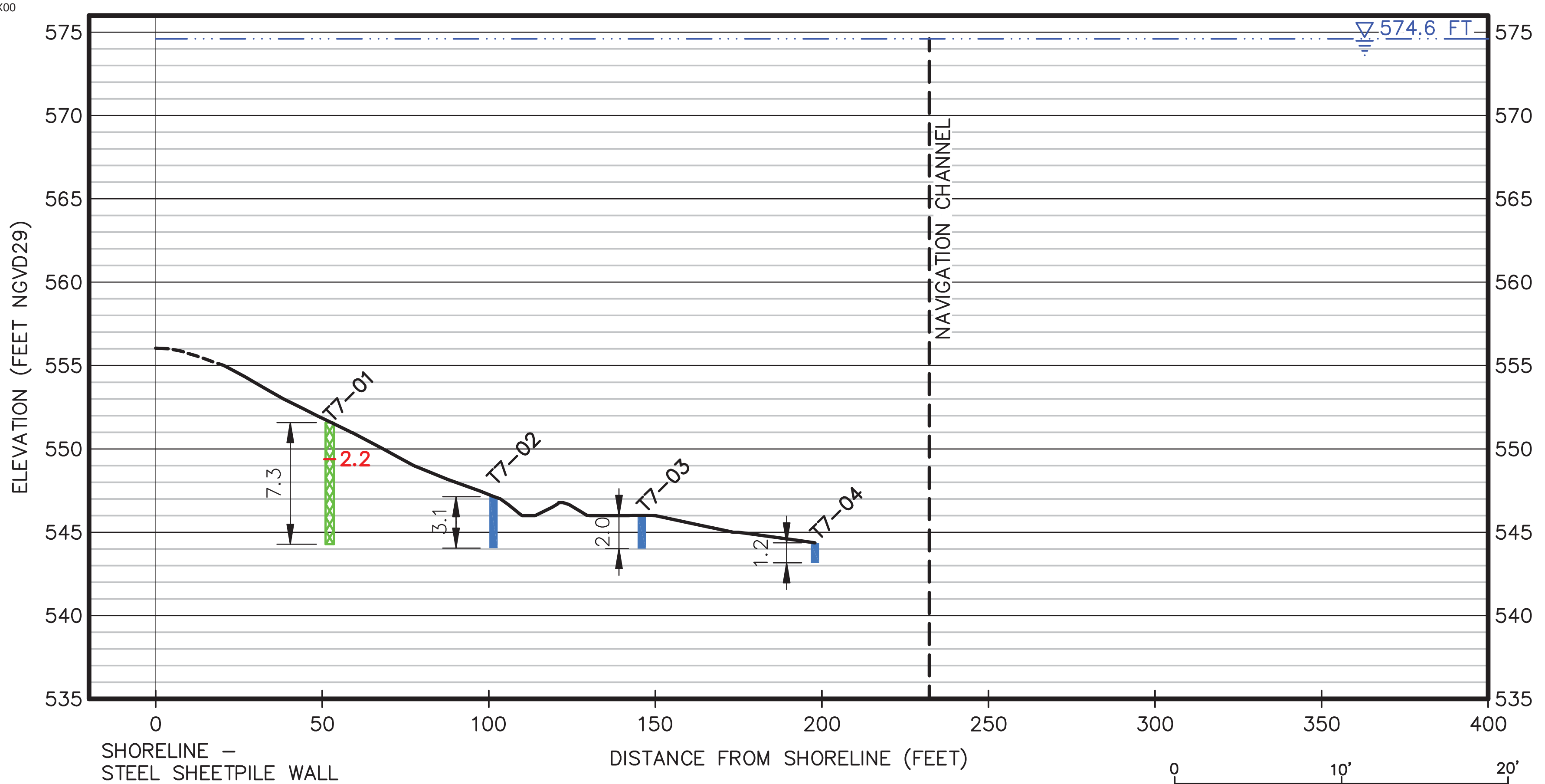

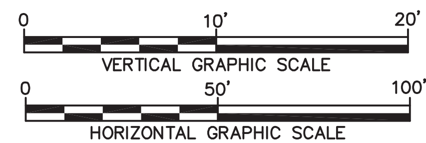

LEGEND:

- SEDIMENT SURFACE
- ESTIMATED SEDIMENT SURFACE (SEE NOTE 4)
- 574.7 FT — WATER SURFACE ELEVATION
- 3.0 — SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY
- −4.4 — SEDIMENT THICKNESS IN FEET

NOTES:

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3. WATER SURFACE ELEVATION, PROBE DEPTH, VIBRACORE RECOVERY, AND SEDIMENT THICKNESS MEASURED BY ARCADIS JUNE 7–15, 2011.
4. DASHED LINE IS AN ESTIMATED SEDIMENT SURFACE BECAUSE DATA WAS NOT AVAILABLE FOR THIS AREA FROM THE MULTIBEAM BATHYMETRIC SURVEY.

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T7
ARKEMA

ARCADIS

FIGURE
7

CITY:SYRACUSE DIV/GROUP:ENVCAD DB:N. SMITHGALL A. SAMIOS LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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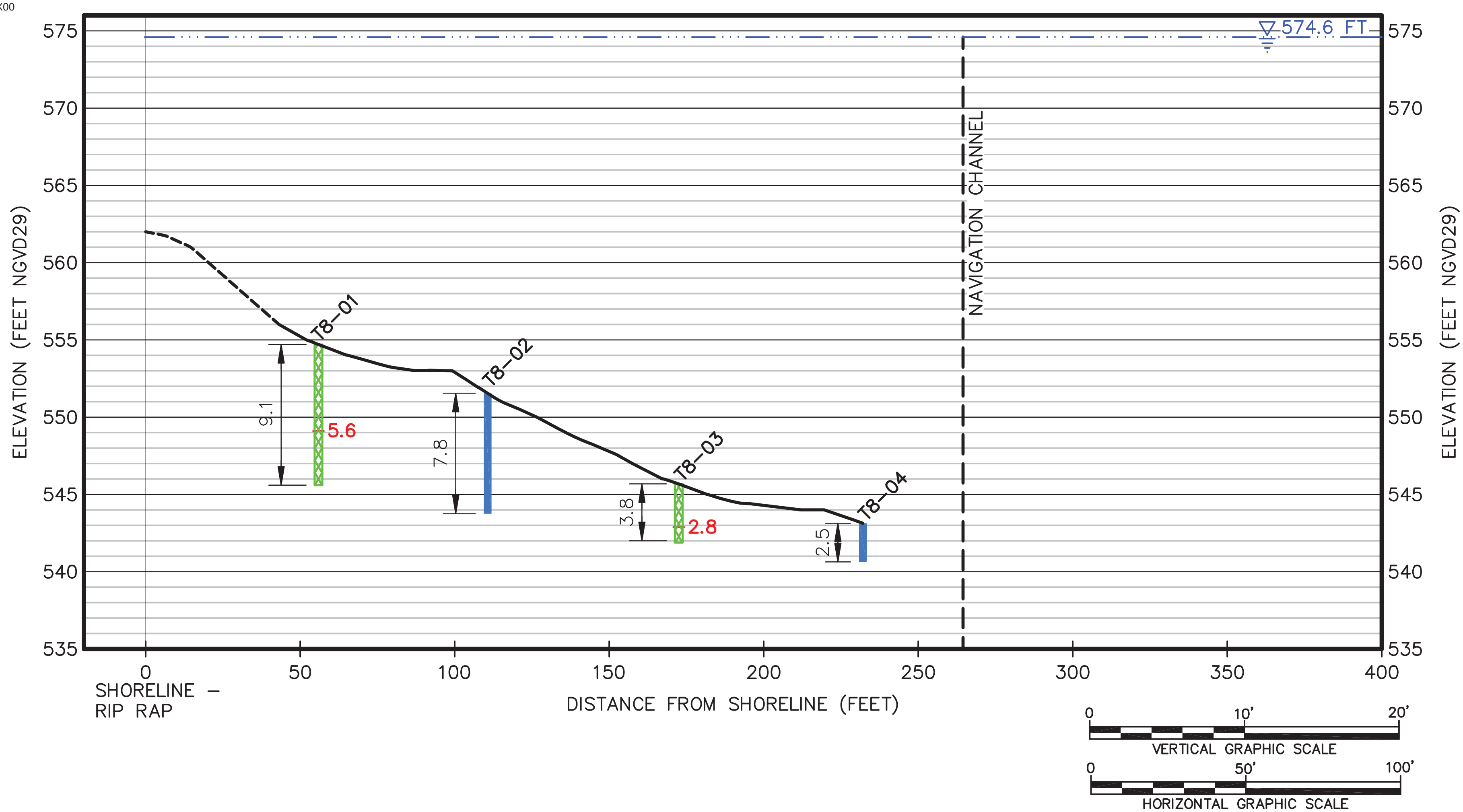

LEGEND:

- SEDIMENT SURFACE
- ESTIMATED SEDIMENT SURFACE (SEE NOTE 4)
- 574.7 FT — WATER SURFACE ELEVATION
- 3.0 — SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY
- –4.4 — SEDIMENT THICKNESS IN FEET

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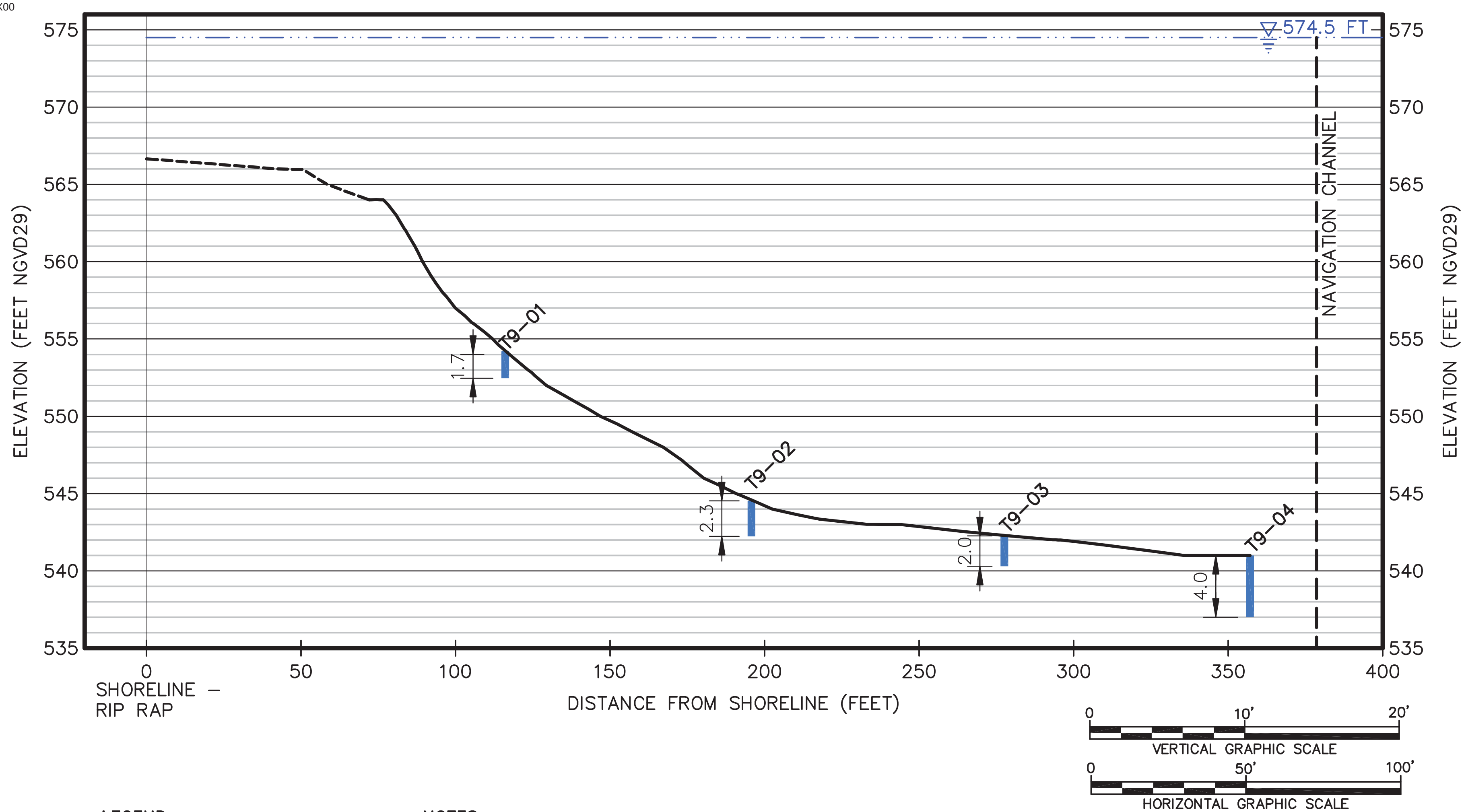
4. DASHED LINE IS AN ESTIMATED SEDIMENT SURFACE BECAUSE DATA WAS NOT AVAILABLE FOR THIS AREA FROM THE MULTIBEAM BATHYMETRIC SURVEY.

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T8
ARKEMA

ARCADIS

FIGURE
8



LEGEND:

- SEDIMENT SURFACE
- ESTIMATED SEDIMENT SURFACE (SEE NOTE 4)
- 574.7 FT WATER SURFACE ELEVATION
- 3.0 SOFT MATERIAL THICKNESS IN FEET
- PROBE DEPTH
- VIBRACORE RECOVERY*

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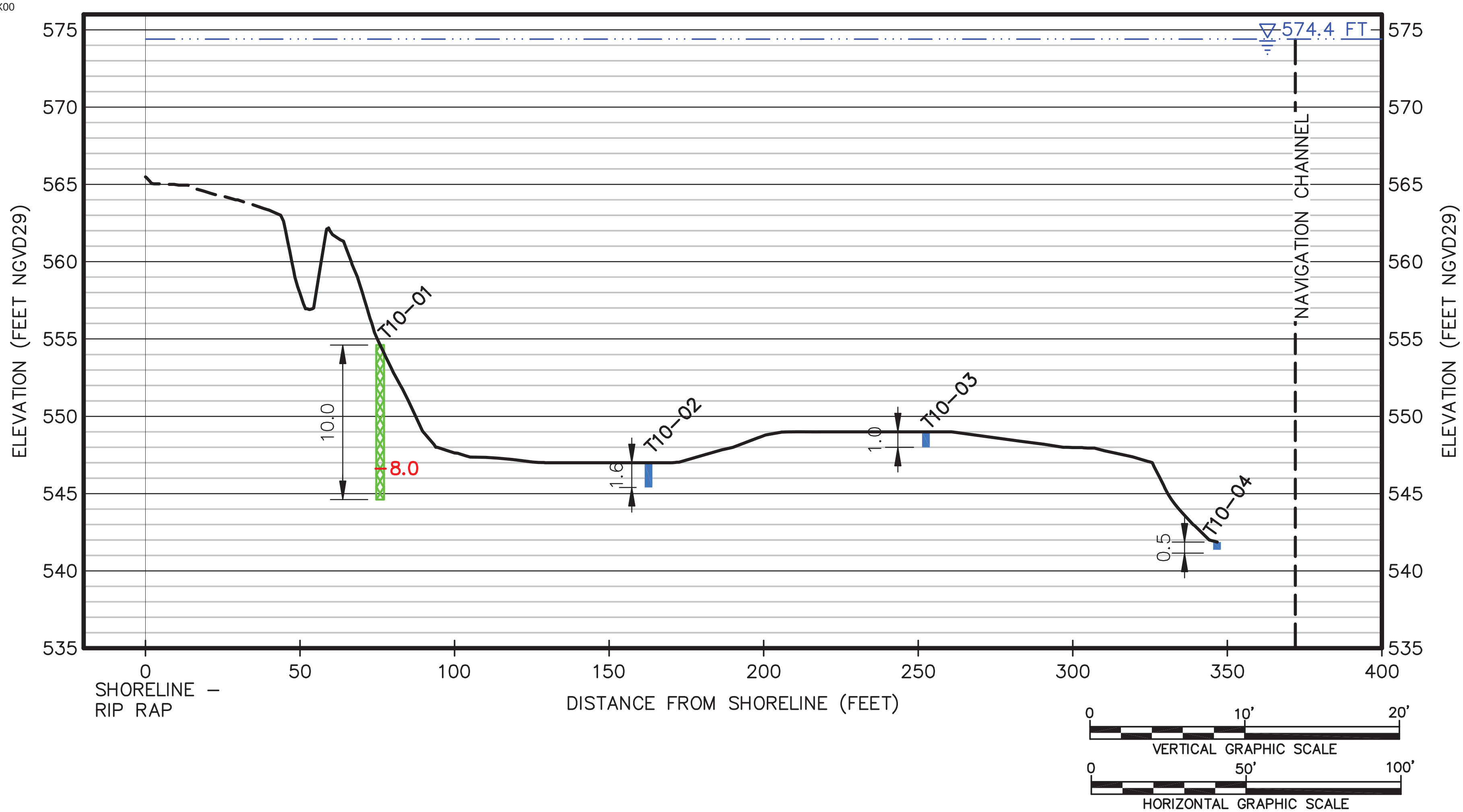
GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T9
MATERIALS PROCESSING, INC.

ARCADIS

FIGURE
9



LEGEND:

SEDIMENT SURFACE

ESTIMATED SEDIMENT SURFACE (SEE NOTE 4)

574.7 FT WATER SURFACE ELEVATION

3.0 SOFT MATERIAL THICKNESS IN FEET

PROBE DEPTH

VIBRACORE RECOVERY

-4.4 SEDIMENT THICKNESS IN FEET

NOTES:

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3. WATER SURFACE ELEVATION, PROBE DEPTH, VIBRACORE RECOVERY, AND SEDIMENT THICKNESS MEASURED BY ARCADIS JUNE 7–15, 2011.
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GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SEDIMENT THICKNESS DATA SUMMARY

CROSS SECTION TRANSECT T10 DOWNSTREAM OF GROSSE ILE BRIDGE

ARCADIS

FIGURE
10

Appendix D
Shoreline and Utility Conditions Survey

ARCADIS

Appendix D

Shoreline Conditions and In-River Structures Data Summary

Shoreline Conditions and In-River Structures Data Summary

Western Shoreline from Silver Shores Marina Downstream to McLouth Steel Property

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Great Lakes Legacy Act
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Western Shoreline from Silver Shores Marina Downstream to McLouth Steel Property

Introduction

The Detroit River (the River), Michigan has been the focus of a number of sediment investigations completed by both public and private entities since the 1980s that have documented impaired sediments. The Trenton Channel is located within the Detroit River Area of Concern (AOC) and separates Grosse Ile from the Michigan mainland. The current Great Lakes Legacy Act (GLLA) project – *Upper Trenton Channel Remedial Investigation and Feasibility Study* (RI/FS) is focusing on an approximately 3-mile section of the Upper Trenton Channel (UTC). One task associated with the current GLLA project is the evaluation and survey of shoreline conditions and in-river structures of the Michigan shoreline of the UTC from Silver Shores Marina downstream to the McLouth Steel property.

This data summary includes field observations and documentation of features found in various data sources collected according to the scope of work (SOW) submitted to United States Environmental Protection Agency Great Lakes National Program Office (USEPA GLNPO) on May 27, 2011 (ARCADIS 2011a). The SOW included a field survey of shoreline types, conditions and structures, as well as review of available hydrographic survey and local government utility maps to identify the location and size of in-river structures to be documented on a project area map.

This summary was prepared by ARCADIS on behalf of the non-federal partners, BASF Corporation and Legacy Site Services, LLC, agent of Arkema Inc., as part of the ongoing RI/FS in the UTC near Wyandotte, Michigan.

Task Objectives

This field survey and data review included the following tasks:

- Inspection of available air photos and documentation of major visible features.
- Inspection of hydrographic survey maps (AquaSurvey 2011) collected as part of the current 2011 GLLA project by Aqua Survey, Inc. to identify sub-surface shoreline conditions and the apparent location of in-river structures such as outfalls, intakes, pilings and piers, large debris, utility crossings, etc.
- Acquisition and review of available utility and sewer maps from local government sources.
- Visual observation and photographic documentation of the shoreline conditions and types from the water by boat. Bank conditions (i.e., armor or vegetation type, approximate bank slopes, etc.) were noted along the project area.
- Documentation of the location and approximate size of specific shoreline structures that may be of importance to design and implementation of river cleanup activities.
- To the extent readily available, identification of likely owners of any key structures that are of importance to design and implementation of river cleanup activities.

Observations and information gathered as part of these activities are documented in this summary package. A map with appropriate representation and labeling of shoreline areas and shoreline or in-river structures is provided as Figures 1 through 8.

Review of Existing Documents

Prior to May 2011 sediment thickness investigation work, ARCADIS reviewed several sources of information in an attempt to locate any known in-river structures or utilities before sediment sampling including the following:

- Contact with the local One-Call utility notification organization, MISS DIG (ARCADIS 2011b). Participating members were notified by MISS DIG to stake their utility lines on the upland areas adjacent to the project area. No major utilities were located during the MISS DIG call, except for pipelines near the Wyandotte Power Plant.

- Review of National Oceanic and Atmospheric Administration navigational charts for the Detroit River in the project area for shoreline structures, utility crossings, and other pertinent information.

- Multi-beam bathymetry, side scan sonar, and magnetometer survey data collected on April 11-14, 2011 as part of the Upper Trenton Channel Supplemental Sampling and Feasibility Study (Task 4) were reviewed for objects identified during the survey as partially exposed cables or pipelines, metallic objects on the river bottom, submerged docks, and identification of debris along shoreline bulkheads. Identified structures are labeled on the attached Figures 1 through 8.

In addition to the utility location documentation completed in May 2011, ARCADIS obtained sewer utility maps for the cities of Wyandotte and Riverview. Locations of outfalls are approximately located on the attached Figures 1 through 8. Specific information about the locations of combined sewer outfalls and former industrial outfalls (provided in Figure 7-1 of the RI Report [USEPA 2010], but on a scale that is not useable) were provided by USEPA (USEPA 2011) and are also approximately located on the attached Figures 1 through 8.

Field Activities

Shoreline conditions were assessed from the southern boundary of the North Works sub-area downstream to the Grosse Ile Bridge on June 6, 2011. Shoreline conditions from the Grosse Ile Bridge to the downstream southern edge of the McLouth Steel sub-area were assessed on June 12, 2011.

Field staff identified shoreline structures within the UTC and recorded the location, date, time, and approximate structure size, as well as the location of the structures relative to surrounding areas. Approximate coordinates of structure locations were captured using Real Time Kinetic (RTK) Differential Global Positioning System (DGPS) by approaching the structures as closely as safely possible by boat. Shoreline conditions and types were also recorded with locations of changes in shoreline type captured using RTK DGPS. Field notes and observations are provided in Attachment 1 and Figures 1 through 8 map shoreline types and in-river structures observed in the field.

Additionally, shorelines and structures were photographed. A log of photographs is provided in Attachment 2. Select photo locations are approximately located on Figures 1 through 8 but were not recorded using the RTK DGPS.

Summary of Observed Features

The following data and information were reviewed for shoreline conditions and in-river structure locations and descriptions:

- Utility locate documentation gathered prior to sediment thickness sampling work in May 2011.
- ARCADIS field survey, as described above (shoreline types, GPS locations of pipes and features, photographs).
- Aqua Survey Inc. magnetometer, side scan sonar, and bathymetric survey images and report. Survey performed April 12-14, 2011 (Aqua Survey 2011).
- City of Wyandotte outfall maps from a Freedom of Information Act (FOIA) request.
- City of Riverview outfall maps from a FOIA request.
- Trenton Channel Remedial Investigation Report (USEPA/Michigan Department of Environmental Quality [MDEQ] 2010) supporting documents provided by Rosanne Ellison (USEPA 2011).

Detailed descriptions of shoreline types and above-water structures observed during the ARCADIS survey are provided in Table 1. Suspected features observed in the side scan sonar, magnetometer or bathymetric surveys are described in Table 2. General summaries of features observed in each sub-area of the UTC are provided below.

City of Wyandotte

- Several areas of debris are visible in the side scan sonar imagery.
- During the utility location investigation performed by ARCADIS prior to sediment thickness sampling, the City of Wyandotte noted the presence of four water intake pipelines located along the City power plant property. The City does not have any specific location information or maps of the pipelines, but suspect they are buried 4 feet into the bedrock. Several linear features (potential utility crossings) appear on the side scan sonar and magnetometer survey images.
- Multiple water intake and outfall structures are located along the City power plant property.
- Deck and dock structures are present at both marinas in this area.
- Several boat slips are present along the residential properties in this area.
- Minor intake and outfall pipes are present along Bishop Park and apartment properties.
- Floating dock platforms are present along the Wyandotte Boat Club property.

- Multiple municipal and historic outfalls identified in the RI Report (USEPA/MDEQ 2010) supporting documentation and City of Wyandotte FOIA maps.

BASF South Works

- Areas of debris are visible in the side scan sonar imagery.
- Several overhanging pavilion and seating structures are located in the park area of this property.
- Box sewers and a number of pipes are visible along the shoreline.
- Four utility crossings are visible in side scan sonar, magnetometer, and bathymetric surveys.
- PVC water intake pipelines for golf course irrigation are present at the south end of the property.
- Historic outfalls are identified in the RI Report (USEPA/MDEQ 2010) supporting documentation.

Arkema

- Wood pylons are visible in front of sheetpile at the north end of this area. Additional wood pylons may be present below water surface.
- Debris area is visible in side scan sonar imagery.
- Potential outfall structure is visible in side scan sonar imagery present near south end of area.
- Multiple outfalls, box sewers, and Wayne County Wastewater Treatment Plant discharge are present.
- Water intake building is present with sheetpile across inlet opening.
- Historic outfalls are identified in RI Report (USEPA/MDEQ 2010) supporting documentation.

Materials Processing, Inc. (MPI)

- Debris area is visible in side scan sonar imagery.
- Two structures, potential intakes or outfalls, are visible in side scan sonar imagery at the south end of this area.
- Three 24-inch outfalls are located along property.
- Small wooden dock structure is present.
- Historic outfalls are identified in RI Report (USEPA/MDEQ 2010) supporting documentation.

- City of Riverview abandoned sanitary sewer outflow pipe identified in FOIA maps.

Downstream of Grosse Ile Bridge

- Debris area is visible in side scan sonar imagery.
- No outfalls or other structures observed during shoreline survey.
- City of Riverview storm sewer outfall identified in FOIA maps.
- Historic outfalls are identified in the RI Report supporting documentation.

Additional Data Needs

Additional, more specific data is required for certain shoreline and in-river structures prior to design activities and implementation. Namely, the debris areas observed in the side scan sonar imagery at multiple locations will need to be assessed and described in more detail.

References

Aqua Survey 2011. Technical Report – Magnetometer, Side Scan, ADCP, and Multibeam Bathymetric Survey, Trenton Channel, Wyandotte, Michigan. Aqua Survey Inc.. May 9, 2011.

ARCADIS 2011a. Remedial Investigation/Feasibility Study, Upper Trenton Channel, Detroit River, Michigan – Draft Non-Federal Partner Scope of Work – Shoreline Conditions and In-River Structures Evaluation Task Plan. Submitted to USEPA GLNPO, May 27, 2011.

ARCADIS 2011b. BASF North Works MISS DIG Notification 2011 GLLA Sediment Investigation. May 24, 2011.

USEPA/MDEQ 2010. Trenton Channel Remedial Investigation Report. Interim Final. July 2010.

USEPA 2011. Trenton Channel Outfalls. Email transmittal from Rosanne Ellison, USEPA. August 4, 2011.

ARCADIS

Tables

Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan
Shoreline Conditions and In-River Structures Data Summary

Table 1 – ARCADIS 2011 Shoreline Type and In-River Structures Field Observation Summary

Sub-Area	Property Description	Shoreline Type	Structure	Notes
City of Wyandotte	Silver Shores Marina	Concrete Sheets	2-inch intake pipe with pump	
City of Wyandotte	Silver Shores Marina	Broken Concrete Rip Rap	Wooden deck/cabana structure	
City of Wyandotte	Silver Shores Marina	Broken Concrete Rip Rap	2-inch outfall pipe about 3 feet north of wooden deck	
City of Wyandotte	Silver Shores Marina	Broken Concrete Rip Rap	Concrete boat dock on steel piles (extends just beyond concrete shoreline into opening of marina)	
City of Wyandotte	Henry Ford Wyandotte Hospital Parking Lot	Concrete Bulkhead		
City of Wyandotte	Wyandotte Municipal Power Plant	Steel Sheetpile	2-inch possible outfall pipe	
City of Wyandotte	Wyandotte Municipal Power Plant	Concrete Bulkhead	Intake chamber with screened metal gate	
City of Wyandotte	Wyandotte Municipal Power Plant	Concrete Bulkhead	Unscreened outfall chamber	Block wall supports tied into concrete from discharge to corner
City of Wyandotte	Wyandotte Municipal Power Plant	Concrete Bulkhead	Screen with pipes under concrete bulkhead	Block wall supports tied into concrete from discharge to corner
City of Wyandotte	Wyandotte Municipal Power Plant	Broken Concrete Rip Rap	Outfall pipe with cap	
City of Wyandotte	Wyandotte Municipal Power Plant	Broken Concrete Rip Rap	Wood pilings	
City of Wyandotte	Wyandotte Municipal Power Plant	Broken Concrete Rip Rap	Pipe below water surface (about 48-inch)	
City of Wyandotte	Wyandotte Municipal Power Plant	Concrete Bulkhead	Screen with space under concrete bulkhead	Block wall supports tied into concrete
City of Wyandotte	Bishop Park	Concrete Bulkhead	Wooden boat bumpers on bulkhead	Fence and light poles on top of concrete
City of Wyandotte	Bishop Park	Concrete Bulkhead	Fishing pier on steel piles	Fence and light poles on top of concrete
City of Wyandotte	Bishop Park	Steel Sheetpile	2-inch intake pipe near northeast corner of American Legion Building	Fence on top of sheetpile
City of Wyandotte	Bishop Park	Steel Sheetpile	Outfall pipe (about 12", steel)	Fence on top of sheetpile
City of Wyandotte	Bishop Park	Steel Sheetpile	Outfall pipe (about 12", steel lined with PVC)	Fence on top of sheetpile
City of Wyandotte	Private Residences	Concrete Bulkhead		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile	Concrete deck	GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile	Wooden deck	GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile (Rip Rap visible behind)		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile	Boat slip	GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile	Boat slip	GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile	Boat slip	GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile	Brick house boat slip	GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Concrete block		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile	Boat slip	GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Private Residences	Steel Sheetpile		GPS location off-set approximately 30 feet from shore.
City of Wyandotte	Apartments	Steel Sheetpile	Two outfalls (about 6-inch, steel)	Fence on top of sheetpile
City of Wyandotte	Apartments	Steel Sheetpile	Outfall (about 1.5-inch, PVC)	Fence on top of sheetpile
City of Wyandotte	Apartments	Concrete Block	Outfall (broken end, about 6-inch)	
City of Wyandotte	Apartments	Concrete Block	Intake with pump house (about 1-inch and 3-inch copper pipes)	
City of Wyandotte	Apartments	Concrete Block	Outfall pipe (about 1-inch, 4 feet south of intake)	
City of Wyandotte	High-Rise Apartments	Steel Sheetpile		
City of Wyandotte	Apartments/Condos	Rock/Rip Rap	Deck on wood piles extending from berm around condo marina	Some vine vegetation
City of Wyandotte	Portofino Restaurant	Wood Pier on Steel Piles over Rip Rap		
City of Wyandotte	Portofino Restaurant	Broken Concrete Rip Rap	Floating platform and wood steps	Grass vegetation and visible geotextile fabric

Great Lakes Legacy Act
Remedial Investigation/Feasibility Study
Upper Trenton Channel, Detroit River, Michigan
Shoreline Conditions and In-River Structures Data Summary

Table 1 – ARCADIS 2011 Shoreline Type and In-River Structures Field Observation Summary

Sub-Area	Property Description	Shoreline Type	Structure	Notes
City of Wyandotte	Wyandotte Boat Club	Rip Rap	Octagonal concrete seating area overhanging on steel piles (sides) and concrete with steel sheetpile (front)	
City of Wyandotte	Wyandotte Boat Club	Rip Rap	Concrete boat ramp	
City of Wyandotte	Wyandotte Boat Club	Rip Rap	Concrete boat ramp	
City of Wyandotte	Wyandotte Boat Club	Rip Rap	Intake with pump	Grass vegetation; Intake not GPS located due to its location behind floating dock
BASF - South Works	BASF Waterfront Park	Rip Rap	Patch of experimental rocky shoreline	Geotextile fabric visible
BASF - South Works	BASF Waterfront Park	Rip Rap	Concrete patio/gazebo structure with overhanging concrete	
BASF - South Works	BASF Waterfront Park	Rip Rap	Steel sheetpile with overhanging concrete patio/gazebo structure	
BASF - South Works	BASF Waterfront Park	Rip Rap	Concrete patio/gazebo structure overhanging on concrete base	
BASF - South Works	BASF Waterfront Park	Rip Rap	Drain tile outlet pipe at north edge of patio/gazebo structure area	
BASF - South Works	Wyandotte Shores Golf Club	Rip Rap		Grass vegetation
BASF - South Works	Wyandotte Shores Golf Club	Concrete Bulkhead	Two 12-inch metal pipes extending over bulkhead and down into river	Grass and tree vegetation
BASF - South Works	Wyandotte Shores Golf Club	Concrete Bulkhead	Two side-by-side box sewers (concrete) and couple pipes below water surface	Grass and tree vegetation
BASF - South Works	Wyandotte Shores Golf Club	Concrete Bulkhead	Concrete box sewer	Grass and tree vegetation
BASF - South Works	Wyandotte Shores Golf Club	Steel Sheetpile		
BASF - South Works	Wyandotte Shores Golf Club	Concrete Bulkhead		
BASF - South Works	Wyandotte Shores Golf Club	Rip Rap	Water intake lines and pump for golf course (PVC, about 4-inch and 6-inch)	Grass vegetation and single tree
Arkema	Arkema, Inc.	Steel Sheetpile	Wood pylons	
Arkema	Arkema, Inc.	Concrete Bulkhead		About 4' gap of concrete rubble between concrete and sheetpile walls
Arkema	Arkema, Inc.	Steel Sheetpile with wood pilings in front	Concrete outfall (about 24-inch)	
Arkema	Arkema, Inc.	Steel Sheetpile with wood pilings in front	Old inlet with building	Steel sheetpile across inlet opening with water on both sides
Arkema	Arkema, Inc.	Steel Sheetpile with wood pilings in front	Steel box sewer	
Arkema	Arkema, Inc.	Steel Sheetpile	Concrete vault with steel plate/grate access doors on top	
Arkema	Arkema, Inc.	Broken Concrete/Construction Debris		Reed and some willow-type vegetation
Materials Processing, Inc (MPI)	Materials Processing, Inc. (MPI)	Broken Concrete/Construction Debris	Concrete outfall surrounded by steel sheetpile (about 24-inch pipe)	Scattered willow-type vegetation
Materials Processing, Inc (MPI)	Materials Processing, Inc. (MPI)	Broken Concrete/Construction Debris	Dock structure - wood with steel piles	Tree vegetation
Materials Processing, Inc (MPI)	Materials Processing, Inc. (MPI)	Broken Concrete/Construction Debris	Two 24-inch concrete outfalls (near BASF Riverview) surrounded by concrete	Tree vegetation
Downstream of Grosse Ile Bridge	South Side of Grosse Ile Toll Bridge	Rip Rap		
Downstream of Grosse Ile Bridge	Mouth of Monguagon Creek	Rip Rap		Lots of vegetation
Downstream of Grosse Ile Bridge	Former McLouth Steel	Rip Rap		Lots of vegetation
Downstream of Grosse Ile Bridge	Former McLouth Steel	Steel Sheetpile		
Downstream of Grosse Ile Bridge	Former McLouth Steel	Low Steel Sheetpile with Rip Rap		Large Willow Tree
Downstream of Grosse Ile Bridge	Former McLouth Steel	Rip Rap		Vegetation

Notes:
1. Observations from City of Wyandotte south to MPI completed on June 6, 2011.
2. Observations south of Grosse Ile toll bridge completed on June 12, 2011.
3. Due to high water level of the Detroit River at the time of observation, overhanging docks or small structures below water surface may not have been identified.

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Table 2 – ARCADIS 2011 Summary of Features Observed in Hydrographic Survey Images

Sub-Area	Property Description	Shoreline Type	Features Observed	Features Visible in Survey Images of		
				Side Scan Sonar	Bathymetry	Magnetometer
City of Wyandotte	Silver Shores Marina	Concrete Sheets	Debris appears present approximately 100 feet from shore	X		
City of Wyandotte	Silver Shores Marina	Concrete Sheets	Utility crossings present just south of marina entrance	X		X
City of Wyandotte	Silver Shores Marina	Broken Concrete Rip Rap	Debris appears present approximately 100 feet from shore	X		
City of Wyandotte	Wyandotte Municipal Power Plant	Steel Sheetpile	Utility crossings present	X		X
City of Wyandotte	Wyandotte Municipal Power Plant	Concrete Bulkhead	Long linear object visible starting approximately 100 feet from shore	X		
City of Wyandotte	Wyandotte Boat Club	Rip Rap	Debris likely present approximately 100 feet from shore	X	X	
BASF - South Works	BASF Waterfront Park	Rip Rap	Debris likely present approximately 50 feet from shore	X	X	
BASF - South Works	Wyandotte Shores Golf Club	Concrete Bulkhead	Debris appears presenet near north end of bulkhead, within approximately 100 feet from shore	X		
BASF - South Works	Wyandotte Shores Golf Club	Steel Sheetpile	Four pipeline crossings present	X	X	X
Arkema	Arkema, Inc.	Broken Concrete/Construction Debris	Debris appears present within 50 feet of shoreline	X		
Arkema	Arkema, Inc.	Broken Concrete/Construction Debris	Potential outfall structure in southern portion of property	X		
Materials Processing, Inc (MPI)	Materials Processing, Inc. (MPI)	Broken Concrete/Construction Debris	Debris appears present within 50 to 75 feet along shoreline	X		
Materials Processing, Inc (MPI)	Materials Processing, Inc. (MPI)	Broken Concrete/Construction Debris	Two potential intake/outfall structures visible on river bottom	X		
Downstream of Grosse Ile Bridge	Former McLouth Steel	Rip Rap	Debris appears present approximately 50 feet from shore	X		
Downstream of Grosse Ile Bridge	Former McLouth Steel	Rip Rap	Potential historic dock structure visible on river bottom in side scan sonar	X		

Notes:
1. Multibeam bathymetric survey, magnetometer survey and side scan sonar survey performed by Aqua Survey, Inc. on April 12-14, 2011.

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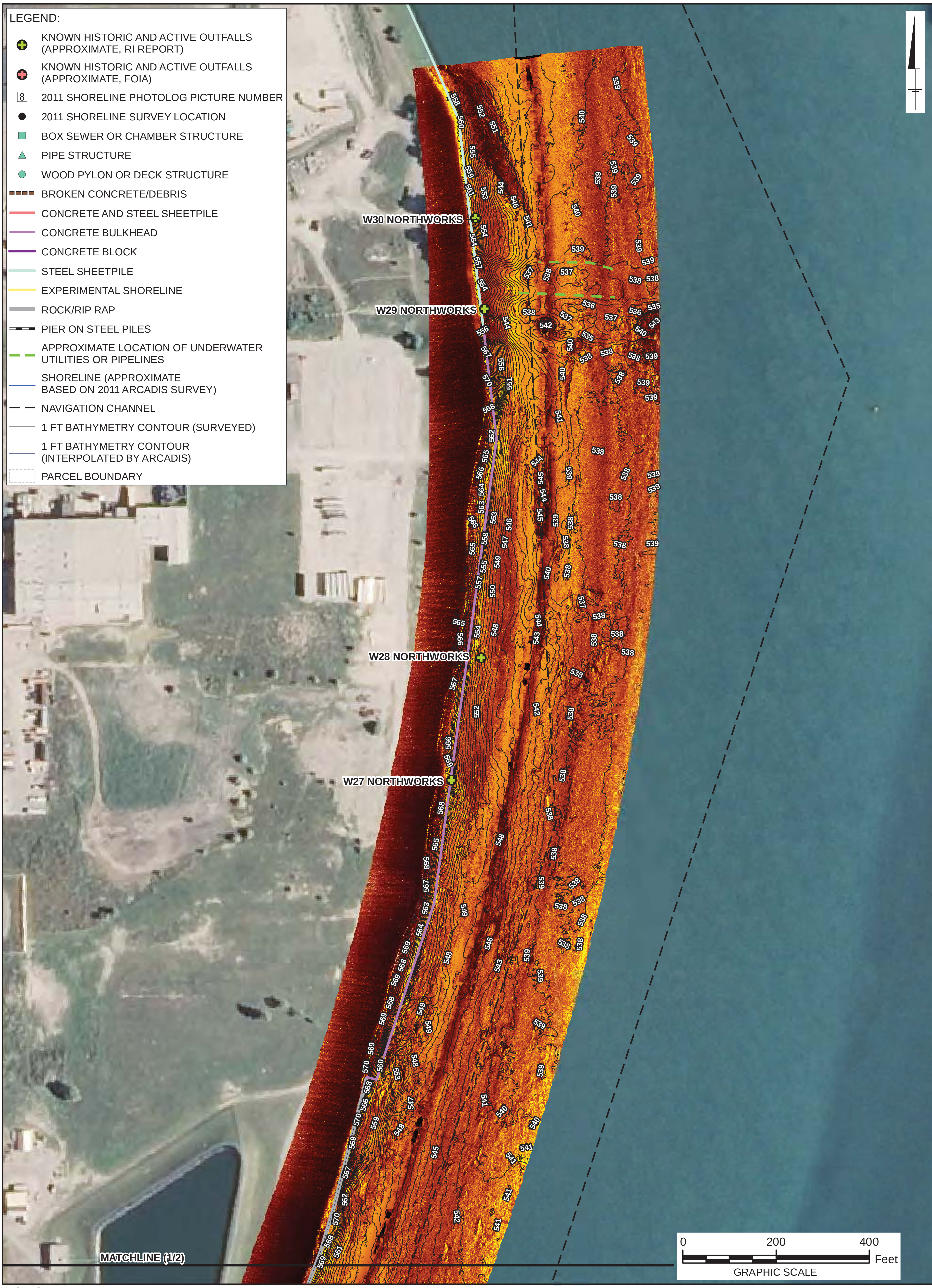
Figures



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2011 SHORELINE AND IN -RIVER STRUCTURES SURVEY RESULTS

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FIGURE
1

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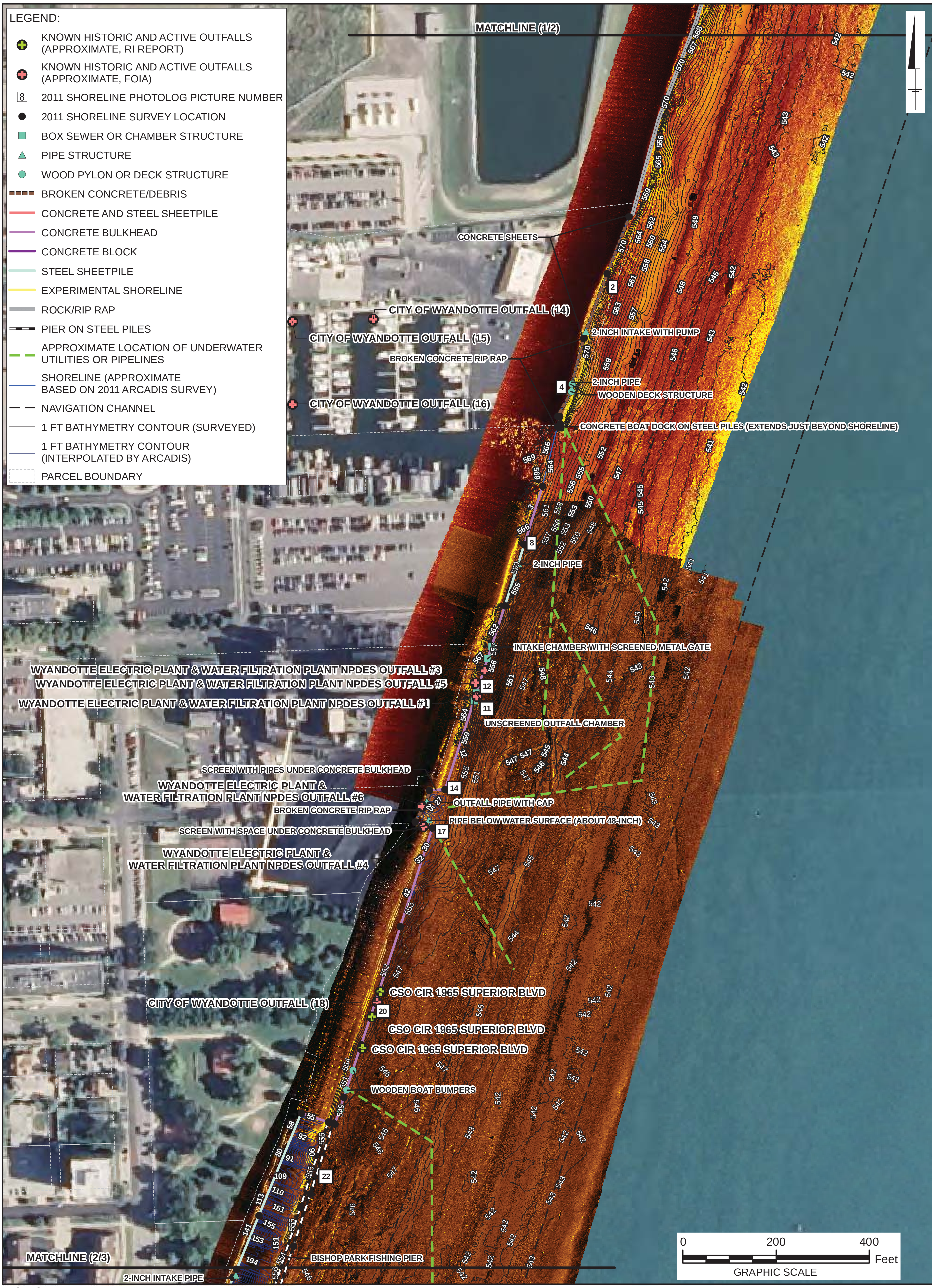

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FIGURE
2

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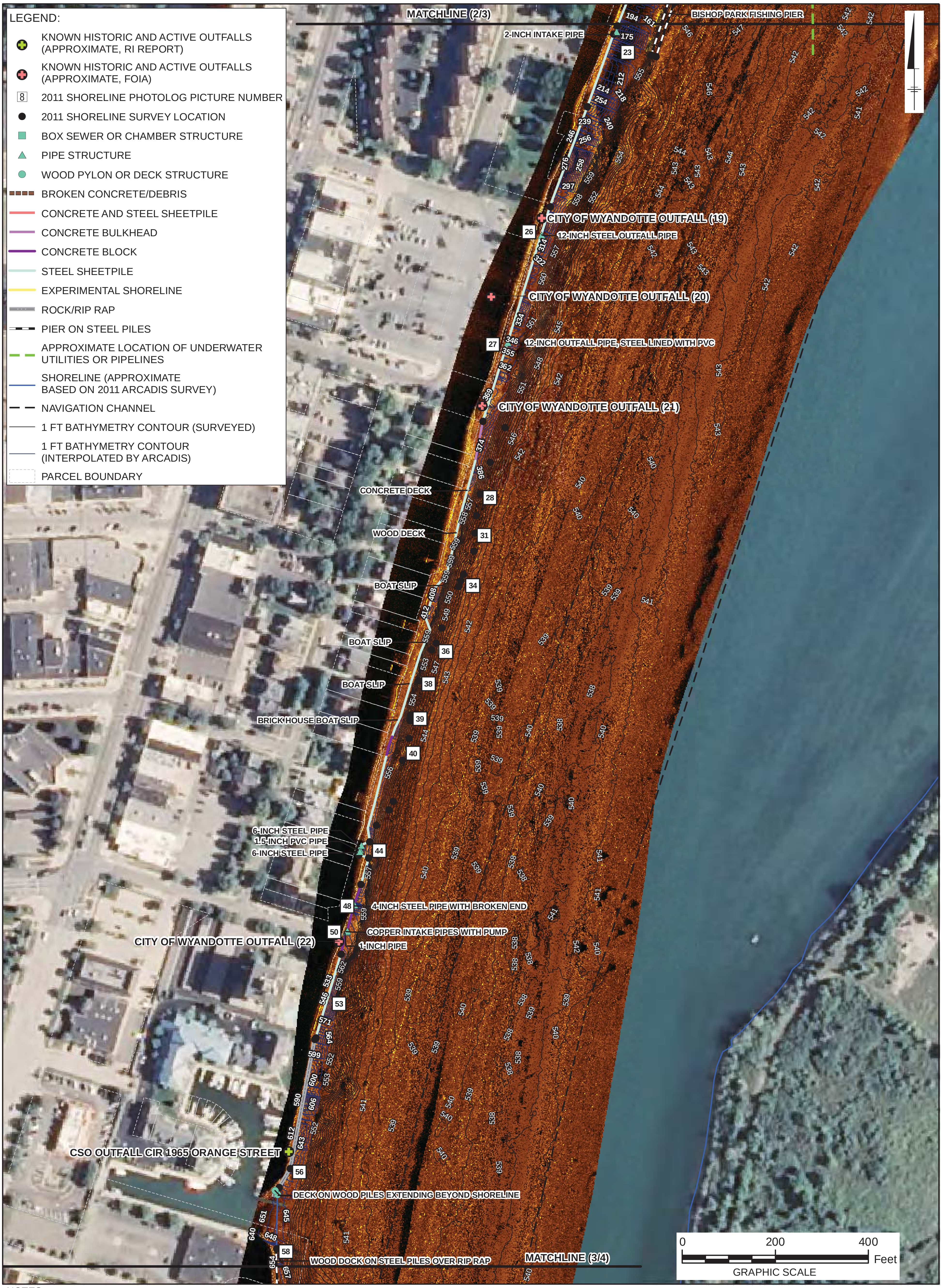

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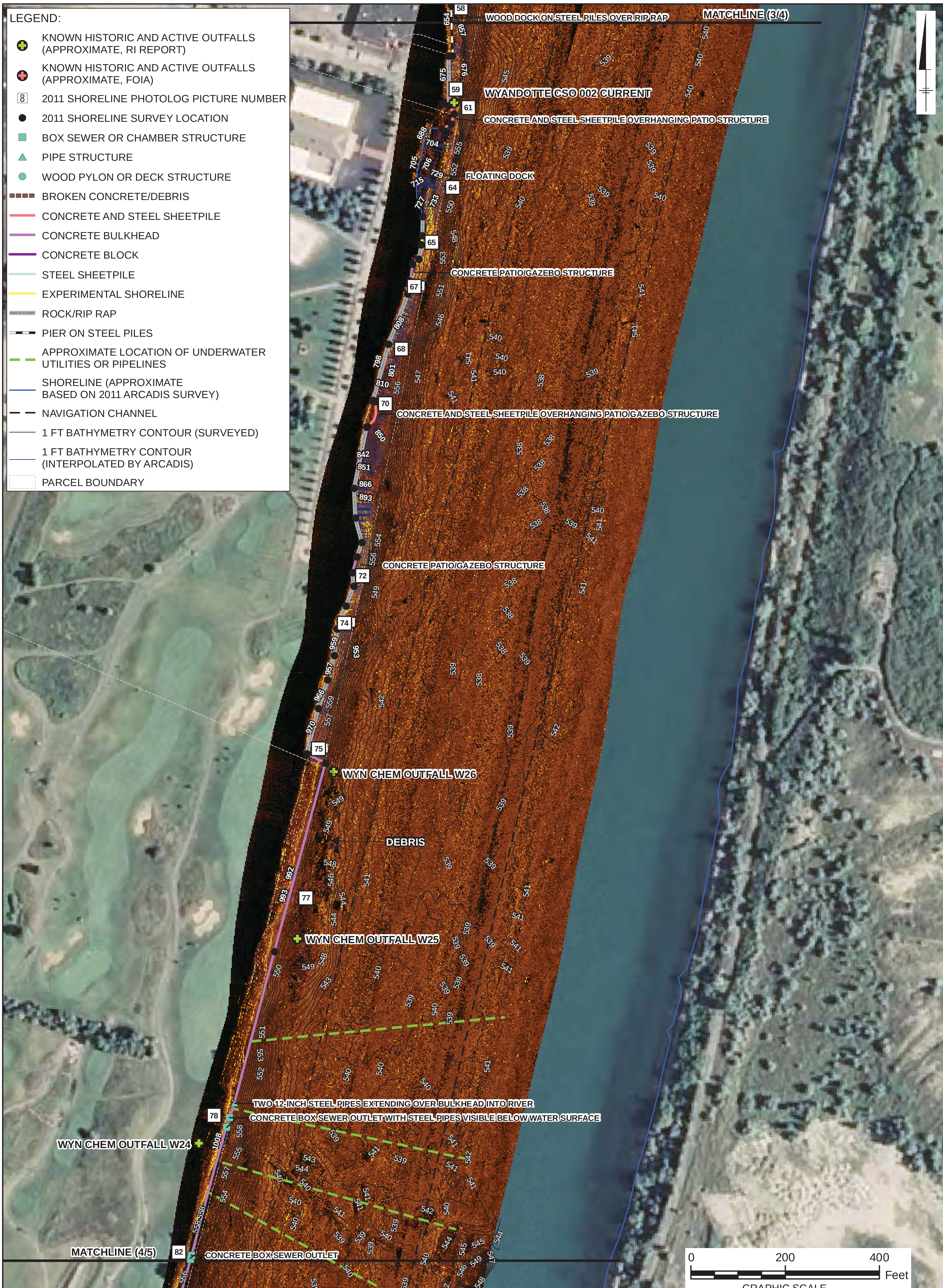

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FIGURE
4

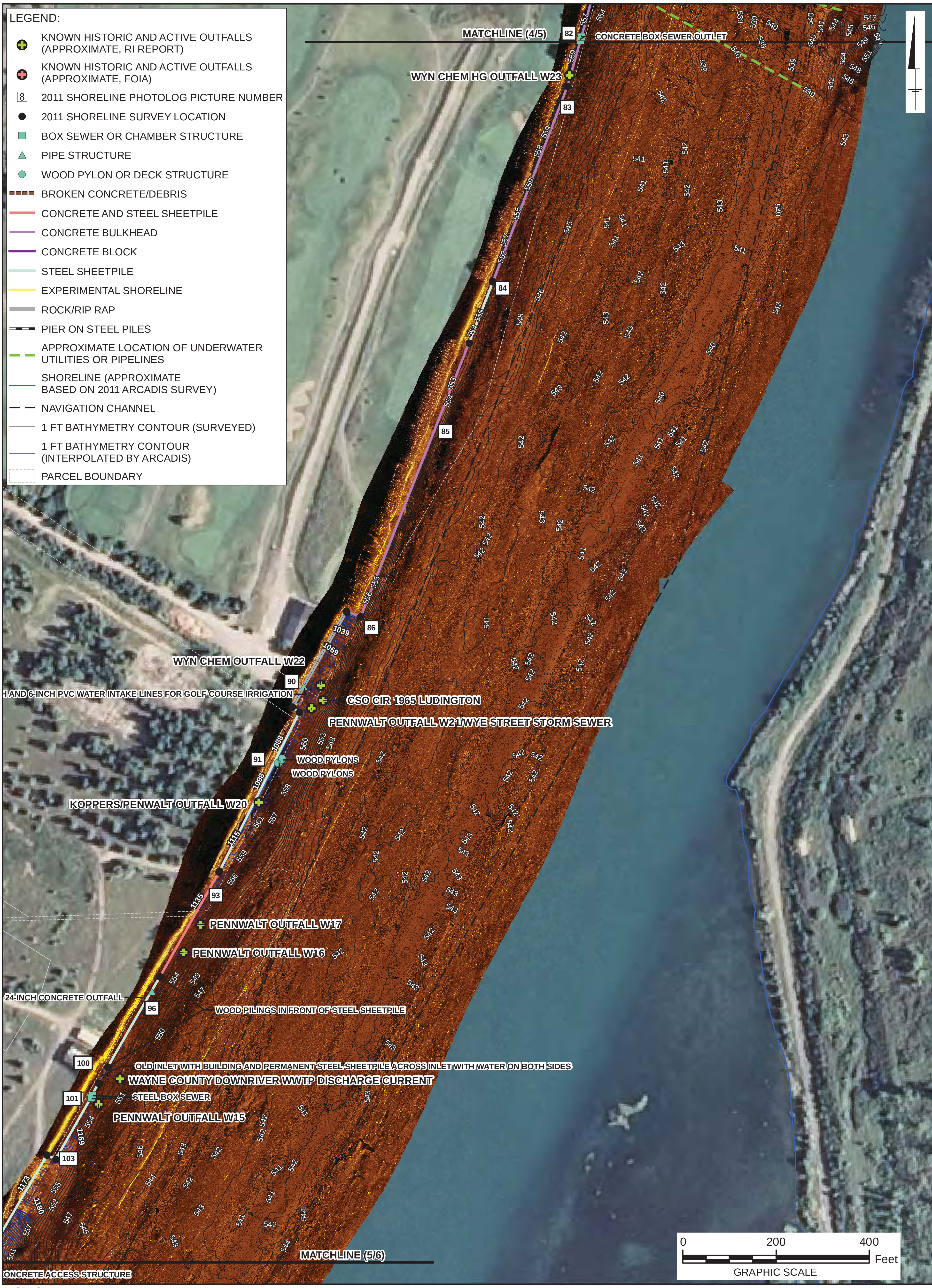

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FIGURE
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FIGURE
6

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2011 SHORELINE AND IN -RIVER STRUCTURES SURVEY RESULTS

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FIGURE
7

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FIGURE
8

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Attachment 1

ARCADIS 2011 Shoreline and In-River Structures Survey Field Notes

UTC Shoreline Condition Survey 6/6/11

Purpose - Utility Locate & Shoreline Survey
Personnel Jessica Gearts, Ron Kuhn, Tom O'Rourke
Weather Clear, sunny, 87°F
PPE - PFD, Level D
Equipment - Boat, GPS, Camera

1330 Starting to survey shoreline at southern most point of north works, working south
Shore Type: concrete sheets
Object: small intake pump at Silver Shores

1340 In front of marina
Shore Type: Broken up Concrete
Object: wooden Deck/cabana structure
Object: 2" outfall pipe to north ~3ft of wooden Deck
object: Concrete boat dock on ~~sts~~ steel ~~pipe~~ piles - extends just beyond concrete shoreline into opening of marina

1345 Hospital Parking lot
Shore type: concrete
→ survey point 87 disk located on concrete corner

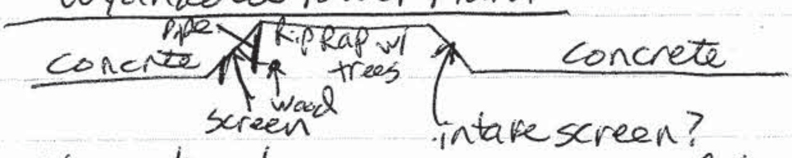
1350 Wyandotte Power Plant Parking lot?
Shore type: sheet pile (steel)
Object: 2" possible outfall

Wyandotte Power Plant
Shore type: concrete
Object: Water intake (city? has screened gate) w/ metal gate
object: unscreened opening - suspected discharge
Note: Black wall supports tied into concrete from discharge to corner

(2)

6/6/11 UTC Shoreline Condition Survey

Wyandotte Power Plant



1400 Shoreline type: concrete inlet

object: screen, ~~probable~~ JG intake?

Pipes under~~neath~~ JG Concrete Dock

JG ~~shoreline type: Rip rap~~

1~~350~~ 1405 shoreline type: Broken Concrete Rip Rap

object: outfall pipe w/ cap

object: old wood pier structure (wood pilings) (not GPS located)

object: 48"(?) pipe below water surface

1410 shoreline type: concrete - w/screen & space under dock

note: Block wall supports tied into concrete

Bishop Park

1420 shoreline type: - concrete w/ fence + light poles on top of concrete

object: 2 Boat tie-offs

↳ Tom will walk to locate later since Diamond Jack boat currently docked at Park

object: Fishing Pier on steel piles

↳ Tom will also walk to survey to avoid fishing lines

shoreline Type: sheet pile wall (steel) w/ fence (starts at start of fishing pier)

object: Intake Pipe ~~just~~ JG at NE corner of American Legion Building

object: outfall pipe ~12" (steel)

object: outfall pipe ~12" (steel lined w/ PVC)

UTC Shoreline Condition Survey 6/6/11

1440 Private Residences S. of Bishop Park

Not surveyed b/c no access agreements.

Only Photos

North Property ↓ concrete

steel

steel

wood over steel

steel w/ rip rap behind

steel w/ boat slip

steel

steel

steel

steel w/ boatslip

steel

steel w/ boatslip

steel

steel w/ boat house (brick)

Concrete/block (failing)

Steel w/ boatslip

steel

steel

south Property steel

1500 Apartments - steel - 2-6" outfalls (steel)

1-2" outfalls (pvc)

↑ fence on top of steel wall

- Block

Object: Broken ~6" outfall

object: Intake/pump house (1" & 3" copper)

object: 1" outfall pipe (4ft S. of intake)

④

6/6/11 UTC Shoreline Conditions Survey
High-Rise Apartments
Shoreline Type: steel sheetpile

Apartments/Condos
Shoreline type: Rip Rap with some
rine vegetation
object: Deck on wood piles extending
from berm around condo marina

1515 Portofino
Shore line type: Rip-Rap w/ wood dock on
steel piles
Portofino Parking lot
shoreline type: Concrete Debris w/ geotextile
fabric visible - grass veg.
object: Floating platform + wood steps

1520 Wyandotte Boat Club
Octagonal concrete seating area
overhanging on steel ~~sh~~ piles (sides)
Concrete + sheet pile (front)
Concrete Boat launch - x2
Shoreline: Rip rap w/ grass
object: intake w/pump (no GPS locate due to
floating dock obstruction)

1530 BASF Park
Shoreline type: rip rap / fabric
└ w/ patch of experimental shoreline
Shoreline type: Rip Rap
object: Pavilion - concrete w/overhanging concrete
object: Sheet pile (steel) w/ overhanging concrete
seating area

UTC Shoreline Conditions Survey 6/6/11

BASF Park

shoreline Type: Rip Rap

object: Concrete seating area - overhanging on concrete base

→ w/ drain tile outlet pipe at north edge

1350 BASF South Works / Wyandotte Shores Golf Club

shoreline Type: Rip rap w/ grass

Shoreline Type: concrete ~~(overhanging dock)~~ JG

→ w/ grass & trees

Object: Two large metal pipes - extend over wall + down into water

→ ~~intakes for golf course?~~ JG or old lines?

object: Two box sewers + ~~sewer~~ JG couple pipes below water surface (concrete)

object: Concrete box sewer

shoreline Type: steel sheet pile

Shoreline Type: Concrete

shoreline Type: Rip Rap w/ grass + one tree

object: ~4" + ~6" water intake lines for golf course - PVC - pump also

1525 Arkema

Shoreline Type: Steel sheetpile

object: wooden piles

Shoreline Type: concrete

Note: ~4 ft gap of concrete rubble b/t concrete + sheetpile walls

shoreline type: steel sheetpile w/ wood pilings in front

object: Concrete out fall (~24")

Object: old boat inlet? w/ building

Object: Steel box sewer

sheetpile across inlet w/ water on both sides

6/6/11 UTC shoreline condition survey
(?Arkema)?
Shoreline: steel sheetpile
Object: concrete portion of wall
↳ w/ steel plate/grate "doors" on top

Shoreline Type: construction Debris rip rap
w/ reed vegetation
some willow-type vegetation

1650 (MPI)?
Shoreline Type: Construction Debris & +
some large concrete pieces
couple willow-type plants, scattered
Object: concrete outfall surrounded
by steel sheetpile (~24" pipe)

1700 MPF
Shoreline Type: concrete pieces/Debris
w/ Tree vegetation
object: Dock Structure - wood
w/ steel piles
Object: 2 - concrete outfalls
(near Riverview) surrounded by
concrete wall.

1735 Complete survey & head back to dock
Note: Vibracore tower must be de-constructed to pass under toll bridge - shoreline survey will be completed at time of probing/coring of area south of bridge.
note: Due to high water level, overhanging docks may not have been identified.

[signature]

UTC Shoreline Condition survey 6/12/11

Purpose - Utility Loate + shorelne survey
Personnel - Jessica Geurts, Ron Kuhn, Tom O'Rourke
weather - Partly Cloudy, 70s
PPE - PFD, Level D
Equipment - Boat, GPS, Camera

0900 South Side of Grosse Ile Toll Bridge
shoreline Type: Riprap

0905 Mouth of Monguagon Creek
shoreline Type: Rip Rap with lots of vegetation

0910 McLouth Steel
shoreline Type: Rip Rap with lots of vegetation
shoreline Type: steel sheetpile
shoreline Type: Low steel sheetpile w/ riprap & large willow tree
shoreline Type: riprap w/vegetation (lots)

0920 Last point collected about 600 ft South of PR-43

Residential area

1130 Recon 001 near apartments
02 Type: sheetpile — South
03 sheetpile
04 sheetpile
sheetpile
05 Block
06 Sheetpile
07 Boathouse
08 sheetpile
09 sheetpile/Boat slip — North

②

UTC Shoreline Condition Survey 6/12/11

Residential Area

south Recon 010 sheetpile w/ boatslip

011 sheetpile

012 white fence on sheetpile

013 jut out in sheetpile

014 Boatslip in sheetpile

015 sheetpile

016 white fence line } w/ wood decks

017 sheetpile } ontop

018 sheetpile

019 sheetpile w/ concrete + cranes

020 Concrete

North 021 corner of concrete + Bishop Park sheetpile

ARCADIS

Attachment 2

ARCADIS 2011 Shoreline
Conditions and In-River Structures
Photo Log

Concrete Sheets

Sub−Area:
City of Wyandotte

Property Description:
Silver Shores Marina

1

Concrete Sheets with small intake pump

Sub−Area:
City of Wyandotte

Property Description:
Silver Shores Marina

2

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 1 AND 2

ARCADIS

FIGURE
1

Broken Concrete Rip Rap with 2" outfall pipe about 3 ft north of wooden deck

Sub−Area:
City of Wyandotte

Property Description:
Silver Shores Marina

3

Broken Concrete Rip Rap with wooden deck/cabana structure

Sub−Area:
City of Wyandotte

Property Description:
Silver Shores Marina

4

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 3 AND 4

ARCADIS

FIGURE
2

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Sub−Area:
City of Wyandotte

Property Description:
Silver Shores Marina

5

Broken Concrete Rip Rap with concrete boat dock on steel piles

Sub−Area:
City of Wyandotte

Property Description:
Henry Ford Wyandotte Hospital Parking Lot

6

Concrete

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 5 AND 6

ARCADIS

FIGURE
3

Sub−Area:
City of Wyandotte

Property Description:
Henry Ford Wyandotte Hospital Parking Lot

7

Concrete

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

8

Steel Sheetpile

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 7 AND 8

ARCADIS

FIGURE
4

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Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

9

Steel Sheetpile with 2" possible outfall

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

10

Concrete

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 9 AND 10

ARCADIS

FIGURE
5

Concrete and water intake with screened metal gate

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

11

Concrete with unscreened opening

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

12

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 11 AND 12

ARCADIS

FIGURE

6

Concrete

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

13

Concrete with screen and pipes under concrete dock

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

14

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 13 AND 14

ARCADIS

FIGURE
7

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

15

Broken Concrete Rip Rap and outfall pipe with cap

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

16

Wood pilings in broken concrete rip rap inlet

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 15 AND 16

ARCADIS

FIGURE

8

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

17

Broken Concrete Rip Rap with pipe below water surface (about 48")

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

18

Concrete with screen and space under concrete dock

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 17 AND 18

ARCADIS

FIGURE

9

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Municipal Power Plant

19

Concrete

Sub−Area:
City of Wyandotte

Property Description:
Bishop Park

20

Concrete with two wooden boat tie−offs

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 19 AND 20

ARCADIS

FIGURE
10

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Concrete

Sub−Area:
City of Wyandotte

Property Description:
Bishop Park

21

Concrete with fishing pier on steel piles

Sub−Area:
City of Wyandotte

Property Description:
Bishop Park

22

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 21 AND 22

ARCADIS

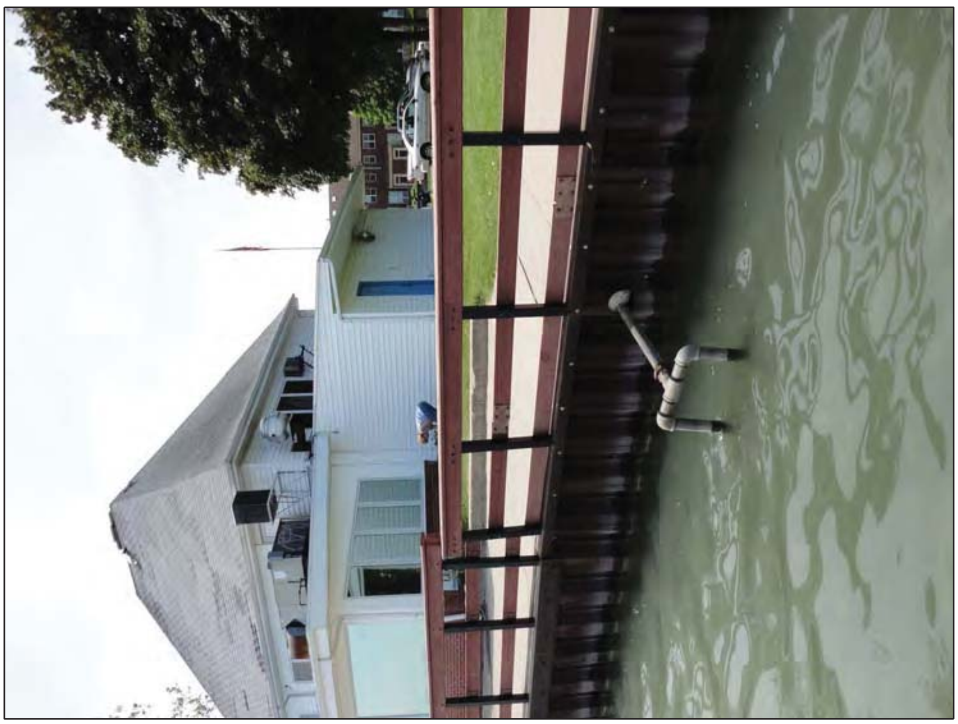
FIGURE
11

Sub−Area:
City of Wyandotte

Property Description:
Bishop Park

23

Steel Sheetpile



Sub−Area:
City of Wyandotte

Property Description:
Bishop Park

24

Steel Sheetpile with intake pipe near northeast corner of American Legion Building

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 23 AND 24

ARCADIS

FIGURE
12

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Bishop Park

25

Steel Sheetpile with steel outfall pipe (about 12")

Sub−Area:
City of Wyandotte

Property Description:
Bishop Park

26

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 25 AND 26

ARCADIS

FIGURE

13

Steel Sheetpile with outfall pipe (about 12", steel lined with PVC)

Sub−Area:
City of Wyandotte

Property Description:
Bishop Park

27

Concrete

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

28

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 27 AND 28

ARCADIS

FIGURE

14

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

29

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

30

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 29 AND 30

ARCADIS

FIGURE
15

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

31

Wood over Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

32

Steel Sheetpile with Rip Rap visible behind

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 31 AND 32

ARCADIS

FIGURE
16

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Sub−Area:
City of Wyandotte

Property Description:
Private Residences

33

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

34

Steel Sheetpile with boatslip

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 33 AND 34

ARCADIS

FIGURE
17

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

35

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

36

Steel Sheetpile with boatslip

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 35 AND 36

ARCADIS

FIGURE

18

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

37

Steel Sheetpile with boatslip

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

38

Steel Sheetpile

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 37 AND 38

ARCADIS

FIGURE
19

Steel Sheetpile with brick boat house

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

39

Concrete/block (failing)

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

40

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 39 AND 40

ARCADIS

FIGURE
20

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

41

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

42

Steel Sheetpile with boatslip

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 41 AND 42

ARCADIS

FIGURE

21

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Private Residences

43

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
Apartments

44

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 43 AND 44

ARCADIS

FIGURE
22

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Sub−Area:
City of Wyandotte

Property Description:
Apartments

45

Steel Sheetpile with three outfalls (two steel, about 6" and one PCV, about 1")

Sub−Area:
City of Wyandotte

Property Description:
Apartments

46

Steel Sheetpile with steel outfall pipe (about 6")

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 45 AND 46

ARCADIS

FIGURE
23

Steel Sheetpile with outfalls (about 1", PVC and about 6", steel)

Sub−Area:
City of Wyandotte

Property Description:
Apartments

47

Concrete block

Sub−Area:
City of Wyandotte

Property Description:
Apartments

48

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 47 AND 48

ARCADIS

FIGURE
24

Sub−Area:
City of Wyandotte

Property Description:
Apartments

49

Concrete block with outfall (broken end, about 6", steel)

Sub−Area:
City of Wyandotte

Property Description:
Apartments

50

Concrete block and intake with pump house (about 1" and 3" copper pipes)

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 49 AND 50

ARCADIS

FIGURE

25

Concrete block with outfall pipe (about 1", 4’ south of intake)

Sub−Area:
City of Wyandotte

Property Description:
Apartments

51

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
High−Rise Apartments

52

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 51 AND 52

ARCADIS

FIGURE

26

Steel Sheetpile

Sub−Area:
City of Wyandotte

Property Description:
High−Rise Apartments

53

Rip Rap

Sub−Area:
City of Wyandotte

Property Description:
Apartments/Condos

54

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 53 AND 54

ARCADIS

FIGURE

27

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Rip Rap with vegetation

Sub−Area:
City of Wyandotte

Property Description:
Apartments/Condos

55

Rip Rap with deck on wood piles extending from berm around condo marina

Sub−Area:
City of Wyandotte

Property Description:
Apartments/Condos

56

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 55 AND 56

ARCADIS

FIGURE

28

Wood dock on steel piles over rip rap

Sub−Area:
City of Wyandotte

Property Description:
Portofino Restaurant

57

Wood dock on steel piles over rip rap

Sub−Area:
City of Wyandotte

Property Description:
Portofino Restaurant

58

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 57 AND 58

ARCADIS

FIGURE
29

Concrete debris with geotextile fabric visible

Sub−Area:
City of Wyandotte

Property Description:
Portofino Restaurant

59

Concrete debris, floating platform and wood steps

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Boat Club

60

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 59 AND 60

ARCADIS

FIGURE
30

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Boat Club

61

Rip Rap with octagonal concrete seating area overhanging on steel piles (sides) and concrete with steel sheetpile (front)

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Boat Club

62

Rip Rap and concrete boat ramp

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 61 AND 62

ARCADIS

FIGURE
31

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Boat Club

63

Rip Rap and concrete boat ramp with floating platform

Sub−Area:
City of Wyandotte

Property Description:
Wyandotte Boat Club

64

Rip Rap with intake pump

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
SHORELINE CONDITIONS AND IN−RIVER STRUCTURES EVALUATION

UTC SHORELINE PHOTOS 63 AND 64

ARCADIS

FIGURE

32

Rip Rap with geotextile fabric visible

Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

65

Rip Rap with patch of experimental rocky shoreline

Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

66

GREAT LAKES LEGACY ACT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
UPPER TRENTON CHANNEL, DETROIT RIVER, MICHIGAN
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UTC SHORELINE PHOTOS 65 AND 66

ARCADIS

FIGURE
33

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Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

67

Rip Rap with pavilion − concrete with overhanging concrete

Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

68

Rip Rap

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UTC SHORELINE PHOTOS 67 AND 68

ARCADIS

FIGURE
34

Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

69

Rip Rap with concrete seating area − overhanging on concrete base

Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

70

Rip Rap and steel sheetpile with overhanging concrete seating area

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UTC SHORELINE PHOTOS 69 AND 70

ARCADIS

FIGURE
35

Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

71

Rip Rap with concrete and steel sheetpile overhanging seating areas

Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

72

Rip Rap with concrete seating area − overhanging on concrete base

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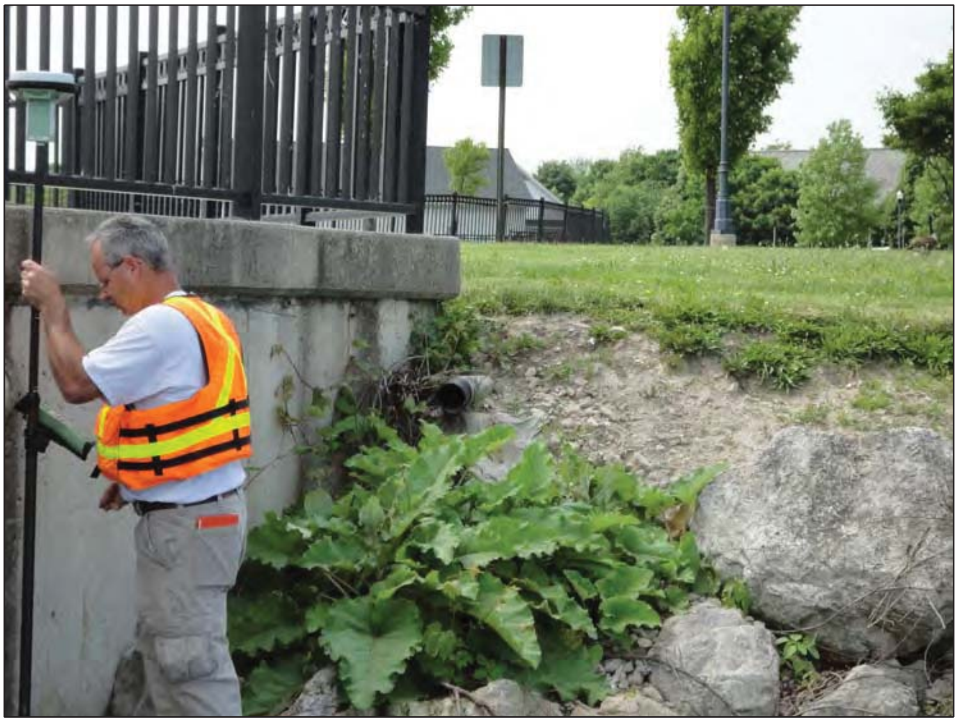
UTC SHORELINE PHOTOS 71 AND 72

ARCADIS

FIGURE
36



Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

73

Rip Rap with drain tile outlet pipe at north edge of seathing area

Sub−Area:
BASF − South Works

Property Description:
BASF Waterfront Park

74

Rip Rap

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ARCADIS

FIGURE
37

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Rip Rap and concrete

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

75

Concrete

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

76

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ARCADIS

FIGURE
38

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Concrete

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

77

Concrete with box sewer and large pipes

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

78

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UTC SHORELINE PHOTOS 77 AND 78

ARCADIS

FIGURE

39

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

79

Concrete with two large metal pipes extending over wall and down into river

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

80

Concrete with two sid−by−side box sewers (concrete)

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UTC SHORELINE PHOTOS 79 AND 80

ARCADIS

FIGURE

40

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

81

Concrete with two sid−by−side box sewers (concrete) and couple pipes below water surface

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

82

Concrete with concrete box sewer

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UTC SHORELINE PHOTOS 81 AND 82

ARCADIS

FIGURE
41

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

83

Concrete

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

84

Concrete and steel sheetpile

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UTC SHORELINE PHOTOS 83 AND 84

ARCADIS

FIGURE
42

Concrete

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

85

Concrete and Rip Rap

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

86

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UTC SHORELINE PHOTOS 85 AND 86

ARCADIS

FIGURE
43

Rip Rap

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

87

Rip Rap with two metal pipes

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

88

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UTC SHORELINE PHOTOS 87 AND 88

ARCADIS

FIGURE

44

Rip Rap with water intake lines and pump for golf course (PVC, about 4" and 6")

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

89

Rip Rap with water intake lines and pump for golf course (PVC, about 4" and 6")

Sub−Area:
BASF − South Works

Property Description:
Wyandotte Shores Golf Club

90

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UTC SHORELINE PHOTOS 89 AND 90

ARCADIS

FIGURE
45

Steel Sheetpile with wooden piles

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

91

Steel Sheetpile

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

92

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ARCADIS

FIGURE
46

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

93

Concrete and Steel Sheetpile

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

94

Gap at joint of concrete and steel sheetpile

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UTC SHORELINE PHOTOS 93 AND 94

ARCADIS

FIGURE
47

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Concrete

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

95

Steel sheetpile with wood pilings in front

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

96

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UTC SHORELINE PHOTOS 95 AND 96

ARCADIS

FIGURE

48

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

97

Steel sheetpile with concrete outfall (about 24") and wood pilings in front

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

98

Steel sheetpile with wood pilings in front

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UTC SHORELINE PHOTOS 97 AND 98

ARCADIS

FIGURE
49

Steel sheetpile with wood pilings in front and old boat inlet with building

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

99

Steel sheetpile with wood pilings in front and old boat inlet with building

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

100

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UTC SHORELINE PHOTOS 99 AND 100

ARCADIS

FIGURE

50

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Sub−Area:
Arkema

Property Description:
Arkema, Inc.

101

Steel sheetpile with steel box sewer and wood pilings in front

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

102

Steel Sheetpile

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UTC SHORELINE PHOTOS 101 AND 102

ARCADIS

FIGURE

51

Steel Sheetpile

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

103

Steel Sheetpile

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

104

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UTC SHORELINE PHOTOS 103 AND 104

ARCADIS

FIGURE
52

Steel Sheetpile with concrete portion of wall having steel plate/grate accress doors on top

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

105

Construction debris rip rap with vegetation

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

106

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UTC SHORELINE PHOTOS 105 AND 106

ARCADIS

FIGURE
53

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

107

Construction debris rip rap with vegetation

Sub−Area:
Arkema

Property Description:
Arkema, Inc.

108

Construction debris rip rap with vegetation

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UTC SHORELINE PHOTOS 107 AND 108

ARCADIS

FIGURE

54

Construction debris and some large concrete pieces with vegetation

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

109

Construction debris and some large concrete pieces with vegetation

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

110

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UTC SHORELINE PHOTOS 109 AND 110

ARCADIS

FIGURE
55

Construction debris and some large concrete pieces with vegetation

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

111

Construction debris and some large concrete pieces with vegetation

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

112

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UTC SHORELINE PHOTOS 111 AND 112

ARCADIS

FIGURE
56

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

113

Construction debris and some large concrete pieces with concrete outfall (about 24") surrounded by steel sheetpile

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

114

Construction debris and some large concrete pieces

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UTC SHORELINE PHOTOS 113 AND 114

ARCADIS

FIGURE
57

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

115

Construction debris rip rap with vegetation

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

116

Construction debris rip rap with vegetation

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UTC SHORELINE PHOTOS 115 AND 116

ARCADIS

FIGURE
58

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Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

117

Concrete pieces/debris with dock structure − wood with steel piles

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

118

Construction debris Rip Rap

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UTC SHORELINE PHOTOS 117 AND 118

ARCADIS

FIGURE
59

Concrete pieces/debris with two concrete outfalls surrounded by concrete wall

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

119

Concrete pieces/debris with two concrete outfalls surrounded by concrete wall

Sub−Area:
Materials Processing, Inc (MPI)

Property Description:
Materials Processing, Inc. (MPI)

120

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UTC SHORELINE PHOTOS 119 AND 120

ARCADIS

FIGURE
60

Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
South Side of Grosse Ile Toll Bridge

121

Rip Rap

Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
Mouth of Monguagon Creek

122

Rip Rap with vegetation

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UTC SHORELINE PHOTOS 121 AND 122

ARCADIS

FIGURE

61

Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
Former McLouth Steel

123

Rip Rap with vegetation

Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
Former McLouth Steel

124

Rip Rap and steel sheetpile with vegetation

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UTC SHORELINE PHOTOS 123 AND 124

ARCADIS

FIGURE

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Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
Former McLouth Steel

125

Steel Sheetpile

Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
Former McLouth Steel

126

Low Steel Sheetpile with rip rap and vegetation

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UTC SHORELINE PHOTOS 125 AND 126

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FIGURE
63

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Rip Rap with vegetation

Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
Former McLouth Steel

127

Rip Rap with vegetation

Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
Former McLouth Steel

128

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UTC SHORELINE PHOTOS 127 AND 128

ARCADIS

FIGURE
64

Rip Rap with vegetation

Sub−Area:
Downstrem of Grosse Ile Bridge

Property Description:
Former McLouth Steel

129

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UTC SHORELINE PHOTO 129

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FIGURE

65

Appendix E
Hydrodynamic Modeling Update and Bathymetric Survey

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Appendix E

Hydrodynamic Model Update Summary

Hydrodynamic Model Update Summary

Table of Contents

Jeff Barry, PhD
2300 Eastlake Avenue East
Suite 200
Seattle
Washington 98102
Tel 206.325.5254
Fax 206.325.8218

MEMO

To:
Michael J. Erickson, P.E.

Copies:
Lisa M. Tomlinson, ARCADIS

From:
Jeff Barry, PhD
Mik Lewicki, PhD

Date:
December 22, 2011

ARCADIS Project No.:
B0042929.0102.00005

Subject:
GLLA RI/FS Upper Trenton Channel, Detroit River, Michigan Hydrodynamic Model Update Summary

1.0 Introduction

The Detroit River (the River), Michigan has been the focus of a number of sediment investigations completed by both public and private entities since the 1980s that have documented impaired sediments and included various hydrographic surveys and hydrodynamic modeling. The Trenton Channel is located within the Detroit River Area of Concern and separates Grosse Ile from the Michigan mainland. The current Great Lakes Legacy Act (GLLA) project – Upper Trenton Channel Remedial Investigation and Feasibility Study (RI/FS) is focusing on an approximately 3-mile section of the Upper Trenton Channel (UTC). One task associated with the current GLLA project completed by non-federal partners, BASF Corporation and Legacy Site Services, LLC (agent of Arkema Inc.) was a hydrographic survey of the project area and an update of the existing 2-dimensional hydrodynamic model (RMA2) of the St. Clair – Detroit River Waterway (the Site).

As part of the *Hydrographic Survey and Modeling Task Plan* (ARCADIS 2011), ARCADIS, on behalf of the non-federal partners, completed a hydrographic survey in the Upper Trenton Channel in April 2011 that included multibeam bathymetric, side scan sonar, and magnetometer surveys along with Acoustic Doppler Current Profiler (ADCP) velocity profiles. Bathymetry and ADCP data gathered during this hydrographic survey were used to support an update of the existing 2-dimensional (2D) hydrodynamic model (RMA2) of the Site (Figure 1). The model was originally developed by United States Geological Survey (USGS; Hotlschlag 2002) and was obtained by ARCADIS in 2005. ARCADIS has previously refined this model and applied it in the design of the BASF Riverview project and for studies along BASF

North Works. The hydrographic survey data were used to refine the model in other portions of the Trenton Channel RI/FS study area.

ARCADIS has prepared this technical memo on behalf of the non-federal partners, to summarize the refinement and bathymetric updates of the RMA2 model. The objectives of this effort were to 1) refine and update the current hydrodynamic model near the Site with recently collected bathymetric data, 2) calibrate model results near the Site with field data collected using an ADCP and 3) conduct a hydrodynamic analysis using the updated and calibrated model for an average flow event, a high flow event, and a Lake Erie seiche event.

The model-predicted water velocities, flow patterns, and bed shear stresses will be used in evaluation and interpretation of sediment investigation results during refinement of the conceptual understanding of distributions of sediment types and contaminant concentrations. It will also provide a design tool for evaluation of shear forces on cover materials and of turbidity controls for design and permitting of sediment removal operations. The model can also be used to evaluate potential for particle deposition/resuspension in dredged areas that will be deeper and more susceptible to accumulation of sediment post-removal. These aspects of model application will be developed and presented separately.

2.0 Hydrodynamic Model Development

The RMA2 model Version 4.35 is a 2D, depth-averaged (i.e., the model computes lateral variations in flows, not vertical variations), finite element, hydrodynamic numerical model (United States Army Corps of Engineers [USACE] 1996). It is currently part of the USACE TABS-MD modeling package, which is supported by the USACE Coastal and Hydraulics Laboratory (CHL) in Vicksburg, Mississippi. The RMA2 model was used in conjunction with the Surface Water Modeling System (SMS) for RMA2, which is a pre- and post-processor that includes a graphical interface for display of inputs and results.

The RMA2 model uses information on site geometry, bathymetry, and driving forces (boundary conditions) to calculate the water surface elevations and horizontal components of water velocity for free-surface flows through time at locations throughout the model domain. The model solves a set of simultaneous equations for the conservation of mass and momentum to obtain these results. RMA2 has been used in studying multi-dimensional hydrodynamics in rivers, reservoirs, bays, and estuaries and is designed to assess flow environments in which vertical accelerations are negligible and velocity vectors generally are in the same direction over the entire depth of the water column at any instant of time. The RMA2 model is routinely used by USACE for hydrodynamic studies, sediment stability analyses, and sediment transport studies and is a widely accepted, publicly available, and commonly applied in the analysis of conditions at contaminated sediment sites.

2.1 Previous Hydrodynamic Modeling Efforts

In 2005, ARCADIS (previously BBL) conducted a hydrodynamic analysis near the Site. To perform this analysis, ARCADIS obtained an existing RMA2 model for the Site from USGS (Hotlschlag 2002). This model was developed jointly by USGS and the USACE Detroit District. The existing model extended from the confluence of the St. Clair River with Lake Huron downstream to Lake Erie. Because the Site was located in the lower reach of the Detroit River, only the Detroit River portion of the model (with the upstream boundary at the confluence of the Detroit River with Lake St. Clair and the downstream boundary at the confluence with Lake Erie) was used in this analysis.

However, the original model grid was not sufficiently refined near the Site at the scales and grid sizes necessary to assess flow patterns near the shoreline. Therefore, ARCADIS refined that portion of the model grid in the Trenton Channel near the Site using bathymetry soundings collected by ARCADIS during a 2004 probing program as well as bathymetry measurements collected by the U.S. Environmental Protection Agency (USEPA) in 2004. In 2010, ARCADIS conducted further refinement of the grid near the northern portion of the Site, along BASF North Works.

2.2 Current Hydrodynamic Modeling Efforts

The current hydrodynamic model was constructed in the SMS interface using geo-referenced aerial photography as a base map. Model polygons were constructed representing distinct portions of the cross section, from the near-shore areas to the dredged navigation channel. The judicious construction of polygons and assignment of material types enables the user to control model parameters, such as Manning's friction factors and diffusion coefficients, on a local basis. Furthermore, the grid generation algorithm used to generate the model mesh (elements) can be specified for each polygon. This feature was used extensively in the generation of the model grid.

Model data needs for this RMA2 analysis include:

- Bathymetry and topography
- Upstream Boundary Conditions based on Detroit River freshwater discharge
- Downstream Boundary Conditions based on Lake Erie water level
- Local velocity measurements (for model calibration)
- Manning's n roughness coefficients

2.2.1 Bathymetry and Topography

In April 2011, Aqua Survey, Inc. conducted a multibeam bathymetric survey covering the additional portions of the Site area along the Michigan shoreline within the Trenton Channel (Aqua Survey 2011). The area surveyed extended for approximately 2.9 miles along the Michigan shore of the river and extended approximately 300 feet east into the Detroit River (Figure 1). Within this study area, the model grid has been refined and interpolated using the updated bathymetry data (Figure 2).

2.2.2 Upstream Boundary Conditions

The upstream model boundary conditions have been set equal to the Detroit River discharge. The USACE, Detroit District, Great Lakes Hydraulic & Hydrology Office conducted an analysis of all existing gages in the Detroit River basin and developed stage-fall-discharge equations for gage pairs located on the Detroit River. The gages used in the development of the stage discharge-fall-discharge equations include: Windmill Point (WP), Fort Wayne (FW), and Wyandotte (WY). USACE uses the average of the discharge estimates from the two stage-fall-discharge equations to estimate the flow for the Detroit River under open-water conditions. The two stage-fall-discharge equations for the Detroit River are:

$$\text{Detroit River Discharge} = 118.1081 \text{ X } (\text{WP Stage} - 164)^{1.8364} \text{ X } (\text{WP Stage} - \text{FW Stage})^{0.3624}$$

$$\text{Detroit River Discharge} = 99.1367 \text{ X } (\text{WP Stage} - 164)^{1.8474} \text{ X } (\text{WP Stage} - \text{WY Stage})^{0.3718}$$

Stage values are in meters (International Great Lakes Datum [IGLD] 1985) and the predicted discharge is in units of cubic meters per second. The equations were provided by John Koschik, a Hydraulic Engineer from USACE, Detroit District.

It is important to note that while the stage-fall-discharge equations developed by USACE give a reasonable estimate of flow over a month or even a day, the complex nature of the back-water affected flows, the size of the channel and the uncertainty in the equations limit how accurate the estimates can be, in particular when estimating sub-daily, or even sub-hourly, discharges.

2.2.3 Downstream Boundary Conditions

The downstream model boundary condition has been set equal water surface elevation based on measurements from the Gibraltar, MI National Oceanic and Atmospheric Administration stream gage (#9044020).

2.2.4 Local Velocity Measurements

In addition to the bathymetric survey, on April 29, 2011, ADCP velocity data were collected at 10 transects within the Site area (Figure 1). Each transect began approximately 10 feet from shore and extended an average length of approximately 500 feet from shore. These data have been used to verify model results, as described in Section 3.0 below.

2.2.5 Manning's n Roughness Coefficients

The Manning's n parameter used within this updated model was initially assigned based on the spatial distribution of sediment grain size characteristics from sediment data collected by USEPA (2010) and ARCADIS (2009, 2010) using the Brownlie Equation (Brownlie 1981). The Manning's n roughness coefficient was found to vary between 0.029 and 0.037. These initial estimates of Manning n values were calibrated based on the observed ADCP velocity data as described below.

3.0 Hydrodynamic Model Calibration

The predictive capability of the revised 2D RMA2 model to accurately predict the flow characteristics at the Site was evaluated using the ADCP velocity data collected on April 29, 2011 along 10 transects located within the UTC of the Detroit River (Figure 1). The ADCP data include over 1600 multi-layered 3-dimensional (3D) survey velocity measurements collected within the water column recorded at as many as 18 distinctive depth intervals within the deeper portions of the channel. In the shallower sections of the channel near the eastern shoreline, the velocity measurements are limited to as few as a single depth interval. To compare the ADCP 3D velocity measurements to the 2D depth-averaged velocity predictions from each model grid, the ADCP measurements within each grid were averaged and compared to model output. In the deeper sections of the channel, the detailed ADCP velocity measurements were averaged vertically and horizontally within a RMA2 grid. Near the shallower western shoreline, the ADCP velocity profiles indicate very complex flow patterns with extreme variation in flow direction both horizontally and vertically. Averaging the vertical profile in such settings may lead to errors and therefore along the western shoreline, average flow velocities within each model grid were set equal to the observed velocity at 2/3 the channel depth.

The predicted range of discharge during the calibration period (11 AM – 1 PM on April 29, 2011) was found to vary between approximately 193,000 and 197,000 cubic feet per second (cfs) with an average flow during the two hour calibration period of approximately 195,000 cfs. The water surface elevation recorded by the Gibraltar, MI gage during the calibration period was found to vary between 571.5 and 572 feet (IGLD 1985).

As described above, the model predictions were examined against spatially averaged ADCP data within the study reach. This analysis suggested that the initial estimate of southern near-shore roughness was generally too low and the near-shore Manning n values were increased from approximately 0.02 to 0.04. The initial estimates of channel roughness in deeper water were generally adequate. Using these revised estimates of near-shore roughness, the simulated velocities predicted by the RMA2 model are consistent with mesh average velocity values recorded by the ADCP current profiler (Figures 3 and 4), in particular within the sections of the channel with vertically uniform velocity profiles. Prediction errors were less than 30% for over 90% of the model grid and less than 20% for over 80% of all model predictions (Figures 3 and 4) indicating that the revised RMA2 hydrodynamic model was able to accurately reproduce the observed water velocities across the Site. These comparisons demonstrate that the models can simulate the major features of the water current.

4.0 Hydrodynamic Model Results

The revised RMA2 hydrodynamic model was run under a variety of conditions to evaluate river depths, flow velocities and near-bed shear stresses for the following scenarios: an average flow event, a high flow event, and a Lake Erie seiche event. The RMA2 model was run under steady state conditions during the average flow and high flow scenarios and under unsteady state conditions during the Lake Erie seiche event simulation. The list of the applied boundary conditions in all the scenarios is presented in Table 1 and Figure 5. Simulated spatial patterns of flow velocity, depth and near-bed shear stresses across the Site under average flow conditions (Figure 6), high flow conditions (Figure 7), and a Lake Erie seiche event during time step 27 (Figure 8) are attached.

Table 1. RMA2 Model Boundary Conditions.

	Upstream Boundary – Detroit River Discharge (cfs)	Downstream Boundary – Water Surface Elevation (feet) (IGLD 1985)
Average Flow Scenario	186,000	571.75
High Flow Scenario	240,000	572.25
Lake Erie Seiche Scenario	186,000	Unsteady (See Figure 5)

5.0 Next Steps

The hydrodynamic model summarized here is an ideal tool for evaluating and interpreting both the vertical and horizontal distribution of contaminated sediments, the spatial distribution of sediment grain sizes, and identifying areas prone to either erosion or deposition based on the model predictions of velocity, flow patterns, and near-bed shear stresses. Understanding the influence of river hydraulics on the sediment bed characteristics allows for an improved conceptual site model describing the occurrence and distribution of contaminant concentrations and can be used as a design tool for appropriately sizing stable cover material and/or evaluating the potential effectiveness of turbidity controls for the design and permitting of sediment removal activities. The hydrodynamic model, when coupled with a Particle Tracking Model can also be used to evaluation the potential for particle deposition/re-suspension in dredged areas that will be deeper and more susceptible to accumulation of sediment post-removal. These design-related model applications can be addressed in subsequent tasks, either while assessing specific alternatives in the Feasibility Study or during the design of potential restoration alternatives.

6.0 References

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ARCADIS

Figures

City: SYR Div/Group: 90 Created By: mkohberger Last Saved By: spulugurtha
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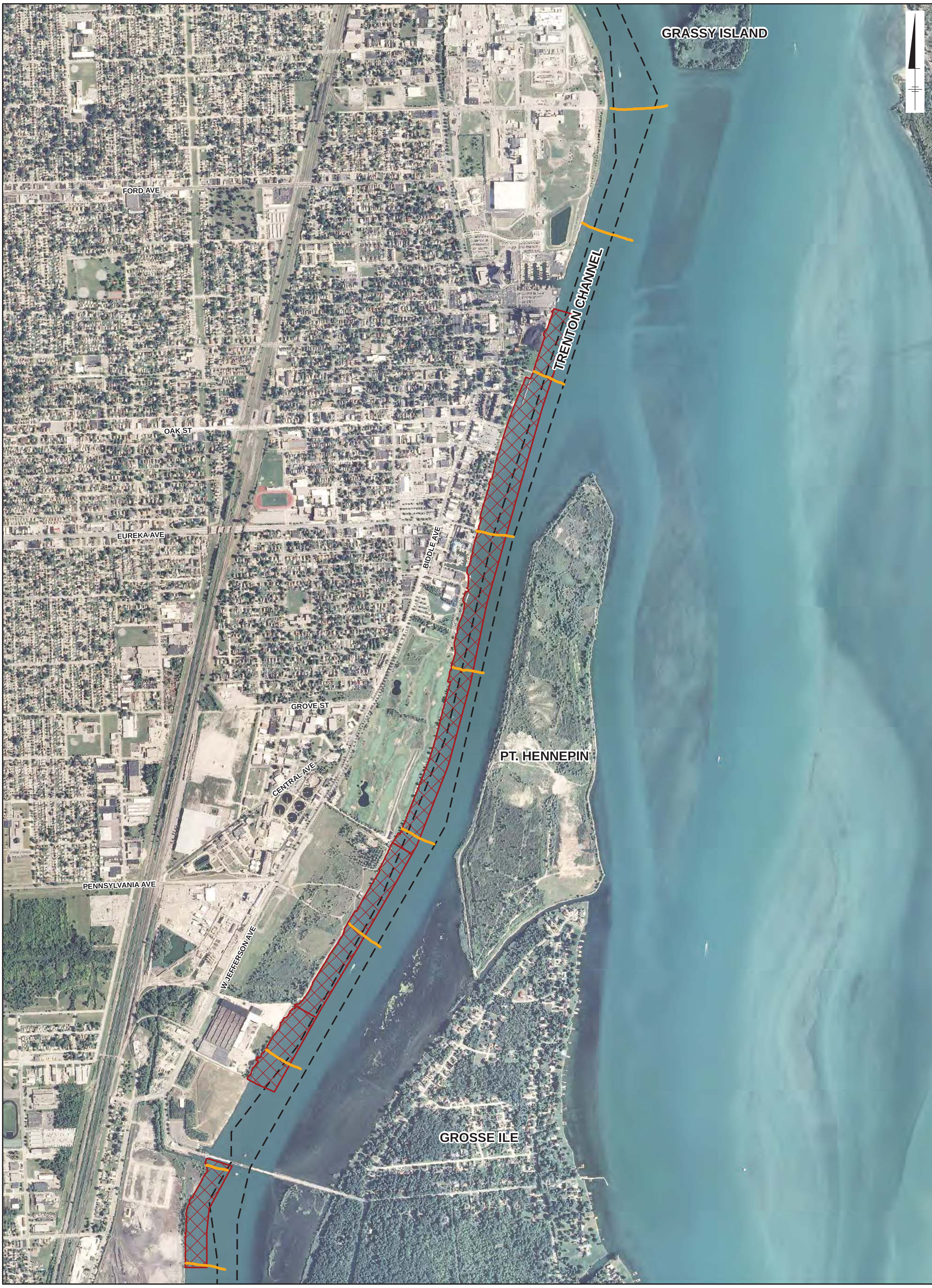

LEGEND:

- ADCP TRANSECT
- APPROXIMATE STUDY AREA
- NAVIGATION CHANNEL (USACE)

0 1,400 2,800 Feet
GRAPHIC SCALE

NOTES:

1. ACOUSTIC DOPPLER CURRENT PROFILER (ADCP) SURVEY PERFORMED BY AQUA SURVEY, INC. ON APRIL 29, 2011.

2. AQUA SURVEY, INC. PERFORMED MULTIBEAM BATHYMETRIC, SIDE SCAN SONAR, AND MAGNETOMETER SURVEYS OF THE PROJECT AREA ON APRIL 12-14, 2011.

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UPPER TRENTON CHANNEL SITE

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FIGURE
1

Higher Density Grid Along Near-Shore Areas

Note:
2011 RMA2 model mesh based on original 2002 US Geological Survey RMA2 model for the St. Clair – Detroit River Waterway which was refined in the study area using 2004, 2010, and 2011 bathymetric survey data.

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2011 RMA2 MODEL MESH

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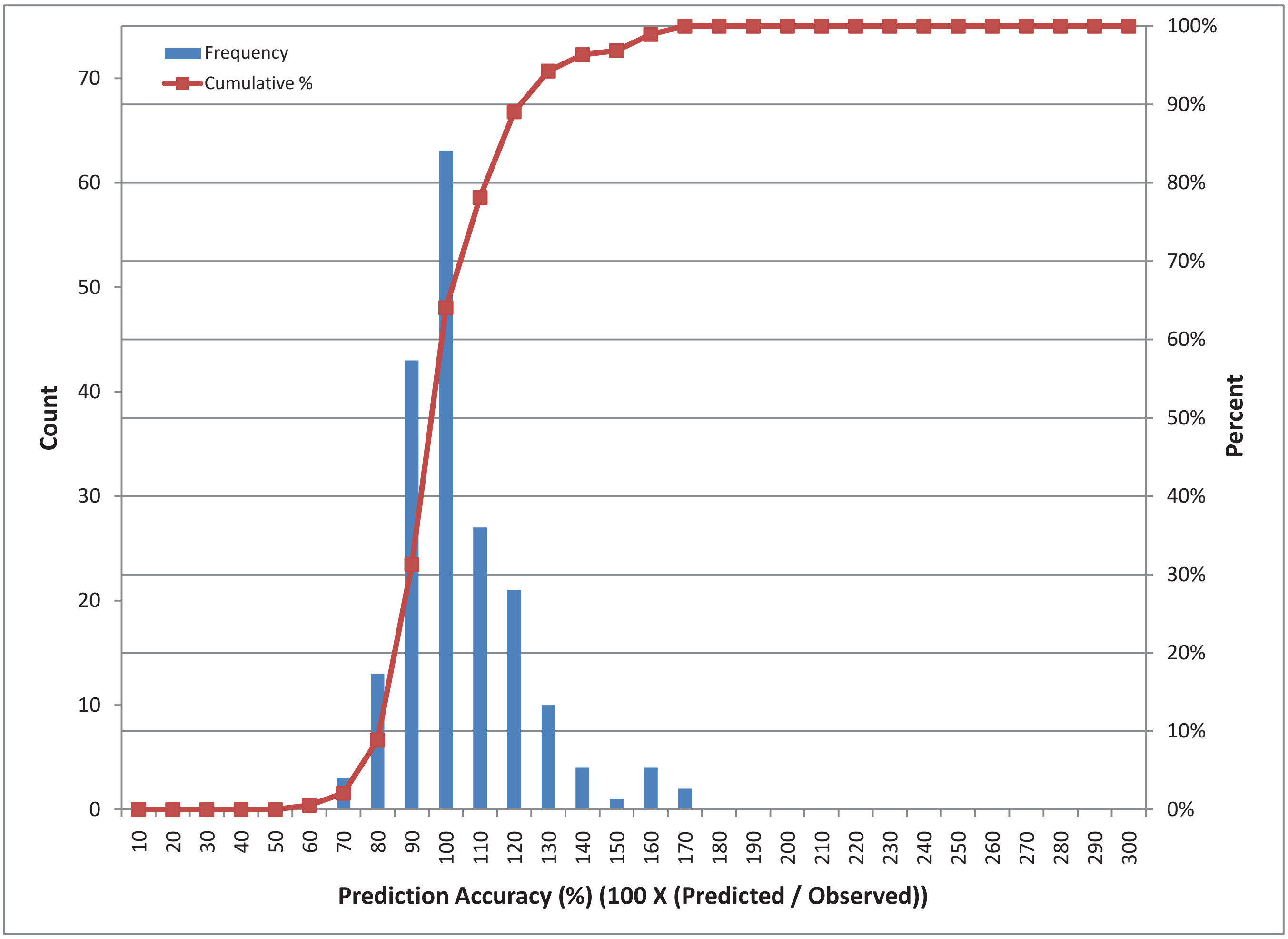
FIGURE
2

09/06/2011 SYRACUSE, NY-ENV/141-DJHOWES
B0042929/0102/00006/CDR/42929G01.CDR



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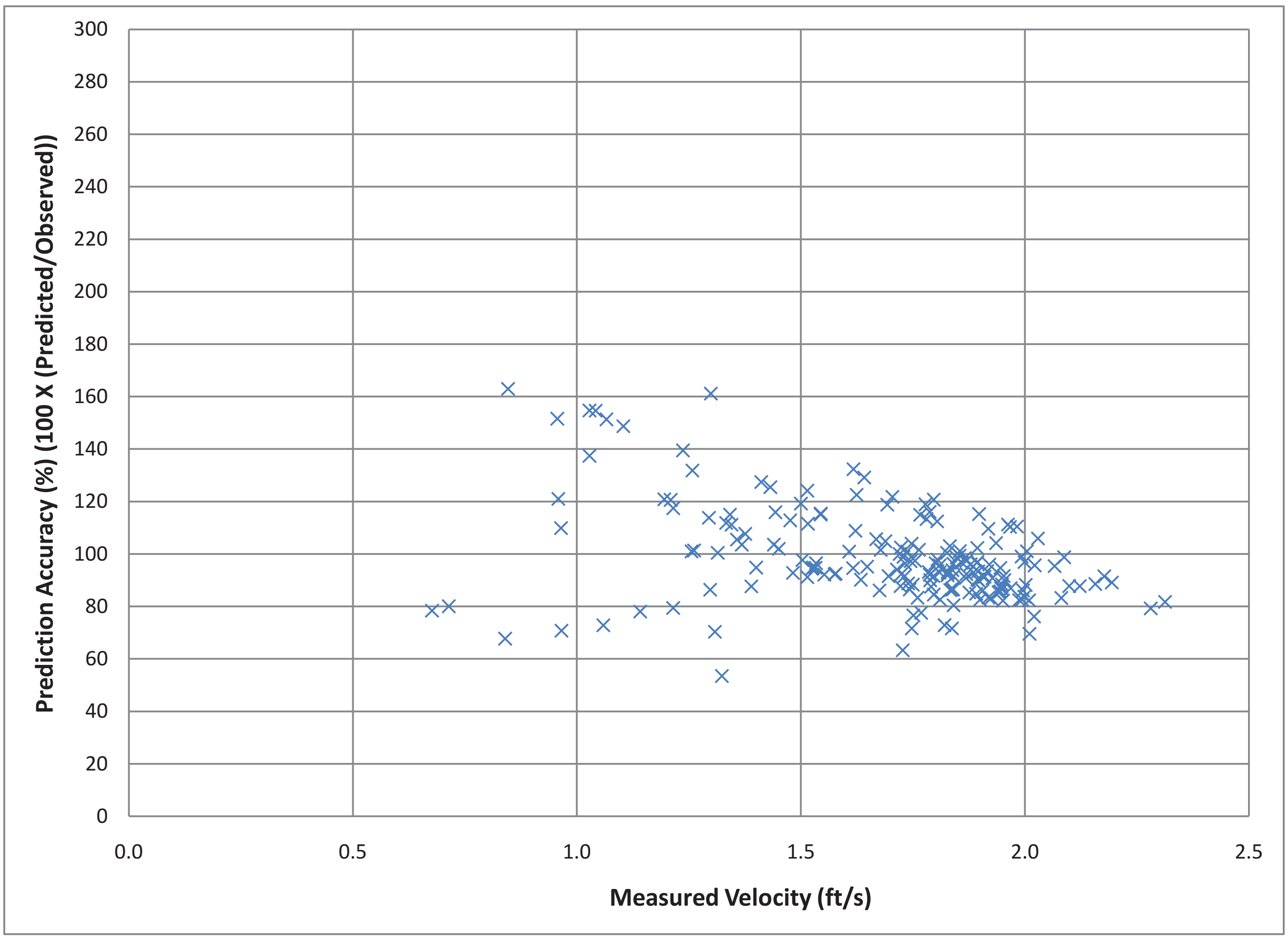
HISTOGRAM AND CUMULATIVE CURVE OF MODEL CALIBRATION RESULT

ARCADIS

FIGURE
3

08/17/2011 SYRACUSE, NY-ENV/141-DJHOWES
B0042929/0102/00006/CDR/42929G03.CDR



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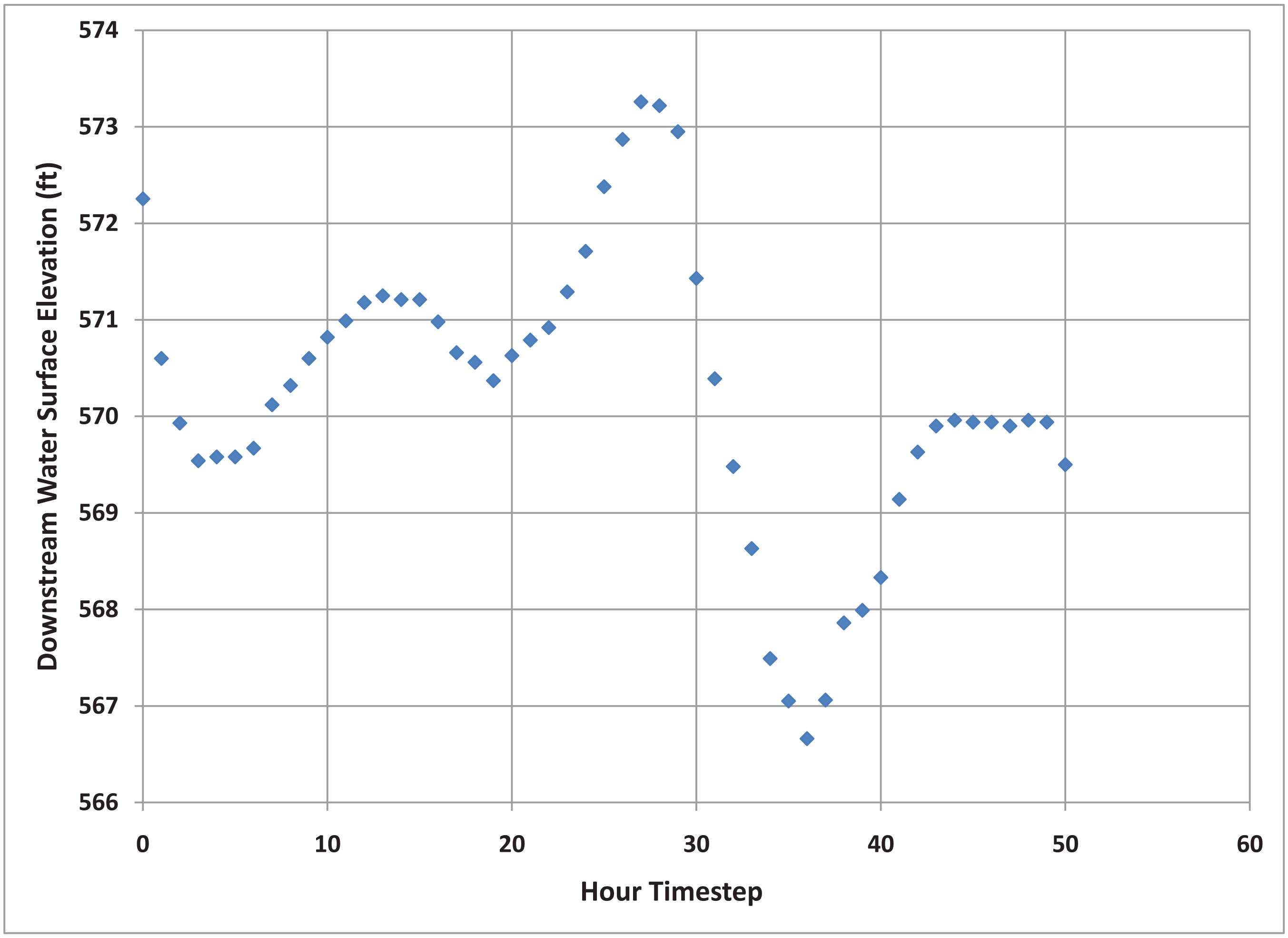
VARIATION IN MODEL PREDICTION ACCURACY WITH MEASURED VELOCITY MAGNITUDE

ARCADIS

FIGURE
4

08/18/2011 SYRACUSE, NY-ENV/141-DJHOWES
B0042929/0102/00006/CDR/42929G04.CDR



Note:
Datum IGLD 1985

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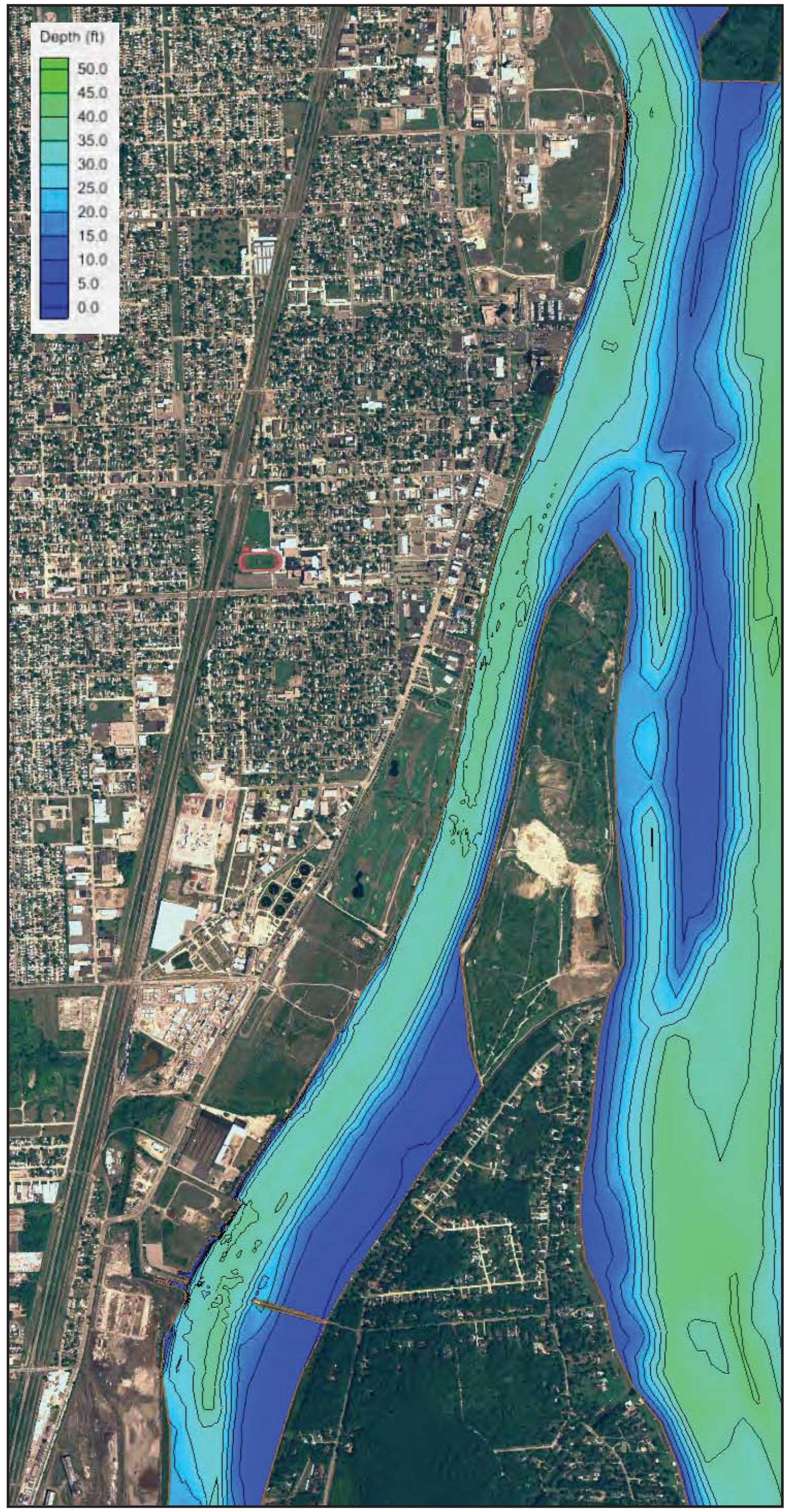
VARIATION IN DOWNSTREAM WATER SURFACE ELEVATION FOR LAKE ERIE SEICHE EVENT DURING TIME STEP 27

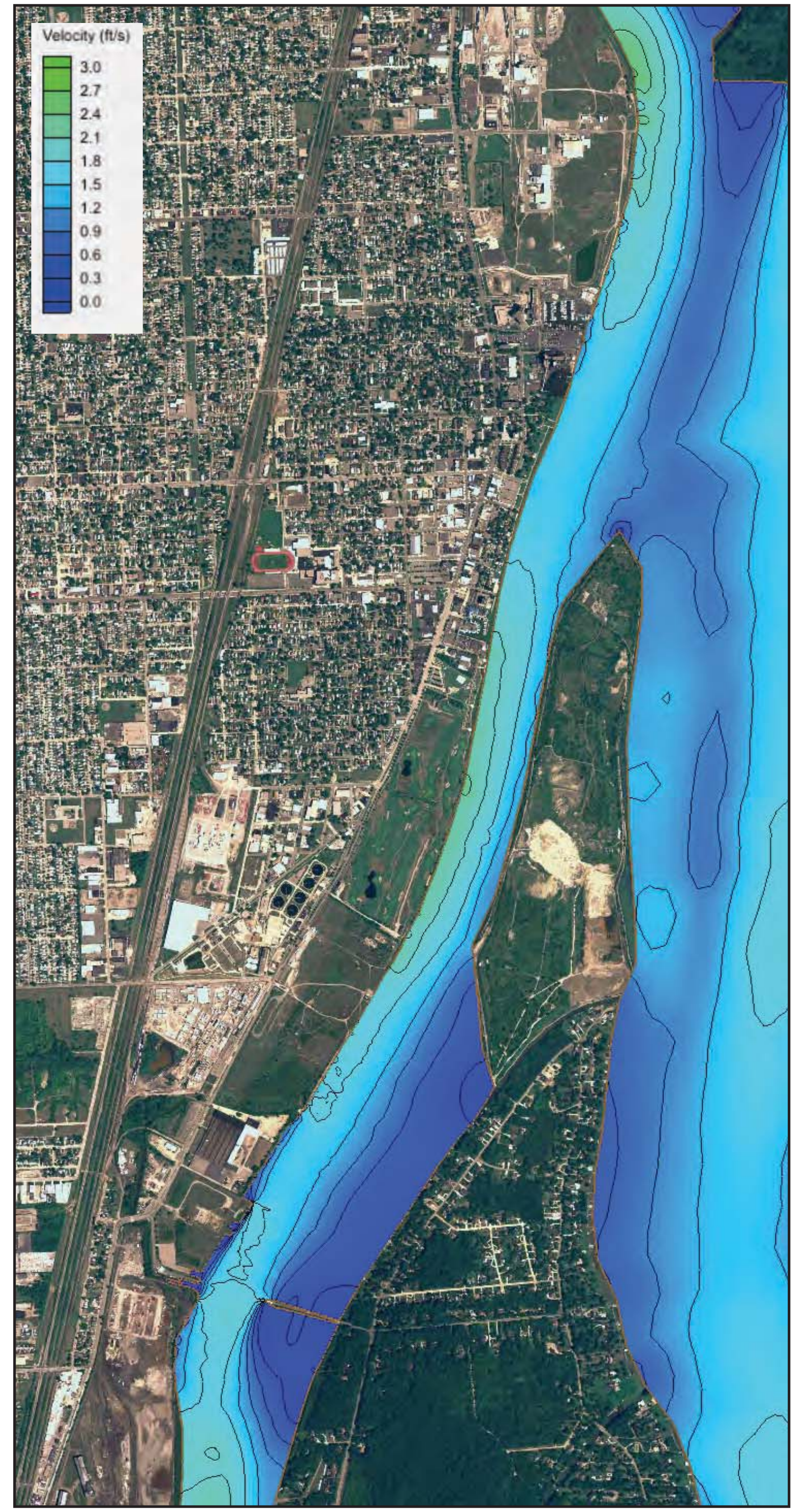
ARCADIS

FIGURE
5

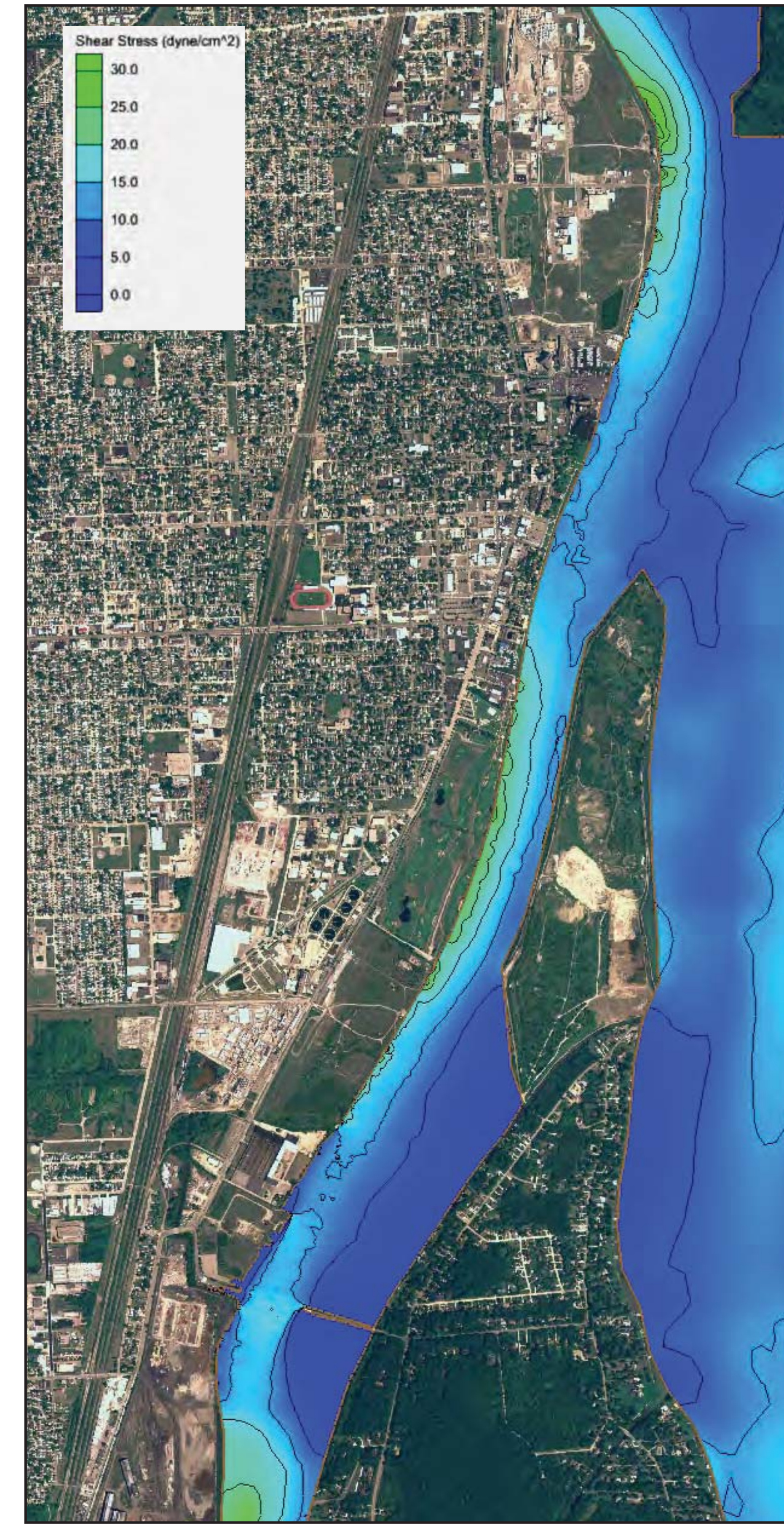
09/06/2011 SYRACUSE, NY-ENV/141-DJHOWES
B0042929/0102/00006/CDR/42929G05.CDR



Predicted Flow Depth



Predicted Flow Velocity



Predicted Flow Shear Stress

Note:
Average flow scenario was run under steady state conditions for an upstream boundary Detroit River Discharge of 186,000 cubic feet per second and a downstream boundary Water Surface Elevation of 571.75 feet (IGLD 1985).

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SPATIAL DISTRIBUTION PREDICTIONS FOR AVERAGE FLOW CONDITIONS

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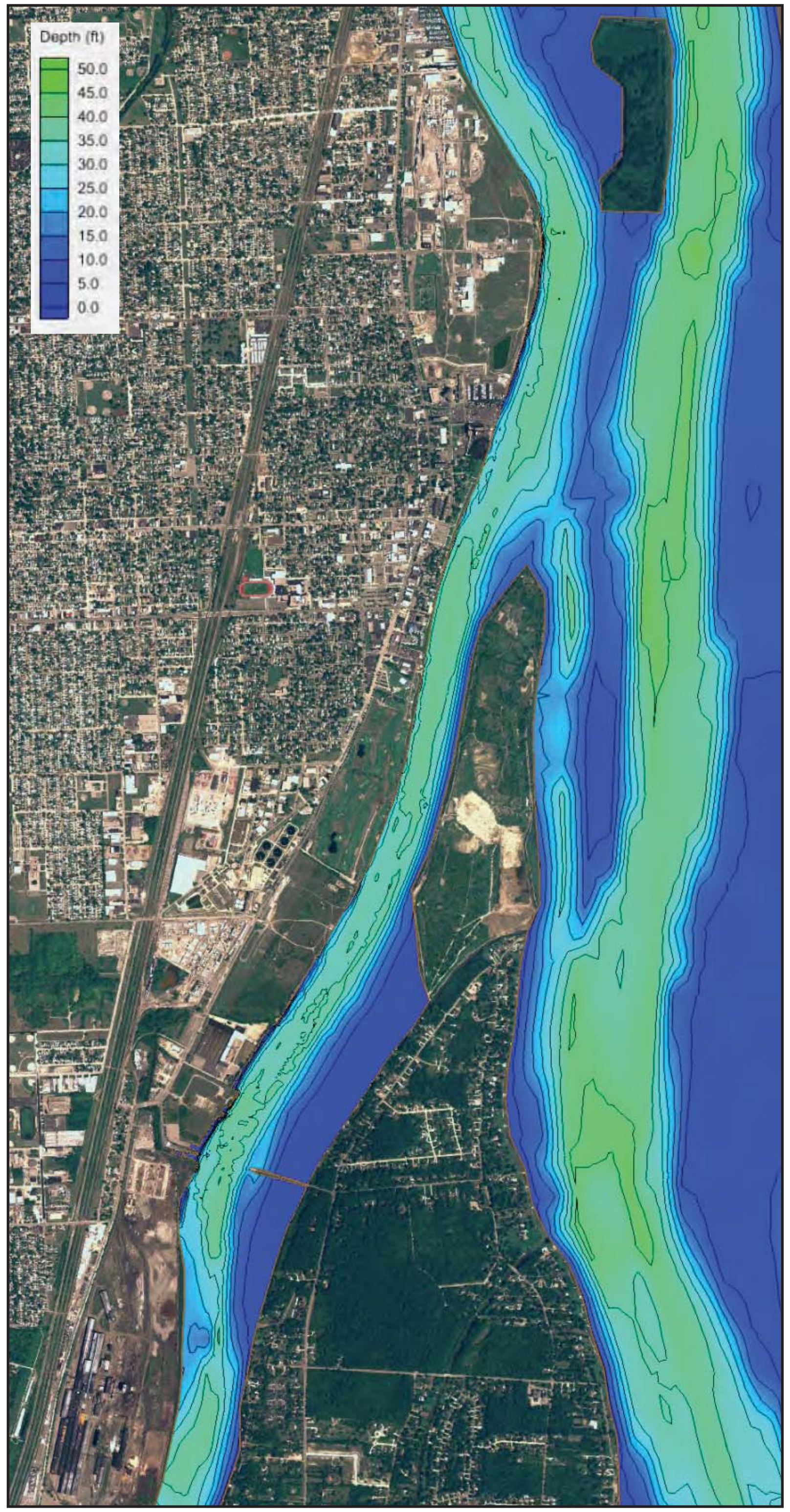
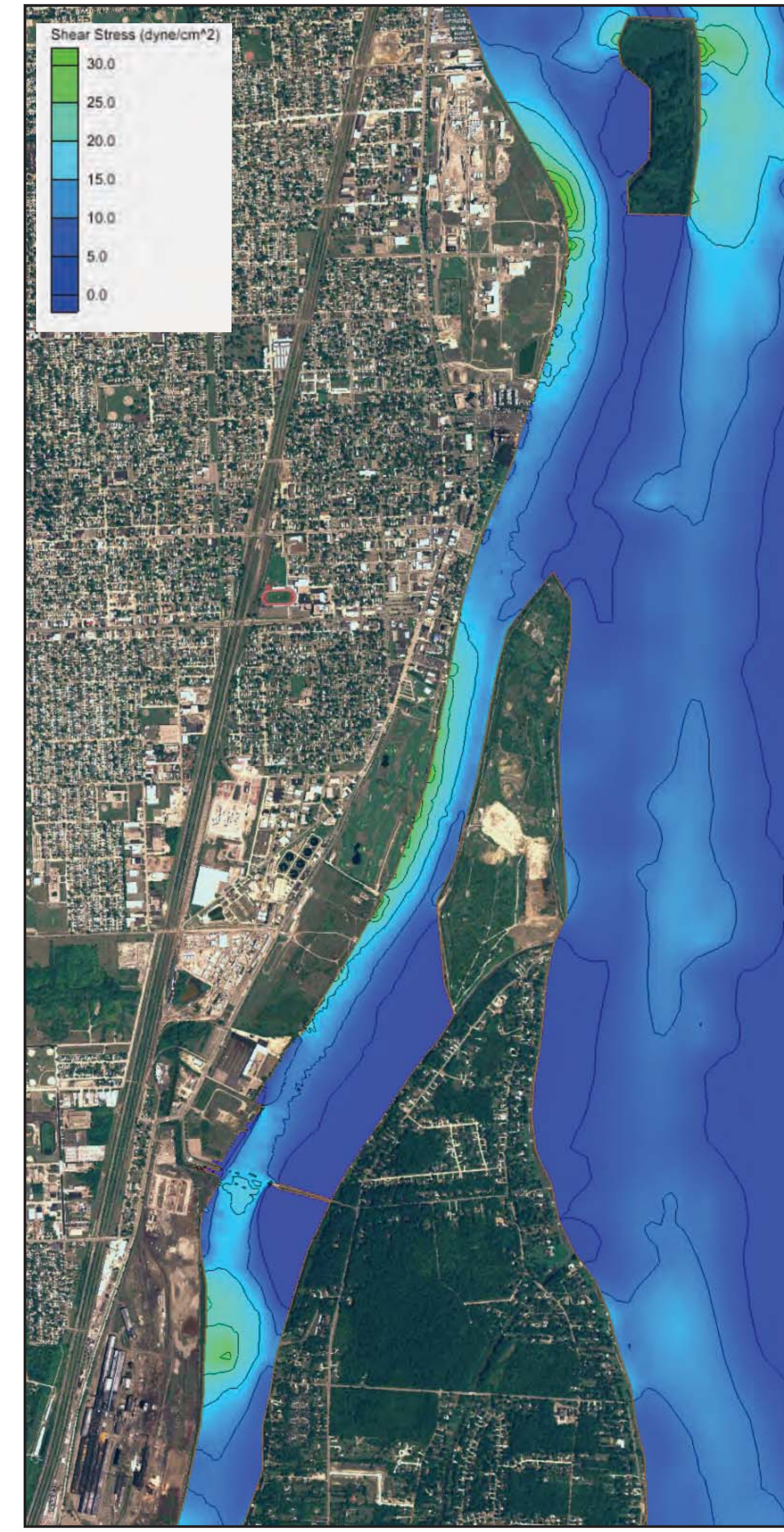
FIGURE
6

11/01/2011 SYRACUSE, NY-ENV/141-DJHOWES
B0042929/0102/00006/CDR/42929G01.CDR



Predicted Flow Depth

Predicted Flow Velocity



Predicted Flow Shear Stress

Note:
High flow scenario was run under steady state conditions for an upstream boundary Detroit River Discharge of 240,000 cubic feet per second and a downstream boundary Water Surface Elevation of 572.25 feet (IGLD 1985).

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SPATIAL DISTRIBUTION PREDICTIONS FOR HIGH FLOW CONDITIONS

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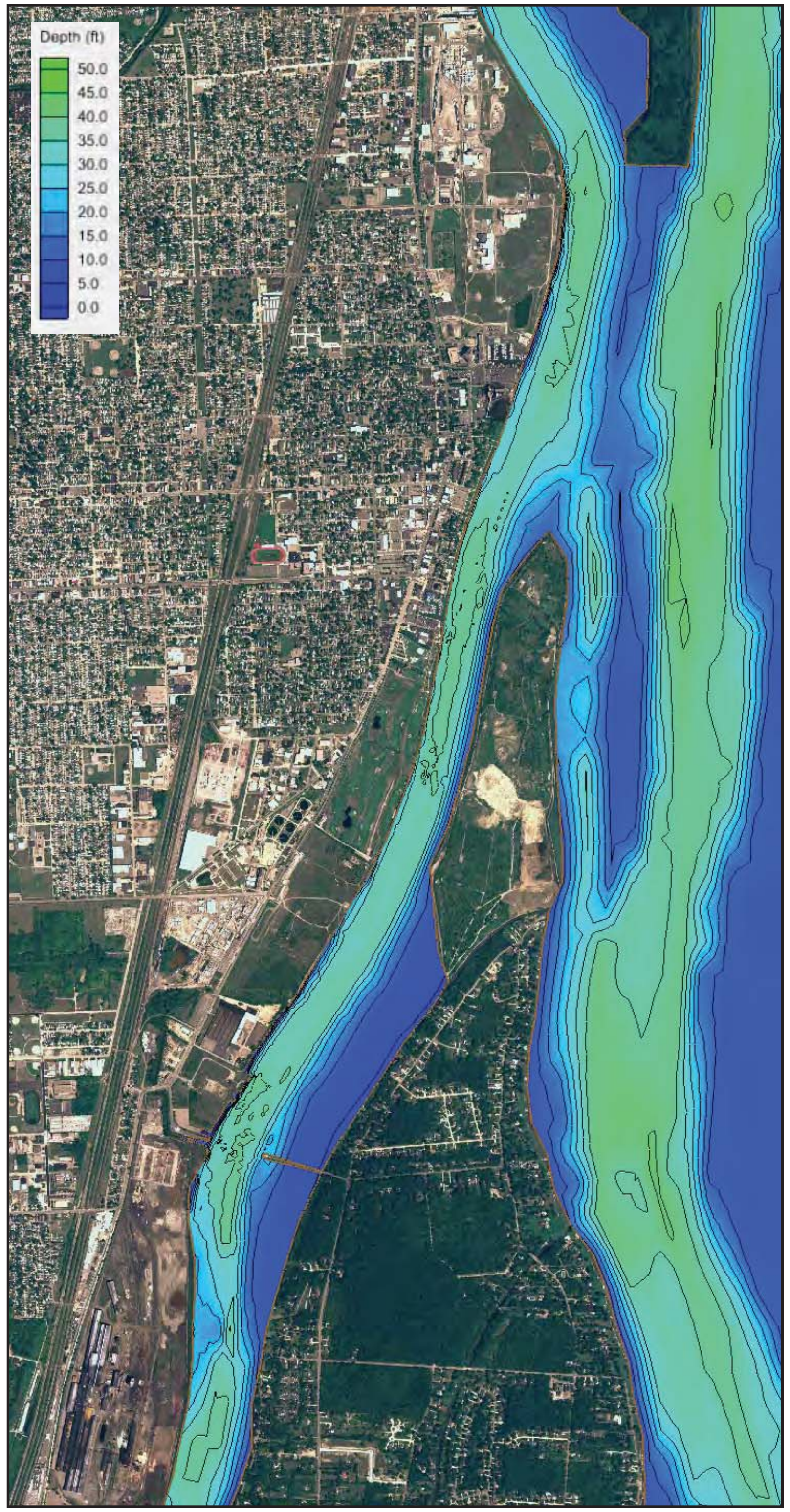
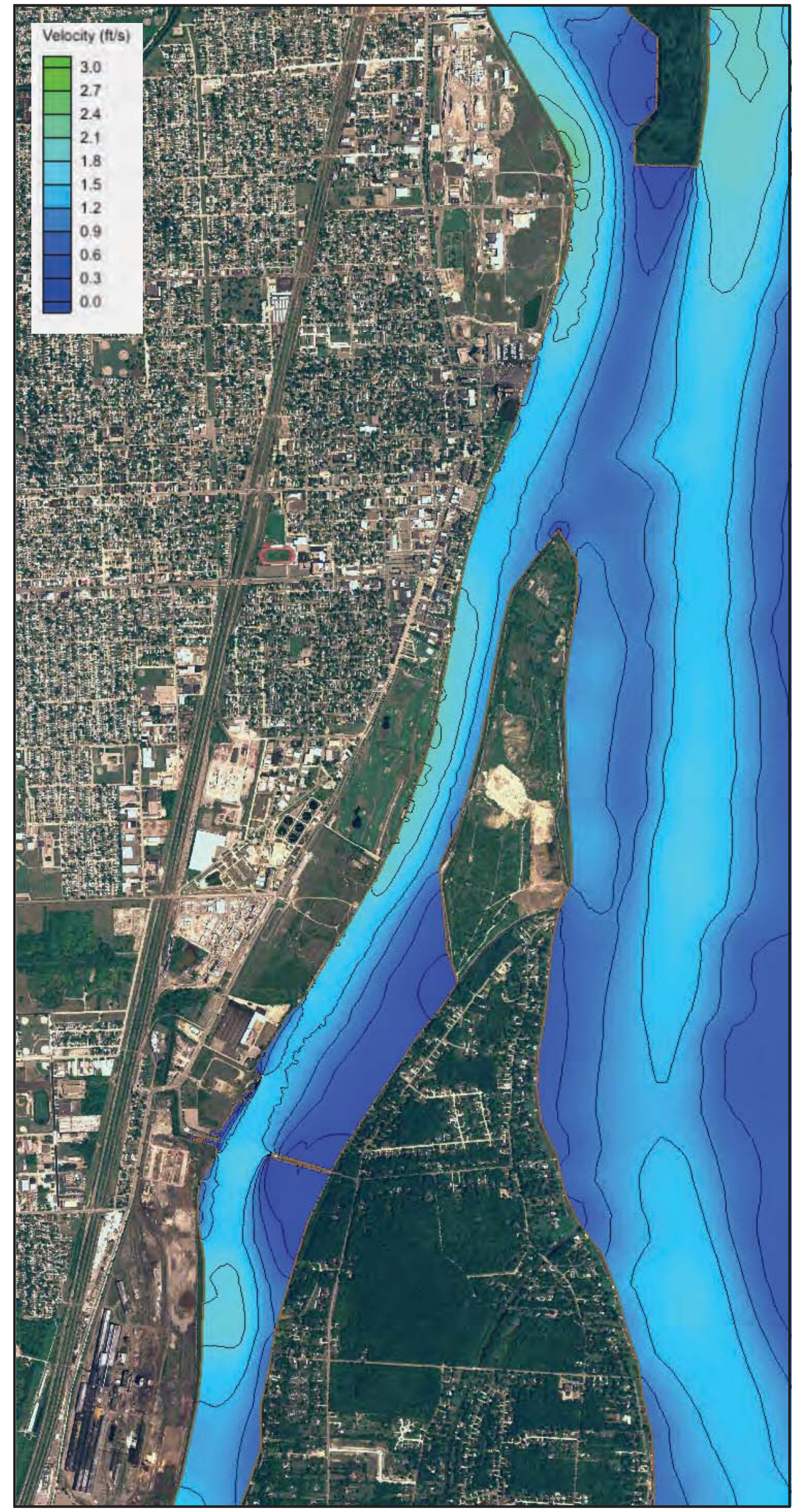
FIGURE
7

09/06/2011 SYRACUSE, NY-ENV/141-DJHOWES
B0042929/0102/00006/CDR/42929G16.CDR



Predicted Flow Depth



Predicted Flow Velocity

Predicted Flow Shear Stress

Note:
Lake Erie Seiche scenario was run under unsteady state conditions for an upstream boundary Detroit River Discharge of 186,000 cubic feet per second and downstream boundary Water Surface Elevation variations shown in Figure 5.

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SPATIAL DISTRIBUTION PREDICTIONS FOR LAKE ERIE SEICHE EVENT DURING TIME STEP 27

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FIGURE
8

11/01/2011 SYRACUSE, NY-ENV/141-DJHOWES
B0042929/0102/00006/CDR/42929G02.CDR

Appendix F
Assessment of Recontamination Potential

Appendix F

Assessment of Recontamination Potential
Supporting Documents

Table 1: Comparison of Constituent of Concern Concentrations in Average UTC Surface Sediments and Environment Canada Sediment Trap Data

Table 1: Comparison of Constituent of Concern Concentrations in Average UTC Surface Sediments and Environment Canada Sediment Trap Data

Constituent of Concern	Constituent Concentration in Environment Canada Suspended Sediment Samples [1] (mg/kg, dw)	Average Constituent Concentrations in UTC Surface Sediment Samples [2] (mg/kg, dw)
Mercury	0.4	3.0
Total PAHs	40	60
Total PCBs	0.34	3.6

Notes:

1. Data sourced from Painter (2003) as referenced by: MACTEC, 2004. Final Remedial Action Plan Addendum Detroit River - Black Lagoon.
2. Averages calculated from data within the GLLA project area contained in the Upper Trenton Channel Sediment Database, Version 2.0.

Pages Containing Environment Canada Sediment Trap Data from Final Remedial Action Plan Addendum, Detroit River – Black Lagoon (MACTEC 2004)

5.0 EVALUATION OF SOURCE CONTROL MEASURES

5.1 PURPOSE

The purpose of this section is to evaluate the sufficiency of source control measures in the vicinity of the proposed Black Lagoon sediment remediation project in the Trenton Channel of the Detroit River. This section provides data on current sediment quality conditions at the Black Lagoon site and presents recent data on measured concentrations of contaminants in sediment and suspended sediments in the Trenton Channel. The following will provide the necessary information to evaluate several important issues:

1) Have on-going sources been adequately controlled to allow for implementation of a remedial project?
2) Will active remediation result in long-term improvements to sediment quality in Black Lagoon?
3) Will natural sedimentation be an effective means to address residual contamination at the site following the completion of remedial activities?

5.2 BACKGROUND

The former McLouth Steel-Trenton steel mill property lies immediately upstream of the Black Lagoon site. Prior to the steel mill closing in 1995, water quality problems and violations were documented throughout its operating history. The steel mill operation was considered the primary source of contamination to the downstream, Black Lagoon site (MDEQ, 1997). However, "the Detroit River is heavily industrialized and urbanized area that allows for the input of contaminants [to the Detroit River and Trenton Channel]" (Froese *et. al.*, 1997). Several potential, upstream sources of contamination to the Black Lagoon still exist, including the Rouge River and sources along the western shore of the Detroit River (Froese *et. al.*, 1997).

Several surficial sediment and suspended sediment studies have been conducted in the vicinity of the Black Lagoon site since 1995. These studies provide valuable insight regarding the current sediment conditions at the site and the adequacy of completed source control projects to prevent recontamination of the Black Lagoon site. The data from these studies are provided, along with an evaluation of the data and conclusions in Sections 5.3 and 5.4.

5.3 SEDIMENT DATA

5.3.1 Current Conditions

In 1999, the U.S. EPA's Great Lakes National Program Office (GLNPO) conducted a study of sediment quality in the Black Lagoon (GLNPO, 2000). This study concluded that:

1) Surface and deeper sediments within the Black Lagoon are "severely contaminated with heavy metals, oil & grease, and mercury, along with elevated levels of PCBs",
2) Surficial sediments from several locations within Black Lagoon contained sufficient levels of contamination to cause acute and/or chronic effects to benthic organisms.

Surficial sediments provide the best indication of the immediate bioavailability of contaminants. Table 1 summarizes the average surficial sediment concentrations in Black Lagoon sediments for a variety of contaminants based on the GLNPO (2000) report. The table also provides sediment quality guidelines (SQGs) (MacDonald *et al*. 2000) for a screening level evaluation of the sediment data. The SQG used for this evaluation is the probable effect concentration (PEC). The PEC is the concentration for a parameter of concern, above which harmful effects are more likely to be observed.

Based on the data provided in Table 1, cadmium, mercury, nickel, lead, zinc, oil and grease, and PCBs exceed the screening level PECs and are potential contaminants of concern in surficial sediments. Additionally, simultaneously extracted metals/acid volatile sulfide (SEM/AVS) analysis of the sediments indicates that the heavy metals may play a significant role in sediment toxicity at the site. (GLNPO, 2000).

5.3.2 Expected Conditions

An evaluation of expected conditions following remediation must first identify whether on-going source contamination to the Detroit River exists. Most recent or current data on expected sediment quality (discussed below) will be used to evaluate the expected conditions and determine whether remediation of contaminated sediment should occur.

Several investigators have collected recent data regarding the expected quality of sediments and adequacy of source control measures in the Detroit River and Trenton Channel study area. Three of these studies are summarized below. Data from these studies are summarized in Table 2.

USEPA/MSU 1995-1996 Suspended Sediment Monitoring Study

In 1995-1996, Michigan State University, the U.S. EPA, and the Michigan Department of Environmental Quality coordinated on a study of contaminant concentrations in suspended sediments within the Trenton Channel. The purpose of the study was to show "the nature of [and contaminant levels in] the new sediments" that are likely to cover any remediated areas within the Trenton Channel (Froese *et. al*., 1997).

Table 2 contains data from this study consisting of the median contaminant concentrations found in suspended sediments in the Trenton Channel. The metals concentrations were provided directly from the U.S. EPA (Rossman, 2003). However, the total PCB concentrations are based on the following calculation:

[Mean Concentration of Particle Bound PCBs] / [Avg. TSS Concentration]

Where,

Mean Concentration of Particle Bound PCBs = 10 ng/L (Froese, *et.al*., 1997)
Avg. TSS Concentration = 16 mg/kg (Ostaszewski, 2003)

Note that none of the contamination concentrations in the suspended solids exceed the applicable PEC, and most are approximately a factor of 2 lower. (Table 2)

MDEQ Elizabeth Park Marina – Surficial Sediment Study

In 1993, an area in the Trenton Channel just downstream of the Black Lagoon site was dredged to create the Elizabeth Park Marina. Between 1993 and 1999 the MDEQ collected surficial sediment samples for chemical analysis to determine the quality of recently deposited sediments at the Elizabeth Park site (Ostazewski, 2003). The data collected at the Elizabeth Park site can be used to evaluate the quality of sediments expected to be deposited at the Black Lagoon site after implementation of a sediment remediation project, because: (1) the site is directly downstream of the Black Lagoon site, and therefore subject to most of the same potential contaminant sources as the Black Lagoon site, and (2) the Elizabeth Park site and the Black Lagoon site will have very similar water depths after implementation of the remedial project.

Figure 3 provides an aerial view of the Elizabeth Park site and indicates the approximate location of sampling sites during the MDEQ study. Sampling location EPM-3 is thought to be most similar to the expected Black Lagoon site conditions following remediation (upstream current deflection and protection by a barrier strip, but open to the Trenton Channel), and will be used for the analysis of newly deposited sediment.

MDEQ collected surficial sediment samples utilizing either a ponar or an Eckman dredge sampler that collects sediments from approximately the top six-inches of sediments. These sediments were then analyzed for heavy metals, total PCBs, and total PAHs and the results are provided in Table 2. Although data were collected for several years, only the most recent sediment data from 1999 is provided in Table 2. The data from this study indicates that newly deposited sediments will be significantly less contaminated than the current surficial sediments within Black Lagoon.

Environment Canada's Suspended Sediment Study

Since 1999 Environment Canada has conducted an extensive suspended sediment monitoring study in the St. Clair River, Lake St. Clair, and Detroit River study area including stations located in the Trenton Channel. Suspended sediments are collected in sediment traps and analyzed for their contaminant concentrations. (Painter, 2003).

Station 1159 is located just downstream of the Black Lagoon site, and is deemed most representative of the sediment deposition expected at the Black Lagoon site after completion of remedial activities. Data for total PCBs, total PAHs, and a variety of heavy metals, including mercury are provided in Table 2 for Station 1159. The data from this study indicate that newly deposited sediments are expected to be less contaminated than the current surficial sediments within Black Lagoon.

The results of the three studies described above are applicable for evaluating the quality of new sediment that will deposit at the Black Lagoon site after remediation is complete.

5.3.3 Evaluation of Data

The data in Table 2 indicates that the expected sediment concentrations after remediation for all of the primary contaminants of concern at the site are below the applicable sediment quality guideline (PEC), indicating that significant sources of contamination to the site have been addressed.

5.4 CONCLUSIONS

Considering the results of the studies completed to date, the data presented in Tables 1 and 2 indicate that:

1) Newly deposited sediments in the Black Lagoon are expected to less contaminated than those currently present.
2) Newly deposited sediments are expected to have contaminant concentrations below the applicable sediment quality guidelines (PEC) for the primary contaminants of concern at the site;
3) Monitored natural recovery, in conjunction with the residual management plan described in section 3.2, will be an effective method for addressing any residual contamination at the site after active remediation (data on sedimentation rates and expected residual contamination would be necessary to fully evaluate MNR for addressing residual contamination); and
4) Significant sources of contamination to this site have been adequately controlled to allow remedial implementation to move forward.

References

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D.D. MacDonald, C.G. Ingersoll, and T.A. Berger, 2000. "Development and Evaluation of Sediment Quality Guidelines for Freshwater Ecosystems", *Archives of Environmental Chemistry and Toxicology*, Vol. 39, pp. 20-31, 2000.

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Ostaszewski, 1997. Results of the Trenton Channel Project Sediment Surveys 1993-1996. Michigan Department of Environmental Quality. MI/DEQ/SWQ-97/084.

Ostaszewski, 2003. Personal communication from Arthur Ostaszewski, Michigan Department of Environmental Quality, Surface Water Quality Assessment Section

Table 1. Surficial Sediment Concentrations from 1999 Sediment Survey

Contaminant	Current Average Surficial Sediment Concentrations mg/kg, dw	Sediment Quality Guideline (PEC) mg/kg, dw	Ratio of Chem Conc. to SQG
As(1)	8	33	0.25
Cd(1)	5.6	4.98	1.12
Cr(1)	99	111	0.89
Cu(1)	90	149	0.60
Hg(1)	1.4	1.06	1.32
Ni(1)	52	48.6	1.07
Pb(1)	146	128	1.14
Zn(1)	1380	459	3.01
Oil & Grease(2)	6,280	2,000	3.14
Total PAHs(1)	11	22.8	0.46
Total PCBs(1)	1.1	0.68	1.66

Notes:

(1) SQG are based on the Probable Effects Concentrations found in *MacDonald et. al*. (2000), "Development and Evaluation of Sediment Quality Guidelines for Freshwater Ecosystems"

(2) SQG is based on the "heavily polluted" designation found in *U.S. EPA* (1977), "Guidelines for the Pollutional Classification of Great Lakes Harbor Sediments".

Table 2: Summary of Sediment and Suspended Sediment Concentrations in the Trenton Channel

Contaminant	Surficial Sed. Conc Station EPM-3 for 1999 [1] mg/kg, dw	Envr. Canada Suspended Sed. Conc. for 1999-2001 [2] mg/kg, dw	USEPA/MSU Suspended Sed. Conc. for 1995-1996 [3] mg/kg, dw	Expected Contaminant Conc. after Remediation [4] mg/kg, dw	Probable Effects Concentration mg/kg, dw	Ration of Avg. Expected Concentration to PEC	Current Avg. Surficial Concentrations mg/kg, dw
As	7	n/a	15	11	33	0.33	8
Cd	3.0	n/a	2.3	2.7	5.0	0.53	5.6
Cr	5	55	60	40	111	0.36	99
Cu	53	56	62	57	149	0.38	90
Hg	1.2	0.4	0.4	0.6	1.1	0.61	1.4
Ni	49	40	48	46	49	0.94	52
Pb	77	85	76	79	128	0.62	146
Zn	410	275	230	305	459	0.66	1,380
Oil & Grease	n/a	n/a	n/a	n/a			6,280
Total PAHs	5	40	n/a	22	23	0.99	11
Total PCBs[5]	0.33	0.34	0.63	0.43	0.68	0.64	1.1

Notes

[1] Data from Ostaszewski (2003)

[2] Data from Ronald Rossmann (2003), Froese, et. al. (1997)

[3] Data from Painter (2003), Station 1159.

[4] Average concentration from the Ostaszewski (2003), Painter (2003) and Rossman (2003) and Froese et. al. (1997) studies

[5] PCB analysis for EPM-3 was non-detect, report concentration reflects the method detection limit for the study

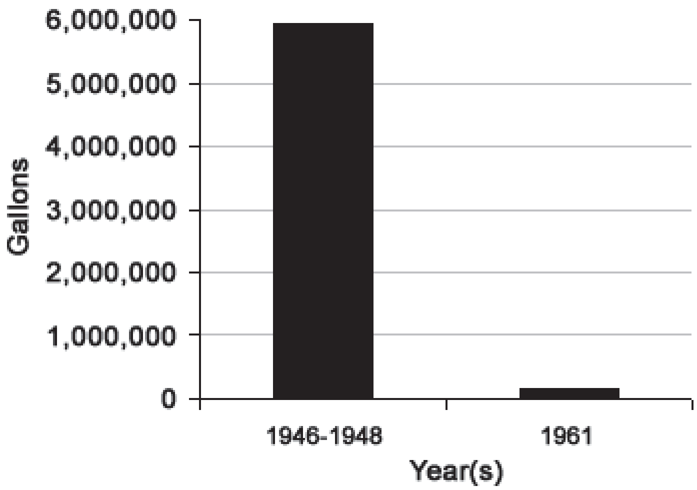
USEPA Detroit River – Western Lake Erie Basin
Indicator Project Summary

Detroit River-Western Lake Erie Basin Indicator Project

INDICATOR: Oil Pollution of the Detroit and Rouge Rivers

Figure 3. Total volume oil/other petroleum products spilled in Detroit River in gallons per year (1946-1948 and 1961).

Year	Total volume of spills
1946-1948	5,927,600 gallons
1961	156,950 gallons

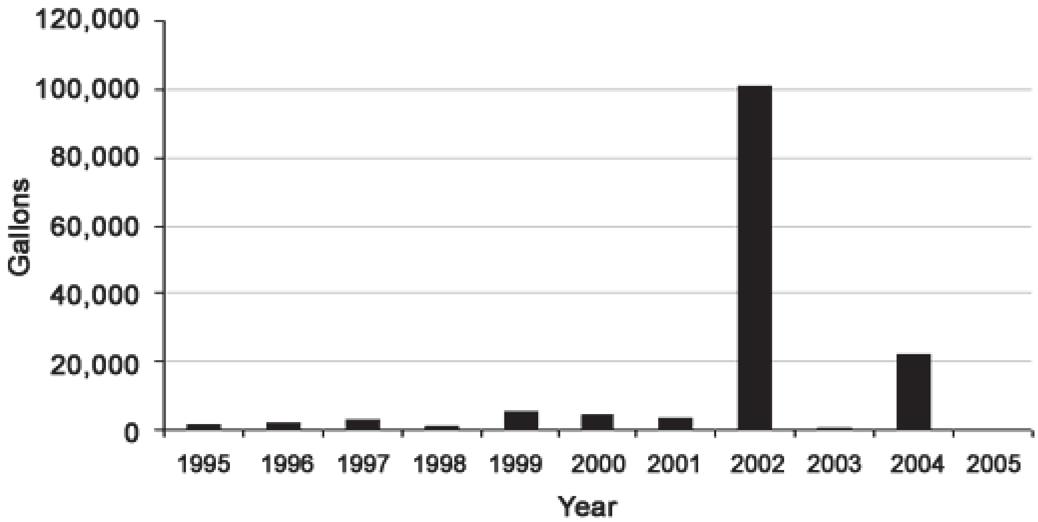


Oil Pollution of the Detroit and Rouge Rivers full text

Figure 4. Total volume oil/other petroleum products spilled in Detroit and Rouge Rivers in gallons per year (1995-2005).

Year	Total volume of spills
1995	1558.00 gallons
1996	1876.00 gallons
1997	3039.00 gallons
1998	1027.00 gallons

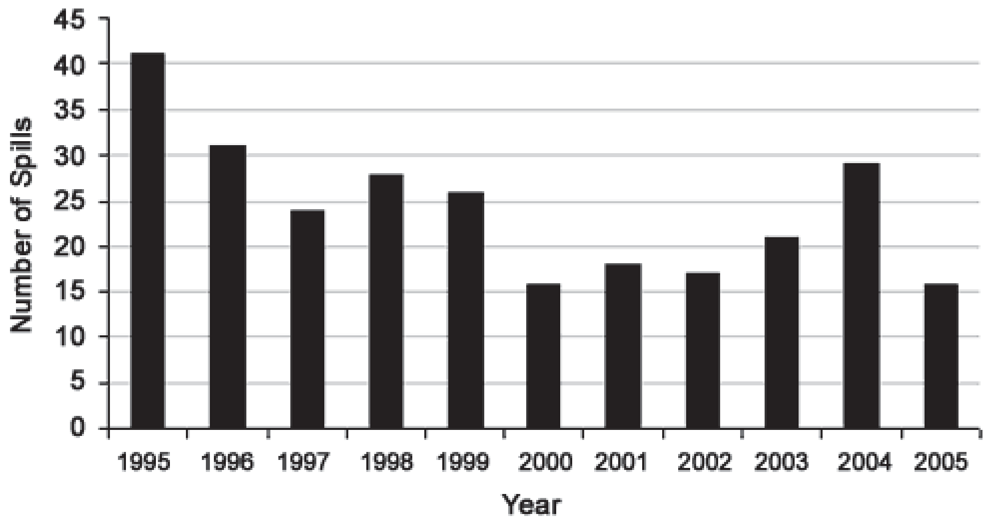
1999	5153.50 gallons
2000	4206.00 gallons
2001	3309.00 gallons
2002	100848.00 gallons
2003	602.00 gallons
2004	22043.00 gallons
2005	93.00 gallons



Oil Pollution of the Detroit and Rouge Rivers full text

Figure 5. Number of oil spills with an unknown volume (1995-2005).

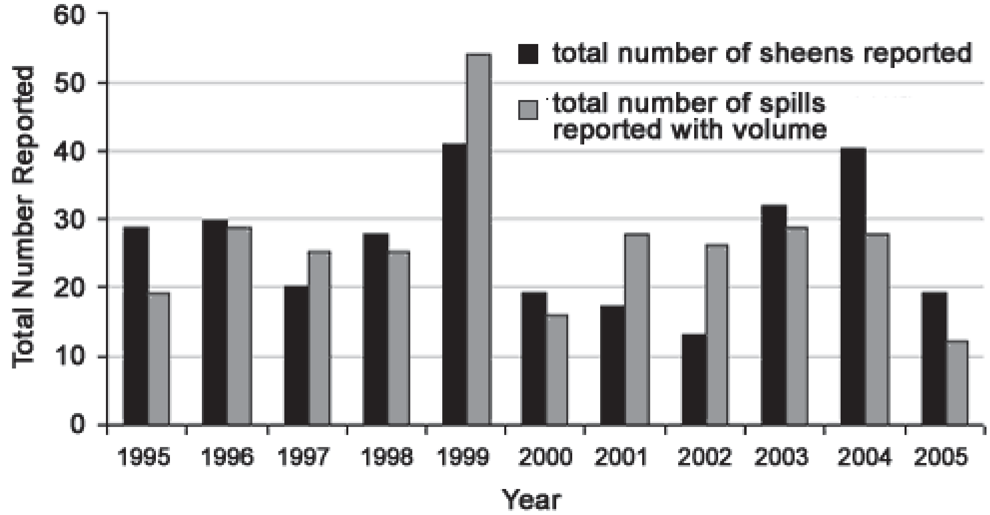
Year	Number of oil spills with an unknown volume
1995	41
1996	31
1997	24
1998	28
1999	26
2000	16
2001	18
2002	17
2003	21
2004	29
2005	16



Oil Pollution of the Detroit and Rouge Rivers full text

Figure 6. A comparison of total number oil spills reported with volume to total number sheens reported (1995-2005).

Year	Sheens reported	Spills reported with volume
1995	29	19
1996	30	29
1997	20	25
1998	28	25
1999	41	54
2000	19	16
2001	17	28
2002	13	26
2003	32	29
2004	41	28
2005	19	12

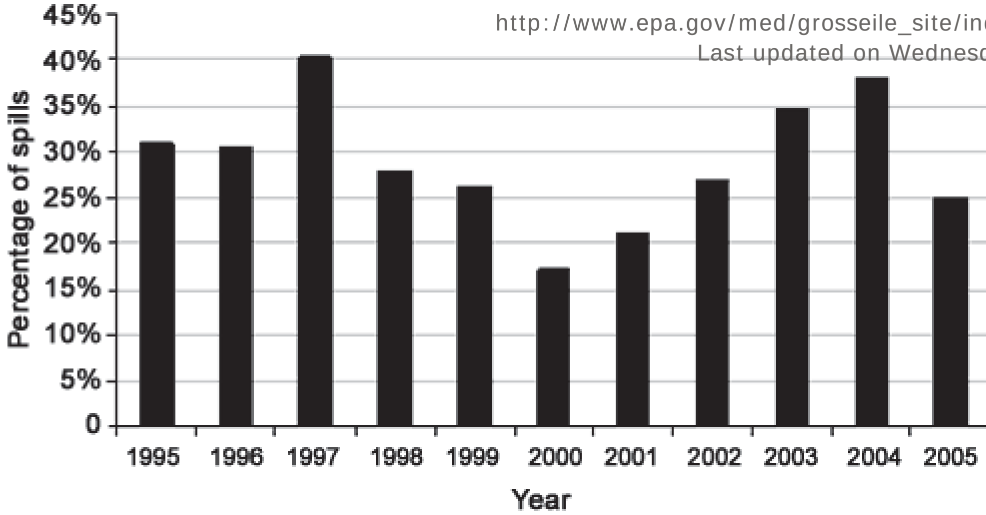


Oil Pollution of the Detroit and Rouge Rivers full text

Figure 7. Percentage of Michigan oil spills that occurred in the Detroit and Rouge Rivers (1995-2005).

Year	Percentage of spills
1995	31%
1996	31%
1997	40%
1998	28%
1999	26%
2000	17%
2001	21%
2002	27%
2003	35%
2004	38%
2005	25%

http://www.epa.gov/med/grosseile_site/indicators/oiltable.html
Last updated on Wednesday, August 26, 2009



Oil Pollution of the Detroit and Rouge Rivers full text

Appendix G
TSCA Memorandum of Understanding

Region 5 LCD RRB TSCA Remedial Program & Great Lakes National Program Office Sediment Remediation Memorandum of Agreement on TSCA Approvals for Dredging and Disposal of Sediments Containing PCBs

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I. Introduction and Applicability

This Memorandum of Agreement (MOA) is entered into between the Land and Chemicals Division (LCD) Remediation and Reuse Branch (RRB) and the Great Lakes National Program Office (GLNPO) in order facilitate the remediation and disposal of Polychlorinated Biphenyls (PCB) regulated under the Toxic Substances Control Act (TSCA) at sediment cleanup projects in Region 5. This MOA documents the mutual agreement of Region 5 RRB and GLNPO and establishes a process for TSCA review and approval of projects involving PCB contaminated sediment remediation under the Section 118(c)(12) of the Clean Water Act, 42 U.S.C. §1268(c)(12), for the dredging and disposal of sediments containing TSCA regulated PCB Remediation Waste.

This MOA will apply at GLNPO cleanup projects involving PCB Remediation Waste as defined in 40 Code of Federal Regulations (CFR) 761.3. This MOA does not apply if the project involves materials which do not meet the definition of PCB Remediation Waste (e.g. material is at as-found concentrations < 50 ppm from a release which occurred prior to April 18, 1978). GLNPO will consult with LCD RRB if GLNPO believes a project involves PCB materials which do not meet the definition of PCB Remediation Waste (see Template 1 Attachment F for supporting information GLNPO should provide to RRB during such consultation).

This process allows for the disposal of PCB remediation Waste to be addressed using one of three options (the process is diagramed in the flowchart in Figure 1):

- Option 1: Performance-Based Disposal – 40 CFR §761.61(b)
- Option 2: Risk-Based Disposal Approval – 40 CFR §761.61(c)
- Option 3: Coordinated Approval – 40 CFR §761.77(c)

<u>Option 1</u>

Performance based disposal (40 CFR §761.61(b)) presented in more detail in section II.6.a below, specifically requires either:

- all sediments with PCBs >1ppm to be disposed of in a TSCA approved landfill or,
- all PCB contaminated sediments >50ppm must be disposed of at a TSCA-approved landfill and all PCB contaminated sediments >1ppm and < 50 disposed of in facility permitted under Clean Water Act Section 404, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR part 320 USACE 33 CFR pt 320 facility (confined disposal facility).

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Option 2

Risk-Based Disposal Approval (40 CFR §761.61(c)), presented in more detail in section II.6.b below, will only apply to GLNPO projects if:

- if a non-commercial landfill or a new, dedicated disposal facility is proposed for disposal of dredged sediments; or
- if human health and/or ecological risk scenarios not already addressed by the LCD/GLNPO risk assessment documents found in Attachments A through F exist at the site.

Option 3

Coordinated Approval (40 CFR §761.77(c)), presented in more detail in section II.6.c below, applies when neither Option 1 nor Option 2 applies. Given past and current GLNPO sediment remediation projects, Option 3 is the scenario that will apply at most, if not all GLNPO sites with PCB contamination >50ppm. This MOA addresses the Coordinated Approval Process further in section II and in Attachments A-F.

See the Regulatory Background in Attachment H for additional information.

II. TSCA Approval Process Agreement

LCD RRB recognizes that GLNPO is the lead EPA program for projects under Section 118(c)(12) of the Clean Water Act. LCD RRB will provide support, technical assistance, and review under TSCA as needed and as outlined in the sections below.

LCD and GLNPO agree that:

1. GLNPO is the lead program for carrying out projects under their authority including the GLLA and has the expertise available to ensure the protectiveness to human health and the environment of the remedial action in Great Lakes Areas of Concern.

2. LCD RRB human health and ecological risk assessors have worked with their GLNPO counterparts on an initial, one-time exercise to confirm and memorialize that GLNPO's process for determining cleanup levels will not pose an unreasonable risk of injury to health or the environment. The agreed upon processes are presented in Attachments A (BSAF determination), B (Human Health) and C (Ecological).

3. GLNPO will notify LCD of proposed projects prior to the Remedial Design stage of the project so that LCD may appoint a project manager to coordinate

with GLNPO. That LCD project manager will be the LCD point of contact for issuing the TSCA coordinated or risk-based approval for the project.

4. Dredged sediments will be disposed of based on the concentrations determined in-situ. Sediments cannot be excavated and then characterized for disposal.

5. Sediments temporarily stored for dewatering purposes will be stored in a location meeting the containment requirements of 40 CFR §761.65(c)(9) and liquid PCB Remediation Wastes (i.e. sediment dewatering decantate) will be decontaminated to the standards in 40 CFR §761.79(b) or otherwise disposed of according to 40 CFR §761.60(a) or (e) or a risk-based approval under 40 CFR §761.61(c).

6. GLNPO and its Non-Federal Sponsor (NFS) will utilize one of the three options below for approvals and management of TSCA regulated PCB Remediation Waste:

   a. <u>Option 1 – Performance Based Disposal</u>

      A formal TSCA program approval for disposal is not required if the project meets the following Performance Based Disposal conditions:

      - all PCB impacted materials above 1 ppm will be removed;
      - no residual PCB > 1 ppm will be capped or remain in place;
      - <u>all</u> dredged materials are disposed of in a TSCA approved 40 CFR §761.75 Chemical Waste Landfill; or
      - all PCB contaminated sediments ≥50 ppm are disposed of at a TSCA-approved landfill and all PCB contaminated sediments >1 ppm and < 50 ppm are disposed of in accordance with a permit that has been issued under section 404 of the Clean Water Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers (USACE) at 33 CFR Part 320 or in accordance with a permit issued by the U.S. Army Corps of Engineers under section 103 of the Marine Protection, Research, and Sanctuaries Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR Part 320 (for example, a U.S. Army Corps of Engineers Confined Disposal Facility (CDF) permitted under an authority noted above).

   GLNPO and its NFS will document compliance with Performance-Based Disposal under 40 CFR §761.61(b) by providing a memo[1] to the LCD RRB TSCA Remedial Program. LCD RRB TSCA will review the memo to

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[1] See Model Memo Appendix G, Template 2.

determine compliance with 40 CFR §761.61(b). LCD RRB will respond to GLNPO with a memo indicating agreement or a need for further action.

b. <u>Option 2 – Risk-Based Disposal</u>

GLNPO's NFS will submit a Risk-Based Disposal Application for LCD RRB review and approval under 40 CFR §761.61(c) if any of the following conditions apply:

- if it is proposed to dispose of dredged sediments ≥ 50 ppm in a facility other than a permitted §761.75 TSCA Chemical Waste or a RCRA Subtitle C commercial landfill whose operating permit allows disposal of ≥ 50 ppm PCB Remediation Waste and/or;
- dredged sediments < 50 ppm will be disposed of in a facility other than a permitted RCRA Subtitle D commercial landfill whose operating permit allows disposal of < 50 ppm PCB Remediation Waste or;
- a new, dedicated disposal facility is proposed for disposal of dredged sediments; or
- if human health and/or ecological risk scenarios not already addressed by the LCD/GLNPO risk assessment documents found in Attachments A through C exist at the site (e.g. different receptors, exposure pathways, etc.).

The Risk-Based Disposal Approval request should include information as described in the notification required by 40 CFR §761.61(a)(3), as well as information requested in Option 3 below for Coordinated Approvals. LCD RRB will request additional information from GLNPO and its Partners as needed to assist RRB in its review.

c. <u>Option 3 – Coordinated Approval</u>

GLNPO's NFS will request a Coordinated Approval under the provisions of 40 CFR §761.77(c) from the LCD RRB TSCA Remedial Program if the following conditions apply:

- the remedial cleanup level (either on a point-by-point basis or a Surface Weighted Average Concentration (SWAC)) is calculated in accordance with Attachments A through C;
- dredged sediments ≥ 50 ppm will be disposed of in a permitted §761.75 TSCA Chemical Waste or a RCRA Subtitle C commercial landfill whose operating permit allows disposal of ≥ 50 ppm PCB Remediation Waste;
- dredged sediments < 50 ppm will be disposed of in a permitted RCRA Subtitle D commercial landfill whose operating permit allows disposal of < 50 ppm PCB Remediation Waste or in a CDF permitted under section 404 of the Clean Water Act, USACE Section 103 of the

Marine Protection, Research, and Sanctuaries Act, or equivalent permit as provided for by USACE at 33 CFR Part 320.

The Coordinated Approval request will include information identified in 40 CFR §761.77(a)(1) including:

- a copy of the signed agreement, for example: a GLLA project agreement
- information regarding the project scope (e.g., the remedial investigation and feasibility study, the project application from the non-federal sponsor);
- project cleanup level;
- identification of sediment disposal destinations;
- documentation that the disposal destinations are permitted to receive such waste; and
- post-remedial sampling plans designed to verify how the cleanup level will be met

Recordkeeping and reporting for purposes of TSCA must be conducted under 40 CFR Part 761, Subparts J and K as applicable to the project.

7. GLNPO will provide public notice and information to local communities regarding the project including information on the remediation, management and disposal of PCB Remediation Waste requiring a TSCA approval under the Coordinated or Risk-Based approval options as outlined above. GLNPO will share information on the level and type of public involvement anticipated for the project during GLNPO's initial notification to LCD RRB under this MOA.

8. GLNPO will adhere to all state and local requirements for disposal of PCB impacted sediments. In some cases, such requirements may be more stringent than federal TSCA requirements.

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For the Great Lakes National Program Office

______________________________ ______________

Chris Korleski
Director Date
Great Lakes National Program Office

For the Land and Chemicals Division

______________________________ ______________

Margaret M. Guerriero, Director Date
Land and Chemicals Division

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Attachment A: Great Lakes National Program Office – Great Lakes National Program Office and Region 5 TSCA Template for Calculation of Biota-Sediment Accumulation Factors

A biota-sediment accumulation factor (BSAF) describes the empirical relationship between PCB concentrations in fish tissue and sediment, ideally co-located, where the sediment concentrations represent the source of contamination to the fish. When site-specific data are available, they should be utilized to generate site-specific BSAFs. If the site specific data are inadequate or non-existent, then literature based BSAFs should be calculated. The processes for determination of a site-specific BSAF and/or a literature based BSAF are presented below.

The first step in calculation of either human health (Attachment B) or ecological (Attachment C) cleanup goals is the calculation of a site-specific or selection of a literature based BSAF.

The BSAF is defined by the equation: $$BSAF = \frac{C_{fish} / f_{lipid}}{C_{sed} / f_{oc}}$$

Where:
C_{fish} = Chemical concentration in fish (mg/kg) fresh/wet weight
f_{lipid} = fraction of lipid in fish or edible portion of fish (usually as %)

C_{sed} = Chemical concentration in sediment (mg/kg) dry weight
f_{oc} = fraction of organic carbon in sediment sample (usually as %)

Development of a site-specific BSAF:

In order to determine whether a site-specific BSAF can be calculated, the following data should be gathered and reported:

- Fish tissue data – list all species available for at least the last 5 years, the number of samples, tissue type (fillet, whole-body, skin on/skin off, etc.) as well as any relevant metadata (quality, who took the data, etc.).
- Fish lipid data – often, this parameter is analyzed at the same time and in the same samples as PCB chemistry, but not always. If both lipids and PCBs are within the same dataset, report the lipid data with the PCB fish data, so that each fish tissue concentration is normalized by its own lipid fraction. Otherwise, gather and report on all the available fish lipid data for at least the last 5 years (including, year analyzed, species and tissue type)
- PCBs in sediment – ideally surface sediment concentrations taken at the same time as fish tissue are available, if so this should be highlighted. Regardless, a summary of the PCB data, including both grabs and cores for the last 5 years should be provided.
- Total organic carbon (TOC) – as with the above parameters, the available TOC data for at least the last 5 years should be summarized. Where possible, each

sediment concentration sample should be normalized by its own foc/%TOC values.

- Geospatial information – summarize spatial data parameters for sediment and fish samples and if they are already available as a GIS data layer.

Table A1 is a suggested format for presentation of fish PCB and lipid data, while Table A2 is a suggested format for presentation of sediment data. When the sediment chemistry and fish samples locations are co-located, the tables can be combined into one summary table.

PCB data - Congeners vs. Aroclors: As part of the data gathering step, the type of PCB analytes assessed should also be reported (i.e. congeners, Aroclors, homologs, etc). The preference is for congener data, where available, and then Aroclors if the congener data are not sufficient and/or available. Regardless of whether the data are congeners or Aroclors, the total PCB value should be used in the assessment. When the data are available to do so, total PCB concentrations should be calculated from individual PCBs using the same methodology with respect to handling non-detects.

Table A1: Data Reporting Summary (for fish PCB and lipid data only)

Fish Species	Source	Year	Whole body or fillet	Total PCB Fish Tissue Concentration (C_{fish})	PCB type (Aroclor or congener or homolog)	Fish Lipids (f_{lipid})	GIS info	Notes (metadata, other issues)

Geographical information system (GIS)

Table A2: Data Reporting Summary (sediment PCB and organic carbon)

Sample ID or Location	Source	Year	Sample type (grab or core) & Depth (ft)	Total PCBs (C_{sed})	PCB type (Aroclor or congener or homolog)	Fraction TOC (f_{oc})	Normalized PCBs (C_{sed} / f_{oc})	GIS info	Notes (metadata, other issues)

Geographical information system (GIS)

➔ After the data are collected and summarized, they should be provided to EPA, to make the decision on whether a site-specific BSAF can be calculated.

<u>Selection of a literature-based BSAF</u>:

If the decision is made to use a literature based BSAF, the following BSAF database should be consulted: http://www.epa.gov/med/Prods_Pubs/bsaf.htm. Table A3 presents a format for presentation of the human health and ecological literature-based BSAFs.

Human Health BSAF selection: At least two different species should be selected, one a bottom-feeding fish and the other a pelagic/sport fish species. The appropriate species can be chosen from those available in the database to represent these categories of fish.

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Also using the site-specific data gathered from above, choose a BSAF that has similar levels of TOC and lipid.

Ecological BSAF selection: BSAFs should be selected for at least two trophic levels of fish representing either a top level predator or bottom-feeding fish (whichever is best for the site) and for forage fish. The latter represent smaller species and/or juveniles of a size class normally consumed by piscivorous birds and mammals.

Table A3: Literature-Based PCBs BSAFs for Use in Deriving Risk-Based Sediment Concentrations

Site/data source	Species Scientific Name	Species Common Name	Fillet/whole body/Age Class	Total PCBs in Sediment (avg mg/kg oc)	BSAF[a]
Human Health					
Median or average or some other relevant statistic that may be appropriate					
Ecological					
Median or average or some other relevant statistic that may be appropriate					

[a]Bolded BSAF selected for use in calculating sediment RBCs.

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Considerations:

Burkhard *et al.* (2010) evaluated scenarios in which BSAFs were applied from one location, species, and/or site to another location, species, and/or site using PCB BSAF information available in the USEPA BSAF data sets. The authors reported results for each BSAF comparison scenario for fish, mussels, and decapods. Burkhard *et al.* did not present a specific quantitative formula for predicting BSAFs at one location from another. However their results (Table A4) indicated (but were not limited to) the following:

- A ±2.9-fold range around a PCB BSAF determined for a given fish species at one site captures approximately 50% of the true BSAFs for the same species at a different site.
- A ±10-fold range around any BSAF (PCB, polychlorinated dibenzodioxins/furans [PCDD/F], polycyclic aromatic hydrocarbons [PAH], or chlorinated pesticide) determined for a given fish species at one site will have approximately a 90% probability of capturing the true BSAF for the same chemical and the same species at a different site.

Table A4: Summary of across-site comparisons of BSAF presented in Burkhard et al. (2010).

	All compounds (PCBs, PCDD/Fs, pesticides)				PCBs only	
BSAF Comparison	Median[1]	Average (percentile)	90th percentile[2]	n	Median[1]	n
Same fish species at different sites:	2.9-fold	2.5-fold (82nd)	10-fold	2673	2.9-fold	2034
Different fish species at different sites:	3.1-fold	4.5-fold (74th)	6.7-fold	710	3.3-fold	513

[1]Burkhard et.al, suggests that when comparing smallmouth bass at one site to smallmouth bass at another, 50% of comparisons would be +/- 2.9-fold of the BSAF

[2] Burkhard et.al, suggests that when comparing smallmouth bass at one site to smallmouth bass at another, 90% of comparisons would be +/- 10-fold of the BSAF.

These findings should be considered when calculating literature-based BSAFs sediment sites

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Attachment B: Great Lakes National Program Office – Great Lakes National Program Office and Region 5 TSCA Template for Estimation of Human Health PCB Risk-Based Concentrations for Sediment

Background: There are projects that involve both GLNPO and also the TSCA program, where there are contaminated sediments greater than 50 ppm of PCBs. Sediment remediation processes require that human health be considered during the feasibility stage where cleanup goals are calculated. Under TSCA, in some cases, PCB contaminated sediments must go through the risk-based disposal approval option. This template outlines how to develop cleanup goals that will be satisfactory to both the GLNPO and the TSCA programs.

Overview: The template calls for a two step process, where the first step involves development of an appropriate biota to sediment accumulation factor (BSAF) (see Attachment A). In this step, site-specific data are gathered and summarized to determine whether to do a site-specific BSAF or use a BSAF available from the literature. In the second step the BSAF is used in conjunction with specified exposure and toxicity assumptions to develop cleanup goals.

Step One – BSAF development: See Attachment A of this document.

Step Two - Cleanup Goal Calculation:
Using the risk equation for estimating cancer risk, rearranged to solve for fish tissue concentration and setting risk to 10^{-6}, gives the following:

$$CF = \frac{(AT * BW * 1E\text{-}06)}{(IR * FI * ED * EF * CSF)}$$

Where:

CF = concentration in fish
AT = averaging time
BW = body weight
IR = ingestion rate
FI = fraction ingested
ED = exposure duration
EF = exposure frequency
CSF = cancer slope factor

And for non-cancer risks, setting the hazard index to one, provides the following equation:

$$CF = \frac{(AT * BW * RfD * 1)}{(IR * FI * ED * EF)}$$

Where:

CF = concentration in fish

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AT = averaging time
BW = body weight
IR = ingestion rate
FI = fraction ingested
ED = exposure duration
EF = exposure frequency
RfD = reference dose

Using the above two equations, two different exposure scenarios will be considered: the average sport fisher and the reasonable maximum exposure (RME), represented as a subsistence fisher. The following variables for each of the exposure scenarios are provided below, so that acceptable fish tissue concentrations can be calculated.

Variables to be Used for Calculating Acceptable Fish Tissue Concentrations

Variable	Value to be used for the Average Scenario	Value to be used for the RME Scenario	Notes
IR (g/day)	10.9 (50th percentile)	38.7 (95th percentile)	From West; also EPA 1995 (GLWQI TSD); Exposure Factors Handbook
FI (%)	1	1	
ED (years)	30	30	
EF (days/year)	350	350	(based on 50 weeks of meals)
AT (days)	ED * 365	ED * 365	
BW (kg)	70	70	
CSF (no units)	2	2	IRIS
RfD	2 E-05	2 E-05	IRIS

IRIS = U.S. EPA's Integrated Risk Information System

Then the four fish tissue values (cancer and noncancer for average and RME scenarios) resulting from this calculation are then converted to a sediment cleanup goal using the BSAF equation, rearranged to solve for concentration in sediments (CS):

$$CS = \frac{CF * TOC}{L * BSAF}$$

Where:

CS = concentration in sediments
L = lipids

As a result, there will be a range of cleanup goals, spanning cancer and noncancer endpoints, two different fish species, and average and reasonable maximum exposure scenarios. The following table should be used in reporting the cleanup goals, using consistent units for PCBs in sediments.

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Cleanup Goal Reporting Table

Fish Species	**Average Exposure**	**RME Exposure**
- Sport Fish	Cancer:	Cancer:
List species assessed	NC:	NC:
-Bottom-feeding fish	Cancer:	Cancer:
List species assessed	NC:	NC:
Uncertainties & Concerns: *List any variable or aspect of the analysis that was of concern or contributed to uncertainty. Examples include limited data available for a parameter, mismatched years of data for calculating a site-specific BSAF, or assumptions made for a variable with insufficient data, such as TOC.*		

Site specific BSAF used? ____Yes ______No Values used_________

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Attachment C Great Lakes National Program Office and Region 5 TSCA Template for Estimation of Ecological PCB Risk-Based Concentrations for Sediment

This attachment presents a process, that when applied at sediment sites, will allow for a streamlined calculation of ecological risk-based concentrations for sediment (ERBCs). This streamlined process is only designed for use at sediment sites where polychlorinated byphenyls (PCBs) are present in sediments. The sediment project team should evaluate the calculated ERBCs along with human health RBCs (where appropriate) as one line of evidence in the selection of a project-specific clean up goal.

Overview: This template calls for a three-step process, where the first step involves development of an appropriate biota to sediment accumulation factor (BSAF) (see Attachment A). In this step, site-specific data are gathered and summarized to determine whether to derive a site-specific BSAF or use a BSAF available from the literature. In step 2, exposure factors and ecological toxicity reference values are derived. The third and final step combines the BSAF from step 1 with the specified exposure and toxicity assumptions (step 2) to develop cleanup goals.

1. **Estimation of biota-sediment accumulation factor (BSAF)—**See Attachment A

2. **Selection of endpoints, exposure pathways/parameters and protective concentrations in fish (RBC_{fish})—**Concentrations of PCBs in fish tissues should be based on specific target risk levels protective of the endpoint evaluated. For purposes of this streamlined evaluation, the endpoints will be:

    - Protection of fish
    - Protection of piscivorous birds
    - Protection of piscivorous mammals

3. **Estimation of ERBCs from RBC_{fish} and BSAF—**Using Steps 1 and 2, PCB ERBCs should be derived from acceptable concentrations of PCBs in fish (RBC_{fish}) and the relationship between PCBs in fish tissue and in sediment (BSAF).

Step 2: Selection of endpoints, exposure pathways/parameters and protective concentrations in fish (RBC_{fish})—Ecological RBCs must be derived using approaches and assumptions consistent with USEPA risk assessment guidance (USEPA, 1992; USEPA, 1997b; USEPA, 1998). A streamlined exposure assessment and toxicity assessment are presented below for use directly in calculating ecological risk based concentrations in sediments.

Exposure Assessment

Derivation of risk-based PCB cleanup goals protective of ecological health should focus on the following receptors and exposure pathways:

- Fish—Exposure by direct uptake from sediment and food.
- Piscivorous birds and mammals—Exposure by direct uptake from sediment and food.

To streamline the process, GLNPO and TSCA staff have agreed to general exposure parameters (Table C1 and C2) for the receptors suggested as representative of these trophic groups and exposure pathways.

- Smallmouth bass, a terminal predator representing upper trophic level fish.
- Belted kingfisher, representing piscivorous birds.
- Mink, representing piscivorous mammals.

Table C1: General exposure parameters for suggested picivorous receptors.

Species	BW Body Weight (kg)[a]	FIR Food Ingestion Rate (kg/day-dry) [b]	$BSAF_{forage\ fish}$ [c]	Percent Solids of $Tissue_{forage\ fish}$ [c] (fraction)	$Lipid_{forage\ fish}$ [c] (fraction)
Belted kingfisher	0.158	0.024	4.9	0.24	0.05
Mink	1.4	0.053	4.9	0.24	0.05

[a]USEPA 1993
[b] Nagy (2001) regression equation format = dry matter g/day/g body weight = *a*(grams body weight)^{b}/g body weight
[c]Suggested value based on forage fish as a general group. Shoul be changed to site-specific values if the data are available to support their development.

Group	*a*	*b*
belted kingfisher	0.849	0.663
mink	0.102	0.864

Table C2: Exposure parameters for Smallmouth Bass

$BSAF_{SMB}$	$Lipid_{SMB}$ (fraction)	Mean Area Wide Sediment TOC (fraction)
site-specific or literature value	0.033	site-specific

Toxicity Assessment

Unlike human health evaluations, U.S. EPA has no approved ecotoxicological database. The toxicity literature search used to support a streamlined risk evaluation is found in Attachment D. Since the intent of this document is to streamline calculation of ERBCs for sediment sites, this evaluation can be used as is. With time, it will need to be reviewed and updated as the science of ecotoxicology advances. Additionally, this toxicity assessment will need revision if, at a given site, different or additional receptors are evaluated. However, the same endpoints (e.g. 25th and 50th percentile NOEC/NOAELs and LOEC/LOAELS) should be used.

A literature search was conducted to derive toxicity reference values (TRVs) for fish, birds, and mammals and the results are presented in Table C3. They measure the effects of PCBs on survival, growth, and reproduction. The TRVs were no observed effect concentrations (NOECs) and lowest observed effect concentrations (LOECs) for fish, and no observed adverse effect levels (NOAELs) and lowest observed adverse effect levels (LOAELs) for birds and mammals. Potential TRVs for smallmouth bass, belted kingfisher, and mink were used to calculate the 25th and 50th percentiles of the

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distribution. The use of the 25th and 50th percentiles and the NOEC/NOAEL and LOEC/LOAEL provide a range of conditions that bound the reasonable uncertainty in the effects data.

Table C3: Suggested Toxicity Reference Values (TRVs)

Receptor	TRV		
	NOEC/NOAEL	LOEC/LOAEL	Units
25th percentile TRVs			
Smallmouth bass	17	22	mg/kg-ww
Belted kingfisher	0.18	0.75	mg/kg-bw/day
Mink	0.12	0.13	mg/kg-bw/day
Median TRVs			
Smallmouth bass	32	113	mg/kg-ww
Belted kingfisher	0.29	1.6	mg/kg-bw/day
Mink	0.26	0.35	mg/kg-bw/day

Step 3 - Estimation of ERBCs from RBCfish and BSAF

Calculation of ecological risk based concentrations in sediments ($ERBC_{sed}$) is accomplished by rearranging standard ecological risk assessment upper trophic level equations. The rearranged equation for calculation of sediment concentrations protective of upper trophic level fish represented by smallmouth bass is:

$$ERBCsed = \left(\frac{TRVww/Fraction_{lipid}}{BSAF_{smb}}\right) Fraction_{toc}$$

Where:

TRVww = toxicity reference value from table C3 wet weight
Fraction lipid = fraction of lipid in fish (whole body) Table C2
$BSAF_{smb}$ = biota-sediment accumulation factor for smallmouth bass (site specific)
$Fraction_{toc}$ = fraction of total organic carbon in sediments (site specific)

The rearranged equation for calculation of sediment concentrations protective of piscivorous birds and mammals, as represented by belted kingfisher and mink is:

$$\boldsymbol{ERBCsed} = \left(\frac{\dfrac{\left(\left(\dfrac{(TRV_{ww} * BW)}{FIR}\right) * Fraction_{solids}\right)}{Fraction_{lipid}}}{BSAF_{forage\ fish}}\right) * Fraction_{toc}$$

Where:

TRVww = toxicity reference value from table C3 wet weight
BW = Body weight (kg) From Table C1
FIR = Food ingestions rate From Table C1
Fraction solids = From Table C1
Fraction lipid = From Table C1
$BSAF_{forage\ fish}$ = From Table C1

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Fraction toc = fraction of total organic carbon in sediments (site specific)

Uncertainties & Concerns:

Briefly discuss any variable or aspect of the analysis that was of concern or contributed to uncertainty. Examples include limited data available for a parameter, mismatched years of data for calculating a site-specific BSAF, or assumptions made for a variable with insufficient data, such as TOC.

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Attachment D: Great Lakes National Program Office and Region 5 TSCA Ecological Toxicity Reference Values Literature Review

This Attachment presents the information that has been reviewed and approved for use as is by both GLNPO and TSCA ecological assessors. The information supports what is presented for direct use in Attachment C. Tables D1, D2 and D3 present the literature values suggested for use for fish, piscivorous birds and mammals respectively.

Fish Toxicity Reference Values

Toxicity studies that relate PCBs in fish tissue to adverse effects were identified from a search of electronic databases and reference sources, including the following:

- Environmental Residue-Effects Database (2003)
- ECOTOX Database (USEPA, 2003)
- Jarvinen and Ankley (1999), a compilation of tissue residue no observed effect concentrations (NOECs) and lowest observed effect concentrations (LOECs)
- Scientific literature searches through search engines such as BIOSIS and Science Direct

Databases were searched for fish dose-response studies in which tissue concentrations were measured.

Studies were selected for review if whole-body tissue concentrations and measured survival, growth, or reproductive effects data were available. Studies reporting residue concentrations in tissues other than whole-body (for example, egg or other organ tissues) were reviewed when relevant endpoints were measured. All life stages, including eggs, were considered. Fish-egg tissue residue toxicity reference values (TRVs) were converted into adult whole-body tissue residue TRVs using conversion factors reported in literature.

The acceptability of fish toxicity studies was determined through best professional judgment, taking into account the following:

- Was the observed toxicity a result of a single constituent? Studies using field-collected fish with background constituent concentrations in tissue cannot attribute toxicity to one specific constituent unless there is strong evidence that all other constituents in the tissue are below toxic levels.
- What is the ecological relevance of the exposure duration? Chronic studies measuring exposure for 30 days or longer were preferred.
- Did the measured endpoint in the study directly measure the growth, survival, or reproductive success of the test organism?

PCB Aroclors

For PCBs (as Aroclors), the proposed TRVs are derived from NOECs and LOECs for the individual Aroclor mixture with the highest toxicity for comparison with total PCB concentrations (sum of Aroclors). Twenty papers on the potential adverse effects of PCB mixtures on fish were reviewed. Details of the studies are summarized in Table B-1. The potential mechanisms of exposure included dietary ingestion, water exposure, gavage, and maternal transfer. Concentrations in whole-body tissue were reported in 16 reviewed studies (Duke et al., 1970; Fisher et al., 1994; Hansen et al., 1971, 1973, 1974, 1975; Hattula and Karlog, 1972; Hendricks et al., 1981; Lieb et al., 1974; Matta et al., 2001; Mauck et al., 1978; Mayer et al., 1977, 1985; Nebeker et al., 1974; Powell et al., 2003), and egg tissue concentrations were reported in four reviewed studies (Fisher et al., 1994; Freeman and Idler, 1975; Mac and Seelye, 1981; McCarthy et al., 2003).

Adverse effects on growth, mortality, reproduction, and behavior were reported in both laboratory-raised and field-collected fish. Five additional studies measuring the toxicity of PCBs to fish were reviewed; however, the studies were excluded from the TRV selection process because they did not meet the criteria used for TRV literature selection. Specifically, studies in which no toxic effects were reported (Kuehl et al., 1987) were excluded from the TRV selection process. In addition, studies that reported endpoints that were not related to growth, mortality, reproduction, and behavior, such as enzymatic activity, were not included in the TRV selection process (Melancon and Lech, 1983). DeFoe et al. (1978) was not included in the TRV selection process because no tissue concentrations were reported at a time when effects were observed. Finally, Rhodes and Casillas (1985) was excluded from the TRV selection process because fish were exposed to a mixture of constituents in the laboratory.

Several studies were evaluated to derive conversion factors between egg tissue residues and maternal adult tissue residues. Three papers that report PCB concentrations in maternal adults relative to eggs were identified (Miller, 1993; Niimi, 1983; Russell et al., 1999). Russell et al. (1999), and Miller (1993) report only egg and maternal adult fillet data, which is not directly usable to derive a whole-body concentration for comparison with site-specific fish data; therefore, PCB egg to adult conversion factors were based on data from Niimi (1983). Niimi (1983) reports whole-body maternal adult (with eggs) and unfertilized egg constituent concentration data for PCBs (quantified using a 4:1 Aroclor 1254:1260 analytical standard) from rainbow trout, white sucker, white bass, smallmouth bass, and yellow perch collected from Lake Ontario and Lake Erie. Niimi (1983) notes that the constituent concentrations in fertilized eggs would be two to three times lower than those reported for unfertilized eggs because of water uptake prior to egg hardening. Therefore, because available egg TRV papers report fertilized egg data, to derive egg-adult conversion factors, egg concentration data reported in Niimi (1983) were conservatively divided by two to approximate fertilized egg concentrations. Because Niimi (1983) showed that the ratio of constituents in eggs to constituents in maternal adults was dependent on species, species-specific (that is, salmonids and trout species) egg-to-adult conversions were used if a species was the same or closely related to one of the species reported in Niimi (1983) (that is, rainbow trout). If no species-specific conversion was available, an average egg-to-adult conversion across the five species (that is, rainbow trout, white sucker, white bass, smallmouth bass, and yellow perch) reported in Niimi (1983) was used (list value).

Table B-1 presents the fish PCB effects concentrations reported in the reviewed studies. Whole-body tissue residues of PCBs in nine species (rainbow trout, brook trout, Atlantic salmon, sheepshead minnow, lake trout, spot, pinfish, goldfish, and coho salmon) were associated with adverse effects on growth, survival, behavior, or reproduction in 16 of the reviewed studies. Whole-body tissue residue LOECs ranged from 1.53 mg/kg for fry mortality of field-collected brook trout (Berlin et al., 1981) to 645 milligrams per kilogram on wet-weight basis (mg/kg ww) for growth and mortality of fingerling coho salmon (Mayer et al., 1977). In the study reporting the lowest LOEC (Berlin et al., 1981), field-collected eggs were exposed to three levels of PCB concentrations via diet and water for 176 days, and fry mortality was observed at all exposure levels. The concentration in fry tissue exposed to the lowest level was 1.53 mg/kg ww PCBs after 176 days of exposure (Berlin et al., 1981); however, the field-collected eggs contained 7.6 mg/kg ww PCB and 4.7 mg/kg ww dichlorodiphenylethylene (DDE), and possibly other, uncharacterized organic constituents that could have contributed to the reported toxicity. The next lowest LOEC was based on Fisher et al. (1994), in which live fry body weight was significantly reduced in Atlantic salmon following egg exposure to a PCB Aroclor mixture in water for 48 hours. The reported egg concentration of 1.53 mg/kg ww PCBs was converted into an adult tissue whole-body concentration of 7.2 mg/kg ww using a conversion factor of 4.69 (Niimi, 1983).

Whole-body tissue residue NOECs ranged from 0.98 mg/kg ww for growth of juvenile Chinook salmon (Powell et al., 2003) to 120 mg/kg ww for growth of rainbow trout (Mayer et al. 1985). Only the lowest NOEC of 0.98 mg/kg ww was below the lowest LOEC. In this study, Powell et al. (2003) measured no effect on juvenile Chinook salmon growth where whole-body tissue residues ranged from 0.74 to 0.98 mg/kg following 4 weeks of exposure to Aroclor 1254 in water.

Wildlife TRVs

Studies that relate dietary concentrations or bird egg concentrations of PCBs to adverse effects in wildlife were identified from a search of electronic databases and from a review of original studies identified in the following review sources:

- Agency for Toxic Substances and Disease Registry (ATSDR)
- ECOTOX database (USEPA electronic database)
- BIOSIS electronic database
- TOXNET database (National Library of Medicine)
- IRIS database (USEPA electronic database)
- U.S. Fish and Wildlife Service (USFWS) Contaminant Review Series electronic database
- Oak Ridge National Laboratory database (Sample et al., 1996)

For wildlife, only those studies in which relevant survival, growth, and reproduction were measured were reviewed. Selecting NOAELs and LOAELs based on the available reviewed literature were prioritized using the following guidelines:

- The preferred exposure duration was subchronic or chronic, or conducted during a critical life stage such as reproduction, gestation, or development. Acute studies were considered but not preferred.

- Only studies with mortality, growth, and/or reproductive effect endpoints were used for birds and mammals.

- Doses received by food ingestion were preferred over administration of the dose using drinking water, gavage, oral intubation, or injection because the non-dietary exposure route cannot be directly related to environmental exposure to the bird or mammal. Drinking water studies may overestimate dietary risk because gastrointestinal absorption may be higher for constituents ingested via drinking water (Sample et al., 1996). In some cases, however, TRVs based on studies with doses administered via injection, oral intubation, gavage, or drinking water were selected because no other studies are available.

- Preferred TRVs were based on results that were evaluated statistically to identify significant differences from control values. Studies were not considered if negative control groups were not included.

- In general, laboratory studies were preferred to studies using field-collected prey because controlled test conditions provide greater certainty that the observed response can be related to the constituent dose. The presence of multiple constituents and other environmental factors may result in adverse effects that complicate the interpretation of field study results (USEPA, 2003).

For the site-specific dietary TRVs, a daily dose is expressed as mg/kg body weight per day (mg/kg bw/d). Most studies reported toxicity results as the constituent concentration in food associated with adverse effects, although some presented results as a daily dose. The daily exposure dose was derived from a food concentration using the animal's body weight (kg) and ingestion rate (kilograms per day [kg/d]) as reported in the study or using values published elsewhere.

Avian TRVs

PCB Aroclors

Oral toxicity of PCB Aroclors to birds via food or capsule ingestion was evaluated in 21 studies (Ahmed et al., 1978; McLane and Hughes, 1980; Lowe and Stendell, 1991; Britton and Huston, 1973; Scott et al., 1975; Cecil et al., 1974; Peakall et al., 1972; Peakall and Peakall, 1973; Dahlgren et al., 1972; Tori and Peterle, 1983; Hill and Shaffner, 1976; Custer and Heinz, 1980; Platonow and Reinhart, 1973; Risebrough and Anderson, 1975; Fernie et al., 2000, 2001; Fisher et al., 2001; Bird et al., 1983; Haseltine and Prouty, 1980; Kreitzer and Heinz, 1974; Stickel et al., 1984).

In the studies reviewed, reproduction (measuring endpoints such as adult fertility, hatchability, eggshell thickness, egg production, eggshell weight, embryo development, courtship behavior, onset of nest initiation, clutch size, and embryo mortality and viability), avoidance behavior, adult growth, and mortality were observed in seven bird species exposed orally to PCB Aroclor mixtures. These endpoints were measured in the following bird species: American kestrels, chickens, turtle doves, mourning doves, pheasants, Japanese quail, mallard ducks, common gackles, red-winged blackbirds, brown-headed cowbirds, and starlings. Table B-2 summarizes the NOAELs and LOAELs derived from the dietary PCB studies reviewed. LOAELs ranged from 0.46 mg/kg bw/d for reproduction of American kestrels (Lowe and Stendell, 1991) to 34.4 mg/kg bw/d for avoidance behavior of Japanese quail (Kreitzer and Heinz, 1974). The lowest calculated LOAEL of all studies reviewed was based on eggshell weight and thickness in American kestrels fed 0.46 mg/kg bw/d Aroclor 1248 (Lowe and Stendell, 1991). However, Lowe and Stendell (1991) did not report the overall effect of eggshell thinning on reproductive success (for example, hatchability, offspring viability) or the critical degree at which eggshell thinning would affect reproductive success (eggshell thickness of the experimental group was 5 percent different from the control). The next lowest LOAELs were reported in Britton and Huston (1973), who reported reduced hatchability in chickens fed 0.58 mg/kg bw/d PCBs Aroclor 1242 following 6 weeks of dietary exposure.

NOAELs ranged from 0.061 mg/kg bw/d for reproduction (i.e., egg production, and hatchability) of chickens (Scott et al., 1975) to 3.9 mg/kg kg/d for reproduction (egg production and eggshell thinning) of mallards (Risebrough and Anderson, 1975). NOAELs below the lowest LOAEL of 0.50 mg/kg bw/d were reported in four studies based on reproduction and ranged from 0.061 to 0.41 mg/kg bw/d (Scott et al., 1975; Platonow and Reinhart, 1973; Britton and Huston, 1973; McLane and Hughes, 1980). At the highest NOEC of 0.41 mg/kg bw/d, no effects on eggshell thickness, egg production, hatching success, and fledging success were reported in screech owls exposed to dietary PCBs for two generations (McLane and Hughes, 1980).

Mammal Toxicity Reference Values

PCB Aroclors

Fourteen papers on the potential adverse effects of PCBs on mammals were reviewed (Aulerich and Ringer, 1977; Aulerich et al., 1985, 1986; Bleavins et al., 1980; Brunström et al., 2001; Harris et al., 1993; Heaton et al., 1995; Hornshaw et al., 1983; Jensen et al., 1977; Kihlstrom et al., 1992; Restum et al., 1998; Ringer, 1983; Tillitt et al., 1996; Wren et al., 1987). The potential mechanism of exposure included dietary ingestion of laboratory or exposed field-collected diets. The most comprehensive studies of PCB toxicity in a wildlife mammalian species have been conducted with mink, and only mink studies were reviewed for PCBs. Mink also appears to be one of the most sensitive mammalian species tested (Fuller and Hobson, 1986) and, therefore, is considered a good surrogate for assessing risk to other mammals. Four additional studies on the toxicity of PCBs to mink or ferret were reviewed; however, these studies were excluded from the TRV selection process because they did not meet the TRV literature selection criteria. Specifically, studies in which no toxic effects were measured (Bleavins et al., 1984; Henny et al., 1981) or in which no dietary dose was reported (O'Shea et al., 1981) were not included in the TRV selection process. Studies that reported endpoints that were not related to growth, mortality, reproduction, and behavior (that is, hematology and liver pathology) were not included in the TRV selection process (Heaton et al., 1995). In addition, Platonow and Karstad (1973) was excluded from the TRV selection process because no data were presented in the paper and no true controls were used.

Table B-3 presents all of the NOAELs and LOAELs calculated for PCBs from the literature reviewed. Adverse effects on maternal growth, kit growth, kit survival, gestation length, whelping success, and reproductive failure were measured in mink following exposure to PCBs. LOAELs ranged from 0.037 mg/kg bw/d for reproduction in mink (Restum et al., 1998) to 2,000 mg/kg bw/d for growth of mink (Harris et al., 1993). NOAELs ranged from 0.070 mg/kg bw/d for reproduction in mink (Hornshaw et al.,

1983) to 480 mg/kg bw/d for growth of mink (Harris et al., 1993). The lowest LOAELs, ranging from 0.037 to 0.077 mg/kg bw/d PCBs, were reported in studies in which adverse reproductive effects (including reduced kit body weight, delay in the onset of estrus, and reduced whelping success) were observed in mink fed field-collected carp from the Great Lakes region over a chronic period (Restum et al., 1988; Hornshaw et al., 1983). In the studies, mink were fed a prepared diet containing various percentages of field-collected fish; thus, these studies only have quantitative relevance to mink exposed to constituent mixtures similar those found in the Great Lakes fish. In addition, there is uncertainty associated with these LOAELs because the field-collected fish contained other organic constituents (such as dioxins, DDE, dichlorodiphenyldichloroethane, chlordane) that likely could have contributed to the reproductive toxicity reported in mink. The next lowest LOAEL of 0.089 mg/kg bw/d was reported in Brunström et al. (2001) in which offspring growth was reduced in mink fed a Clophen A50 PCB mixture for 18 months.

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TABLE D1: Whole-body Tissue Residue Fish TRV Studies

Analyte	NOEC (WB)	LOEC (WB)	CF	NOEC (egg)	LOEC (egg)	Units (ww)	Source	Endpoint	Test Species	Lifestage	Exposure Mode	Exposure Duration	Endpoint Effect	Chemical Form	Notes
PCBs (Aroclor 1254)	0.98					mg/kg	Powell et al. 2003	growth, survival	Chinook salmon	juvenile	diet	4 wks			whole body burdens ranged from 0.74 to 0.98 over the 13 period following treatment; only no-effect level reported; no effect on growth, survival, or survival following immunological challenge
PCBs (Aroclor 1254)		1.53				mg/kg	Berlin et al. 1981	mortality	Brook trout	fry	water and diet	176 days	fry mortality		field collected eggs from Lake Michigan with starting egg residues of 7.6 ug/g PCBs and 4.7 ug/g DDE; mortality is estimated
PCBs: Aroclor mixture (egg)[a]		7.2	4.69		1.53	mg/kg	Fisher et al. 1994	reproduction (egg exposure)	Atlantic salmon	egg (converted to WB)	water	48 hours	live fry body weight		growth was significantly reduced at day 176; no effect on reproduction was observed; adult concentration was estimated using egg:adult conversion factor of 4.69 based on rainbow trout data in Niimi (1983); see text for detail on use and derivation of conversion factors
PCBs: Aroclor 1254 (egg)[a]		7.7	4.69		1.64	mg/kg	Hendricks et al. 1981	reproduction (egg exposure)	Rainbow trout	egg (converted to WB)	maternal transfer	60 days	fry growth		eggs were exposed via maternal transfer from gravid females fed 200 ug/g PCBs for 60 days; adult concentration was estimated using egg:adult conversion factor of 4.69 based on rainbow trout data in Niimi (1983); see text for detail on use and derivation of conversion factors
PCBs (Aroclor 1254)	8					mg/kg	Lieb et al. 1974	growth, mortality	Rainbow trout	14 weeks	food	32 wks			only no-effect level reported
PCBs: Aroclor 1254 (egg)		8.7	2.71		3.2	mg/kg	McCarthy et al. 2003	reproduction (egg exposure)	Atlantic croaker	egg	maternal transfer to eggs	2 wks during reproduc-tion (adults)	reduction in larval growth rate and impaired response to startle stimulus		parental fish fed dietary PCBs-eggs exposed via maternal transfer; residues not clearly presented; adult concentration was estimated using egg:adult conversion factor of 2.71 based on average data reported in five species in Niimi (1983); see text for detail on use and derivation of conversion factors
PCBs (Aroclor 1254)	1.9	9.3				mg/kg	Hansen et al. 1973	reproduction	Sheepshead minnow	adult		28 days	decreased fry survival		
PCBs (Aroclor 1268)	15					mg/kg	Matta et al. 2001	reproduction	Mummichog	adult	food	~6 wks	fertilization and hatching success, larval survival		two generations of progeny observed; only no-effect level reported
PCBs (Aroclor 1254)	17					mg/kg	Duke et al. 1970	mortality	Pinfish	juvenile	water	48 hours			only no-effect level reported

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PCBs: Aroclor mixture (egg)[a]		26.2	4.69		5.59	mg/kg	Fisher et al. 1994	reproduction (egg exposure)	Atlantic salmon	egg (converted to WB)	water	48 hours	retarded phototropism behavior in alevins		predator avoidance affected significantly at 14.16 mg/kg ww; adult concentration was estimated using egg:adult conversion factor of 4.69 based on rainbow trout data in Niimi (1983); see text for detail on use and derivation of conversion factors
PCBs:Aroclor 1254 (egg)[a]	21	32	7.04	3	4.5	mg/kg	Mac and Seelye 1981	reproduction (egg exposure)	Lake trout	sac-fry (converted to WB)	water and diet	48 days	fry mortality		field collected eggs from Saugatuck, Michigan with unknown organics; no effect on fry growth was observed; LOEC is residue at 48 days and NOEC is control residue at 48 days; only one group was treated with 50 ng/L (water) and 0.72 mg/kg (diet) Aroclor 1254; adult concentration was estimated using sac fry:adult conversion factor of 7.04 based on rainbow trout data in Niimi (1983); see text for detail on use and derivation of conversion factors; elevated control mortality (12.5%); PCB exposure was via both food and water simultaneously
PCBs (Aroclor 1260)	32					mg/kg	Mayer et al. 1977	growth, mortality	Channel catfish	fingerling	food	193 days			only no-effect level reported
PCBs (Aroclor 1254)	27	46				mg/kg	Hansen et al. 1971	mortality	Spot		water	20 days			mortality did not appear directly related to body burden; bb increased with exposure duration; NOEC (catfish)= 32
PCBs (Aroclor 1254)	60					mg/kg	Powell et al. 2003	mortality	Chinook salmon	juvenile	oral gavage	96 hrs			only no-effect level reported
PCBs (Aroclor 1254)	31	71				mg/kg	Mauck et al. 1978	growth	Brook trout	fry-exposure to eggs	water	10 d prior to hatch and 118 d after hatch	reduced growth		residue measured at 118 days; growth effect reported at 48 days but disappeared at 118 days.
PCBs (Aroclor 1016)	77					mg/kg	Hansen et al. 1975	reproduction	Sheepshead minnow	fry	water	2 wks	fertilization and hatching success, larval survival		intermittent-flow toxicity test; no effect: fertilization success, survival of embryos to hatching, or survival of fry; only no-effect level reported
PCBs (Aroclor 1016)		106				mg/kg	Hansen et al. 1974	mortality, behavior	Pinfish		water	33 days	loss of equilibrium; erratic swimming		significant reduction in survival (50% mortality relative to 6% in control)
PCBs (Aroclor 1254:1260 mixture)	120					mg/kg	Mayer et al. 1985	mortality	Rainbow trout	young	water	90 days			mortality observed; not significantly different; dose was 1:2 ratio of Aroclor 1254:1260; only no-effect level reported
PCBs (Aroclor 1254:1260 mixture)	70	120				mg/kg	Mayer et al. 1985	growth	Rainbow trout	young	water	90 days		1:2 ratio of Aroclor 1254:1260	

PCBs (Aroclor 1254)	71	125				mg/kg	Mauck et al. 1978	mortality	Brook trout	fry-exposure to eggs	water	10 d prior to hatch and 118 d after hatch	fry survival		reduced fry survival; 21 to 100% mortality; tissue residue measured at 118 days; Median hatching time and egg hatchability were not affected. Larval growth was initially reduced, but not by the end of the test
PCBs (Aroclor 1016)	77	200				mg/kg	Hansen et al. 1975	mortality	Sheepshead minnow	fry	water		fry survival		
PCBs (Clophen A50)		250				mg/kg	Hattula and Karlog 1972	mortality	Goldfish		water	5-21 days		PCBs dissolved in acetone (0.5 mL/L)	LOEC is lethal body burden
PCBs:Aroclor 1254 (egg)[a]		365	4.69		77.9	mg/kg	Freeman and Idler 1975	reproduction (egg exposure)	Brook trout	egg	water	21 days	reduced hatchability	Aroclor 1254	75% hatching at LOEC and 92% hatching in control; concentration in back muscle of dose fish with affected hatchability was 32.8 mg/kg ww; adult concentration was estimated using egg:adult conversion factor of 4.69 based on rainbow trout data in Niimi (1983); see text for detail on use and derivation of conversion factors
PCBs (Aroclor 1254)		458, 361 (female)				mg/kg	Nebeker et al. 1974	reproduction	Fathead minnow		water		reduced spawning		terminal residue; egg hatchability and fry survival was not affected
PCBs (Aroclor 1254)		645				mg/kg	Mayer et al. 1977	mortality	Coho salmon	fingerling		~260 days			all fish died w/in 265 days of dose; no stats, no control
Calculated PCB 25th percentile	17	22													
Calculated PCB 50th percentile	32	113													

Highlighted TRVs are closest TRVs to 25th and 50th percentiles

NC -- TRVs not reported in database because study only injection dose was reported (no WB tissue residues were reported)

[a] Concentrations in egg tissues or sac-fry tissues were converted into whole-body adult tissue concentrations using conversion factors reported in the literature; see text for additional detail on conversion factors.

[b] Whole body tissue concentrations were converted to wet weight assuming 80% moisture in the organism

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TABLE D2: Bird Dietary TRV Studies Evaluated

Analyte	NOAEL (mg/kg bw/d)	LOAEL (mg/kg bw/d)	Source	Endpoint	Test Species	Chemical Form	Exposure Mode	FI (kg dw or L/day)	Wet or Dry?	FI Default?	Nagy bird guild	Body Weight (kg)	BW Default?	% Moisture	NEC wet (ppm)	NEC dry (ppm)	LEC wet (ppm)	LEC dry (ppm)	Exposure Duration	Effect Endpoint	Notes
PCBs (Aroclor 1254)	0.054		Ahmed et al. 1978	mortality, growth, reproduction	White leghorn males	Aroclor 1254	food	0.0034	W			2.56			40				20 wks	fertility, hatchability, growth, mortality	no control values given
PCBs (Aroclor 1248)		0.35	Lowe and Stendell 1991	reproduction	American kestrel	Aroclor 1248	food	0.0136	D	1	6	0.13	E	10%			3	3.3	5.5 months	eggshell weight and thickness	only one dose used
PCBs (Aroclor 1248)	0.49		McLane and Hughes 1980	reproduction	Screech owl	Aroclor 1248	food	0.0266	D	1	5	0.181	B	10%	3	3.33			2 generations	Eggshell thickness, egg production, hatching success, fledging success	egg tissue concentrations also reported in study
PCBs (Aroclor 1242)	0.29	0.58	Britton and Huston 1973	reproduction	White leghorn chickens	Aroclor 1242	food	0.0997	W	3		1.71	C		5		10		6 weeks + 5 weeks untreated	hatchability	significant effects on hatchability
PCBs (Aroclor 1242)		0.60	Hill et al. 1975a	reproduction	Japanese quail	Aroclor 1242	food	0.0048	D	1	3	0.09	B	10%			10	11.111	45 days	eggshell thinning	only one dose used
PCBs (Aroclor 1248)	0.061	0.61	Scott et al. 1975	reproduction	White leghorn chickens	Aroclor 1248	food	0.105	W			1.71	C		1		10		8 weeks	egg production and egg hatchability	egg residues also reported
PCBs (Aroclor 1232)		1.2	Cecil et al. 1974	reproduction	White leghorn hens	Aroclor 1232	food	0.0997	W	3		1.71	C				20		9 weeks + 7 weeks untreated then mated	hatchability, embryo abnormality, embryo mortality	only one dose used; no discussion of statistical significance
PCBs (Aroclor 1254)		1.4	Peakall et al. 1972; Peakall and Peakall 1973	reproduction	Ringed turtle-dove	Aroclor 1254	food	0.0202	D	1	1	0.155	D	9%			10	10.989	2 generations	Hatching success in second generation	egg tissue concentrations also reported in study
PCBs (Aroclor 1254)		1.6	Dahlgren et al. 1972	reproduction	Ring-necked pheasant	Aroclor 1254	gelatin capsule					1.135	B				1.7857		Once per week for 16 weeks	Egg hatchability	dose reported in mg/kg/wk-daily dose derived from weekly dose [(7 mg/ week)/7]
PCBs (Aroclor 1254)		1.6	Tori and Peterle 1983	behavior	Mourning dove	Aroclor 1254	food	0.0168	D	1	1	0.119	B	10%			10	11.1	42 days (+30 days untreated following 2 wks post exposure)	reduced courtship behavior, fewer successful pair bonds formed (both statistically	unbounded LOAEL

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																				significant); also delay onset of nest initiation	
PCBs (Aroclor 1254)	2.5		Custer and Heinz 1980	reproduction	Mallard	Aroclor 1254	food	0.1082	W	2		1.082	B		25				~ 1 month	Reproductive success	
PCBs (Aroclor 1254)	0.29	2.9	Platonow and Reinhart 1973	reproduction	White leghorn chickens	Aroclor 1254	food	0.0997	W	3		1.71	C		5		50	50.0	39 wks (14 wks for 50 ppm group)	hatchability	statistically significant effect observed; LOAEL is residues where instantaneous depression of hatchability and embryotoxicity is observed; NOAEL is where hatchability of fertile eggs is unaffected; however, at NOAEL fertility and egg production are significantly reduced (study attributes it to mating inactivity and not PCB exposure)- uncertain NOAEL
PCBs (Aroclor 1254)	3.9		Risebrough and Anderson 1975	reproduction	Mallard	Aroclor 1254	food	0.1082	W	2		1.082	B		39				4 months	Egg production, eggshell thinning	
PCBs (Aroclor 1248: 1254:1260 mixture)		7	Fernie et al. 2000, 2001	reproduction	American kestrel	1:1:1 ratio of Aroclor 1248:1254:1260	food												100 days until eggs hatched	egg laying in second generation (exposed *in ovo*); also some effect on clutch size and fledgling success	body weight normalized dose estimated in study; no stats- egg laying endpoint: 91% in controls laid a clutch of eggs; 75% in test group
PCBs (Aroclor 1248: 1254:1260 mixture)		7	Fisher et al. 2001	reproduction	American kestrel	1:1:1 ratio of Aroclor 1248:1254:1260	food												1 mo prior to mating through mating period	courtship behavior	body weight normalized dose estimated in study; no adverse effect on male sexual behavior and no change in female sexual

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																					behavior or frequency of copulation; study performed along with Fernie et al. 2000; 2001
PCBs (Aroclor 1254)		9.5	Bird et al. 1983	reproduction	American kestrel	Aroclor 1254	food										33		62-69 days	decreased sperm count and sperm concentration	endpoint is not a direct measure of reproductive success; assumed 80% moisture from day old dead chicks in diet
PCBs (Aroclor 1254)		12.0	Kreitzer and Heinz 1974	behavior	Japanese quail	Aroclor 1254	food	0.0048	D	1	3	0.09	B	10%			200	222.2	8 days treated + 6 days untreated	avoidance response (depressed response to stimuli)	statistically significant effect; only one dose used
PCBs (Aroclor 1242)		15	Haseltine and Prouty 1980	reproduction	Mallard	Aroclor 1242	food	0.1082	W	2		1.082	B				150		12 weeks	hatchability, embryo mortality, egg viability, embryo abnormalities	egg tissue concentrations also reported in study
PCBs (Aroclor 1254)	NC	NC	Stickel et al. 1984	mortality	common gackles, red-winged blackbirds, brown-headed cowbird, starling	Aroclor 1254	food											1500	birds fed until 50% of birds died	study not useful-presents LT50 in four bird species at an extremely high dietary PCB concentration	
Calculated PCB 25th percentile	0.18	0.75																			
Calculated PCB 50th percentile	0.29	1.6																			

For 2,3,7,8-TCDD, the highlighted TRVs are considered the most suitable TRVs of the available values. For PCBs, the highlighted TRVs are the closest TRVs to 25th and 50th percentiles.

NC = TRV not calculated in database because more preferable studies were available for TRV selection (see notes)

FI = food ingestion rate

NEC = No effect concentration in exposure medium

LEC = Low effect concentration in exposure medium

W = wet weight basis

D = dry weight basis

Default ingestion rates:
1 - Nagy 2001
2 - Heinz et al. 1987
3 - NRC 1984
4 - NRC 1994
5 - EPA 1993

Nagy bird group allometric equation
1- all birds: FI (kg/d dw) = [0.638*((bw(g))^0.685)]/1000
2- Passerines: FI = [0.630*((bw(g))^0.683)]/1000
3- Galliformes: FI = [0.088*((bw(g))^0.891)]/1000
4- Omnivorous birds: FI = [0.670*((bw(g))^0.627)]/1000
5- Carnivorous birds: FI = [0.849*((bw(g))^0.663)]/1000

Default body weight:
A - NRC 1994
B - Dunning 1993
C - NRC 1984
D - Sample et al. 1996
E - EPA 1993

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6- Eurasian Kestrel: FI =(22.1/211)*bw(kg) F - Pattee 1984

TABLE D3

Mammal Dietary PCB TRV Studies Evaluated

Analyte	NOAEL (mg/kg bw/d)	LOAEL (mg/kg bw/d)	Source	Endpoint	Test Species	Exposure Mode	FI (kg dw or L/day)	Wet or Dry?	FI Default ?	Body Weight (kg)	BW Default ?	% Moisture	NEC wet (ppm)	NEC dry (ppm)	LEC wet (ppm)	LEC dry (ppm)	Chemical Form	Exposure Duration	Effect endpoint	Notes
PCBs (total PCBs)		0.037	Restum et al. 1998	Reproduction	Mink	food	0.20			1.34	B				0.25			multi-generational	kit body weight, onset of estrus (as indicated by vulvular swelling), decrease in females whelping	uncertainty- other organics in field collected fish- dioxins, DDE, DDD, chlordane (effects may not be just result of PCB exposure); LOAEL calculated assuming 200 g fd/ day; most sensitive reproductive endpoints
PCBs (Aroclor 1254)		0.074	Hornshaw et al. 1983	Reproduction	Mink	food				1.34	B							290 days	kit survival to 4 wks (0%)	uncertainty- unknown organics in field collected fish; LOAEL effect was observed in mink fed field collected perch and white sucker (~0.66 ppm) from Lake Heron and Lake Erie assuming 150 g fd/ day
PCBs (Aroclor 1254)	0.070	0.077	Hornshaw et al. 1983	Reproduction	Mink	food				1.34	B							250 days	kit body weight	uncertainty- unknown organics in field collected fish; LOAEL- effect was observed in mink fed field collected perch scrap (~0.66 ppm) from Lake Erie

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																				assuming 150 g fd/ day. NOAEL- no sign. effect on kit body weight for mink fed other field collected fish (concentrations in sucker were highest- used to calculate NOAEL)
PCBs (Clophen A50)		0.089	Brunström et al. 2001	reproduction	Mink	food				1.12					0.1		Clophen A50	18 months	kit growth	Clophen A50 mixture
PCBs (Aroclor 1254)		0.13	Wren et al. 1987b	Reproduction	Mink	food	0.18	W	1	1.34	B				1			6 mos	reduced kit growth rate	
PCBs (total PCBs)		0.13	Heaton et al. 1995a; Tillitt et al. 1996	Reproduction	Mink	food												182 days (including reproduction)	kit body weight at 3 and 6 weeks, gestation length, kit survival	uncertainty- TEQs also detected (3.6 mg/kg bw/d at LOAEL) and unknown other contaminants in field collected fish; most sensitive reproductive endpoints
PCBs (Aroclor 1254)	0.077	0.17	Hornshaw et al. 1983	Reproduction	Mink	food				1.34	B							250 days	kit survival at birth (0%)	uncertainty- unknown contaminants in field collected fish; LOAEL- effect was observed in mink fed field collected carp (~1.5 ppm) from Saginaw Bay (Lake Heron) assuming 150 g fd/ day; NOAEL- no sign. effect on kit survival was observed in mink fed other field collected fish- whitefish, perch, alewife, sucker (concentrations in perch were highest-

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																				used to calculate NOAEL)
PCBs (Aroclor 1254)		0.22	Ringer 1983	reproduction	Mink	food	0.15	W		1.34	B		1		2			4 and 9 months prior to giving birth	# offspring/ female, decrease in pup body weight	no stats; at LOAEL: # offspring/ female = 0.3; at NOAEL: # offspring/ female = 4.3; at control: # offspring/ female = 4.1 - 6.0
PCBs (Aroclor 1254)	0.13	0.26	Aulerich and Ringer 1977	Reproduction	Mink	food	0.18	W	1	1.34	B		1		2			4 months	Number of kits born alive (0% at 4 wks)	
PCBs (Clophen A50)	0.27		Brunström et al. 2001	Growth	Mink	food				1.12			0.3				Clophen A50	18 months	maternal bw	Clophen A50 mixture
PCBs (total PCBs)	0.26	0.32	Heaton et al. 1995a	Growth	Mink	food												182 days (including reproduction)	maternal body weight	uncertainty-TEQs also detected (6.8 and 10.7 mg/kg bw/d at NOAEL and LOAEL) and unknown other contaminants in field collected fish; most sensitive reproductive endpoints
PCBs (Aroclor 1254)		0.39	Aulerich et al. 1985	Reproduction	Mink	food	0.13	W	1	0.87	B				2.5			88-102 days	Number of kits whelped and born alive (0%)	
PCB (mixture composition not reported)		0.51	Jensen et al. 1977	Reproduction	Mink	food	0.13	W	1	0.87	B				3.3			66 days	Number of kits born alive	PCB composition not known
PCBs (Aroclor 1242)		0.65	Bleavins et al. 1980	Reproduction	Mink	food	0.18	W	1	1.34	B				5			8 months	Reproductive failure	
PCBs (Aroclor 1254)		1.31	Hornshaw et al. 1986	Weight gain in adults	Mink	food	0.18	W	1	1.34	B				10			4 weeks	Weight gain in adults	
PCBs (Aroclor 1254)		1.64	Kihlstrom et al. 1992	Reproduction	Mink	food												3 months	All whelps stillborn	
PCBs (Aroclor 1254)	1.2	1.8	Aulerich et al. 1986	growth	Mink	food												28 days	female growth	mink fed rabbit prey exposed to PCBs; LOAEL and NOAEL are average between male and female

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																				mg/kg bw/d dose. Mortality was also recorded for a 28 day exposure but insufficient data to calculate an LOAEL.
PCBs (Clophen A50)		2.0	Kihlstrom et al. 1992	Reproduction	Mink	food												3 months	All whelps stillborn	
PCBs (Aroclor 1254)	1.5	2.4	Aulerich et al. 1986	growth	Mink	food												28 days	male and female growth	mink fed mink cereal diet. A mortality test was also run and recorded for a 28 day exposure but insufficient data to calculate an LOAEL.
PCBs (Aroclor 1016)		2.6	Bleavins et al. 1980	Reproduction/Mortality	Mink	food	0.18	W	1	1.34	B				20			8 months	Birth weight and growth rate of kits, and 25 % adult female mortality	
PCBs (Aroclor 1232)	480	2000	Harris et al. 1993	growth	Mink	injection (ip)												single injection + 14 days (untreated)	body weight gain	single injection (5 dose levels)
Calculated PCB 25th percentile	0.12	0.13																		
Calculated PCB 50th percentile	0.26	0.35																		

For 2,3,7,8-TCDD, the highlighted LOAELs are considered the most suitable TRVs, based on the NOAEL presented in Table 6. For PCBs, the highlighted TRVs are the closest TRVs to 25th and 50th percentiles.

NC = TRV not calculated in database because more preferable studies were available for TRV selection

NEC = No effect concentration in vehicle

LEC = Low effect concentration in vehicle

W = wet weight basis

D = dry weight basis

FI = food ingestion rate

DWI = drinking water ingestion rate

Default ingestion rates:

1 - Bleavins and Aulerich 1981

Default body weight:

A - EPA 1993

B - Bleavins and Aulerich 1981

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Attachment E: Great Lakes National Program Office and Region 5 TSCA Works Cited and/or Relevent Literature

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Attachment F – Model Language Templates

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Template 1 – Informal Email Consultation

Email from: GLNPO Project Manager
to: Peter Ramanauskas, LCD RRB

Email should contain the following information:

- Project name/location
- Summary of GLNPO sampling efforts and data for the project including: time span of sampling, extent of sampling, data summary (maximums and averages).
- Notification that GLNPO believes all available data indicates no PCB present above 50 ppm and MOA does not apply to the project.
- A statement that if PCB sediments greater than or equal to 50 ppm are found, GLNPO will notify RRB per the MOA.

cc: Marc Tuchman, Great Lakes Legacy Act Program Manager
GLNPO contacts

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Template 2 – Performance Based Disposal Memorandum

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

DATE:

SUBJECT: Notification of TSCA Performance Based Disposal (40 CFR 761.61(b)) of PCB Remediation Waste Sediments from Great Lakes Legacy Act [Project Name] Project, [Location]

FROM: David C. Cowgill
Technical Assistance and Analysis Branch Chief
Great Lakes National Program Office

TO: Jose Cisneros
Remediation and Reuse Branch Chief
Land and Chemicals Division

This memo is intended to notify the Land and Chemicals Division Remediation and Reuse Branch (RRB) of a Great Lakes Legacy Act (GLLA) sediment dredging project involving Polychlorinated Biphenyl (PCB) Remediation Waste regulated under the Toxic Substances Control Act (TSCA) 40 Code of Federal Regulations (CFR) Part 761.

The Great Lakes National Program Office (GLNPO) and its Non-Federal Sponsor for the subject remedial project intend to manage all dredged PCB Remediation Waste sediments for disposal in accordance with the TSCA Performance Based Disposal provision found at 40 CFR §761.61(b). The project cleanup level is ≤ 1 ppm on a point-by point basis and will be confirmed through post-dredging verification sampling. Dredged sediments will be disposed of at the [insert landfill name] TSCA approved 40 CFR §761.75 Chemical Waste Landfill. [Optional: PCB Remediation Waste sediments containing PCBs at concentrations < 50 ppm will be disposed of at the [insert name] disposal facility operating under [identify which: section 404 of the Clean Water Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR part 320 or in accordance with a permit issued by the U.S. Army Corps of Engineers under section 103 of the Marine Protection, Research, and Sanctuaries Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR part 320].

The project is scheduled to begin dredging activities on [date]. If RRB has any questions or concerns, please contact [name] of my staff at [number].

cc: Marc Tuchman, Great Lakes Legacy Act Program Manager
GLNPO contacts

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Template 3 – Risk Based Approval Model Cover Letter

Peter Ramanauskas
USEPA REGION 5
77 West Jackson Boulevard
Mail Code: LU-9J
Chicago, IL 60604-3507

Subject: [Insert Site Name Here]
Application for Risk-Based Disposal Approval in Accordance with 40 CFR §761.61(c)

Dear Mr. Ramanauskas:

The [insert name of non-federal sponsor(s)], in cooperation with the USEPA Great Lakes National Program Office, are requesting a Toxic Substance Control Act Risk-Based Disposal Approval for the [insert site name] Area of Concern in accordance with the requirements of both 40 CFR §761.61(c) for the removal of sediments containing polychlorinated biphenyls (PCBs) and the Region 5 LCD RRB TSCA Remedial Program & Great Lakes National Program Office Great Lakes Legacy Act Sediment Remediation Memorandum of Agreement on TSCA Approvals for Dredging and Disposal of Sediments Containing PCBs (MOA).

In accordance with the MOA, we are submitting/have previously submitted/submitted under separate cover/have attached the following information:

- a copy of the signed project agreements
- information regarding the project scope (e.g., the remedial investigation and feasibility study, the project application from the non-federal sponsor);
- project cleanup level, clean up goal and/or removal level;
- identification of sediment disposal destinations;
- post-remedial sampling plans designed to verify how the cleanup level will be met
- description and evaluation of human health and/or ecological risk scenarios not already addressed by the risk assessment documents found in Attachments A & B of the MOA
- information as required by 40 CFR §761.61(a)(3)

The [insert name of non-federal sponsor] appreciates the guidance and assistance provided by the Region 5 TSCA Program and we look forward to receiving written agency approval of our application in the near term. If you have any questions or need additional information to provide the approval, please contact me [insert contact name(s) here].

Sincerely,

Insert non-federal sponsor name(s)
and contact information

cc: Marc Tuchman, Great Lakes Legacy Act Program Manager
GLNPO contacts

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Template 4 – Coordinated Approval Model Letter

Peter Ramanauskas
USEPA REGION 5
77 West Jackson Boulevard
Mail Code: LU-9J
Chicago, IL 60604-3507

Subject: [Insert Site Name Here]
Application for Coordinated Approval in Accordance with 40 CFR §761.77(c)

Dear Mr. Ramanauskas:

The [insert name of non-federal sponsor(s)], in cooperation with the USEPA Great Lakes National Program Office, are requesting Toxic Substance Control Act Coordinated Approval for the [insert site name] Area of Concern in accordance with the requirements of both 40 CFR §761.77(c) for the removal of sediments containing polychlorinated biphenyls (PCBs) and the Region 5 LCD RRB TSCA Remedial Program & Great Lakes National Program Office Great Lakes Legacy Act Sediment Remediation Memorandum of Agreement on TSCA Approvals for Dredging and Disposal of Sediments Containing PCBs (MOA).

In accordance with the MOA, we are submitting/have previously submitted/submitted under separate cover/have attached the following information:

- a copy of the signed project agreements
- information regarding the project scope (e.g., the remedial investigation and feasibility study, the project application from the non-federal sponsor);
- project cleanup level, clean up goal and/or removal level;
- identification of sediment disposal destinations;
- documentation that the disposal destinations are permitted to receive such waste; and
- post-remedial sampling plans designed to verify how the cleanup level will be met

The [insert name of non-federal sponsor] appreciates the guidance and assistance provided by the Region 5 TSCA Program and we look forward to receiving written agency approval of our application in the near term. If you have any questions or need additional information to provide the approval, please contact me [insert contact name(s) here].

Sincerely,

Insert non-federal sponsor name(s)
and contact information

cc: Marc Tuchman, Great Lakes Legacy Act Program Manager
GLNPO contacts

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<u>Attachment G - Regulatory Background</u>

The regulations at 40 CFR Part 761, Subpart D, establish requirements for the storage and disposal of PCBs. The regulation at 40 CFR §761.3 defines "PCB remediation waste" as "waste containing PCBs as a result of a spill, release, or other unauthorized disposal, at the following concentrations: Materials disposed of prior to April 18, 1978, that are currently at concentrations ≥ 50 ppm PCBs, regardless of the concentration of the original spill; materials which are currently at any volume or concentration where the original source was ≥ 500 ppm PCBs beginning on April 18, 1978, or ≥ 50 ppm PCBs beginning on July 2, 1979; and materials which are currently at any concentration if the PCBs are spilled or released from a source not authorized for use under this part. PCB remediation waste means soil, rags, and other debris generated as a result of any PCB spill cleanup, including, but not limited to: (1) Environmental media containing PCBs, such as soil and gravel; dredged materials, such as sediments…"

In the case of many GLLA cleanups, PCB releases to the receiving body of water may have occurred at multiple locations, times, and source concentrations with limited or no information available as to the source concentrations or dates of release. The June 28, 1998 preamble to the Mega Rule states, "[r]esearch has shown that sediments can be the depository for chemicals and other pollutants, including PCBs, discharged into surface waters from both point and non-point sources….Dredged material containing PCBs, such as sediments, settled sediment fines, and aqueous decantate from sediment, is included in the definition of 'PCB remediation waste' and is regulated for disposal under TSCA at the concentration at which it is found." (63 FR 35410) Thus, sediments at concentrations both above and below 50 ppm are considered PCB remediation waste and must be managed for disposal under 40 CFR §761.61.

The May 1998 *Response To Comments Document On The Proposed Rule -- Disposal Of Polychlorinated Biphenyls* (page 101) states that while sediments are included in the definition of "PCB remediation waste", the self-implementing cleanup provisions at 40 CFR §761.61(a) cannot be used to remove sediments from marine or freshwater ecosystems (*see* 40 CFR §761.61(a)(1)(B)), including ponds, lakes, and streams that are located wholly on the owner or operator's property. The risks from dredging operations can vary greatly from site to site, and EPA does not have broadly-applicable data to support inclusion of this activity as a self-implementing option. Sediments must be disposed of in accordance with the performance-based disposal requirements at 40 CFR §761.61(b) or under a risk-based disposal approval pursuant to 40 CFR §761.61(c). It must be noted that while the self-implementing cleanup provisions cannot be used to remove sediments from marine or freshwater ecosystems, the 1998 preamble to the Mega Rule states that even though "Section 761.61(b)(3) provides a disposal option specific to dredged material containing <50 ppm PCBs…dredged material falls within the definition of PCB remediation waste, and as such the other disposal options of §761.61(a), (b), and (c) are available for management and disposal of dredged material containing PCBs at any concentration, as long as the applicable requirements are met." (63 FR 35410)

Therefore, depending on the scope of the remedial project, GLNPO and the project Non-Federal Sponsor (NFS) would need to comply with 40 CFR §761.61(b) or (c) when carrying out a GLLA project to remediate PCB impacted sediments. These provisions, and a discussion of the applicability and use of the Coordinated Approvals process in these cases, are examined below.

<u>Performance-Based Disposal – 40 CFR §761.61(b)</u>

The performance-based disposal option at 40 CFR §761.61(b)(2)(i) allows for disposal of non-liquid PCB Remediation Waste (i.e. sediments): 1) in a high temperature incinerator approved under 40 CFR §761.70(b), 2) by an alternative disposal method approved under 40 CFR §761.60(e), 3) in a chemical waste landfill approved under 40 CFR §761.75, or 4) in a facility with a coordinated approval issued under 40 CFR §761.77.

The performance-based disposal option at 40 CFR §761.61(b)(3)(i) and (ii) also allows one to manage or dispose of material containing < 50 ppm PCBs that has been dredged or excavated from waters of the United States "[i]n accordance with a permit that has been issued under section 404 of the Clean Water Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR part 320" or "[i]n accordance with a permit issued by the U.S. Army Corps of Engineers under section 103 of the Marine Protection, Research, and Sanctuaries Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR part 320."

Section 761.61(b) only addresses disposal of waste. Section 761.61(b) does not require removal of PCB remediation waste at any specified concentration nor does this paragraph provide for procedures to demonstrate that cleanup at a site is complete . To be completely unregulated for disposal off-site without an approval from EPA, waste must contain <1 ppm, and that concentration must not be the result of dilution during remediation (i.e., by mixing with clean soil during excavation).

<u>Risk-Based Disposal Approval – 40 CFR §761.61(c)</u>

This provision of the TSCA Regulation states that "[a]ny person wishing to sample, cleanup, or dispose of PCB remediation waste in a manner other than prescribed in [the other sections of 40 CFR §761.61], must apply in writing to the Regional Administrator …. EPA will approve such an application if it finds that the method will not pose an unreasonable risk of injury to health or the environment."

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Thus, should the GLNPO project entail disposal of PCB remediation waste in a manner other than as allowed for under the performance-based provisions at 40 CFR §761.61(b), or in a manner other than outlined in this Memorandum of Agreement, GLNPO should work with the NFS of that particular remedial project and have that NFS submit a risk-based disposal approval application to LCD RRB.

Coordinated Approval – 40 CFR §761.77(c)

This provision states: "A person…conducting PCB remediation activities may apply for a TSCA PCB Coordinated Approval. The EPA Regional Administrator may approve the request if the EPA Regional Administrator determines that the activity will not pose an unreasonable risk of injury to health or the environment and the person: ... Has a permit or other decision and enforcement document issued or otherwise agreed to by EPA…which exercises control over the management of PCB wastes, and that person is in compliance with all terms and conditions of that document …." (40 CFR §761.77(c)(1)(i)

Of the Coordinated Approval, EPA's 1998 *Response to Comments on the Proposed Mega Rule* document (cited previously) states: "The provision is there as a mechanism to avoid redundancy and wasted time and resources in obtaining a TSCA PCB approval when another, equally protective permitting process has addressed, or is about to address, the risks of injury to health or the environment associated with the mismanagement of PCB waste."

"The determination as to whether waste management documents issued under another statute are sufficient to reduce or eliminate risks can only be made on a case-by-case basis since waste management scenarios often vary from incident to incident or from site to site. To obtain this determination, EPA must first be asked to evaluate the non-TSCA prescription, as is often done for CERCLA and RCRA actions, for example."

And further:

"Under the provision at §761.77, if the TSCA PCB waste requirements have been satisfied, the Regional Administrator could issue a TSCA PCB Coordinated Approval, which would be the equivalent of a TSCA PCB approval….EPA believes that state and other federal programs are protective of health and environment, even though a line-by-line comparison would identify differences in approaches. In order to assess the similarities between TSCA PCB and other requirements, TSCA officials will need to review non-TSCA waste management documents and determine to what extent those requirements reduce or eliminate unreasonable risks of injury from PCBs, and whether concerns commonly experienced in the management of PCB wastes have been addressed. TSCA officials will eventually be able to streamline this process and reduce the amount of time and effort required to process TSCA PCB Coordinated Approvals as they gain more experience with and insight into non-TSCA waste management activities." (Emphasis added)

This MOA is intended to provide a streamlined process between LCD and GLNPO which addresses the issues identified in the underlined statements above. LCD and GLNPO human health and ecological risk assessors have agreed that the risk evaluation processes to determine remedial Surface Weighted Average Concentrations (SWAC) cleanup levels as outlined herein will result in remedial goals that will reduce or eliminate unreasonable risks of injury to human health and the environment from PCBs.

DRAFT

Appendix H
Concept-level Evaluation of Potential Modification and Use of Pointe Mouillee CDF

USACE DETROIT DISTRICT CONCEPT LEVEL EVALUATION OF:
POTENTIAL MODIFICIATION AND USE OF POINTE MOUILLEE CDF
IN SUPPORT OF: US EPA GREAT LAKES LEGACY ACT
UPPER TRENTON CHANNEL REMEDIAL DREDGING PROJECT

15 February 2012

Background Information

Pointe Mouillee CDF was authorized by Section 123 of the River and Harbor Act of 1970; construction of the facility was completed in 1981. The facility was constructed under a Local Cooperation Agreement between USACE Detroit District (CELRE) and the State of Michigan serving as the local sponsor. The State of Michigan provided all lands, easements, rights-of-way and cost sharing necessary to construct the CDF, and the LCA states that the State of Michigan provides assurance that they will maintain the facility after completion of its use for disposal purposes. That being said, preliminary coordination between CELRE and the State of Michigan has occurred, but the State of Michigan has not reviewed this concept level evaluation.

I. Agreements/Approvals Required Prior to Construction

- Agreement between CELRE and the State of Michigan regarding material acceptance criteria, material sampling protocol, and containment cell design must be signed.
- NEPA Process must be followed and FONSI must be signed by CELRE Commander if USACE constructs the project.
- Acceptance of the material into Pointe Mouillee would have to be approved by either CELRE's District or Division Commander.

II. Material Acceptance Criteria and Material Sampling Protocol

Since the material will be placed into the CDF and will not have a hydraulic connectivity, it will not be subject to a 404 permit; therefore the exemption from hazardous waste does not apply. Any sediment that meets the limit of hazardous waste must be excluded from total calculations. Sediment that is classified as hazardous waste may not be combined with non-hazardous waste sediment to result in a non-hazardous waste classification for the sediment.

The EPA must ensure that the waste does not fall under regulation by 40 CFR 261 as a hazardous waste, listed waste or characteristic or as a TSCA waste for PCB concentrations. Once the EPA determines that the waste does not meet the F-listing specifications, then the sediment will be reviewed to determine if it is a characteristic waste. The data provided did not include TCLP data; therefore the 20x rule can be used as a conservative measure to determine limits or a TCLP analysis can be done to determine the limits of hazardous waste sediment. In the event the 20x rule is used the limits in 40 CFR 261.24 will be multiplied by 20 and any sediment with a bulk total meeting or exceeding that value will be considered hazardous.

Once the area of hazardous waste has been delineated out of the calculations the remaining sediment contaminant values may be calculated using a weighted average. The number of samples must fully delineate the areas and be representative of the concerns (i.e. if there is a known source or a known hot spot the samples must address this area as well as general areas). The calculations will take into account the volume of sediment from the area as a multiplication factor when determining the sediment average. For instance, 10 samples spaced over the entire channel shall not be averaged by a factor of 10 if 90% of the sediment is coming from the area where 4 of the samples are located.

Below are maximum concentrations that have been accepted into Pointe Mouillee in the past from the Rouge River dredging, permit dredging for navigational servitude, advanced navigational dredging, and Black Lagoon (navigational related). The EPA shall ensure that the maximum concentration that is included in the average does not exceed the levels below. Cell 5 is used as the comparison criteria as Cell 1 was filled during construction and is not anticipated to have chemical contamination present and Cell 2 and 3 are used for areas with limited to no chemical contamination.

The existing Cell 5 concentrations and Black Lagoon concentrations were calculated by using the sum of the detectable values and half of the non-detect limits. Any sample that was non-detect for all of the aroclors was summed with half of the detection limits for a total value. The total for PAH was summed from the 5 PAH's that have the highest toxicity: Benzo(A)pyrene, Dibenzo(a,h)anthracene, Benzo(A)anthracene, Benzo(B)fluoranthene, and indeno(1,2,3,-CD)pyrene. The average of all of the values was taken to determine the resulting average. It is important to note that due to the age of the data and the limited dredging records a weighted average for the sediment sampling values as compared to the dredge area quantities was not possible.

Due to the discrepancy in quantities between the sediment from Rouge River and the Black Lagoon Sediment, a weighted average based on the quantities of material in Cell 5 was calculated.

Rouge River Concentrations (2,300,000 cubic yards):

	AVERAGE	**MAX VALUE**
PCB	2.507621	13.85
HG	0.387457	2.2
PAH	12.46903	85.3

Black Lagoon Concentrations (88,000 cubic yards):

	AVERAGE	**MAX VALUE**
PCB	3.272258	8.325
HG	3.883548	22
PAH	2.646935	6.565

Overall Cell 5 Concentrations (2,388,000 cubic yards):

	AVERAGE
PCB	2.535799
HG	0.516291
PAH	12.10708

The EPA material shall not change the contaminant profile of the CDF; therefore the overall average concentration will be the limit for the EPA remedial material. The highest concentration accepted may not exceed the concentrations for Rouge River or the Black Lagoon.

The EPA shall ensure that all sediment that will be placed into Pointe Mouillee will be kept separate from any Corps material. The current EIS and 401 certification does not allow for remedial dredge material that is being removed for non navigation related purposed to be placed in the CDF. Therefore, the NEPA process would have to be followed prior to Trenton Channel material being placed in the CDF. Any design for the containment within the CDF must be done in a manner that ensures that contamination does not migrate beyond the containment areas. A water discharge is not allowed under the current 401, any discharge will require a new 401 for the EPA material.

Pointe Mouillee has a local cooperation agreement with the State of Michigan. Following the completion of use as a CDF by the Corps, the State of Michigan will have the ownership and operation responsibility of the CDF; therefore they will be involved in the process of determining suitability of the material. MDNR was the original sponsor and will be coordinating with MDEQ to determine suitability of the material. During initial coordination with the State of Michigan, it was stated that the contaminant profile for the EPA remedial material must be consistent with the material that is currently in Cell 5 of Pointe Mouillee. Additional discussions mentioned different statistical methods that could be used to determine suitability including a 95 UCL.

Appendix I
Cost Estimate

ALTERNATIVE 1

No Action

Focused Feasibility Study, Upper Trenton Channel

Detroit River, Wayne County, MI, United States

COST ESTIMATE SUMMARY

Site: Upper Trenton Channel Site, Detroit River AOC
Location: Detroit River, Wayne County, Michigan
Phase: Focused Feasibility Study
Base Year: 2013
Date: 2/1/2013

Description: Alternative 1 is No Action.
Under Alternative 1, remedial actions would not be conducted in the Upper Trenton Channel Site to remove PCBs, Hg and PAHs or assist meeting BUIs delisting criteria. This alternative does not provide specific response actions for environmental monitoring, controlling the migration of contaminants, or mitigating their concentrations. Fish consumption advisories would remain in place, as well as dredging restrictions.

CAPITAL COSTS

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL	NOTES
Sediment Removal					
Pre Start-up Sampling & Testing	0	LS	$ -	$0	
SUBTOTAL				**$0**	
Dewatering					
Dewatering/Soil Stabilization/Transfer	0	TON	$ -	$0	
SUBTOTAL				**$0**	
Off-Site Disposal					
Transport & Disposal: Non-Hazardous Landfill	0	TON	$ -	$0	
SUBTOTAL				**$0**	
Contingency	20%		$0	$0	
SUBTOTAL				**$0**	
Remedial Design/Work plan	20%		$0	$0	USEPA 2000, p. 5-13, <$100K
SUBTOTAL				**$0**	
TOTAL CAPITAL COST				**$ -**	

PRESENT VALUE ANALYSIS

COST TYPE	YEAR	TOTAL COST	TOTAL COST PER YEAR	EFFECTIVE INTEREST RATE (1.5%)	PRESENT VALUE
CAPITAL COST	0	$0	$0	0	$0
ANNUAL O&M COST	0	$0	$0	0	$0
					$0
TOTAL PRESENT VALUE OF ALTERNATIVE					**$0**

SOURCE INFORMATION

1. United States Environmental Protection Agency. July 2000. A Guide to Preparing and Documenting Cost Estimates During the Feasibility Study. EPA 540-R-00-002. (USEPA, 2000).
2. R.S. Means Company. 2011. Heavy Construction Cost Data, 25th Edition. R.S. Means Company and Talisman Partners, Ltd. Kingston, MA. (Includes materials, equipment, and labor)
3. Historical CH2M HILL project cost information

ALTERNATIVE 2

COST ESTIMATE SUMMARY

Sediment Removal by Mechanical Dredging and Cover

Focused Feasibility Study, Upper Trenton Channel

Detroit River, Wayne County, MI, United States

Site: Upper Trenton Channel Site, Detroit River AOC
Location: Detroit River, Wayne County, Michigan
Phase: Focused Feasibility Study
Base Year: 2013
Date: 2/1/2013

Description: Removal (Mechanical Dredging) of contaminated sediment along the shoreline from RM 0.6 to 1.1, from RM 2.9 to 3.4, and the area near RM 3.6. TSCA sediment will be disposed off at TSCA permitted Landfills. Non-TSCA sediment will be disposed off at a commercial Sub-title D landfill. Treatment and Disposal of the interstitial water from the dredged material. A 6-inch sand cover will be placed after dredging as a residual cover.

CAPITAL COSTS

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL	NOTES
Sediment Removal and Offsite Disposal					
Pre Start-up Sampling & Testing	1	LS	$ 393,951	$393,951	
Mobilization	1	LS	$ 490,000	$490,000	
Pre-Dredge Activities	1	LS	$ 891,378	$891,378	
Turbidity Curtains	1	LS	$ 72,900	$72,900	
Monitoring Costs	1	LS	$ 212,510	$212,510	
Dredging: Sediment Removal and Sand Cover	1	LS	$ 12,462,034	$12,462,034	
Dredging: Loading, Offsite Transporation and Disposal	1	LS	$ 14,482,132	$14,482,132	
Dredging: Water Treatment	1	LS	$ 3,388,762	$3,388,762	
Post-Dredging Activites	1	LS	$ 195,425	$195,425	
Demobilization	1	LS	$ 150,000	$150,000	
SUBTOTAL				**$32,739,092**	
Construction Project Add-ons					
Project Management and Overhead Costs	5%	Percent		$1,636,955	
Professional Construction services and Management Costs	8%	Percent		$2,619,127	
Performance and Payment Bonds	2%	Percent		$654,782	
SUBTOTAL				**$4,910,864**	
Remedial Design/Work plan					
Work Planning, Reporting and Project Management	1	LS	$ 457,200	$457,200	
Remedial Design	1	LS	$ 714,000	$714,000	
SUBTOTAL				**$1,171,200**	
TOTAL CAPITAL COST				**$ 38,821,156**	

PRESENT VALUE ANALYSIS

COST TYPE	YEAR	TOTAL COST	TOTAL COST PER YEAR	PRESENT VALUE
CAPITAL COST	0	$38,821,156	$38,821,156	$ 38,821,156
				$38,821,156
TOTAL PRESENT VALUE OF ALTERNATIVE				**$38,800,000**

SOURCE INFORMATION

1. United States Environmental Protection Agency. July 2000. A Guide to Preparing and Documenting Cost Estimates During the Feasibility Study. EPA 540-R-00-002. (USEPA, 2000).
2. R.S. Means Company. 2011. Heavy Construction Cost Data, 25th Edition. R.S. Means Company and Talisman Partners, Ltd. Kingston, MA. (Includes materials, equipment, and labor)
3. Historical CH2M HILL project cost information

ALTERNATIVE 3

Combination of Mechanical Dredging, Cover and Capping

Focused Feasibility Study, Upper Trenton Channel

Detroit River, Wayne County, MI, United States

COST ESTIMATE SUMMARY

Site: Upper Trenton Channel Site, Detroit River AOC
Location: Detroit River, Wayne County, Michigan
Phase: Focused Feasibility Study
Base Year: 2013
Date: 2/1/2013

Description: Alternative 3 consists of mechanical removal of sediments in hot spots and targeted removal and capping of sediment from RM 1.4 to 1.7, adjacent to Bishop Park. TSCA sediment will be disposed off at TSCA permitted Landfills. Non-TSCA sediment will be disposed off at a commercial Sub-title D landfill. Treatment and Disposal of the interstitial water from the dredged material. A cap will be installed at the Bishop Park area to contain the contaminated sediments. A 6-inch sand cover will be placed after dredging as a residual cover.

CAPITAL COSTS

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL	NOTES
Sediment Removal and Offsite Disposal					
Pre Start-up Sampling & Testing	1	LS	$ 378,238	$378,238	
Mobilization	1	LS	$ 490,000	$490,000	
Pre-Dredge Activities	1	LS	$ 891,378	$891,378	
Turbidity Curtains	1	LS	$ 72,900	$72,900	
Monitoring Costs	1	LS	$ 212,510	$212,510	
Dredging: Sediment Removal and Sand Cover	1	LS	$ 11,764,865	$11,764,865	
Dredging: Loading, Offsite Transportation and Disposal	1	LS	$ 13,775,180	$13,775,180	
Dredging: Water Treatment	1	LS	$ 3,220,765	$3,220,765	
Post-Dredging Activites	1	LS	$ 196,235	$196,235	
Demobilization	1	LS	$ 150,000	$150,000	
SUBTOTAL				**$31,152,072**	
Capping					
Engineered Isolation Cap Placement in the Bishop Park Area	1	LS	$ 777,262	$777,262	ARCADIS Estimate
Operation and Maintenance (O&M) Costs	1	LS	$ 45,000	$45,000	ARCADIS Estimate
SUBTOTAL				**$822,262**	
Construction Project Add-ons					
Project Management and Overhead Costs	5%	Percent		$1,598,717	
Professional Construction services and Management Costs	8%	Percent		$2,557,947	
Performance and Payment Bonds	2%	Percent		$639,487	
SUBTOTAL				**$4,796,150**	
Remedial Design/Work plan					
Work Planning, Reporting and Project Management	1	LS	$ 457,200	$457,200	
Remedial Design	1	LS	$ 714,000	$714,000	
SUBTOTAL				**$1,171,200**	
TOTAL CAPITAL COST				**$ 37,941,684**	

PRESENT VALUE ANALYSIS

COST TYPE	YEAR	TOTAL COST	TOTAL COST PER YEAR	PRESENT VALUE
CAPITAL COST	0	$37,941,684	$37,941,684	$ 37,941,684
				$37,941,684
TOTAL PRESENT VALUE OF ALTERNATIVE				**$37,900,000**

SOURCE INFORMATION

1. United States Environmental Protection Agency. July 2000. A Guide to Preparing and Documenting Cost Estimates During the Feasibility Study. EPA 540-R-00-002. (USEPA, 2000).
2. R.S. Means Company. 2011. Heavy Construction Cost Data, 25th Edition. R.S. Means Company and Talisman Partners, Ltd. Kingston, MA. (Includes materials, equipment, and labor)
3. Historical CH2M HILL project cost information

ALTERNATIVE 4

Combination of Mechanical Dredging, Cover and Capping

Focused Feasibility Study, Upper Trenton Channel

Detroit River, Wayne County, MI, United States

COST ESTIMATE SUMMARY

Site: Upper Trenton Channel Site, Detroit River AOC
Location: Detroit River, Wayne County, Michigan
Phase: Focused Feasibility Study
Base Year: 2013
Date: 7/15/2013

Description: Alternative 4 consists of mechanical removal of soft sediments along the shoreline from RM 0.6 to 1.1, along with mechanical removal of sediments in targeted areas from RM 1.1 to 3.6, and targeted removal and capping of sediment from RM 1.4 to 1.7, adjacent to Bishop Park. TSCA sediment will be disposed off at TSCA permitted Landfills. Non-TSCA sediment will be disposed off at a commercial Sub-title D landfill. Treatment and Disposal of the interstitial water from the dredged material. A cap will be installed at the Bishop Park area to contain the contaminated sediments. A 6-inch sand cover will be placed after dredging as a residual cover.

CAPITAL COSTS

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL	NOTES
Sediment Removal and Offsite Disposal					
Pre Start-up Sampling & Testing	1	LS	$ 518,715	$518,715	
Mobilization	1	LS	$ 490,000	$490,000	
Pre-Dredge Activities	1	LS	$ 906,578	$906,578	
Turbidity Curtains	1	LS	$ 72,900	$72,900	
Monitoring Costs	1	LS	$ 222,910	$222,910	
Dredging: Sediment Removal and Sand Cover	1	LS	$ 16,898,854	$16,898,854	
Dredging: Loading, Offsite Transportation and Disposal	1	LS	$ 19,688,349	$19,688,349	
Dredging: Water Treatment	1	LS	$ 4,825,722	$4,825,722	
Post-Dredging Activites	1	LS	$ 196,235	$196,235	
Demobilization	1	LS	$ 150,000	$150,000	
SUBTOTAL				**$43,970,265**	
Capping					
Engineered Isolation Cap Placement in the Bishop Park Area	1	LS	$ 777,262	$777,262	ARCADIS Estimate
Operation and Maintenance (O&M) Costs	1	LS	$ 45,000	$45,000	ARCADIS Estimate
SUBTOTAL				**$822,262**	
Construction Project Add-ons					
Project Management and Overhead Costs	5%	Percent		$2,239,626	
Professional Construction services and Management Costs	8%	Percent		$3,583,402	
Performance and Payment Bonds	2%	Percent		$895,851	
SUBTOTAL				**$6,718,879**	
Remedial Design/Work plan					
Work Planning, Reporting and Project Management	1	LS	$ 457,200	$457,200	
Remedial Design	1	LS	$ 714,000	$714,000	
SUBTOTAL				**$1,171,200**	
TOTAL CAPITAL COST				**$ 52,682,605**	

PRESENT VALUE ANALYSIS

COST TYPE	YEAR	TOTAL COST	TOTAL COST PER YEAR	PRESENT VALUE
CAPITAL COST	0	$52,682,605	$52,682,605	$ 52,682,605
				$52,682,605
TOTAL PRESENT VALUE OF ALTERNATIVE				**$52,700,000**

SOURCE INFORMATION

1. United States Environmental Protection Agency. July 2000. A Guide to Preparing and Documenting Cost Estimates During the Feasibility Study. EPA 540-R-00-002. (USEPA, 2000).
2. R.S. Means Company. 2011. Heavy Construction Cost Data, 25th Edition. R.S. Means Company and Talisman Partners, Ltd. Kingston, MA. (Includes materials, equipment, and labor)
3. Historical CH2M HILL project cost information