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March 16, 2012

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Remedial Bureau D
625 Broadway, 12th Floor
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RE: Upper Harbor Brook IRM
City of Syracuse, Onondaga County, NY
Order on Consent: Index #D7-0008-01-09

Dear Mr. Smith:

This letter presents the Upper Harbor Brook IRM Final Design Report. The report incorporates the changes requested by NYSDEC. These changes have been prepared by O'Brien & Gere on behalf of Honeywell International Inc.

Should you have any questions regarding the work described in these documents, please contact Jim Heckathorne at O'Brien & Gere (315-956-6277) or me at your earliest convenience.

Sincerely,

John P. McAuliffe by CCC

John P. McAuliffe, P.E.
Program Director, Syracuse

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FINAL DESIGN REPORT

Upper Harbor Brook IRM
Geddes, New York

Honeywell

March 2012

O'BRIEN & GERE

1163 | 46096

Upper Harbor Brook IRM
Geddes, New York

Prepared for:

Honeywell

JAMES R. HECKATHORNE, P.E., V.P.
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LIST OF ACRONYMS

ACO	Administrative Consent Order
ACOE	Army Corps of Engineers
AOS	Area of Study
bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, also known as Superfund: Amended in 1986 by the Superfund Amendments and Reauthorization Act
COC	Chain of Custody
COPC	Constituents of Potential Concern
CPOI	Chemical Parameters of Interest
CSM	Conceptual Site Model
CPP	Citizen Participation Plan
FEMA	Federal Emergency Management Agency
FS	Feasibility Study
GCL	Geosynthetic Clay Liner
HASP	Health and Safety Plan
IRM	Interim Remedial Measure
LEF	Lower East Flume
LLS	Licensed Land Surveyor
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NAPL	Non Aqueous Phase Liquid
MVA	Mercury Vapor Analyzer
NWI	National Wetlands Inventory
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
NYSFW	New York State Freshwater Wetlands
OW	Open Water Area
PCB	Polychlorinated Biphenyl
PCDD/PCDFs	Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans
PCDD/Fs	Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans
PDI	Pre-design Investigations
PID	Photoionization Detector
PSA	Preliminary Site Assessment
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAOs	Remedial Action Objectives
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SVOC	Semivolatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
TOC	Total Organic Carbon
UEF	Upper East Flume
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USSCS	United States Soil Conservation Service
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

The purpose of this report is to present the final design for each component of the Upper Harbor Brook portion of the Wastebed B/Harbor Brook interim remedial measure (IRM).

This document describes the design process and includes a description of design components and schedule for the Upper Harbor Brook portion of the IRM (the Lower Harbor Brook and Wastebed B portions of the IRM are being conducted separately). To prepare the IRM Design, Honeywell will be assisted by a team of locally and nationally recognized engineers and scientists.

BACKGROUND

The Record of Decision (ROD) for the Onondaga Lake Bottom Site (NYSDEC and USEPA 2005) notes that "the control of contamination migrating from…upland sub-sites to Onondaga Lake is an integral part of the overall remediation of Onondaga Lake." The ROD also acknowledges the need to coordinate the timing of the remedial work related to the lake bottom with the work that is performed as part of the remedies at the upland sites.

These key elements of the ROD reflect the fact that Onondaga Lake does not exist by itself. It is located at the bottom of an expansive watershed that includes creeks, rivers, wetlands, floodplains and wildlife that are interconnected with the lake. Achieving the goals of the ROD and the community's vision of a restored Onondaga Lake requires a healthy and sustainable watershed.

The Wastebed B/Harbor Brook Site (Site) is located on the border of the City of Syracuse and the Town of Geddes, and is proximate to Onondaga Lake's southwest shoreline. Harbor Brook lies along the eastern border of the Site. The wastebed consists primarily of inorganic wastes resulting from the production of soda ash using the Solvay process. Other waste materials associated with a variety of production processes from former Solvay process, and later Allied Signal, operations were also likely disposed at the wastebed along with the Solvay process wastes. In addition, the Penn-Can portion of the site was formerly used for the production and storage of asphalt products consisting mainly of asphalt, coal tar, caustic soda and muriatic acid. It is suspected that these products were disposed of at this site and/or leaked into the soil. These are sources or potential sources of contamination to Onondaga Lake and Harbor Brook.

Within the scope of the IRM, the objectives are (to the extent practicable) to:

- Eliminate the discharge of impacted ground water and NAPL (and collect NAPL, as feasible) into Harbor Brook and Onondaga Lake.
- Eliminate the potential human health and ecological impacts associated with Site constituents of concern.
- Eliminate the potential impacts to fish and wildlife resources associated with on-going discharges of Contaminants of Concern from the Site.

IRM objectives will be met through the use of hydraulic control, treatment, containment, and excavation/disposal/removal. Components of the IRM scope include:

- Excavation of sediment
- Groundwater collection
- Installation of an isolation layer
- Enhancement of wetlands
- Cleaning/lining of culverts and storm sewers

1. INTRODUCTION

This document presents the Final Interim Remedial Measure (IRM) Design report for the Wastebed B/Harbor Brook Site (the Site) in Geddes and Syracuse, New York. A site location plan is included as Figure 1. This report addresses the Upper Harbor Brook portion of the IRM.

Upper Harbor Brook consists of areas upstream of the mouth of Harbor Brook from Culvert #1 upstream to Open Water Area #5 (OW #5), as well as the manmade drainage channels and associated wetlands in this reach of Harbor Brook. The Final Design Report was prepared pursuant to Consent Order #D-7-008-01-09 between the New York State Department of Environmental Conservation (NYSDEC) and Honeywell International, Inc. (Honeywell) dated December 15, 2003 (NYSDEC, 2003). The Final Design Report was also prepared in accordance with Section 3.7.1. of the Wastebed B/Harbor Brook IRM Work Plan (O'Brien & Gere, 2004) approved by the NYSDEC on August 25, 2004, and the Engineering Evaluation/Cost Analysis (EE/CA) (O'Brien & Gere, 2010). The EE/CA was determined to be acceptable for the NYSDEC to move forward with the Proposed Response Action Document (PRAD)(NYSDEC 2010).

The primary component of this IRM is the installation of a shallow ground water collection and conveyance system that will minimize the discharge of impacted ground water to the site ditches, wetlands, Upper Harbor Brook and ultimately Onondaga Lake. As part of the remedy, impacted sediments will be removed from the existing ditches and Upper Harbor Brook to facilitate the installation of a membrane liner in certain areas. The membrane liner will be installed as a means of minimizing the discharge of ground water into the ditches and Upper Harbor Brook and will also minimize the potential for surface water to enter the collection trenches. The Contract Drawings and Technical Specifications are presented in Appendices A and B, respectively.

1.1 SITE DESCRIPTION

The Wastebed B/Harbor Brook Site initially consisted of four areas (shown on Figure 2):

1. Harbor Brook
2. Lakeshore Area (including Wastebed B, the East Flume, Dredge Spoils Areas (DSA) #1 and #2, wetlands along the lakeshore, and the Route I-690 drainage ditch)
3. Penn-Can Property
4. Railroad Area

The SYW-12 Area (north of Onondaga Creek) was added to the Site during the supplemental remedial investigation. Additional areas of study (AOS #1 and AOS #2) east of Harbor Brook were subsequently added at the request of NYSDEC. AOS #1 And AOS #2 are shown on Figure 1. SYW-12 is not within the IRM Design focus area and is therefore not shown.

This report addresses only the Upper Harbor Brook portion of the IRM. Specifically, this includes those areas upstream of the mouth of Harbor Brook from Culvert #1 upstream to Open Water Area #5, as well as the manmade drainage channels and associated wetlands in this reach of Harbor Brook.

1.1.1 Harbor Brook

The portion of Harbor Brook subject to the RI and EE/CA and included in the IRM is classified as a Class C stream by NYSDEC. Harbor Brook originates southeast of Syracuse, New York, in the Town of Onondaga and flows through the western side of Syracuse passing Wastebeds D and E. It discharges to the southwest corner of Onondaga Lake adjacent to the eastern end of Wastebed B. Harbor Brook drains a watershed of approximately 13.2 square miles (Blasland & Bouck [B&B], 1989). According to USGS data, the 10 year and 20 year average flow rate is approximately 11.5 cubic feet per second.

1.1.2 Lakeshore Area

The Lakeshore Area is composed of four sub-areas: 1) Wastebed B, 2) the East Flume, 3) Dredge Spoils Areas #1 and #2, and 4) the Route I-690 Drainage Ditch. This area is approximately 3,200 feet wide (east to west) and

800 ft deep (north to south) and is situated along the southern shore of Onondaga Lake, near the southwest corner of the lake. The northern boundary of the Lakeshore Area is Onondaga Lake. The Upper East Flume (UEF) defines the western extent of this area and the eastern extent is defined by Harbor Brook near its confluence with Onondaga Lake. The southern extent of the Lakeshore Area is defined by Route I-690. The ecological communities in the Lakeshore Area are representative of *successional old field, successional northern hardwoods, ditch/artificial intermittent stream,* and *freshwater wetland* habitats. Topography of the Lakeshore Area is generally flat with a relatively significant slope to the north in the north-central portion of the area due to the presence of a constructed berm. Wastebed B and the Route I-690 Drainage Ditch, the only portions of the Lakeshore Area subject to this IRM, are described below.

Wastebed B

Historical use of Wastebed B was for the deposition of Solvay waste, a non-hazardous waste consisting primarily of calcium carbonate, calcium silicate and magnesium hydroxide with lesser amounts of carbonates, sulfates, salts and metal oxides. Wastebed B received Solvay waste from approximately 1898 to 1926 (B&B, 1989). Wastebed B was engineered to receive waste by construction of a bulkhead into Onondaga Lake. The bed covers approximately 28 acres, including the relatively flat area between the lake water's edge and the raised, bermed portion of the wastebed (B&B, 1989). Between approximately 1898 and 1908, the filling of Wastebed B was initiated by construction of wooden bulkheads in the lake and placement of Solvay waste out to the bulkhead line. Coke plant waste from the former Main Plant Site may have been disposed of concurrently with the Solvay waste. Additionally, sewage sludge disposal occurred on the southeast portion of the bed in the late 1950s and early 1960s (B&B, 1989). Modification of the shoreline has occurred due to erosional and depositional forces, as well as historical discharges from the East Flume.

I-690 Drainage Ditch and wetland WL6

The I-690 drainage ditch appears to have been designed as a storm water drainage feature for the interstate and is maintained by the New York State Department of Transportation (NYSDOT) (O'Brien & Gere, 2001). The drainage ditch parallels the westbound lane of I-690 at the southern border of the Lakeshore Area. The ditch flows west to east, and discharges to Harbor Brook. Near the midpoint of the ditch, an outfall from the storm drainage system beneath I-690 discharges to the ditch. Portions of the drainage ditch are vegetated with *Phragmites australis*, goldenrod (*Solidago* sp.) and grasses (*Graminae*). The substrate of the drainage ditch primarily consists of weathered Solvay waste. Based on the USGS map for the area, historical aerial photographs of the area, and a site reconnaissance conducted in 2000, it appears that the ditch was constructed on portions of wastebed. At the time of the site reconnaissance, the NYSDOT had recently removed accumulated sediments from the drainage ditch to allow for less restricted flow of intermittent surface water. A discrete wetland habitat (WL6) is located at the eastern portion of the I-690 drainage ditch and is approximately 0.352 acres.

1.1.3 Penn-Can Property

The Penn-Can Property is situated to the south of the Lakeshore Area and I-690. This property has been, and is currently being used, for the production and storage of asphalt products. In 1919, the Barrett Division of the Semet Solvay Company of Allied Chemical Corporation began operations. Barrett produced various asphalt emulsions and some coal tar based products used in road construction. The primary constituents of these materials were asphalt, coal tar, caustic soda and muriatic acid. Until 1975, the operation included a barge loading facility, which transferred emulsions to vessels on Onondaga Lake via above ground pipelines. These pipelines, as well as the above ground storage tanks, were removed during the 1978 decommissioning of the Barrett facility. In 1978, approximately 750 to 1,000 cubic yards of asphalt tank bottoms were buried on-site in a pit with dimensions of 40 ft wide, 165 ft long and 7 ft deep. The tank bottoms were covered with 2 ft of low permeability fill, a geotextile, and 2 ft of fill. The pit was subsequently covered with a layer of crushed stone. In 1983, the property was purchased by Penn-Can Road Materials, Inc.

The property is now being used by Spano Container Corporation for the storage of equipment. The area is approximately 1,600 ft wide (east to west) and 450 ft deep (north to south) and consists of buildings, above ground storage tanks and a gravel parking lot, with limited vegetation around the periphery of the area. A

shallow drainage swale runs along the southern and eastern perimeter of the property. The cover type in this area is classified as *urban structure interior*.

Penn-Can Drainage Ditch and wetlands WPC1, WPC2, WPC3

The Penn-Can drainage ditch is situated to the south of I-690 and consists of a shallow drainage swale that runs along the southern and eastern perimeter of the property. The I-690 bridge replacement construction that occurred in 2009 altered the route of the ditch and potentially impacted materials were removed and the substrate was replaced with railroad ballast material up to the bridge abutment. The lower portion of the ditch now runs along the railroad access path. The cover type in this area is classified as *urban structure interior*. Three discrete wetland habitats (WPC1, WPC2 and WPC3) are located along the western to mid portions of the Penn-Can drainage ditch. The three wetland areas totaled approximately 0.894 acres prior to the ongoing addition of construction debris and fill. Site walks performed by O'Brien & Gere in March 2010 revealed that portions of WPC1, WPC2, WPC3, and the Penn-Can drainage ditch have been filled such that the total wetland acreage has been reduced to approximately 0.447 acres.

1.1.4 Railroad Area

The Railroad Area, owned by CSX, is situated to the south of the Penn-Can Property and is bounded to the north, south and east by rail tracks. The area is approximately 1,400 ft wide (east to west) and 400 ft deep (north to south). The covertype in this area is classified as *successional shrubland* in the southern portion and *urban structure interior* in the northern portion. Historical uses of this area are not known. Based on review of historical aerial photographs, the area appears to have been a vacant lot and has not been used for production purposes in the past. However, Solvay waste was observed in subsurface borings in the northern portion of the Railroad Area.

RR Drainage Ditches #1 and #2, wetlands WRRI, WRR2, WRR3, WRR4, WRR5

There are two railroad drainage ditches designated as Railroad Drainage Ditch #1 and #2. Railroad Drainage Ditch #1 is located south of the Penn-Can drainage ditch. Two distinct wetland habitats (WRR1 and WRR2) are located adjacent to the middle and eastern portions of Railroad Drainage Ditch #1 totaling approximately 0.236 acres. Railroad Drainage Ditch #2 is situated south of Railroad Drainage Ditch #1. Three distinct wetland habitats are located west of and along Railroad Drainage Ditch #2 (WRR3, WRR4 and WRR5) totaling approximately 1.442 acres.

1.1.5 AOS Areas

AOS #1 is a wetland area situated east of Harbor Brook and adjacent to the Lakeshore Area. This area was delineated during the Jurisdictional Wetland Survey and Delineation (O'Brien & Gere, 2001b; O'Brien & Gere, 2003) conducted as part of the RI and is part of NYS wetland SYW-19 (NYSDOT, 1973). Based on review of historical aerial photographs, this area is a floodplain created by deposition of Onondaga Lake and Harbor Brook sediments during the 1950s and 1960s. There is also evidence that non-Solvay waste fill was likely placed during this time.

AOS #2 is situated east of Harbor Brook and south of I-690 between Harbor Brook and the western dike of Wastebeds D and E. Wastebeds D and E have a combined surface area of approximately 44 acres. Aerial photos indicate that these beds were inactive by 1926 (B&B, 1989). Several buildings were constructed on the eastern end of Wastebed D between 1959 and 1966. Currently, the eastern end of Wastebeds D and E is occupied by several car dealerships.

Wastebed D/E Drainage Ditch

The Wastebed D/E Drainage Ditch appears to have been designed as a storm water drainage feature for the interstate and is maintained by the NYSDOT. The drainage ditch parallels the eastbound lane of I-690 adjacent to Wastebeds D and E. The ditch flows east to west for approximately 1,950 feet from Hiawatha Boulevard to Harbor Brook where it discharges into Open Water Area 3. The substrate of the drainage ditch primarily consists of weathered Solvay waste. Based on the USGS map for the area, historical aerial photographs, and a Site

reconnaissance performed in 2000, it appears that the ditch was constructed on portions of and just adjacent to the wastebeds.

1.2 SITE BACKGROUND

A preliminary site assessment (PSA) was performed at the Site in the summer of 2000 and winter of 2001 in accordance with the requirements of Consent Order D-7-0001-00-02 between the NYSDEC and Honeywell dated April 10, 2000 (NYSDEC, 2000). The PSA field work was performed July 2000 through May 2001 in accordance with the NYSDEC-approved PSA Work Plan (O'Brien & Gere, 2000). A summary of the analytical data collected during the PSA was submitted to the NYSDEC in September 2001 (O'Brien & Gere, 2001c). Based on review of the data, and in consideration of other previous study data, the NYSDEC determined that a remedial investigation/feasibility study (RI/FS) should be implemented at the Site. The determination was communicated to Honeywell in a letter dated November 28, 2001.

The RI/FS Work Plan was submitted in September 2002 and approved on November 8, 2002 by the NYSDEC. The RI was performed in accordance with the NYSDEC-approved RI/FS Work Plan (O'Brien & Gere, 2002). The RI was also performed in accordance with the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (USEPA, 1988) and Part 300.68 of the National Contingency Plan, CERCLA as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986.

The initial RI field program was performed November 2002 through May 2004. The NYSDEC requested that additional field work be completed for the RI. The supplemental RI was performed in accordance with the September 15, 2006 NYSDEC-approved letter work plan. The Supplemental RI consisted of further investigation on the Wastebed B/Harbor Brook Site as well as wetland SYW-12 situated on the southeast corner of Onondaga Lake. The Supplemental RI field program was performed between November 2006 and June 2007. The RI Report was submitted to the NYSDEC on August 2, 2004 (O'Brien & Gere, 2004a), and a revised RI Report was submitted to the NYSDEC in November 2007 (O'Brien & Gere, 2007). An Engineering Evaluation/Cost Analysis (EE/CA) Report (O'Brien & Gere, 2010) was submitted to the NYSDEC. The EE/CA detailed options for the Upper Harbor Brook IRM and proposed a remedy.

At the request of the NYSDEC, in 2005 soil borings were advanced as part of the I-690 bridge replacement (I-690 Limited Investigation) to evaluate subsurface strata in the area of the bridge. This work was performed under the Wastebed B/Harbor Brook RI/FS Consent Order #D7-0001-00-02 and in accordance with the December 13, 2005 NYSDEC-approved Letter Work Plan. A geotechnical investigation at Wastebed B was conducted in conjunction with the I-690 Limited Investigation. The results are presented in the revised RI Report (O'Brien & Gere, 2007).

The subject IRM is currently being performed at the Wastebed B/Harbor Brook Site under Consent Order #D-7-008-01-09. This IRM focuses on the elimination (to the extent practicable within the IRM scope) of potential impacts to wildlife resources, and transport of contaminants to Onondaga Lake. One component of the IRM addresses Upper Harbor Brook (areas upstream of the mouth of Harbor Brook from Culvert #1 upstream to OW #5, as well as the manmade drainage channels and associated wetlands in this reach of Harbor Brook.) A separate, but closely-related element of the IRM consists of a barrier wall (and associated ground water collection trench) being implemented in two phases: western portion and eastern portion. The western portion consists of installation of a barrier wall extending along the Onondaga Lake Shoreline from the termination of the Willis/Semet barrier to near the mouth of Harbor Brook. The eastern portion consists of installation of an extension of the barrier wall across Harbor Brook to its terminus in Area of Study (AOS) #1.

Initial pre-design investigations (PDI) for the barrier wall portion of the IRM were performed in accordance with the NYSDEC-approved work plan (O'Brien & Gere and Parsons, 2004a). This work was performed between the fall of 2004 and the spring of 2005. A summary of the results of the initial PDI are presented in West Wall Portion of the Wastebed B/Harbor Brook IRM 95% Design Report (Parsons, 2007). An additional PDI for the Upper Harbor Brook portion of the IRM was performed in accordance with the Wastebed B/Harbor Brook IRM letter work plan dated August 30, 2008. The PDI work was performed June 30 to September 12, 2008. The

purpose of the additional PDI was to collect data for use in preparing the remedial design for the Upper Harbor Brook portion of the IRM. A summary of the recent PDI activities and results is presented in Section 2 below.

1.3 PURPOSE OF THE FINAL DESIGN REPORT

The purpose of this report is to present the final design for each component of the Upper Harbor Brook portion of the Wastebed B/Harbor Brook IRM, including but not limited to:

- Basis of Design Report
- Contract Drawings
- Technical Specifications

2. PREVIOUS STUDIES

Previous studies were performed at the Site. The results of the studies can be found in the following documents:

1. Monitoring wells installed during the Hydrogeologic Assessment of the Allied Wastebeds (B&B, 1989)
2. LEF sediment sampling performed by PTI as part of the Onondaga Lake RI (PTI, 1994)
3. SYW-12 Wetlands Mitigation Sampling (O'Brien & Gere, 1995)
4. Harbor Brook surface water and sediment sampling performed by NYSDEC in November 1996 and October 1997
5. Harbor Brook surface water and sediment sampling by O'Brien & Gere in November 1996
6. East Flume/Dredge Spoils Areas sampling during the Willis Avenue RI (O'Brien & Gere, 1999)
7. Preliminary Site Assessment (O'Brien & Gere, 2001)
8. Harbor Brook Sediment IRM Investigation (BBL, 2001)
9. Onondaga Lake RI/FS Phase 2A Investigation (Exponent, 2001)
10. Onondaga Wetlands Subsurface Investigation (C&S Companies, 2001)
11. Harbor Brook seep sample (O'Brien & Gere, 2002)
12. Monitoring well installation and hydropunch samples collected during the Willis Avenue RI (O'Brien & Gere, 2002b)
13. Onondaga Lake Wetland / Floodplain Assessment Draft Report (O'Brien & Gere and Parsons, 2004)
14. Initial PDI - West Wall Portion of the Wastebed B/Harbor Brook IRM 95% Design Report (Parsons, 2007)
15. Remedial Investigation (Revised) (O'Brien & Gere, 2007)
16. Engineering Evaluation/Cost Analysis, Harbor Brook IRM (O'Brien & Gere, 2010)

Based on investigations conducted to date, the predominant constituents of potential concern (COPCs) for surface water, sediment and subsurface soils and of the Upper Harbor Brook Site are:

- Chlorobenzene isomers (di- and tri-)
- Naphthalene and other PAHs
- BTEX (benzene, toluene, ethylbenzene, and xylene isomers (m-, o-, p-))
- Trimethylbenzene isomers (1,2,4- and 1,3,5-)
- Mercury and other metals
- PCBs
- Phenol
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/Fs)

In addition, a dense non-aqueous phase liquid (DNAPL) has been observed in the northeast corner of the Railroad Area, the eastern portion of the Penn-Can property and Lakeshore Area, and in or below the sediments of Harbor Brook.

2.1 PRE-DESIGN INVESTIGATION

A PDI for the Upper Harbor Brook was performed in accordance with the revised letter work plan dated August 30, 2008 (O'Brien & Gere, 2008). The PDI work was performed from June 30 to September 12, 2008 under the Wastebed B/Harbor IRM Consent Order #D-7-0008-01-09 between the NYSDEC and Honeywell dated April 10, 2000 (NYSDEC 2000). The purpose of the PDI was to collect data for use in preparing the remedial design for the Upper Harbor Brook portion of the IRM. The investigation included work within ditches and wetlands adjacent to Harbor Brook beginning at OW#1. A summary of the PDI activities and results is presented below. Analytical data obtained during the PDI was validated using the QA/QC criteria established in guidance published by the American Water Works Association, American Public Health Association, Water Environment Federation, and United States Environmental Protection Agency. The data validation report is included in Appendix C.

2.1.1 Site Survey and Topographic Survey

A sample location survey was performed by a NYS-licensed surveyor following the completion of the soil borings, ditch sediment sampling, wetland soil sampling and OWA sediment sampling. The horizontal and vertical position of each sample location was determined in New York State Plane coordinates (NAD 83). Pertinent site features were surveyed to allow for accurate placement of the sample locations on existing site maps.

2.1.2 Field Reconnaissance

Site reconnaissance was performed prior to initiation of field work. The purpose of the reconnaissance was to identify the sample locations. DigSafelyNewYork, Inc. was contacted prior to the initiation of intrusive work at the Site. The utility companies met O'Brien & Gere and drilling company representatives to mark the locations of subsurface utilities in the areas of proposed work. Subsequent to the marking of subsurface utilities, a meeting was held in the field with the NYSDEC in 2008 to agree on the final boring locations.

2.1.3 Soil Borings

Twenty soil borings were advanced to: 1) further evaluate subsurface strata and Chemical Parameters of Interest (CPOIs); 2) obtain field information relative to strength parameters of fill and soil within the ditches, wetlands and adjacent areas; and 3) obtain samples for laboratory geotechnical and select chemical analyses. The soil boring locations are presented on Figure 3.

The soil borings were completed using conventional hollow stem auger drilling techniques in accordance with ASTM D6151. Soil boring locations, identifications, depths and sample depths are shown below.

Soil Boring Locations, Identifications, Depths, and Sample Depths

Soil boring Location	Soil Boring Identification	Soil Boring Depth (bgs)	Sample Depth (bgs)
I-690 drainage ditch	HB-SB-157	16 ft	10 - 12 ft
	HB-SB-158	16 ft	Not sampled
	HB-SB-159	7 ft	Not sampled
WL6	HB-SB-160	16 ft	6 – 8 ft
Penn-Can drainage ditch	HB-SB-162	0.9	Not sampled
	HB-SB-163	18 ft	Not sampled
	HB-SB-165	1.5 ft	Not sampled
WPC1	HB-SB-164	18 ft	Not sampled

Soil Boring Locations, Identifications, Depths, and Sample Depths			
Soil boring Location	**Soil Boring Identification**	**Soil Boring Depth (bgs)**	**Sample Depth (bgs)**
WPC2	HB-SB-161	1.4 ft	Not sampled
Railroad drainage ditch #1	HB-SB-173	2.7 ft	Not sampled
WRR2	HB-SB-172	16 ft	2 – 4 ft
Railroad drainage ditch #2	HB-SB-168	10.8 ft	2 – 4 ft
	HB-SB-169	10.8 ft	Not sampled
WRR3	HB-SB-167	10.8 ft	Not sampled
	HB-SB-170	7.3 ft	Not sampled
	HB-SB-171	5.3 ft	Not sampled
WRR4	HB-SB-166	7.1 ft	Not sampled
Wastebed D/E drainage ditch	HB-SB-175	16 ft	2 – 4 ft
	HB-SB-174	46 ft	Not sampled
	HB-SB-176	46 ft	Not sampled
			Source: O'Brien & Gere

Samples were collected continuously throughout the borings in accordance with ASTM Method D1586 using a 140-lb hammer and 2-ft split barrel samplers. When the terminal depth for the borehole was reached, the borehole was filled to grade with a Portland cement/bentonite grout through a tremie pipe. Select split spoon samples were analyzed for particle size, Atterberg liquid and plastic limits, and natural moisture content.

Where cohesive soils in the Wastebed D/E boring, HB-SB-176, were encountered, one undisturbed Shelby tube sample was collected from 34 to 36 ft bgs in accordance with ASTM D1587 for laboratory testing. Shelby tube samples were analyzed for natural moisture content, specific gravity, and unconsolidated, undrained compressive strength or consolidated, undrained triaxial testing.

In addition, each split spoon sample was screened in the field using a photoionization detector (PID) and a mercury vapor analyzer (MVA), consistent with previous investigations. The PID and MVA screening results are included on the boring logs. Due to the volume of soils collected for geotechnical and analytical purposes and the methods of sample collection used no appreciable volume of cuttings were generated during the soil boring portion of the investigation.

All soil borings, except HB-SB-174 and HB-SB-176, were installed using a tripod-mounted motorized cathead drilling assembly. An ATV mounted rig was used for HB-SB-174 and HB-SB-176, as they were located in more accessible areas. The sampling methods were the same as described above. Soil boring logs are included in Appendix D.

Samples from HB-SB-157, HB-SB-160, HB-SB-168, HB-SB-172, HB-SB-175 were selected for laboratory analyses. The depth at which the samples were collected was based on field observations. Soil boring samples selected for chemical analysis were submitted to Life Science Laboratories in Syracuse, NY for analyses of TCL/TAL for

volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, mercury, cyanide, and pH. The laboratory was directed to report 1-phenyl-1-[2,4-dimethylphenyl]-ethane (PXE) and 1-phenyl-1-[4-methylphenyl]-ethane (PTE), if detected under the SVOC analysis. The above listed TCL/TAL constituents were analyzed using USEPA SW-846 Methods (USEPA 2004).

HB-SB-160 is located within or adjacent to delineated wetland areas. The sample from this soil boring was also analyzed for total organic carbon (TOC).

Samples from HB-SB-157, HB-SB-160, HB-SB-168, HB-SB-172, HB-SB-175 were also submitted for Toxicity Characteristic Leachate Procedure (TCLP) analyses, reactivity, ignitibility, and corrosivity. TCLP parameter analyses were performed using extraction method 1311 and the USEPA SW846 methods for VOCs, SVOCs, metals, and mercury. Ignitability, reactivity, and corrosivity were analyzed using Method 1030, "Test Method to Determine Hydrogen Sulfide and Hydrogen Cyanide Released from Waste," and SW-846 Method 9040C, respectively. The chain of custody (COC) records are included in Appendix E.

Tables 1-9 provide a summary of the validated analytical results of laboratory analyses. As shown, low levels of VOCs (mostly acetone, benzene, toluene, ethylbenzene, xylene, (BTEX), methylene chloride, and chlorinated benzenes.) were detected in the samples collected from five soil borings. The highest VOC concentration was 100 ppb of acetone in HB-SB-175 (in Wastebed D/E at 2 – 4 ft.) VOCs were not detected in HB-SB-160 (in WL6). The VOCs detected are consistent with the VOC CPOIs detected during previous investigations at the Site.

SVOCs were detected at each soil boring. HB-SB-157 contained the least number of SVOC constituents (2-methylnaphthalene and bis (2-ethylhexyl)phthalate) phthalate at 100J ppb and 130J ppb, respectively). HB-SB-168 and HB-SB-172 (located near the railroad ditches) contained the greatest number of SVOC constituents such as napthalene, PAHs and phenols. The highest levels of SVOCs were detected at HB-SB-168 (located in WRR3 at 2 – 4 ft) near Railroad Drainage Ditch #2. Fluoranthene was the highest detected SVOC at 12,000 ppb at HB-SB-168. The SVOCs detected are consistent with the SVOC CPOIs detected during previous investigations at the Site.

PCBs were detected only at HB-SB-175 and HB-SB-168 (near railroad ditches.) Aroclor-1248 and Aroclor-1260 were detected at HB-SB-175 at 43.7J ppb and 21.3J ppb, respectively. Aroclor –1260 was detected at HB-SB-168 at 42.8J ppb. The total PCBs in the Railroad Area are generally consistent with those detected during previous investigations.

Cadmium, silver and thallium were not detected in the soil boring samples. Lead was detected in each sample, with the highest level of lead was detected at HB-SB-168 (near Rail Road Drainage Ditch #2) at 130 mg/kg. Mercury was detected in each sample with the highest level detected at HB-SB-160 (near the I-690 Drainage Ditch) at 0.35 mg/kg. The inorganic data is consistent with previous investigations.

Tables 6-9 show the TCLP data collected from the five soil borings. As shown, TCLP VOCs were non-detect except for benzene in HB-SB-172 detected at 0.0032J mg/L. The benzene was less than the regulatory limit (40 CFR Part 261.3) of 0.5 mg/L. TCLP SVOCs were non-detect. The TCLP metals were all less than the regulatory limit. TCLP reactive sulfide and ignitability were non-detect.

2.1.4 Geotechnical Testing

Twenty moisture content tests were run on samples from all depths. Values ranged from 8% in the sand and gravel to 201% in the Solvay Waste. Forty-six grain size analyses including hydrometer tests were done on samples from all depths. Ten additional grain size analyses were done without hydrometer tests. Twenty Atterberg Limits tests were run on samples from all depths. Fifteen samples were classified as non-plastic, and five had plasticity indices between 4 and 12. One CU triaxial test was run on a silty sand sample. The effective cohesion value was 12.5 psi and the effective friction angle was 22 degrees. A summary of the geotechnical data is provided in Table 10. Since the design typically proposes slopes similar to or less severe than the existing site conditions, slope stability analyses were not performed.

Calculations were performed in order to design the proposed geomembrane liner systems and anchor trenches; these calculations considered the materials being proposed for backfill. The results of these calculations did not show any areas to require additional stability calculations. Any geotechnical concerns associated with contractor means and methods of construction will be addressed in the Construction Work Plan.

2.1.5 Ditch Sediment Sampling

Six sediment samples (HB-SED-21 through HB-SED-26) were collected to evaluate CPOIs in the ditch sediment and to assist in the refinement of the selected response action for these areas (*e.g.,* further evaluation of depth of sediment to be removed and material handling). The ditch sediment sample locations are presented on Figure 3.

The ditch sediment samples were collected using a manually driven 2-in split spoon, hand auger, sharp shooter shovel, or Lexan® tubing. Sample locations, identifications and collection methods/sample depths are shown below.

Ditch Sediment Sample Location, Sample ID, Collection, and Sample Depth

Ditch Sediment Sample Location	Ditch Sediment Sample ID	Collection Method/Sample Depth
I-690 Drainage Ditch	HB-SED-21	Split spoon: 0-12” Bucket auger: 12-48”
	HB-SED-22	Bucket auger (large): 0-12” Bucket auger (small): 12-48”
Railroad Drainage Ditch #1	HB-SED-23	Sharp shooter shovel: 0-12” Dutch auger: 12-35”
Wastebed D/E Drainage Ditch	HB-SED-24	Lexan tube: 0-55” core Tables show 0-12”, 12-39”
	HB-SED-25	Lexan tube: 0-61” core Tables show 0-12”, 12-34.5”
	HB-SED-26	Lexan tube: 0-62” core Tables show 0-12”, 12-29”
		Source: O’Brien & Gere

Composite sediment samples were collected from the 0 to 1 and 1 to 4 ft depth intervals. Samples were transferred to a dedicated aluminum pan using dedicated disposable scoops for homogenization. Prior to homogenization of sediments, a sample for VOCs analysis was selected and containerized. Subsequent to homogenization, soils were transferred to the appropriate lab containers for the remainder of the analyses and placed in a cooler containing ice for transport to the laboratory.

Sediment samples were submitted to Life Sciences Laboratory, East Syracuse, NY, for analyses of TCL/TAL for VOCs, SVOCs, PCBs, metals, mercury, cyanide, and pH. The laboratory was directed to report PXE and PTE, if detected under the SVOC analysis. Sediment samples were also analyzed for TOC and particle size. COC records are included in Appendix E.

Tables 1-9 provide a summary of the validated ditch sediment analytical results. As shown, VOCs were very low or non-detect at each of the six 0-12” sediment sample locations. Low levels of VOCs (mostly acetone, carbon disulfide and BTEX) were detected in the 12”- 48” ditch sediment samples. HB-SED-21 (I-690 drainage ditch) generally exhibited the most VOC constituents and the highest levels. The highest VOC concentration detected in the ditch sediment samples was 120J ppb of total xylenes in HB-SED-21 at 12” – 48”. This VOC data is generally consistent with previous investigations.

SVOCs were detected at each ditch sediment sample. HB-SED-24 contained the least number of SVOC constituents (pyrene at 120J ppb). HB-SED-21 (I-690 drainage ditch) at 12” – 48” contained the greatest

number of SVOC constituents. The highest levels of SVOCs were detected at HB-SED-21. Fluoranthene was the highest detected SVOC at 9,400J ppb at HB-SED-21. This SVOC data is generally consistent with previous investigations.

PCBs were not detected in samples from HB-SED-24 and HB-SED-25 at 12" – 48". Aroclor-1260 was detected at each of the remaining drainage ditch samples. The highest level of Aroclor 1260 was detected in the 12" – 48" sample from HB-SED-21 at 89.3J ppb. Aroclor –1242 was detected only at HB-SED-21 at 12" – 48" at 109J ppb. Aroclor 1242 was not detected in the I-690 drainage ditch samples during previous investigations.

Aluminum, beryllium, arsenic, barium, calcium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium, vanadium and zinc were detected at each drainage ditch sediment sample location. The highest level of lead was detected at HB-SED-21 (12" – 48") at 130 mg/kg. The highest level of mercury was detected at HB-SED-22 (I-690 drainage ditch) in the 12" – 48" sample at 1.6 mg/kg. The concentration of mercury was detected at a higher level than during previous investigations.

2.1.6 Wetland Sediment Sampling

Twelve wetland sediment samples (HB-WSD-31 through HB-WSD-42) were collected to evaluate CPOIs in the wetland substrate and to assist in the refinement of the selected response action for these areas (*e.g.,* further evaluation of depth of sediment to be removed and material handling). The wetland sediment sample locations are presented on Figure 3.

Wetland sediment samples were collected from the 0 to 12-inch and the 12 to 24 inch-depth intervals at each location except at WSD-32, where refusal was encountered at 20 inches. The sample depths were selected based on anticipated practical removal intervals (*i.e.,* not anticipated to remove only the 0 to 6-inch interval based on implementability consideration, but rather at 1-ft intervals.)

The 0 to 12-inch wetland sediment samples were collected using a manually driven large bucket auger and the 12 to 24-inch samples were collected using a manually driven small bucket auger. A sharp shooter shovel was used to collect the 0 to 12-inch sample at HB-WSD-38. A hand auger was used to collect the 12 to 24-inch sample at HB-WSD-38. Wetland sediment sample locations and identifications are shown on below.

Wetland Sediment Sample Locations

Sample Location	Sample ID
WPC2 (near Penn-Can Drainage Ditch)	HB-WSD-31 HB-WSD-32
WPC1 (near Penn-Can Drainage Ditch)	HB-WSD-33
WRR4 (near Railroad Drainage Ditch #2)	HB-WSD-34
WRR3 (near Railroad Drainage Ditch #2)	HB-WSD-35 HB-WSD-36 HB-WSD-37 HB-WSD-38
WRR5 (near Railroad Drainage Ditch #2)	HB-WSD-39
WRR1 (near Railroad Drainage Ditch #1)	HB-WSD-40
WRR2 (near Railroad Drainage Ditch #1)	HB-WSD-41
WL6 (near I-690 Drainage Ditch)	HB-WSD-42

Samples were transferred to a dedicated aluminum pan using dedicated disposable scoops for homogenization. Prior to homogenization of soils, a sample for VOCs analysis was selected and containerized. Subsequent to homogenization, soils were transferred to the appropriate lab containers for the remainder of the analyses and placed in a cooler containing ice for transport to the laboratory.

Wetland sediment samples were submitted to Life Sciences Laboratory, East Syracuse, NY, for analyses of TCL/TAL parameters for VOCs, SVOCs, PCBs, metals, mercury, cyanide, and pH. The laboratory was directed to report PXE and PTE, if detected under the SVOC analysis. Soil samples were analyzed for TOC and particle size. COC records are included in Appendix E.

A summary of the validated wetland sediment analytical results are provided in Tables 1-9. As shown, VOCs were low or non-detect at each of the wetland sediment sample locations. Acetone was generally the VOC constituent detected at the highest levels in the wetland sediment samples. The highest VOC detected in the 0" – 12" range was acetone at 200J ppb at HB-WSD-36 (in WRR3 near Railroad Drainage Ditch #2). The highest VOC detected in the samples collected from the 12' – 24" sample range was 2-butanone at 180 ppb at HB-WSD-38 (in WRR3). Consistent with previous investigations of wetland sediment at the site, low levels of VOCs (mostly acetone, carbon disulfide and BTEX) were detected.

SVOCs were detected at each wetland sediment sample except for HB-WSD-34 (12" – 24".) HB-WSD-37 (in WRR3) at 0" – 12" contained the greatest number of SVOC constituents. The highest levels of SVOCs were detected at HB-WSD-32 at 12" – 24" (located in WPC2 near the Penn-Can Drainage Ditch). Consistent with previous investigations, fluoranthene was the highest detected SVOC in wetland sediment (at 95,000 ppb at HB-WSD-32.)

PCBs were not detected in wetland samples from HB-WSD-34 and HB-WSD-37 at 12" –24". Aroclor-1260 was detected at each of the remaining wetland sediment samples. The highest level of Aroclor 1260 was detected in the 0" - 12" sample from HB-WSD-39 (located in WRR5.) The PCB data is generally consistent with previous investigations except for Aroclor 1254 which was not detected in these wetland sediment samples, but was detected in wetland sediment during previous investigations.

Aluminum, beryllium, arsenic, barium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium, vanadium and zinc were detected at each drainage ditch sediment sample location. The highest level of lead was detected at HB-WSD-38 (0" – 12") at 340 mg/kg. The highest level of mercury was detected at HB-WSD-36 (0" – 12") at 0.88 mg/kg. Metals data is generally consistent with previous investigations.

2.2 OPEN WATER AREA EVALUATION

The five open water areas (OW#1 through OW#5) were evaluated during PSA/RI investigations. OW#1, OW#2, and OW#3 had evidence of a "hard-concrete like layer" that could not be penetrated with a 6-ft breaker bar. OW#4 and OW#5 have limestone block lining both the banks and bottom of Harbor Brook. A soil boring (HB-SB-82) completed in OW#3 had elevated blow counts within the first foot below ground surface (bgs). The material was described as, "gravel, some medium/coarse sand, trace silt."

Characteristic samples of the substrate in OW#1 and OW#3 were collected using a large bucket auger to define the nature of the "hard layer" found within these areas. The sample locations are depicted on Figure 3. Samples locations, depths and descriptions are shown below.

OW#1 and OW#3 Locations & Descriptions and Sample Depths

Sample ID	Location	Sample Depth	Location Description
HB-SED-28	OW #1	1-2 ft 2-3 ft	Generally open channel with 6" of surface water
HB-SED-27	OW #3	1.5-2.5 ft	Approx. 6" of surface water. Debris on banks

Source: O'Brien & Gere

Samples were transferred to a dedicated aluminum pan using dedicated disposable scoops for homogenization. Prior to homogenization of sediments, a sample for VOCs analysis was selected and containerized. Subsequent to homogenization, soils were transferred to the appropriate lab containers for the remainder of the analyses and placed in a cooler containing ice for transport to the laboratory. The substrate hole was filled with bentonite upon completion of the investigation

The OW samples were submitted to Life Sciences Laboratory in East Syracuse, NY for analyses of TCL/TAL parameters for VOCs, SVOCs, PCBs, metals, mercury, cyanide, and pH. The laboratory was directed to report PXE and PTE, if detected under the SVOC analysis. The physical characteristics of the substrate above the hard layer in OW#1 and up to 12 inches below the brook bottom in OW#3 were also evaluated. COC records are included in Appendix E.

A summary of the validated OW sediment sample analytical results are provided in Tables 1-9. As shown, low levels of VOCs were detected at HB-SED-27 (OW#3). The highest VOC constituent in OW#3 was acetone at 48J ppb in the 1.5' – 2.5' sample. The highest VOC constituent detected in HB-SED-28 (OW#1) was total xylenes at 340J ppb in the 2' – 3' sample. Low levels of VOCs (mostly acetone, carbon disulfide and BTEX) were detected at both OW sediment sample locations. Tetrachloroethene was also detected in both OW#1 samples at 98J (1' – 2') and 110J (2' – 3'.)

SVOCs were detected at both OW sediment sample locations. Both samples from HB-SED-28 (OW#1) showed the greatest number of SVOC constituents. The highest levels of SVOCs were detected at HB-SED-28 at 2' – 3'.) Phenanthrene was the highest detected SVOC at 23,000J ppb at HB-SED-28 at 2' – 3'.

Aroclor-1260 was detected in each of the four OW sediment samples. The highest level of Aroclor 1260 of 71.9J ppb was detected in HB-SED-28 at 2' – 3'. Aroclor 1242 was only detected in HB-SED-28 at 2' – 3' at 7.64J ppb.

Aluminum, beryllium, arsenic, barium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium, vanadium and zinc were detected at each drainage ditch sediment sample location. The highest level of lead was detected at HB-SED-27 (2.5' – 3.5') at 120 mg/kg. The highest level of mercury was detected at HB-SED-28 (1' – 2') at 0.21J mg/kg.

The physical substrate in OW#1, OW#2, and OW#3 was further evaluated to assist in development of the hydraulic analysis and substrate selection for the IRM design of these areas. Specifically, the depth to the "hard layer" and the depth of water at OW#1 through OW#3 were evaluated. The sediment probing was conducted in OW#1 through OW#3 by pushing a steel rod into the substrate until refusal was achieved. The steel rod used was 0.375 inches in diameter and 54 inches in length with a narrowed blunt tip. In each OW area, the probing points were arranged in two to three lines, perpendicular to the channel, per OW area. At one-foot intervals along the sediment probing lines, the depth of water and depth to refusal were recorded as depths below the water surface.

Open Water Area 1

Three probing lines were conducted across OW#1 to evaluate the depths to the "hard layer" as shown in Figure 4. The depths to refusal were variable across each probing line and between lines. The average depth of refusal over OW#1 was 20.8 inches below the water surface. Refusal was not achieved over the last two feet of line 2. A cemented layer of waste was observed along either bank of line 3 approximately 2 inches above the stream stage. Graphs of the sediment and refusal depths for OW#1 are presented in Figure 5.

Open Water Area 2

Two probing lines were conducted across OW#2, as shown in Figure 4. The depths to refusal were variable across each probing line and between lines resulting in few correlations that could be drawn. The average depth of refusal over OW#2 was 12.9 inches below the water surface. The streambed consisted of coarse gravel and cobbles that greatly restricted the probe from penetrating. Graphs of the sediment and refusal depths for OW#2 are presented in Figure 6.

Open Water Area 3

Three probing lines were conducted across OW#3, as shown in Figure 4. The depths to refusal were more regular than the lines from OW#1. The average depth to refusal over OW#3 was 15.8 inches below the water surface. At approximately two/thirds of the distance across the channel the depth to refusal increased in each of the three lines. Graphs of the sediment and refusal depths for OW#3 are presented in Figure 7.

2.3 VEGETATION SURVEY

A total of eleven vegetation plot locations were assessed for the vegetation survey performed in the Upper Harbor Brook Area. Seven vegetation plots were surveyed in the wetland communities (generally one plot per community) and two plots were surveyed on the banks of Harbor Brook and the Wastebed D/E drainage ditch (totaling four plots, 1 per bank). The vegetation survey is discussed in detail in Appendix F of this report.

2.4 HARBOR BROOK STREAM ASSESSMENT

A hydraulic and stability analysis of the Harbor Brook channel and associated ditches described above was performed by Anchor QEA, LLC and is provided as Appendix G. The analysis was performed utilizing the United States Army Corps of Engineers (USACE) Hydrologic Engineering Center River Analysis System (HEC-RAS). Input for the HEC-RAS model included proposed topography, storm water analyses, and upstream flow rates. Existing topography was obtained from multiple surveys conducted by Richard M. Rybinski, LLS and CT Male Associates. Storm water analyses were performed by O'Brien & Gere utilizing the United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Technical Release No. 55 for Windows (TR-55). Flow rates upstream of OW#5 were established using a U.S. Geological Survey (USGS) gauging station (USGS gauging station #04240105) located on Harbor Brook at Hiawatha Boulevard.

2.5 MATERIAL COMPATIBILITY

Product manufacturers were contacted to assess the compatibility of their products with Site ground water. The water data that was presented to manufacturers was a "worst case" scenario consisting of the highest concentrations of all ground water contaminants encountered at the Site. It should be noted that the majority of the "worst case" concentrations were encountered in intermediate and deep ground water, while the majority of the ground water coming into contact with these products will be from the shallow groundwater aquifer. Typically, the shallow ground water has been shown to have much lower contaminant concentrations. The following information was provided by various manufacturers:

- Fiberglass Pipe Manufacturer: Smith Fibercast confirmed that Red Thread II FRP piping is compatible with Site ground water.
- Geomembrane Liner Manufacturer: GSE confirmed that Ultraflex double-sided textured 40 mil LLDPE liner is compatible with Site ground water.

In addition to the product manufacturers' approvals, independent compatibility testing performed for other Honeywell lakeshore sites with similar ground water characteristics were reviewed for materials selection. The materials of construction in the Willis Avenue/Semet IRM GWTP were tested to assess their compatibility with the chemical composition of the ground water/waste water to be treated. This testing is presented in the Willis Avenue/Semet Tar Beds Site Ground Water Treatment Plant 50% Design Report (O'Brien & Gere 2004b). Different composite wastewaters were evaluated. One wastewater sample (designated Composite #3) consisted of ground waters from the Willis Avenue and Semet Residue Ponds sites.

In the compatibility testing two types of fiberglass-reinforced plastic (FRP) pipe as well as several geomembrane materials were immersed in separate samples of wastewater. Compatibility testing showed that FRP piping and LLDPE liner is suitable for use at the Site. Analytical and compatibility testing results are provided as Appendix I.

2.6 STAGE 1A CULTURAL RESOURCES SURVEY

Pratt & Pratt conducted a Stage 1A cultural resources survey (CRS) for all Honeywell sites in the area of Onondaga Lake (Pratt & Pratt 2003). Public Archaeology Facility (PAF) conducted a subsequent Stage 1A CRS (PAF 2004) for a portion of the Honeywell sites, which included Onondaga Lake and some of the surrounding areas including Wastebed B and Wastebed 1, and the LCP site.

A Stage 1A survey for this project has been performed and will be provided in a separate document.

2.7 GROUND WATER MODELING

One of the objectives of the proposed IRM is to minimize the migration of soluble residuals in ground water to Harbor Brook, to the extent practicable. The Honeywell ground water flow model was used to estimate the ground water collection rate, evaluate potential design enhancements for the collection system, and demonstrate that the design of the ground water recovery system will meet the IRM objectives. In addition, cross section simulations were performed to evaluate the design of the IRM. This section describes the ground water modeling process and the results of the modeling.

2.7.1 Honeywell Ground Water Model

Honeywell developed the Honeywell ground water flow computer model to simulate ground water flow beneath and in the vicinity of the southwestern part of Onondaga Lake. This model was developed to facilitate the understanding of ground water flow and to assist in the evaluation of remedial approaches for Onondaga Lake and Honeywell upland sites adjacent to the lake. This model was used to evaluate the effectiveness of the proposed Harbor Brook IRM and assist in the design of the IRM.

The Honeywell ground water model was originally developed by Blasland, Bouck & Lee, Inc. (BBL) and documented in an August 2000 model report (BBL, 2000). Since BBL developed the original model, additional hydrogeologic data for the model area have been collected and included in subsequent model revisions. The first model revision, which incorporated data from the Semet Tar Beds and Willis Avenue sites, was documented in a modeling report in 2002 (O'Brien & Gere, 2002d). A second model revision incorporated data from the Harbor Brook and Ballfield sites. This version of the model was presented as Appendix D in the Draft Onondaga Lake Feasibility Study (Parsons, 2003). In 2004 S.S. Papadopulos & Associates, Inc. (SSP&A) and O'Brien & Gere revised the model to incorporate representation of density variation and the use of the SEAWAT-2000 computer code. This version of the Honeywell ground water model is described in the Onondaga Lake Feasibility Study (Honeywell, 2004a) and is known as version 2. A revision of the model, version 3, is currently being completed.

2.7.2 Cross Section Simulations

Ground water data adjacent to Harbor Brook are limited, but the available data indicates that ground water elevations on either side of Harbor Brook may be equal. Hydraulic conductivity data indicate that the fill and marl units which extend from the surface to approximately 10 to 30 feet below grade are generally of low hydraulic conductivity. Because of this low hydraulic conductivity, cross section simulations were completed to evaluate various design options for the Harbor Brook IRM. The scale of the cross section simulations was designed to provide a more detailed evaluation of ground water flow adjacent to the brook. These cross section simulations were performed using the U. S. Geological Survey model code MODFLOW. MODFLOW is a three-dimensional, finite difference numerical model for the simulation of ground water flow. The cross section was developed to represent the general dimensions of, and hydrogeologic conditions around, Harbor Brook. The hydraulic conductivity used in the cross section model simulations reflected the site data. The fill unit horizontal hydraulic conductivity (0.01 ft/day) is about an order of magnitude lower than the marl horizontal hydraulic conductivity (0.8 ft/day). The fill vertical hydraulic conductivity is about equal to the horizontal hydraulic conductivity. For the marl the vertical hydraulic conductivity is about 0.007 ft/day.

2.7.3 IRM Evaluation

The proposed Harbor Brook IRM design was evaluated using the Honeywell ground water flow model and a cross section model. The purpose of this IRM evaluation was to:

- Evaluate whether the proposed IRM design would effectively meet the IRM objective and
- Estimate the expected collection rate of the ground water collection system

The ground water currently discharging to Harbor Brook is from the shallow and intermediate hydrogeologic units, which are the fill and marl units in the Honeywell ground water model. The proposed IRM collection system has a shallow ground water collection trench on the west side of Harbor Brook and a low permeable isolation layer under the brook. The shallow ground water collection trench is designed to partially penetrate the fill unit. For the Honeywell ground water model simulations, the water level in the trench was modeled to be 2.0 ft below the adjacent Harbor Brook water level. The low permeable isolation layer extends under the open water portions of the brook. The permeability of the hydraulic barrier is assumed to be 1×10^{-6} cm/sec (0.0028 ft/day). The IRM also includes the lining of other selected ditches adjacent to Harbor Brook and a liner/ground water collection system for the I-690 ditch.

These IRM components were incorporated in the Honeywell ground water flow model and the cross section model. The MODFLOW drain module was used to represent the collection trench with the drain water level set at below the brook surface water levels. The low permeable isolation layer was represented by reducing the conductance of the brook model boundary feature. Those ditches where there is only a liner with no ground water collection were removed from the model.

2.7.4 IRM Evaluation Results

The Honeywell ground water model was used to perform a baseline simulation with no IRM as well as a simulation with the IRM ground water system components. The baseline simulation represented pre-IRM ground water discharge to Harbor Brook and associated ditches. In the baseline simulation the ground water discharge to Harbor Brook is about 1,900 ft^3/day (10 gpm). Baseline ground water discharge to the I-690 ditch is about 1,000 ft^3/day (5 gpm). Baseline discharge to other ditches in the area is about 1,400 ft^3/day (7 gpm). There is no baseline simulation discharge to the Penn-Can ditch.

In the simulation of the IRM system there is no ground water discharge to Harbor Brook. IRM simulation discharge to the Harbor Brook trench is about 4,200 ft^3/day (22 gpm). IRM simulation discharge to the I-690 ditch is about 1,000 ft^3/day (5 gpm). There is no IRM simulation discharge to the Penn-Can ditch. A summary of the discharge to the Harbor Brook IRM system is presented in the Table below. Note that the simulation of the Harbor Brook IRM included the Wastebed B ground water collection trench.

Ground Water Discharge Volumes - Harbor Brook IRM		
	No IRM	IRM
Harbor Brook	10	0
Harbor Brook Collection Trench	Not Present	22
I 690 Ditch	5	0
I 690 Ditch Collection Trench	Not Present	5
Penn-Can Ditch	0	0
Other Ditches (RR Area)	8	0
Total Ground Water Discharge	23	27
Discharge rates in gallons per minute		
		Source: O'Brien & Gere

The cross section simulations considered a low permeable liner with a hydraulic conductivity of 0.0028 ft/day (10^{-6} cm/sec) fully lining the bottom and sides of Harbor Brook. Simulations were completed both with and without a drainage layer present under the liner. Figures 8 and 9 show the impact that variations of the depth of the collection trench and the operational water level in the collection trench have on the discharge of ground water to the collection trench. For these simulations the ground water that does not discharge to the collection trench would discharge to Harbor Brook.

Figure 8, titled Trench Depth Variations, reflects the results from simulations where the depth of the collection trench below the bottom of Harbor Brook was varied. For these simulations the head in the trench was kept constant at 2 ft below the Harbor Brook water level. These data show that with a drainage layer beneath the liner, a trench depth of about 4 ft below Harbor Brook will provide complete capture of ground water by the collection trench; ground water would not discharge to Harbor Brook. These data also show that without a drainage layer beneath the liner, a trench depth of 4-5 ft below Harbor Brook will provide over 99% capture of ground water by the collection trench; less than 1% of ground water would discharge to Harbor Brook.

Figure 9, titled Trench Head Variations, reflects the results from simulations where the head in the collection trench was varied. For these simulations the trench depth was kept constant at 5 ft below the Harbor Brook water level. These data show that with a drainage layer beneath the liner, a trench head of about 2 ft below the Harbor Brook water level will provide complete capture of ground water by the collection trench; ground water would not discharge to Harbor Brook. These data also show that without a drainage layer a trench head of at least 4 ft below Harbor Brook will provide over 99% capture of ground water by the collection trench; less than 1% of ground water would discharge to Harbor Brook.

2.7.5 Summary

The Honeywell ground water model and cross section simulations were used to evaluate the effectiveness and design of the proposed IRM for Harbor Brook. The IRM components (ground water collection trench and brook isolation layer) were incorporated in the models. The simulations demonstrate that the proposed Harbor Brook IRM will effectively prevent ground water from the site from discharging to Harbor Brook. The estimated ground water collection rate is approximately 27 gpm.

Cross section flow simulations were conducted to evaluate the ground water response to different brook IRM options. These simulations considered various isolation layer scenarios. The simulations documented that a trench depth of 4-5 ft with a trench head about 2 ft below the brook elevation will provide complete capture of

ground water by the collection trench. Ground water would not discharge to Harbor Brook. The presence of a drainage layer under the liner improves the effectiveness of the liner/collection trench system.

3. IRM DESIGN

3.1 UPPER HARBOR BROOK IRM OBJECTIVES

In accordance with the Consent Order and discussions with the NYSDEC, the objectives for the Upper Harbor Brook portion of the IRM are to:

- Eliminate, to the extent practicable, within the scope of the IRM, the discharge of impacted ground water and NAPL (and collect NAPL, as feasible) into Harbor Brook and Onondaga Lake.
- Eliminate, to the extent practicable, within the scope of this IRM, the potential human health and ecological impacts associated with Site constituents of concern.
- Eliminate, to the extent practicable, within the scope of this IRM, potential impacts to fish and wildlife resources associated with on-going discharges of Contaminants of Concern from the Site.

3.2 SELECTED UPPER HARBOR BROOK IRM APPROACH

Remedial approaches to meet the IRM objectives include the following:

1. Installation of a collection trench adjacent to Harbor Brook from OW#1 to OW#2, and OW#3 to OW#4 for hydraulic control of impacted ground water discharging to Harbor Brook;

2. Excavation of sediments from OW #1 through #5, installation of a membrane liner in selected areas, restoration of the brook substrate, and cleaning/sealing of culverts #2 through #5 and Railroad culverts #1 and #2;

3. Excavation of sediments from the I-690 drainage ditch, the Penn-Can drainage ditch, Wastebed D/E Drainage Ditch and Railroad Ditches #1 and #2, installation of a membrane liner in selected ditches, restoration of ditch substrate, and collection trench beneath the centerline of the I-690 ditch,

4. Restoration of wetland and stream habitats (WL6, WPC1, WPC2, WPC3, WRR1, WRR2, WRR3, WRR4 and WRR5) to provide storm water detention, improved water quality, and improved habitat; and

5. Cleaning of a portion of the I-690 storm sewer conveyance system.

The ground water collection system consists of sand-filled trenches with a slotted collection pipe discharging to a collection sump. The collection sump will utilize a submersible pump to convey the collected ground water to the Willis Avenue/Semet IRM Ground Water Treatment Plant (GWTP) via the West Wall forcemain and Lakeshore Pump Station.

The membrane liner layer consists of a geotextile bedding layer overlain with a linear low density polyethylene (LLDPE) textured geomembrane. The area will be restored to the approximate grades and elevations shown on the Contract Drawings.

All material excavated from the Site will be transported to and placed on Wastebed B upgradient of the barrier wall at locations shown on the Contract Drawings or designated by Honeywell. As described in the West Wall Final Design Report (Parsons 2009), this material will be stockpiled in a temporary on-site staging area. The stockpile will be covered with a low-permeability membrane or stabilized (with vegetation) to minimize contact with storm water and runoff when not in use and following completion of the project. The stockpile cover, as well as any sediment and erosion control measures will be maintained until final disposition of these materials is addressed as part of the final WBB/HB site remedy selection. In the event that grossly contaminated soil (e.g., NAPL saturated soils) is encountered during the excavation/site grading activities, this material will be staged separately on site. A plan for the temporary staging, characterization, and disposal of this material will be developed by Honeywell in consultation with the NYSDEC.

This section of the report presents the design for each of these elements. Contract Drawings detailing the elements of construction are included as Appendix A and Technical Specifications are included as Appendix B.

3.3 INTEGRATION WITH OTHER REMEDIES

The goal is to perform construction associated with the site-wide remedy and the IRM in a timely manner to maintain the Onondaga Lake dredging schedule. The RI was submitted and is being finalized per NYSDEC comments, and the EE/CA has been approved by the NYSDEC. The western portion of the barrier wall has been constructed and the eastern portion of the barrier wall is currently in the construction phase.

3.4 GROUND WATER COLLECTION TRENCHES

Hydraulic control will be established using a membrane liner and two separate ground water collection trenches along the western side of Harbor Brook from OW#3 to OW#4, and from OW#1 to OW#2, to collect impacted ground water and minimize its discharge into Harbor Brook. In addition, a collection trench will be installed beneath the centerline of the I-690 drainage ditch. The trench comprises a 4-inch slotted FRP collection pipe surrounded by sand. The anticipated combined ground water flow from all trenches is 27 gpm. The proposed routing of the trenches can be seen on Sheet G-3 of the Contract Drawings.

3.4.1 Clearing and Grubbing

Various locations proximate to Harbor Brook and the ditches will require clearing and grubbing prior to construction activities. In addition, various wetland areas are heavily vegetated and may require mowing. During clearing and grubbing activities, no vegetation or debris will be placed in or near any of the ditches or Harbor Brook. Harbor Brook handles water from several adjacent properties, and care will be taken to see that the flow of water will not be restricted because of debris from the clearing and grubbing. Any debris within the work areas shall be removed and disposed of by the contractor.

3.4.2 Site Survey and Layout

Prior to excavation of the shallow ground water collection trench, the proposed centerline of the trench will be staked and surveyed by a licensed surveyor. The alignment may be adjusted as necessary to accommodate topographic and physical conditions of the Site before the start of construction activities. The locations of the cleanouts for the fiberglass collection and forcemain piping, the manholes, and the ground water pumping stations will also be staked and surveyed by a licensed surveyor.

3.4.3 Excavation

The excavation of the shallow ground water collection trenches will be performed along the staked and surveyed collection trench centerlines. The Upper Harbor Brook collection trench centerline will be located adjacent to the brook and trench excavation will be along the western side slope. The I-690 drainage ditch collection trench will be located directly beneath the proposed ditch centerline. All collection trench excavations will extend approximately 2 ft below the invert of the final grade of the respective ditch/brook membrane liner. Excavations will be made approximately 3 ft wide to accommodate installation of the collection trench.

The I-690 ditch excavation will be advanced such that the ditch flow will be bypass–pumped. A cross-section of the ground water collection trench is shown on Sheet G-32 of the Contract Drawings. Dewatering of the excavation areas during construction will be the Contractor's responsibility. No collected water will be disposed of into Harbor Brook. Collected water may be treated at the Willis Avenue/Semet IRM GWTP in accordance with the Contract Documents or off-site in accordance with all local, state, and federal regulations.

3.4.4 Installation of Collection System

Ground water entering the collection trench will be conveyed to the pump stations via slotted FRP collection pipe and solid wall FRP conveyance pipe. The collection pipe will be surrounded by sand as shown on Sheet G-32 of the Contract Drawings.

All joints of the FRP pipe will be connected in accordance with Technical Specification 02630 Fiberglass Reinforced Plastic Pipe. Cleanouts with observation ports will be installed approximately every 150 linear feet along the collection pipe, where feasible.

3.4.5 Installation of Forcemain

The ground water collected in the pump stations will be pumped through a 2-inch diameter solid FRP forcemain installed approximately 5 feet below grade. The FRP forcemain will be installed to connect the collection sumps and the east/west wall forcemain located near the lake shore as shown on Sheets G-3 and G-28 of the Contract Drawings. Cleanouts will be spaced approximately every 150 linear feet as shown on the Contract Drawings. Changes in direction along the proposed forcemain layout will be accomplished by bending the FRP in accordance with the manufacturer's recommendations. Elbows may be used only as shown on the Contract Drawings or as approved by the Engineer.

A portion of forcemain will be installed within Culvert #3 as shown on Sheet G-27. Following installation of the forcemain and associated electrical conduits, the piping will be encased in concrete and the entire culvert will be lined with cast-in-place fiberglass pipe (CIPP) to mitigate the lost cross sectional area of the culvert. A hydraulic analysis of the culvert was performed for the proposed conditions to ensure that flow capacity would not be reduced; the analysis is provided in Appendix K. It is anticipated that only one culvert (western) would be lined with CIPP to mitigate for the lost cross sectional area resulting from the installation of the proposed forcemain and conduits. Pending results of the CCTV evaluation of the eastern culvert, rehabilitation may be required. Methods of rehabilitation will be evaluated if required.

The FRP forcemains will be constructed with provisions for acid cleaning. This cleaning may be performed as part of the operations and maintenance of the site.

3.5 EXCAVATION OF UPPER HARBOR BROOK

Open Water Areas #1 through #4 of the main Upper Harbor Brook channel will be excavated to remove impacted sediments and to allow for placement of the membrane liner and substrate for restoration of the stream. Typically, a minimum excavation depth of 2 feet below the existing streambed will be required to allow for placement of the membrane liner; however, actual excavation depth will vary as described below and as shown on the Contract Drawings. In Open Water Area #5, accumulated sediment will be removed from the limestone block, but the block will remain in place.

Excavation will be advanced such that the Brook flow will require bypass–pumping. Dewatering of the excavation during construction will be the Contractor's responsibility. No collected water shall be disposed of into Harbor Brook. Collected water may be treated at the Willis Avenue/Semet IRM GWTP in accordance with the Contract Documents or off-site in accordance with all local, state, and federal regulations.

The excavation details for each Open Water Area are shown on Sheets G-23 and G-24.

3.5.1 Open Water Area #1

OW #1 is approximately 100 feet in length and 23 feet wide. The depth of sediment is approximately 0.1 to 2.1 feet. The I-690 Drainage Ditch enters this stretch from the west. OW #1 will be excavated to remove impacted sediments to a depth of approximately 4 feet.

3.5.2 Open Water Area #2

OW #2 is approximately 28 feet in length and 24 feet wide. The depth of sediment is approximately 0.1 – 0.5 feet. The Penn-Can Drainage Ditch enters this stretch from the west. OW #2 will be excavated to remove potentially impacted sediments within the brook and potentially impacted soils beneath the brook to a depth of approximately 2 feet.

3.5.3 Open Water Area #3

OW #3 is approximately 60 feet in length and 21 feet wide. The depth of sediment is approximately 0.2 – 1.7 feet. Wastebed D/E Drainage Ditch enters this reach from the east. OW #3 will be excavated to remove potentially impacted sediments within the brook and potential NAPL impacted soils beneath the brook to an approximate depth of 8 feet below existing grade.

3.5.4 Open Water Area #4

OW #4 is approximately 100 feet in length and 16 – 17 feet wide. This section of the brook is lined with limestone block. The depth of sediment is approximately 0 – 0.7 feet. Railroad Drainage Ditch #1 enters this reach from the west. The limestone block, along with potentially impacted sediments, will be removed from the brook and OW #4 will be excavated to an approximate depth of 6 feet below the existing limestone elevation to remove potential NAPL impacted soils.

3.5.5 Open Water Area #5

OW #5 is approximately 300 feet in length and 8 – 15 feet wide. This section of the brook is lined with limestone block. The depth of sediment is 0 - 0.3 feet. Sediment deposited on the limestone block will be removed; however, the limestone block will be left in place.

3.5.6 Method of Relocation

The excavated material will be transported to the Wastebed B area via Honeywell property to the extent possible. As described in the West Wall Final Design Report (Parsons 2009), this material will be stockpiled in a temporary on-site staging area. The stockpile will be covered with a low-permeability membrane or stabilized (with vegetation) to minimize contact with storm water and runoff when not in use and following completion of the project. The stockpile cover, as well as any sediment and erosion control measures will be maintained until final disposition of these materials is addressed as part of the final WBB/HB site remedy selection. In the event that grossly contaminated soil (e.g., NAPL saturated soils) is encountered during the excavation/site grading activities, this material will be staged separately on site. A plan for the temporary staging, characterization, and disposal of this material will be developed by Honeywell in consultation with the NYSDEC.

3.5.7 Restoration of Upper Harbor Brook

Following excavation and placement of the membrane liner, the area will be restored to the approximate grades and elevations present prior to excavation as shown in the Contract Drawings.

3.5.8 Existing Structures

Existing outfalls and culvert pipe will have various sizes of rip-rap scour protection placed around the outlet of the outfall, and inlet and outlet of the culvert pipe as shown on Sheet G-35 of the Contract Drawings. The proposed isolation barrier will be attached to existing structures, such as culverts that will remain, by anchor bolts as detailed on Sheet G-33 of the Contract Drawings or as directed by the manufacturer and/or Engineer.

3.6 EXCAVATION OF DITCHES

The ditches will be excavated to remove impacted sediments to a depth necessary to allow placement of the membrane liner and/or substrate for restoration of the stream. Typically, a minimum excavation depth of 2 feet will be required; however, actual excavation depth will vary as shown on the Contract Drawings

Excavation will be advanced such that ditch flow may require bypass–pumping. Dewatering of the excavation during construction will be the Contractor's responsibility. No collected water will be disposed of into Harbor Brook. Collected water may be treated at the Willis Avenue/Semet IRM GWTP in accordance with the Contract Documents or off-site in accordance with all local, state, and federal regulations.

3.6.1 I-690 Drainage Ditch

The I-690 Drainage Ditch is approximately 1,635 feet in length and 8 – 25 feet wide. Sediment will be removed to approximately 2 feet below existing grade. A ground water collection trench will be installed beneath the centerline of the I-690 drainage ditch, as discussed in Section 3.4.

The configuration of the I-690 drainage ditch is shown on Sheets G-5 through G-8 of the Contract Drawings.

3.6.2 Penn-Can Drainage Ditch

The Penn-Can Drainage Ditch is approximately 1,600 feet in length and 2 – 3 feet wide. Sediment will be removed to approximately 2 feet and the ditch will be restored to existing grade using suitable substrate. Based upon the results of the ground water model that show no discharge to the Penn-Can Ditch, as discussed in

Section 2.7, a collection trench is not required in this area. However, four piezometers will be installed as shown on Sheets G-10 and G-11 and additional monitoring will be performed to support the ground water model results. If the additional monitoring concludes that there is a source of contaminated groundwater to the Penn-Can ditch additional measures will be required as part of the final remedy.

The configuration of the restored Penn-Can drainage ditch is shown on Sheets G-10 through G-12 of the Contract Drawings.

3.6.3 Wastebed D/E Drainage Ditch

The Wastebed D/E Drainage Ditch is approximately 1,950 feet in length and 5 – 15 feet wide. The ditch sediments will be removed from the Wastebed D/E drainage ditch to a depth of approximately 2 feet. Based on the results of the investigations performed to date and the locations of impacted sediment and soil, a membrane liner will be installed for the first 150 feet of the ditch, beginning at OW #3. Suitable substrate material (with no liner) will be installed upstream for the remainder of the ditch eastward to Hiawatha Boulevard. The restored ditch will be seeded or planted above the mean water level.

The configuration of the Wastebed D/E drainage ditch is shown on Sheets G-15 through G-18 of the Contract Drawings.

3.6.4 Railroad Drainage Ditch #1

Railroad Drainage Ditch #1 is approximately 750 feet in length and 4 – 9 feet wide. The ditch sediments will be removed from Railroad Drainage Ditch #1 to a depth of approximately 2 feet. Suitable substrate will be installed to restore the ditch to existing grade and the ditch will be seeded or planted above the mean water level. The eastern portion of the ditch, between the railroad tracks and Harbor Brook, will be lined with a one foot clay layer that will act as an aquitard and isolate the ditch from the groundwater collection system. Suitable substrate will be installed above the clay layer.

The configuration of the restored Railroad Drainage Ditch #1 is shown on Sheet G-19 of the Contract Drawings.

3.6.5 Railroad Drainage Ditch #2

Railroad Drainage Ditch #2 is approximately 780 feet in length and 3 – 8.5 feet wide. The ditch sediments will be removed from Railroad Drainage Ditch #2 to a depth of approximately 2 feet. Suitable substrate will be installed to restore the ditch to existing grade and the ditch will be seeded or planted above the mean water level.

The configuration of the restored Railroad Drainage Ditch #2 is shown on Sheet G-21 of the Contract Drawings.

3.6.6 Method of Relocation

The excavated material will be transported to the Wastebed B area via Honeywell property to the extent possible.

3.6.7 Restoration of Ditches

Following excavation and placement of the isolation layer in selected ditches, new ditch substrate will be placed and the area will be restored to the approximate grades and elevations present prior to excavation as shown on the Contract Drawings.

3.6.8 Existing Structures

Existing outfalls and culvert pipe will have various sizes of rip-rap scour protection placed around the outlet of the outfall, and inlet and outlet of the culvert pipe as shown on Sheet G-35 of the Contract Drawings. The proposed isolation barrier will be attached to existing structures, such as culverts that will remain, by anchor bolts as detailed on Sheet G-33 of the Contract Drawings or as directed by the manufacturer and/or Engineer.

3.7 GROUND WATER PUMP STATIONS

The collected ground water from the Harbor Brook and I-690 collection trenches will be conveyed in 4-inch FRP piping via gravity to its respective pump station. Locations of the collection trenches, solid wall conveyance piping, and the pump stations are shown on Sheet G-3.

Once collected in the pump stations, the ground water will be pumped through a 2-inch FRP forcemain to the east/west wall forcemain (being installed under a separate IRM) and ultimately to the Lakeshore Pump Station and Willis Avenue GWTP. The proposed location of the forcemain is shown on Sheet G-3 of the Contract Drawings.

The design of the ground water pump stations was based on the projected flows from ground water modeling performed as part of the design activities and the amount of head required for pumping to the Lakeshore Pump Station. The amount of head was calculated based on the elevations of the equalization tanks and the collection trench and head losses within the collection system. The design parameters of the West Wall collection sumps were also considered. The ground water pump station hydraulic calculations are provided in Appendix H.

3.7.1 Excavation

The pump station excavations will extend to a depth of approximately 30 feet below grade (approximately 20 feet below ground water level). The excavation sidewalls and bottom will be stabilized and dewatered to allow for installation of the pump stations and valve vaults. A cross-section of the ground water pump stations and valve vaults is shown on Sheets G-29 and G-30 of the Contract Drawings. Dewatering and stabilization of the excavations will be the Contractor's responsibility. No collected water from the pump station excavations will be disposed of into any Site ditches or Harbor Brook. Collected water may be treated at the Willis Avenue GWTP in accordance with the Contract Documents or off-site in accordance with all local, state, and federal regulations.

3.7.2 Pump Station and Valve Vault Installation

The pump stations and valve vaults will consist of pre-cast concrete sections placed on engineered foundations. The engineered foundations will consist of a poured concrete mud mats 24 inches thick. The dimensions and details of the pump stations and valve vaults are shown on Sheet G-29 and G-30 of the Contract Drawings.

The pre-cast concrete sections forming the pump stations and valve vaults will be lined with fiberglass. The pump stations and valve vaults will have fiberglass hand laid around each pipe penetration to seal it from the ground water. The pipe supports will also be constructed of suitable materials.

The ground water pump stations will be controlled by stand-alone control panels in communication with the Lakeshore Pump Station and the Willis Avenue GWTP. The control panels will be located above grade adjacent to the proposed pump stations. Details of the electrical controls are shown on Sheets E-1 through E-5 of the Contract Drawings.

3.7.3 Pumps and Piping

As part of the GWTP design (O'Brien & Gere 2004b), suitable materials of construction for piping and equipment were identified. The GWTP design indicated that 316 stainless steel or lined (Teflon or epoxy) carbon steel is suitable for equipment that will contact the ground water.

The pump chosen for the ground water pump stations is a Goulds submersible effluent pump, Model No. WE1534H (the same model that will be installed in the West Wall pump stations).There will be one pump within each pump station and one off-line spare. The pumps are designed to pump collected ground water to the equalization tanks at the Lakeshore Pump Station at an estimated flow rate of 30-65 gpm. Pump capacities will vary depending on operation of the West Wall pumps, as the forcemain is shared. The design has accounted for the possibility of scaling to form in the pipes based on the constituents in the ground water.

3.8 MEMBRANE LINER

A membrane liner will be installed with the primary objective to prevent the discharge of impacted ground water into the Site Ditches and Upper Harbor Brook and subsequently to Onondaga Lake. The membrane liner

will also minimize the potential for migration of impacted soils to Onondaga Lake, and will minimize the potential for surface water to enter the collection trench. In OW#1 through OW#4, the I-690 ditch, and a portion of the Wastebed D/E ditch as shown in the Contract Drawings, the membrane liner will provide an increased factor of safety against re-contamination due to the unknown long term ground water quality of water migrating from the off-site sources (*e.g.* CSX railroad area and former Church and Dwight facility). The liner will consist of a 40-mil LLDPE geomembrane and other associated cushion layers and geogrids as detailed on Sheets G-36 through G-38.

3.8.1 Excavation

Excavation for the installation of the isolation barrier will be performed within the limits shown on the Contract Drawings and as described in Sections 3.5 and 3.6.

3.8.2 Installation of Membrane Liner

Following the excavation of ditch and/or brook material to the desired elevation for the membrane liner and completion of the collection trench construction, the liner will be installed. The liner will consist of a 40-mil LLDPE geomembrane and other associated cushion layers and geogrids as detailed on Sheets G-36 through G-38.

The liner limits are shown on the Contract Drawings

3.9 I-690 STORM SEWER AND CULVERT CLEANING AND INSPECTION

The I-690 storm sewer system, Harbor Brook culverts #2 through #5, and Railroad culverts #1 and #2 will be cleaned and inspected, and sediment found within the culverts will be removed. The removal of the sediments is being performed to minimize the potential for migration of impacted sediments to Onondaga Lake. Harbor Brook culvert #1 will be replaced as part of the East Wall design being conducted as a separate IRM.

3.9.1 Cleaning

Cleaning will be performed on the storm sewer and culverts shown on Sheets G-4 and G-31 of the Contract Drawings. The cleaning will be performed via hydraulic flushing methods.

3.9.2 Inspection

Following completion of the culvert cleaning the culverts and storm sewer piping will be inspected by video with voice overlay in accordance with Specification Section 02768-Closed Circuit Television (CCTV) Inspection. The inspection report will be presented to Honeywell and NYSDEC for approval and documentation.

3.9.3 Sealing/Lining

In order to minimize the potential for future infiltration of impacted ground water into the storm sewer and culverts, identified leaking portions will be sealed. Sealing methods may include, but are not limited to, chemical grouting, welding, or cured in place pipe. Upon completion of the inspection, the Contractor shall submit a sealing plan for approval by the Engineer and NYSDEC.

3.10 WETLAND AREAS

Wetland areas will be excavated to a depth of approximately 2 feet and restored to pre-construction grade using a 12-inch clay aquitard base layer and a 12-inch topsoil layer. Following restoration of grade the areas will be reseeded and replanted with native species in accordance with the Contract Specifications. The contractor shall maintain surface water flow upstream and downstream of the construction zone during excavation and restoration activities. Details and notes regarding wetland excavation and restoration are shown on the Contract Drawings.

The three Penn Can wetland areas totaled approximately 0.894 acres prior to the ongoing addition of construction debris and fill. Site walks performed by O'Brien & Gere in March 2010 revealed that portions of WPC1, WPC2, WPC3, and the Penn-Can drainage ditch have been filled such that the total wetland acreage has been reduced to approximately 0.447 acres and Figure 11 does not reflect the current extent of the Penn Can wetlands. Prior to commencement of Penn Can wetland restoration, the extents of these wetlands will be re-

assessed to determine the acreages as the addition of debris and fill in these areas is ongoing. Wetlands will be restored to the extent that they exist at that time.

3.11 GENERAL SITE RESTORATION AND SECURITY

Following construction activities, areas disturbed during construction will be restored as described in Technical Specification 02503 – Restoration of Surfaces, with the exception of the areas described in Section 3. Areas disturbed will be seeded with a seed mix indigenous to the area to minimize erosion and maintenance of the restored area.

To prevent un-authorized access to the ground water pump stations, valve vaults, and electrical panels, a permanent chain link fence and gates will be installed as shown on Sheets G-28 and E-2 of the Contract Drawings. In addition, vehicle access points will be gated and locked during off hours to prevent un-authorized site access. A detail of the fence and gate is shown on Sheet G-34 of the Contract Drawings.

The configurations of the restored Harbor Brook, OW areas, culverts, ditches, wetlands and other site areas are shown on the Contract Drawings.

4. REGULATORY/PERMIT REQUIREMENTS

Consistent with 6 NYCRR § 375-1.7 (Permitting Remedial Activities) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), O'Brien & Gere has prepared the design to facilitate substantive compliance with regulatory programs under the jurisdictional authority of NYSDEC. No permit issued by NYSDEC or local government will be required for activities "satisfying substantive technical requirements applicable to like activity conducted pursuant to a permit as determined by the Department [NYSDEC]" (6 NYCRR § 375-1.7(b)(2)).

In addition, pursuant to 6 NYCRR § 617-5(c)(29), proposed actions are defined as Type II and, therefore, not subject to review under the State Environmental Quality Review Act (SEQRA).

Since the Site is also a sub-site of the Onondaga Lake federal National Priority List (NPL) site, the actions of this IRM meet the "CERCLA exemption," and federal permit requirements will also be limited to substantive requirements.

The permit programs, including substantive requirements, are summarized in Table 4-1. Honeywell will not be required to obtain permits under these programs, but the Contractor(s) will be required to meet the substantive conditions and objectives of such programs.

Table 4-1 Applicable Regulatory Programs and Substantive Requirements

Agency	Permit/Requirement	Regulated Activity	Substantive
FEDERAL			
USACE	Section 404 of the CWA; Section 10 of the Rivers and Harbors Act of 1899	Dredging or filling in waters of the US (including wetlands) Activities in navigable waters.	Wetland delineation Mitigation plan for type and function of impacted resource
USEPA	Executive Order 11988 "Floodplain Management"	Review of federally approved actions within the 100-year floodplain.	Floodplain assessment
USEPA	Executive Order 11990 "Protection of Wetlands"	Review of federally approved actions within federal wetlands.	Wetland delineation and assessment
USFWS	Endangered Species Act	Potential impacts to rare, threatened, and endangered species.	Agency consultation
STATE			
NYSDEC	6 NYCRR 608 "Protection of Waters"	Activities within State-protected or navigable waters.	The proposal will not cause unreasonable, uncontrolled, or unnecessary damage to the natural resources of the state including soil, forests, water, fish, shellfish, crustaceans, and aquatic and land–related environment

Table 4-1 Applicable Regulatory Programs and Substantive Requirements

Agency	Permit/Requirement	Regulated Activity	Substantive
			The proposal is reasonable and necessary The proposal will not endanger the health, safety or welfare of the people of the State of New York Mitigate for type and function of impacted resource
NYSDEC	6 NYCRR 617 "SEQRA"	Review of potential environmental and socio-economic impacts.	Mitigate significant adverse impacts
NYSDEC	Section 401 of CWA "Water Quality Certification"	State review to ensure Federally approved activities do not contravene State water quality standards.	Agency coordination
NYSDEC	GP-0-10-001 "General Permit for Storm Water Discharges from Construction Activity"	Storm water runoff from site disturbances >1 acre.	SWPPP and E&SC Plan
NYSDEC	6 NYCRR Part 750 "SPDES"	Point source discharges (new or modifications to existing).	Identification of outfalls and associated flows.
NYSOPRHP	Federal & State Preservation Laws (9 NYCRR 428, 36 CFR 800, Section 106 of the NHPA)	Activities affecting historic, architectural, archaeological or cultural resources.	Compliance with NHPA of 1966 and State Historic Preservation Act.
MUNICIPAL			
Syracuse (C)	6 NYCRR Part 500 "Floodplain Management"	Activities within the 100-yr floodplain.	No changes to existing 100-yr flood elevation No need for compensatory storage

Source: O'Brien & Gere

Abbreviations/Acronyms:

CFR – Code of Federal Regulations
CWA – Clean Water Act
E&SC – Erosion and Sedimentation Control
GP – General Permit
NHPA – National Historic Preservation Act
NWP – Nationwide Permit
NYCRR – New York Codes, Rules and Regulations
NYSDEC – New York State Department of Environmental Conservation
SEQRA – State Environmental Quality Review Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Storm Water Pollution Prevention Plan
T – Town
USACE – United States Army Corps of Engineers
USEPA – United States Environmental Protection Agency
USFWS – United States Fish and Wildlife Service

5. FLOODPLAIN ASSESSMENT AND WETLAND DELINEATION

5.1 FLOODPLAIN ASSESSMENT

The 100- and 500-year flood boundaries for the Site, as demarcated by FEMA's *Flood Insurance Study* (1981), are shown on Figure 10. FEMA computed the 100- and 500-year flood boundaries as topographic elevations of 372 and 373 feet amsl, respectively. FEMA has adopted the 100-year flood boundary as a base flood for purposes of floodplain management measures. The 500-year flood boundary is used to indicate additional areas of flood risk in a community.

As shown on Figure 10, a significant portion of the Lakeshore Area portion of the Site is within the 100-year flood boundary. The flood boundary is primarily associated with the portions of the Site immediately adjacent to Onondaga Lake. Data obtained as part of the site investigation tasks performed for the wetland delineation areas (OBG 2003) included within the project study area are applicable to the floodplain associated with those wetland areas. That is, the wetland areas are dominated by *Phragmites australis* and habitat value is generally low. Wildlife species may utilize the floodplain areas as a transition to the lake and the upland portions of the Site

The selected remedy may cause temporary physical disturbances to the site wetlands and floodplain. Therefore, measures to minimize potential adverse impacts that cannot be avoided will be implemented. These measures will be presented in the Storm Water Pollution Prevention Plan (SWPPP), which will be developed and submitted to the NYSDEC for approval prior to the start of construction activities.

Chemical constituents have been identified in various media (*e.g.*, surface soil, sediment, surface water, and biota) in portions of the project study area detailed in Section 2. The effects of the contaminants on wetland resources were assessed as part of the *Wastebed B/Harbor Brook Remedial Investigation* (O'Brien & Gere 2004a).

5.2 WETLAND DELINEATION

A wetland delineation was performed for the Site as part of the PSA and RI field efforts. A detailed discussion regarding the wetland delineation can be found in the Wastebed B/Harbor Brook Site Remedial Investigation Report (O'Brien & Gere, 2007). The delineated wetlands at the Site are presented on Figure 11. Subsequent to the wetland delineations, activities by private landowners on the Penn-Can parcel may have affected the size and locations of wetlands.

6. CONSTRUCTION PHASE HEALTH AND SAFETY REQUIREMENTS

Prior to the commencement of construction activities for the ground water collection system, the Contractor will prepare and implement a site-specific Health and Safety Plan in accordance with Honeywell's General Requirements – Safety, Health and Emergency Response. This plan shall include, at a minimum:

- Organizational structure including list of site and emergency contact information
- Identification of emergency facility
- Map and directions to emergency facility
- Detailed hazard analysis
- Training program details
- Medical surveillance program details
- Site control and security details
- Personal protective equipment requirements
- Environmental monitoring plan
- Spill response, containment and control plan
- Decontamination procedures
- Emergency response plan
- Confined space entry procedures

7. CONTINGENCY PLAN

The contingency plan presented in this Section is applicable to both the construction and post- construction periods. The contingency plan will be implemented in the event that components of the implemented remedy fail to operate in accordance with the design.

7.1 HEAVY RAINS (CONSTRUCTION)

Heavy rainfall could overwhelm bypass and/or dewatering pumping operations. If bypass/dewatering pumps are not capable of handling storm water flows within the work zone, the work zone shall be shut down and evacuated immediately. The Contractor shall address this, as well as any other foreseeable issues, within the Contractor's Work Plan.

7.2 HEAVY RAINS (POST-CONSTRUCTION)

Repeated heavy rainfall could cause the topsoil to erode before the vegetation is established. If this occurs, the eroded area will be scarified, and additional embankment material added, if necessary, and re-compacted. Topsoil will then be applied and reseeded. Areas of persistent erosion may require utilization of an erosion control fabric or ditching and riprap.

7.3 HEALTH AND SAFETY (POST-CONSTRUCTION)

Implementation of the recommended alternative will meet the remedial action objectives in Section 3.1 of this report. The final disposition of the material being excavated from the Site will be determined by the Record of Decision for the Wastebed B/Harbor Brook Site.

No additional health and safety measures are required during the post-closure period as long as the remedial components continue to properly function. Health and safety measures to be implemented during the post-closure period include restricting site access and periodic inspection and maintenance. These measures are meant both to monitor the effectiveness of the remedial components and to prevent human contact with site-related contaminants.

7.4 EMERGENCY CONTACTS (POST-CONSTRUCTION)

An emergency contact for the post-construction period will be identified following selection of an O&M Contractor.

8. CONSTRUCTION QUALITY ASSURANCE PROJECT PLAN

A Construction Quality Assurance Project Plan (CQAPP) has been developed, in accordance with the Wastebed B/Harbor Brook IRM Work Plan, to address quality control and assurance activities during construction. This document is provided in Appendix J.

The CQAPP includes the following:

- Introduction – Describe the purpose of the plan and what it includes.
- Responsibility and authority – Discuss the organizations involved in the work (NYSDEC, Honeywell, engineer, contractor and construction quality assurance personnel) and present the responsibility of each. Lines of communication and anticipated meetings will be addressed.
- Quality control and quality assurance – Present procedures and criteria to be utilized during excavation of soil and sediment, installation of the collection trench and associated mechanical equipment, and restoration.
- Documentation – Describe recordkeeping to be used to document the CQA activities performed during the work. Documentation will comprise daily reporting, inspection data sheets, meeting minutes, photographs, problem identification and corrective measures reports, record drawings, final documentation reports and storage and disposition of records.

9. CITIZEN PARTICIPATION PLAN

A Citizen Participation Plan (OBG 2002c) has been developed in accordance with NYSDEC's Citizen Participation in *New York's Hazardous Waste Site Remediation Program: A Guidebook*, dated June 1998.

10. ANTICIPATED PROJECT SCHEDULE

A preliminary project schedule has been developed for project planning purposes and will be further refined as required.

It is estimated that construction of this remedy will require one year, beginning in the summer of 2012. The estimated time for construction of this design is based on experience on similar projects, production rates, and estimates of the time required for various major components of construction.

The Contract Documents will require the Contractor to submit a schedule for completion of the components of this design. The selected Contractor may propose a schedule that differs from the anticipated schedule in construction sequence or duration. The estimated schedule does not include time resulting from delays associated with periods of inclement weather.

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Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-0045-01	HB-0044-01	HB-0050-01	HB-0049-01	HB-0046-01	HB-1031-05	HB-1031-07	HB-1032-01
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175	HB-SED-21	HB-SED-21	HB-SED-22
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008	7/2/2008	7/2/2008	7/3/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT	0-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1,1-TRICHLOROETHANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,1,2,2-TETRACHLOROETHANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,1,2-TRICHLOROETHANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,1-DICHLOROETHANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,1-DICHLOROETHENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,2,4-TRICHLOROBENZENE	µg/Kg	14UJ	16UJ	6.0UJ	5.5U	8.7U	11UJ	11UJ	7.5U
1,2,4-TRICHLOROBENZENE	µg/Kg	14UJ	16UJ	6.0UJ	5.5U	8.7U	11UJ	11UJ	7.5U
1,2-DIBROMO-3-CHLOROPROPANE	µg/Kg	14UJ	16UJ	6.0U	5.5U	8.7U	11UJ	11UJ	7.5U
1,2-DIBROMOETHANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,2-DICHLOROBENZENE	µg/Kg	7.2UJ	7.8UJ	0.78J	1.4J	4.4U	5.7UJ	6.2J	3.8U
1,2-DICHLOROETHANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,2-DICHLOROPROPANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,3-DICHLOROBENZENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
1,4-DICHLOROBENZENE	µg/Kg	7.2UJ	7.8UJ	3.4J	2.8U	4.4U	1.6J	7.6J	3.8U
2-BUTANONE	µg/Kg	120UJ	120UJ	48U	44U	70U	92UJ	89UJ	60U
2-HEXANONE	µg/Kg	14UJ	16UJ	6.0U	5.5U	8.7U	11UJ	11UJ	7.5U
4-METHYL-2-PENTANONE	µg/Kg	14UJ	16UJ	6.0U	5.5U	8.7U	11UJ	11UJ	7.5U
ACETONE	µg/Kg	91J	120UJ	34J	23J	100	48J	53J	60U
BENZENE	µg/Kg	7.2UJ	7.8UJ	3.0U	26J	1.9J	5.7UJ	4.6J	3.8U
BROMODICHLOROMETHANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
BROMOFORM	µg/Kg	7.2U	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
BROMOMETHANE	µg/Kg	14UJ	16UJ	6.0UJ	5.5U	8.7UJ	11UJ	11UJ	7.5U
CARBON DISULFIDE	µg/Kg	5.0J	7.8UJ	2.9J	2.6J	2.8J	3.9J	3.2J	3.8U
CARBON TETRACHLORIDE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
CHLOROBENZENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
CHLORODIBROMOMETHANE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
CHLOROETHANE	µg/Kg	14UJ	16UJ	6.0UJ	5.5U	8.7U	11UJ	11UJ	7.5U
CHLOROFORM	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
CHLOROMETHANE	µg/Kg	14UJ	16UJ	6.0UJ	5.5UJ	8.7U	11UJ	11UJ	7.5U
CIS-1,2-DICHLOROETHENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
CIS-1,3-DICHLOROPROPENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
DICHLORODIFLUOROMETHANE	µg/Kg	14UJ	16UJ	6.0UJ	5.5UJ	8.7UJ	11UJ	11UJ	7.5U
ETHYLBENZENE	µg/Kg	3.5J	7.8UJ	3.0U	6.7	1.5J	1.9J	13J	3.8U
ISOPROPYLBENZENE	µg/Kg	7.2UJ	7.8UJ	3.0U	1.6J	4.4U	5.7UJ	6.2J	3.8U
METHYLENE CHLORIDE	µg/Kg	14UJ	16UJ	6U	5.5U	8.7U	11UJ	11UJ	7.5U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-0045-01	HB-0044-01	HB-0050-01	HB-0049-01	HB-0046-01	HB-1031-05	HB-1031-07	HB-1032-01
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175	HB-SED-21	HB-SED-21	HB-SED-22
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008	7/2/2008	7/2/2008	7/3/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT	0-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
STYRENE	µg/Kg	5.4J	7.8UJ	3.0UJ	1.6J	4.4U	5.7UJ	5.1J	3.8U
TETRACHLOROETHENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	2.6J	4.1J	3.8U
TOLUENE	µg/Kg	8.8J	7.8UJ	3.0U	9.0J	0.94J	2.3J	22J	3.8U
TRANS-1,2-DICHLOROETHENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
TRANS-1,3-DICHLOROPROPENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
TRICHLOROETHENE	µg/Kg	7.2UJ	7.8UJ	3.0U	2.8U	4.4U	5.7UJ	5.6UJ	3.8U
TRICHLOROFLUOROMETHANE	µg/Kg	14UJ	16UJ	6.0UJ	5.5UJ	8.7U	11UJ	11UJ	7.5U
VINYL CHLORIDE	µg/Kg	14UJ	16UJ	6.0UJ	5.5UJ	8.7U	11UJ	11UJ	7.5U
XYLENES, TOTAL	µg/Kg	19J	16UJ	6.0U	63J	8.7U	8.4J	120J	7.5U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1032-02	HB-1035-05	HB-1035-11	HB-1043-01	HB-1043-03	HB-1036-05	HB-1036-07	HB-1034-03
	Location	HB-SED-22	HB-SED-23	HB-SED-23	HB-SED-24	HB-SED-24	HB-SED-25	HB-SED-25	HB-SED-26
	Sample Date	7/3/2008	7/9/2008	7/9/2008	7/15/2008	7/15/2008	7/9/2008	7/9/2008	7/8/2008
	Sample Depth	1-4 FT	0-1 FT	1-3 FT	0-1 FT	1-4 FT	0-1 Ft	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1,1-TRICHLOROETHANE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,1,2,2-TETRACHLOROETHANE	µg/Kg	4.3U	3.0UJ	2.8UJ	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,1,2-TRICHLOROETHANE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,1-DICHLOROETHANE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,1-DICHLOROETHENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,2,4-TRICHLOROBENZENE	µg/Kg	8.6U	6.0UJ	5.6UJ	8.5U	16UJ	9.7U	9.7UJ	9.4U
1,2,4-TRICHLOROBENZENE	µg/Kg	8.6U	6.0UJ	5.6UJ	8.5U	16UJ	9.7U	9.7UJ	9.4U
1,2-DIBROMO-3-CHLOROPROPANE	µg/Kg	8.6U	6.0UJ	5.6UJ	8.5U	16UJ	9.7U	9.7UJ	9.4U
1,2-DIBROMOETHANE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,2-DICHLOROBENZENE	µg/Kg	4.3U	3.0UJ	2.8UJ	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,2-DICHLOROETHANE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,2-DICHLOROPROPANE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,3-DICHLOROBENZENE	µg/Kg	4.3U	3.0UJ	2.8UJ	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
1,4-DICHLOROBENZENE	µg/Kg	4.3U	3.0UJ	2.8UJ	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
2-BUTANONE	µg/Kg	69U	48U	45U	68U	130UJ	78U	78UJ	75U
2-HEXANONE	µg/Kg	8.6U	6.0U	5.6U	8.5U	16UJ	9.7U	9.7UJ	9.4U
4-METHYL-2-PENTANONE	µg/Kg	8.6U	6.0U	5.6U	8.5U	16UJ	9.7U	9.7UJ	9.4U
ACETONE	µg/Kg	69U	48U	41J	68U	130UJ	78U	78UJ	75U
BENZENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	2.3J	2.4J	4.7U
BROMODICHLOROMETHANE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
BROMOFORM	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
BROMOMETHANE	µg/Kg	8.6U	6.0UJ	5.6UJ	8.5U	16UJ	9.7UJ	9.7UJ	9.4U
CARBON DISULFIDE	µg/Kg	4.3U	3.0U	1.0J	11	6.8J	3.6J	18J	8.6
CARBON TETRACHLORIDE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
CHLOROBENZENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
CHLORODIBROMOMETHANE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
CHLOROETHANE	µg/Kg	8.6U	6.0U	5.6U	8.5U	16UJ	9.7U	9.7UJ	9.4U
CHLOROFORM	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
CHLOROMETHANE	µg/Kg	8.6U	6.0U	5.6U	8.5U	16UJ	9.7U	9.7UJ	9.4U
CIS-1,2-DICHLOROETHENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
CIS-1,3-DICHLOROPROPENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
DICHLORODIFLUOROMETHANE	µg/Kg	8.6U	6.0UJ	5.6UJ	8.5U	16UJ	9.7UJ	9.7UJ	9.4U
ETHYLBENZENE	µg/Kg	4.8	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
ISOPROPYLBENZENE	µg/Kg	0.88J	3.0UJ	2.8UJ	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
METHYLENE CHLORIDE	µg/Kg	8.6U	6U	5.6U	8.5U	16UJ	9.7U	9.7UJ	9.4U

Notes:
U - denotes result was below the detection limit; J - estimated value;
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Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1032-02	HB-1035-05	HB-1035-11	HB-1043-01	HB-1043-03	HB-1036-05	HB-1036-07	HB-1034-03
	Location	HB-SED-22	HB-SED-23	HB-SED-23	HB-SED-24	HB-SED-24	HB-SED-25	HB-SED-25	HB-SED-26
	Sample Date	7/3/2008	7/9/2008	7/9/2008	7/15/2008	7/15/2008	7/9/2008	7/9/2008	7/8/2008
	Sample Depth	1-4 FT	0-1 FT	1-3 FT	0-1 FT	1-4 FT	0-1 Ft	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
STYRENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
TETRACHLOROETHENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
TOLUENE	µg/Kg	7.1	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
TRANS-1,2-DICHLOROETHENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
TRANS-1,3-DICHLOROPROPENE	µg/Kg	4.3U	3.0UJ	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
TRICHLOROETHENE	µg/Kg	4.3U	3.0U	2.8U	4.3U	7.9UJ	4.9U	4.9UJ	4.7U
TRICHLOROFLUOROMETHANE	µg/Kg	8.6U	6.0U	5.6U	8.5U	16UJ	9.7U	9.7UJ	9.4U
VINYL CHLORIDE	µg/Kg	8.6U	6.0U	5.6U	8.5U	16UJ	9.7U	9.7UJ	9.4U
XYLENES, TOTAL	µg/Kg	26	6.0U	5.6U	8.5U	16UJ	9.7U	9.7UJ	9.4U

Notes:
U - denotes result was below the detection limit; J - estimated value;
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Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1034-05	HB-1038-01	HB-1038-03	HB-1031-01	HB-1031-03	HB-1033-11	HB-1034-01	HB-1033-07
	Location	HB-SED-26	HB-SED-27	HB-SED-27	HB-SED-28	HB-SED-28	HB-WSD-31	HB-WSD-31	HB-WSD-32
	Sample Date	7/8/2008	7/9/2008	7/9/2008	7/2/2008	7/2/2008	7/8/2008	7/8/2008	7/8/2008
	Sample Depth	1-4 FT	1.5-2.5 FT	2.5-3.5 Ft	1-2 Ft	2-3 Ft	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1,1-TRICHLOROETHANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
1,1,2,2-TETRACHLOROETHANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5UJ	4.8UJ	2.8U
1,1,2-TRICHLOROETHANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
1,1-DICHLOROETHANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
1,1-DICHLOROETHENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
1,2,4-TRICHLOROBENZENE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0UJ	9.6UJ	5.6U
1,2,4-TRICHLOROBENZENE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0UJ	9.6UJ	5.6U
1,2-DIBROMO-3-CHLOROPROPANE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0UJ	9.6UJ	5.6U
1,2-DIBROMOETHANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5UJ	4.8UJ	2.8U
1,2-DICHLOROBENZENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5UJ	4.8UJ	2.8U
1,2-DICHLOROETHANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
1,2-DICHLOROPROPANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
1,3-DICHLOROBENZENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5UJ	4.8UJ	2.8U
1,4-DICHLOROBENZENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	2.4J	4.8UJ	2.8U
2-BUTANONE	µg/Kg	96UJ	64U	61U	290UJ	200UJ	72U	76UJ	45U
2-HEXANONE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0U	9.6UJ	5.6U
4-METHYL-2-PENTANONE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0U	9.6UJ	5.6U
ACETONE	µg/Kg	96UJ	48J	33J	290UJ	200UJ	72U	82J	45U
BENZENE	µg/Kg	6.0UJ	2.0J	3.8U	27J	28J	4.5U	4.8UJ	2.8U
BROMODICHLOROMETHANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
BROMOFORM	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5UJ	4.8UJ	2.8U
BROMOMETHANE	µg/Kg	12UJ	8.0UJ	7.6UJ	36UJ	25UJ	9.0U	9.6UJ	5.6U
CARBON DISULFIDE	µg/Kg	11J	9.9	21	11J	6.7J	4.5U	2.2J	2.8U
CARBON TETRACHLORIDE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
CHLOROBENZENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5UJ	4.8UJ	2.8U
CHLORODIBROMOMETHANE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5UJ	4.8UJ	2.8U
CHLOROETHANE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0U	9.6UJ	5.6U
CHLOROFORM	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
CHLOROMETHANE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0U	9.6UJ	5.6U
CIS-1,2-DICHLOROETHENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
CIS-1,3-DICHLOROPROPENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
DICHLORODIFLUOROMETHANE	µg/Kg	12UJ	8.0UJ	7.6UJ	36UJ	25UJ	9.0U	9.6UJ	5.6U
ETHYLBENZENE	µg/Kg	6.0UJ	6	5.2	36J	42J	4.5UJ	4.8UJ	2.8U
ISOPROPYLBENZENE	µg/Kg	6.0UJ	1.7J	3.8U	5.3J	5.9J	4.5UJ	4.8UJ	2.8U
METHYLENE CHLORIDE	µg/Kg	12UJ	8U	7.6U	36UJ	25UJ	9U	9.6U	5.6U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1034-05	HB-1038-01	HB-1038-03	HB-1031-01	HB-1031-03	HB-1033-11	HB-1034-01	HB-1033-07
	Location	HB-SED-26	HB-SED-27	HB-SED-27	HB-SED-28	HB-SED-28	HB-WSD-31	HB-WSD-31	HB-WSD-32
	Sample Date	7/8/2008	7/9/2008	7/9/2008	7/2/2008	7/2/2008	7/8/2008	7/8/2008	7/8/2008
	Sample Depth	1-4 FT	1.5-2.5 FT	2.5-3.5 Ft	1-2 Ft	2-3 Ft	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
STYRENE	µg/Kg	6.0UJ	4.0U	3.8U	33J	33J	4.5UJ	4.8UJ	2.8U
TETRACHLOROETHENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5UJ	4.8UJ	2.8U
TOLUENE	µg/Kg	6.0UJ	0.94J	3.8U	98J	110J	4.5U	4.8UJ	2.8U
TRANS-1,2-DICHLOROETHENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
TRANS-1,3-DICHLOROPROPENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
TRICHLOROETHENE	µg/Kg	6.0UJ	4.0U	3.8U	18UJ	12UJ	4.5U	4.8UJ	2.8U
TRICHLOROFLUOROMETHANE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0U	9.6UJ	5.6U
VINYL CHLORIDE	µg/Kg	12UJ	8.0U	7.6U	36UJ	25UJ	9.0U	9.6UJ	5.6U
XYLENES, TOTAL	µg/Kg	12UJ	8.0U	7.6U	290J	340J	9.0UJ	9.6UJ	5.6U

Notes:
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R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1033-09	HB-1033-01	HB-1033-03	HB-1043-05	HB-1043-07	HB-1044-07	HB-1044-09	HB-1044-01
	Location	HB-WSD-32	HB-WSD-33	HB-WSD-33	HB-WSD-34	HB-WSD-34	HB-WSD-35	HB-WSD-35	HB-WSD-36
	Sample Date	7/8/2008	7/8/2008	7/8/2008	7/15/2008	7/15/2008	7/16/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1,1-TRICHLOROETHANE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
1,1,2,2-TETRACHLOROETHANE	µg/Kg	3.6UJ	3.2UJ	3.7UJ	4.9UJ	5.6UJ	3.3UJ	3.1UJ	4.2UJ
1,1,2-TRICHLOROETHANE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
1,1-DICHLOROETHANE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
1,1-DICHLOROETHENE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
1,2,4-TRICHLOROBENZENE	µg/Kg	7.2UJ	6.4UJ	7.4UJ	9.7UJ	11UJ	6.6UJ	6.2UJ	8.5UJ
1,2,4-TRICHLOROBENZENE	µg/Kg	7.2UJ	6.4UJ	7.4UJ	9.7UJ	11UJ	6.6UJ	6.2UJ	8.5UJ
1,2-DIBROMO-3-CHLOROPROPANE	µg/Kg	7.2UJ	6.4UJ	7.4UJ	9.7UJ	11UJ	6.6UJ	6.2UJ	8.5UJ
1,2-DIBROMOETHANE	µg/Kg	3.6U	3.2U	3.7UJ	4.9U	5.6UJ	3.3U	3.1U	4.2U
1,2-DICHLOROBENZENE	µg/Kg	3.6UJ	3.2UJ	3.7UJ	4.9UJ	5.6UJ	3.3UJ	3.1UJ	4.2UJ
1,2-DICHLOROETHANE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
1,2-DICHLOROPROPANE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
1,3-DICHLOROBENZENE	µg/Kg	3.6UJ	3.2UJ	3.7UJ	4.9UJ	5.6UJ	3.3UJ	3.1UJ	4.2UJ
1,4-DICHLOROBENZENE	µg/Kg	0.80J	3.2UJ	3.7UJ	4.9UJ	5.6UJ	3.3UJ	3.5J	1.7J
2-BUTANONE	µg/Kg	57U	51U	59U	78U	89UJ	52U	49U	51J
2-HEXANONE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5U
4-METHYL-2-PENTANONE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5U
ACETONE	µg/Kg	84	51U	59U	91	66J	52U	49U	200J
BENZENE	µg/Kg	3.6U	3.2U	0.85J	4.9U	5.6UJ	3.3U	3.1U	4.2U
BROMODICHLOROMETHANE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
BROMOFORM	µg/Kg	3.6U	3.2U	3.7UJ	4.9U	5.6UJ	3.3U	3.1U	4.2U
BROMOMETHANE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5U
CARBON DISULFIDE	µg/Kg	3.4J	3.2U	0.98J	6.5	2.0J	3.3U	3.8J	2.9J
CARBON TETRACHLORIDE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
CHLOROBENZENE	µg/Kg	3.6U	3.2U	3.7UJ	4.9U	5.6UJ	3.3U	3.1U	4.2U
CHLORODIBROMOMETHANE	µg/Kg	3.6U	3.2U	3.7UJ	4.9U	5.6UJ	3.3U	3.1U	4.2U
CHLOROETHANE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5U
CHLOROFORM	µg/Kg	3.6U	0.77J	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
CHLOROMETHANE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5U
CIS-1,2-DICHLOROETHENE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
CIS-1,3-DICHLOROPROPENE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
DICHLORODIFLUOROMETHANE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5U
ETHYLBENZENE	µg/Kg	1.0J	3.2U	3.7UJ	4.9U	5.6UJ	3.3U	3.1U	4.2U
ISOPROPYLBENZENE	µg/Kg	3.6UJ	3.2UJ	3.7UJ	4.9UJ	5.6UJ	3.3UJ	3.1UJ	4.2UJ
METHYLENE CHLORIDE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5UJ

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1033-09	HB-1033-01	HB-1033-03	HB-1043-05	HB-1043-07	HB-1044-07	HB-1044-09	HB-1044-01
	Location	HB-WSD-32	HB-WSD-33	HB-WSD-33	HB-WSD-34	HB-WSD-34	HB-WSD-35	HB-WSD-35	HB-WSD-36
	Sample Date	7/8/2008	7/8/2008	7/8/2008	7/15/2008	7/15/2008	7/16/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
STYRENE	µg/Kg	3.6U	3.2U	3.7UJ	4.9U	5.6UJ	3.3U	3.1U	4.2U
TETRACHLOROETHENE	µg/Kg	3.6U	3.2U	3.7UJ	4.9U	5.6UJ	3.3U	3.1U	4.2U
TOLUENE	µg/Kg	1.9J	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
TRANS-1,2-DICHLOROETHENE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
TRANS-1,3-DICHLOROPROPENE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
TRICHLOROETHENE	µg/Kg	3.6U	3.2U	3.7U	4.9U	5.6UJ	3.3U	3.1U	4.2U
TRICHLOROFLUOROMETHANE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5U
VINYL CHLORIDE	µg/Kg	7.2U	6.4U	7.4U	9.7U	11UJ	6.6U	6.2U	8.5U
XYLENES, TOTAL	µg/Kg	4.1J	6.4U	7.4UJ	9.7U	11UJ	6.6U	6.2U	8.5U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1044-05	HB-1040-01	HB-1040-03	HB-1039-05	HB-1039-11	HB-1039-01	HB-1039-03	HB-1035-01
	Location	HB-WSD-36	HB-WSD-37	HB-WSD-37	HB-WSD-38	HB-WSD-38	HB-WSD-39	HB-WSD-39	HB-WSD-40
	Sample Date	7/16/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/9/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1,1-TRICHLOROETHANE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
1,1,2,2-TETRACHLOROETHANE	µg/Kg	3.8UJ	3.9UJ	3.1U	4.6UJ	4.0UJ	3.2UJ	3.3UJ	4.0UJ
1,1,2-TRICHLOROETHANE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
1,1-DICHLOROETHANE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
1,1-DICHLOROETHENE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
1,2,4-TRICHLOROBENZENE	µg/Kg	7.7UJ	7.9UJ	6.2U	9.2UJ	7.9UJ	6.4UJ	6.7UJ	8.0UJ
1,2,4-TRICHLOROBENZENE	µg/Kg	7.7UJ	7.9UJ	6.2U	9.2UJ	7.9UJ	6.4UJ	6.7UJ	8.0UJ
1,2-DIBROMO-3-CHLOROPROPANE	µg/Kg	7.7UJ	7.9UJ	6.2U	9.2UJ	7.9UJ	6.4UJ	6.7UJ	8.0UJ
1,2-DIBROMOETHANE	µg/Kg	3.8U	3.9UJ	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
1,2-DICHLOROBENZENE	µg/Kg	3.8UJ	3.9UJ	3.1U	4.6UJ	4.0UJ	3.2UJ	3.3UJ	4.0UJ
1,2-DICHLOROETHANE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
1,2-DICHLOROPROPANE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
1,3-DICHLOROBENZENE	µg/Kg	3.8UJ	3.9UJ	3.1U	4.6UJ	4.0UJ	3.2UJ	3.3UJ	4.0UJ
1,4-DICHLOROBENZENE	µg/Kg	1.3J	3.9UJ	3.1U	0.92J	4.0UJ	3.2UJ	3.3UJ	4.0UJ
2-BUTANONE	µg/Kg	62U	63U	50U	74U	180	51U	48J	64U
2-HEXANONE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0U
4-METHYL-2-PENTANONE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0U
ACETONE	µg/Kg	110J	63U	50U	130J	93J	51U	100J	64U
BENZENE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
BROMODICHLOROMETHANE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
BROMOFORM	µg/Kg	3.8U	3.9UJ	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
BROMOMETHANE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0UJ
CARBON DISULFIDE	µg/Kg	2.4J	1.1J	3.1U	1.9J	5.7J	3.2U	0.99J	4.0U
CARBON TETRACHLORIDE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
CHLOROBENZENE	µg/Kg	3.8U	3.9UJ	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
CHLORODIBROMOMETHANE	µg/Kg	3.8U	3.9UJ	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
CHLOROETHANE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0U
CHLOROFORM	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
CHLOROMETHANE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0U
CIS-1,2-DICHLOROETHENE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
CIS-1,3-DICHLOROPROPENE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
DICHLORODIFLUOROMETHANE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0UJ
ETHYLBENZENE	µg/Kg	3.8U	3.9UJ	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
ISOPROPYLBENZENE	µg/Kg	3.8UJ	3.9UJ	3.1U	4.6UJ	4.0UJ	3.2UJ	3.3UJ	4.0UJ
METHYLENE CHLORIDE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1044-05	HB-1040-01	HB-1040-03	HB-1039-05	HB-1039-11	HB-1039-01	HB-1039-03	HB-1035-01
	Location	HB-WSD-36	HB-WSD-37	HB-WSD-37	HB-WSD-38	HB-WSD-38	HB-WSD-39	HB-WSD-39	HB-WSD-40
	Sample Date	7/16/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/9/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
STYRENE	µg/Kg	3.8U	3.9UJ	3.1U	4.6UJ	4.0U	3.2U	3.3U	4.0U
TETRACHLOROETHENE	µg/Kg	3.8U	3.9UJ	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
TOLUENE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
TRANS-1,2-DICHLOROETHENE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
TRANS-1,3-DICHLOROPROPENE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
TRICHLOROETHENE	µg/Kg	3.8U	3.9U	3.1U	4.6U	4.0U	3.2U	3.3U	4.0U
TRICHLOROFLUOROMETHANE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0U
VINYL CHLORIDE	µg/Kg	7.7U	7.9U	6.2U	9.2U	7.9U	6.4U	6.7U	8.0U
XYLENES, TOTAL	µg/Kg	7.7U	7.9UJ	6.2U	9.2U	7.9U	6.4U	6.7U	8.0U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1035-03	HB-1036-01	HB-1036-03	HB-1045-01	HB-1045-03
	Location	HB-WSD-40	HB-WSD-41	HB-WSD-41	HB-WSD-42	HB-WSD-42
	Sample Date	7/9/2008	7/9/2008	7/9/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
1,1,1-TRICHLOROETHANE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
1,1,2,2-TETRACHLOROETHANE	µg/Kg	2.9UJ	3.8UJ	3.6UJ	4.6U	3.9U
1,1,2-TRICHLOROETHANE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
1,1-DICHLOROETHANE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
1,1-DICHLOROETHENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
1,2,4-TRICHLOROBENZENE	µg/Kg	5.7UJ	7.6UJ	7.2UJ	9.2U	7.8U
1,2,4-TRICHLOROBENZENE	µg/Kg	5.7UJ	7.6UJ	7.2UJ	9.2U	7.8U
1,2-DIBROMO-3-CHLOROPROPANE	µg/Kg	5.7UJ	7.6UJ	7.2UJ	9.2U	7.8U
1,2-DIBROMOETHANE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
1,2-DICHLOROBENZENE	µg/Kg	2.9UJ	3.8UJ	3.6UJ	4.6U	3.9U
1,2-DICHLOROETHANE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
1,2-DICHLOROPROPANE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
1,3-DICHLOROBENZENE	µg/Kg	2.9UJ	3.8UJ	3.6UJ	4.6U	3.9U
1,4-DICHLOROBENZENE	µg/Kg	2.9UJ	3.8UJ	3.6UJ	4.6U	3.9U
2-BUTANONE	µg/Kg	46U	61U	57U	74U	62U
2-HEXANONE	µg/Kg	5.7U	7.6U	7.2U	9.2U	7.8U
4-METHYL-2-PENTANONE	µg/Kg	5.7U	7.6U	7.2U	9.2U	7.8U
ACETONE	µg/Kg	46U	61U	91	56J	44J
BENZENE	µg/Kg	2.9U	3.8U	3.6U	1.3J	1.6J
BROMODICHLOROMETHANE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
BROMOFORM	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
BROMOMETHANE	µg/Kg	5.7UJ	7.6UJ	7.2UJ	9.2U	7.8U
CARBON DISULFIDE	µg/Kg	0.64J	3.8U	1.6J	0.99J	1.6J
CARBON TETRACHLORIDE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
CHLOROBENZENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
CHLORODIBROMOMETHANE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
CHLOROETHANE	µg/Kg	5.7U	7.6U	7.2U	9.2U	7.8U
CHLOROFORM	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
CHLOROMETHANE	µg/Kg	5.7U	7.6U	7.2U	9.2U	7.8U
CIS-1,2-DICHLOROETHENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
CIS-1,3-DICHLOROPROPENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
DICHLORODIFLUOROMETHANE	µg/Kg	5.7UJ	7.6UJ	7.2UJ	9.2U	7.8U
ETHYLBENZENE	µg/Kg	1.5J	3.8U	3.6U	2.1J	3.8J
ISOPROPYLBENZENE	µg/Kg	2.9UJ	3.8UJ	3.6UJ	4.6U	3.9U
METHYLENE CHLORIDE	µg/Kg	5.7U	7.6U	7.2U	9.2U	7.8U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 1
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8260B Volatile Organic Compound Data

	Field Sample ID	HB-1035-03	HB-1036-01	HB-1036-03	HB-1045-01	HB-1045-03
	Location	HB-WSD-40	HB-WSD-41	HB-WSD-41	HB-WSD-42	HB-WSD-42
	Sample Date	7/9/2008	7/9/2008	7/9/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
STYRENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
TETRACHLOROETHENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
TOLUENE	µg/Kg	0.88J	3.8U	3.6U	1.0J	1.3J
TRANS-1,2-DICHLOROETHENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
TRANS-1,3-DICHLOROPROPENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
TRICHLOROETHENE	µg/Kg	2.9U	3.8U	3.6U	4.6U	3.9U
TRICHLOROFLUOROMETHANE	µg/Kg	5.7U	7.6U	7.2U	9.2U	7.8U
VINYL CHLORIDE	µg/Kg	5.7U	7.6U	7.2U	9.2U	7.8U
XYLENES, TOTAL	µg/Kg	5.3J	7.6U	7.2U	8.1J	7.7J

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-0045-02	HB-0044-03	HB-0050-02	HB-0049-02	HB-0046-02	HB-1031-06	HB-1031-08	HB-1032-03
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175	HB-SED-21	HB-SED-21	HB-SED-22
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008	7/2/2008	7/2/2008	7/3/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT	0-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1'-BIPHENYL	µg/Kg	960UJ	1000UJ	63J	370U	590U	760UJ	230J	500U
1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
1-PHENYL-1-(4-METHYLPHENYL) ETHANE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500UJ
2,4,5-TRICHLOROPHENOL	µg/Kg	4800R	5200UJ	2100U	1900U	3000U	3800UJ	7500UJ	2500U
2,4,6-TRICHLOROPHENOL	µg/Kg	960R	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
2,4-DICHLOROPHENOL	µg/Kg	960R	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
2,4-DIMETHYLPHENOL	µg/Kg	960R	1000UJ	410U	110J	590U	760UJ	1500UJ	500U
2,4-DINITROPHENOL	µg/Kg	4800R	5200UJ	2100R	1900UJ	3000U	3800UJ	7500UJ	2500U
2,4-DINITROTOLUENE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
2,6-DINITROTOLUENE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
2-CHLORONAPHTHALENE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
2-CHLOROPHENOL	µg/Kg	960R	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
2-METHYLNAPHTHALENE	µg/Kg	100J	1000UJ	170J	130J	110J	190J	1500J	500U
2-METHYLPHENOL	µg/Kg	960R	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
2-NITROANILINE	µg/Kg	4800UJ	5200UJ	2100U	1900U	3000U	3800UJ	7500UJ	2500UJ
2-NITROPHENOL	µg/Kg	960R	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
3,3'-DICHLOROBENZIDINE	µg/Kg	1900UJ	2100UJ	820U	750U	1200U	1500UJ	2900UJ	990U
3-NITROANILINE	µg/Kg	4800UJ	5200UJ	2100U	1900U	3000U	3800UJ	7500UJ	2500U
4,6-DINITRO-2-METHYLPHENOL	µg/Kg	4800R	5200UJ	2100U	1900U	3000U	3800UJ	7500UJ	2500U
4-BROMOPHENYL PHENYL ETHER	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
4-CHLORO-3-METHYLPHENOL	µg/Kg	960R	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
4-CHLOROANILINE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
4-CHLOROPHENYL PHENYL ETHER	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
4-METHYLPHENOL	µg/Kg	960R	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
4-NITROANILINE	µg/Kg	4800UJ	5200UJ	2100U	1900U	3000U	3800UJ	7500UJ	2500U
4-NITROPHENOL	µg/Kg	4800R	5200UJ	2100U	1900U	3000U	3800UJ	7500UJ	2500U
ACENAPHTHENE	µg/Kg	960UJ	1000UJ	1000J	120J	590U	93J	670J	500U
ACENAPHTHYLENE	µg/Kg	960UJ	1000UJ	310J	370U	590U	760UJ	270J	500U
ANTHRACENE	µg/Kg	960UJ	1000UJ	1700J	170J	590U	87J	1200J	500U
BENZO(A)ANTHRACENE	µg/Kg	960UJ	1000UJ	4800	310J	320J	470J	4000J	500U
BENZO(A)PYRENE	µg/Kg	960UJ	1000UJ	4800J	230J	320J	490J	3700J	500U
BENZO(B)FLUORANTHENE	µg/Kg	960UJ	1000UJ	5600	290J	530J	910J	5700J	62J
BENZO(G,H,I)PERYLENE	µg/Kg	960UJ	1000UJ	1100J	130J	160J	240J	1200J	50J
BENZO(K)FLUORANTHENE	µg/Kg	960UJ	1000UJ	3200J	100J	200J	330J	2000J	500U
BIS(2-CHLOROETHOXY)METHANE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
BIS(2-CHLOROETHYL)ETHER	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
BIS(2-ETHYLHEXYL)PHTHALATE	µg/Kg	130J	920J	420U	350J	420J	2300J	340J	160J
BUTYLBENZYL PHTHALATE	µg/Kg	960UJ	1000UJ	84J	370U	590U	760UJ	1500UJ	500U
CARBAZOLE	µg/Kg	960UJ	180J	720	87J	590U	760UJ	620J	500U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-0045-02	HB-0044-03	HB-0050-02	HB-0049-02	HB-0046-02	HB-1031-06	HB-1031-08	HB-1032-03
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175	HB-SED-21	HB-SED-21	HB-SED-22
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008	7/2/2008	7/2/2008	7/3/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT	0-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
CHRYSENE	µg/Kg	960UJ	1000UJ	4700	280J	430J	660J	4300J	500U
DI-N-BUTYL PHTHALATE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
DI-N-OCTYL PHTHALATE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
DIBENZO(A,H)ANTHRACENE	µg/Kg	960UJ	1000UJ	360J	370U	590U	760UJ	400J	500U
DIBENZOFURAN	µg/Kg	960UJ	1000UJ	390J	67J	590U	95J	700J	500U
DIETHYL PHTHALATE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
DIMETHYL PHTHALATE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
FLUORANTHENE	µg/Kg	960UJ	130J	12000	710	810	1100J	9400J	74J
FLUORENE	µg/Kg	960UJ	1000UJ	840	110J	72J	760UJ	750J	500U
HEXACHLOROBUTADIENE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
HEXACHLOROBUTADIENE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
HEXACHLOROCYCLOPENTADIENE	µg/Kg	960UJ	1000UJ	410UJ	370U	590U	760UJ	1500UJ	500U
HEXACHLOROETHANE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
INDENO(1,2,3-CD)PYRENE	µg/Kg	960UJ	1000UJ	480	110J	110J	130J	880J	500U
ISOPHORONE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
N-NITROSO-DI-N-PROPYLAMINE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
N-NITROSODIPHENYLAMINE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
NAPHTHALENE	µg/Kg	960UJ	1000UJ	390J	910	170J	600J	7000J	500U
NITROBENZENE	µg/Kg	960UJ	1000UJ	410U	370U	590U	760UJ	1500UJ	500U
PENTACHLOROPHENOL	µg/Kg	4800R	5200UJ	2100U	1900U	3000U	3800UJ	7500UJ	2500U
PHENANTHRENE	µg/Kg	960UJ	160J	5900	800	330J	620J	6000J	500U
PHENOL	µg/Kg	960R	1000UJ	410U	39J	590U	760UJ	1500UJ	500U
PYRENE	µg/Kg	960UJ	110J	9500	620	700	1100J	7900J	65J

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1032-04	HB-1035-06	HB-1035-12	HB-1043-02	HB-1043-04	HB-1036-06	HB-1036-08	HB-1034-04
	Location	HB-SED-22	HB-SED-23	HB-SED-23	HB-SED-24	HB-SED-24	HB-SED-25	HB-SED-25	HB-SED-26
	Sample Date	7/3/2008	7/9/2008	7/9/2008	7/15/2008	7/15/2008	7/9/2008	7/9/2008	7/8/2008
	Sample Depth	1-4 FT	0-1 FT	1-3 FT	0-1 FT	1-4 FT	9-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1'-BIPHENYL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
1-PHENYL-1-(4-METHYLPHENYL) ETHANE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/Kg	570UJ	400U	400U	600U	1100UJ	650U	670UJ	640U
2,4,5-TRICHLOROPHENOL	µg/Kg	2900U	2000U	2000U	3000U	5400UJ	3300U	3400UJ	3300U
2,4,6-TRICHLOROPHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2,4-DICHLOROPHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2,4-DIMETHYLPHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2,4-DINITROPHENOL	µg/Kg	2900U	2000U	2000U	3000U	5400UJ	3300U	3400UJ	3300U
2,4-DINITROTOLUENE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2,6-DINITROTOLUENE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2-CHLORONAPHTHALENE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2-CHLOROPHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2-METHYLNAPHTHALENE	µg/Kg	180J	68J	400U	600U	1100UJ	650U	670UJ	640U
2-METHYLPHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
2-NITROANILINE	µg/Kg	2900UJ	2000U	2000U	3000U	5400UJ	3300U	3400UJ	3300U
2-NITROPHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
3,3'-DICHLOROBENZIDINE	µg/Kg	1100U	810U	790U	1200U	2100UJ	1300U	1300UJ	1300U
3-NITROANILINE	µg/Kg	2900U	2000U	2000U	3000U	5400UJ	3300U	3400UJ	3300U
4,6-DINITRO-2-METHYLPHENOL	µg/Kg	2900U	2000U	2000U	3000U	5400UJ	3300U	3400UJ	3300U
4-BROMOPHENYL PHENYL ETHER	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
4-CHLORO-3-METHYLPHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
4-CHLOROANILINE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
4-CHLOROPHENYL PHENYL ETHER	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
4-METHYLPHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	90J	640U
4-NITROANILINE	µg/Kg	2900U	2000U	2000U	3000U	5400UJ	3300U	3400UJ	3300U
4-NITROPHENOL	µg/Kg	2900U	2000U	2000U	3000U	5400UJ	3300U	3400UJ	3300U
ACENAPHTHENE	µg/Kg	200J	400U	400U	600U	1100UJ	650U	670UJ	640U
ACENAPHTHYLENE	µg/Kg	60J	60J	400U	600U	1100UJ	650U	670UJ	640U
ANTHRACENE	µg/Kg	570U	59J	400U	600U	1100UJ	650U	670UJ	640U
BENZO(A)ANTHRACENE	µg/Kg	570U	420	120J	170J	1100UJ	290J	670UJ	240J
BENZO(A)PYRENE	µg/Kg	570U	490	100J	190J	1100UJ	330J	670UJ	280J
BENZO(B)FLUORANTHENE	µg/Kg	81J	800	140J	290J	1100UJ	600J	670UJ	580J
BENZO(G,H,I)PERYLENE	µg/Kg	68J	200J	65J	110J	1100UJ	160J	670UJ	170J
BENZO(K)FLUORANTHENE	µg/Kg	570U	260J	55J	110J	1100UJ	220J	670UJ	180J
BIS(2-CHLOROETHOXY)METHANE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
BIS(2-CHLOROETHYL)ETHER	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
BIS(2-ETHYLHEXYL)PHTHALATE	µg/Kg	220J	120J	400U	160J	1100UJ	330J	75J	540J
BUTYLBENZYL PHTHALATE	µg/Kg	570U	50J	400U	600U	1100UJ	650U	670UJ	640U
CARBAZOLE	µg/Kg	65J	400U	400U	600U	1100UJ	650U	670UJ	640U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1032-04	HB-1035-06	HB-1035-12	HB-1043-02	HB-1043-04	HB-1036-06	HB-1036-08	HB-1034-04
	Location	HB-SED-22	HB-SED-23	HB-SED-23	HB-SED-24	HB-SED-24	HB-SED-25	HB-SED-25	HB-SED-26
	Sample Date	7/3/2008	7/9/2008	7/9/2008	7/15/2008	7/15/2008	7/9/2008	7/9/2008	7/8/2008
	Sample Depth	1-4 FT	0-1 FT	1-3 FT	0-1 FT	1-4 FT	9-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
CHRYSENE	µg/Kg	570U	550	130J	250J	1100UJ	440J	670UJ	390J
DI-N-BUTYL PHTHALATE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
DI-N-OCTYL PHTHALATE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
DIBENZO(A,H)ANTHRACENE	µg/Kg	570U	61J	400U	600U	1100UJ	650U	670UJ	640U
DIBENZOFURAN	µg/Kg	250J	400U	400U	600U	1100UJ	650U	670UJ	640U
DIETHYL PHTHALATE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
DIMETHYL PHTHALATE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
FLUORANTHENE	µg/Kg	120J	860	230J	430J	1100UJ	760	670UJ	650
FLUORENE	µg/Kg	380J	400U	400U	600U	1100UJ	650U	670UJ	640U
HEXACHLOROBUTADIENE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
HEXACHLOROBUTADIENE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
HEXACHLOROCYCLOPENTADIENE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
HEXACHLOROETHANE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
INDENO(1,2,3-CD)PYRENE	µg/Kg	570U	150J	62J	110J	1100UJ	120J	670UJ	120J
ISOPHORONE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
N-NITROSO-DI-N-PROPYLAMINE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
N-NITROSODIPHENYLAMINE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
NAPHTHALENE	µg/Kg	94J	62J	42J	600U	1100UJ	650U	670UJ	640U
NITROBENZENE	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
PENTACHLOROPHENOL	µg/Kg	2900U	2000U	2000U	3000U	5400UJ	3300U	3400UJ	3300U
PHENANTHRENE	µg/Kg	570	370J	130J	250J	1100UJ	400J	670UJ	330J
PHENOL	µg/Kg	570U	400U	400U	600U	1100UJ	650U	670UJ	640U
PYRENE	µg/Kg	120J	860	210J	380J	120J	700	670UJ	610J

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1034-06	HB-1038-02	HB-1038-04	HB-1031-02	HB-1031-04	HB-1033-12	HB-1034-02	HB-1033-08
	Location	HB-SED-26	HB-SED-27	HB-SED-27	HB-SED-28	HB-SED-28	HB-WSD-31	HB-WSD-31	HB-WSD-32
	Sample Date	7/8/2008	7/9/2008	7/9/2008	7/2/2008	7/2/2008	7/8/2008	7/8/2008	7/8/2008
	Sample Depth	1-4 FT	1.5-2.5 FT	2.5-3.5 FT	1-2 Ft	2-3 Ft	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1'-BIPHENYL	µg/Kg	790UJ	540U	510U	890J	2400J	600U	670UJ	1900U
1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
1-PHENYL-1-(4-METHYLPHENYL) ETHANE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2,4,5-TRICHLOROPHENOL	µg/Kg	4000UJ	2700U	2600U	4800UJ	21000UJ	3100U	3400UJ	9500U
2,4,6-TRICHLOROPHENOL	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2,4-DICHLOROPHENOL	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2,4-DIMETHYLPHENOL	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2,4-DINITROPHENOL	µg/Kg	4000UJ	2700U	2600U	4800UJ	21000UJ	3100U	3400UJ	9500U
2,4-DINITROTOLUENE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2,6-DINITROTOLUENE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2-CHLORONAPHTHALENE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2-CHLOROPHENOL	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2-METHYLNAPHTHALENE	µg/Kg	790UJ	540U	88J	4300J	9300J	71J	670UJ	250J
2-METHYLPHENOL	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
2-NITROANILINE	µg/Kg	4000UJ	2700U	2600U	4800UJ	21000UJ	3100U	3400UJ	9500U
2-NITROPHENOL	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
3,3'-DICHLOROBENZIDINE	µg/Kg	1600UJ	1100U	1000U	1900UJ	8100UJ	1200U	1300UJ	3800U
3-NITROANILINE	µg/Kg	4000UJ	2700U	2600U	4800UJ	21000UJ	3100U	3400UJ	9500U
4,6-DINITRO-2-METHYLPHENOL	µg/Kg	4000UJ	2700U	2600U	4800UJ	21000UJ	3100U	3400UJ	9500U
4-BROMOPHENYL PHENYL ETHER	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
4-CHLORO-3-METHYLPHENOL	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
4-CHLOROANILINE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
4-CHLOROPHENYL PHENYL ETHER	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
4-METHYLPHENOL	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
4-NITROANILINE	µg/Kg	4000UJ	2700U	2600U	4800UJ	21000UJ	3100U	3400UJ	9500U
4-NITROPHENOL	µg/Kg	4000UJ	2700U	2600U	4800UJ	21000UJ	3100U	3400UJ	9500U
ACENAPHTHENE	µg/Kg	790UJ	540U	120J	1600J	3500J	89J	670UJ	210J
ACENAPHTHYLENE	µg/Kg	790UJ	70J	180J	700J	1600J	600U	670UJ	770J
ANTHRACENE	µg/Kg	790UJ	99J	460J	1900J	4000J	100J	670UJ	1400J
BENZO(A)ANTHRACENE	µg/Kg	130J	510J	1900	1600J	3400J	600J	120J	4400
BENZO(A)PYRENE	µg/Kg	110J	480J	1600	1200J	2600J	600J	120J	3200
BENZO(B)FLUORANTHENE	µg/Kg	190J	650	2300	1900J	4000J	830	170J	4600
BENZO(G,H,I)PERYLENE	µg/Kg	790UJ	190J	400J	410J	1400J	320J	77J	1200J
BENZO(K)FLUORANTHENE	µg/Kg	790UJ	250J	850	630J	1500J	290J	670UJ	1900J
BIS(2-CHLOROETHOXY)METHANE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
BIS(2-CHLOROETHYL)ETHER	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
BIS(2-ETHYLHEXYL)PHTHALATE	µg/Kg	97J	170J	330J	900J	940J	68J	670UJ	1900U
BUTYLBENZYL PHTHALATE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
CARBAZOLE	µg/Kg	790UJ	540U	100J	950J	1700J	70J	670UJ	1900U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1034-06	HB-1038-02	HB-1038-04	HB-1031-02	HB-1031-04	HB-1033-12	HB-1034-02	HB-1033-08
	Location	HB-SED-26	HB-SED-27	HB-SED-27	HB-SED-28	HB-SED-28	HB-WSD-31	HB-WSD-31	HB-WSD-32
	Sample Date	7/8/2008	7/9/2008	7/9/2008	7/2/2008	7/2/2008	7/8/2008	7/8/2008	7/8/2008
	Sample Depth	1-4 FT	1.5-2.5 FT	2.5-3.5 FT	1-2 Ft	2-3 Ft	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
CHRYSENE	µg/Kg	160J	520J	1900	1500J	3200J	640	150J	4100
DI-N-BUTYL PHTHALATE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
DI-N-OCTYL PHTHALATE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
DIBENZO(A,H)ANTHRACENE	µg/Kg	790UJ	540U	150J	110J	4100UJ	98J	670UJ	410J
DIBENZOFURAN	µg/Kg	790UJ	540U	91J	2600J	5700J	600U	670UJ	290J
DIETHYL PHTHALATE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
DIMETHYL PHTHALATE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
FLUORANTHENE	µg/Kg	220J	970	4300	6900J	14000J	1100	190J	11000
FLUORENE	µg/Kg	790UJ	540U	190J	2700J	6500J	600U	670UJ	710J
HEXACHLOROBUTADIENE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
HEXACHLOROBUTADIENE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
HEXACHLOROCYCLOPENTADIENE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
HEXACHLOROETHANE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
INDENO(1,2,3-CD)PYRENE	µg/Kg	790UJ	140J	250J	340J	1300J	280J	75J	1000J
ISOPHORONE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
N-NITROSO-DI-N-PROPYLAMINE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
N-NITROSODIPHENYLAMINE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
NAPHTHALENE	µg/Kg	790UJ	97J	220J	3600J	8500J	96J	670UJ	390J
NITROBENZENE	µg/Kg	790UJ	540U	510U	950UJ	4100UJ	600U	670UJ	1900U
PENTACHLOROPHENOL	µg/Kg	4000UJ	2700U	2600U	4800UJ	21000UJ	3100U	3400UJ	9500U
PHENANTHRENE	µg/Kg	94J	480J	2200	11000J	23000J	590J	110J	8100
PHENOL	µg/Kg	790UJ	540U	510U	190J	4100UJ	600U	670UJ	1900U
PYRENE	µg/Kg	230J	890	4100	5100J	10000J	970	180J	8500

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1033-10	HB-1033-02	HB-1033-04	HB-1043-06	HB-1043-08	HB-1044-08	HB-1044-10	HB-1044-02
	Location	HB-WSD-32	HB-WSD-33	HB-WSD-33	HB-WSD-34	HB-WSD-34	HB-WSD-35	HB-WSD-35	HB-WSD-36
	Sample Date	7/8/2008	7/8/2008	7/8/2008	7/15/2008	7/15/2008	7/16/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1'-BIPHENYL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
1-PHENYL-1-(4-METHYLPHENYL) ETHANE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2,4,5-TRICHLOROPHENOL	µg/Kg	120000U	2300U	2600U	3300U	4000UJ	2300U	10000U	2900U
2,4,6-TRICHLOROPHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2,4-DICHLOROPHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2,4-DIMETHYLPHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2,4-DINITROPHENOL	µg/Kg	120000U	2300U	2600U	3300U	4000UJ	2300U	10000U	2900U
2,4-DINITROTOLUENE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2,6-DINITROTOLUENE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2-CHLORONAPHTHALENE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2-CHLOROPHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2-METHYLNAPHTHALENE	µg/Kg	3300J	450U	300J	110J	780UJ	450U	2000U	580U
2-METHYLPHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
2-NITROANILINE	µg/Kg	120000U	2300U	2600U	3300U	4000UJ	2300U	10000U	2900U
2-NITROPHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
3,3'-DICHLOROBENZIDINE	µg/Kg	47000U	900U	1000U	1300U	1600UJ	900U	4100U	1200U
3-NITROANILINE	µg/Kg	120000U	2300U	2600U	3300U	4000UJ	2300U	10000U	2900U
4,6-DINITRO-2-METHYLPHENOL	µg/Kg	120000U	2300U	2600U	3300U	4000UJ	2300U	10000U	2900U
4-BROMOPHENYL PHENYL ETHER	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
4-CHLORO-3-METHYLPHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
4-CHLOROANILINE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
4-CHLOROPHENYL PHENYL ETHER	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
4-METHYLPHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
4-NITROANILINE	µg/Kg	120000U	2300U	2600U	3300U	4000UJ	2300U	10000U	2900U
4-NITROPHENOL	µg/Kg	120000U	2300U	2600U	3300U	4000UJ	2300U	10000U	2900U
ACENAPHTHENE	µg/Kg	24000U	67J	65J	650U	780UJ	54J	2000U	95J
ACENAPHTHYLENE	µg/Kg	7600J	81J	180J	650U	780UJ	150J	430J	89J
ANTHRACENE	µg/Kg	13000J	130J	130J	650U	780UJ	190J	590J	240J
BENZO(A)ANTHRACENE	µg/Kg	41000	720	830	380J	780UJ	2100	5000	2000
BENZO(A)PYRENE	µg/Kg	30000	800	850	390J	780UJ	3100J	8000	2300J
BENZO(B)FLUORANTHENE	µg/Kg	39000	1300	1700	630J	780UJ	4400J	11000	3900J
BENZO(G,H,I)PERYLENE	µg/Kg	14000J	310J	280J	180J	780UJ	1100J	2400	800J
BENZO(K)FLUORANTHENE	µg/Kg	16000J	440J	550	200J	780UJ	1500J	4400	1200J
BIS(2-CHLOROETHOXY)METHANE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
BIS(2-CHLOROETHYL)ETHER	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
BIS(2-ETHYLHEXYL)PHTHALATE	µg/Kg	24000U	74J	510U	72J	780UJ	200J	220J	850
BUTYLBENZYL PHTHALATE	µg/Kg	24000U	450U	510U	650U	780UJ	200J	2000U	250J
CARBAZOLE	µg/Kg	24000U	65J	69J	650U	780UJ	120J	260J	120J

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1033-10	HB-1033-02	HB-1033-04	HB-1043-06	HB-1043-08	HB-1044-08	HB-1044-10	HB-1044-02
	Location	HB-WSD-32	HB-WSD-33	HB-WSD-33	HB-WSD-34	HB-WSD-34	HB-WSD-35	HB-WSD-35	HB-WSD-36
	Sample Date	7/8/2008	7/8/2008	7/8/2008	7/15/2008	7/15/2008	7/16/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
CHRYSENE	µg/Kg	38000	780	960	470J	780UJ	2400	5000	2300
DI-N-BUTYL PHTHALATE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
DI-N-OCTYL PHTHALATE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
DIBENZO(A,H)ANTHRACENE	µg/Kg	4500J	98J	120J	650U	780UJ	320J	690J	240J
DIBENZOFURAN	µg/Kg	4000J	450U	120J	650U	780UJ	450U	2000U	580U
DIETHYL PHTHALATE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
DIMETHYL PHTHALATE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
FLUORANTHENE	µg/Kg	95000	1300	1300	730	780UJ	4100	9600	4100
FLUORENE	µg/Kg	8300J	56J	61J	250J	780UJ	230J	2000U	310J
HEXACHLOROBUTADIENE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
HEXACHLOROBUTADIENE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
HEXACHLOROCYCLOPENTADIENE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
HEXACHLOROETHANE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
INDENO(1,2,3-CD)PYRENE	µg/Kg	14000J	180J	210J	180J	780UJ	480	1400J	310J
ISOPHORONE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
N-NITROSO-DI-N-PROPYLAMINE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
N-NITROSODIPHENYLAMINE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
NAPHTHALENE	µg/Kg	4100J	73J	2500	86J	780UJ	450U	2000U	580U
NITROBENZENE	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
PENTACHLOROPHENOL	µg/Kg	120000U	2300U	2600U	3300U	4000UJ	2300U	10000U	2900U
PHENANTHRENE	µg/Kg	71000	610	650	360J	780UJ	1400	3100	1800
PHENOL	µg/Kg	24000U	450U	510U	650U	780UJ	450U	2000U	580U
PYRENE	µg/Kg	76000	1300	1200	710	780UJ	6200	9300	7100

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Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1044-06	HB-1040-02	HB-1040-04	HB-1039-06	HB-1039-12	HB-1039-02	HB-1039-04	HB-1035-02
	Location	HB-WSD-36	HB-WSD-37	HB-WSD-37	HB-WSD-38	HB-WSD-38	HB-WSD-39	HB-WSD-39	HB-WSD-40
	Sample Date	7/16/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/9/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
1,1'-BIPHENYL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
1-PHENYL-1-(4-METHYLPHENYL) ETHANE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/Kg	2600U	540UJ	410U	610U	2700U	2100U	2200U	570U
2,4,5-TRICHLOROPHENOL	µg/Kg	13000U	2700U	2100U	3100U	14000U	11000U	11000U	2900U
2,4,6-TRICHLOROPHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2,4-DICHLOROPHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2,4-DIMETHYLPHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2,4-DINITROPHENOL	µg/Kg	13000U	2700U	2100U	3100U	14000U	11000U	11000U	2900U
2,4-DINITROTOLUENE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2,6-DINITROTOLUENE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2-CHLORONAPHTHALENE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2-CHLOROPHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2-METHYLNAPHTHALENE	µg/Kg	2600U	60J	410U	610U	300J	2100U	2200U	570U
2-METHYLPHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
2-NITROANILINE	µg/Kg	13000U	2700UJ	2100U	3100U	14000U	11000U	11000U	2900U
2-NITROPHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
3,3'-DICHLOROBENZIDINE	µg/Kg	5300U	1100U	820U	1200U	5500U	4200U	4400U	1100U
3-NITROANILINE	µg/Kg	13000U	2700U	2100U	3100U	14000U	11000U	11000U	2900U
4,6-DINITRO-2-METHYLPHENOL	µg/Kg	13000U	2700U	2100U	3100U	14000U	11000U	11000U	2900U
4-BROMOPHENYL PHENYL ETHER	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
4-CHLORO-3-METHYLPHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
4-CHLOROANILINE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
4-CHLOROPHENYL PHENYL ETHER	µg/Kg	2600U	540UJ	410U	610U	2700U	2100U	2200U	570U
4-METHYLPHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
4-NITROANILINE	µg/Kg	13000U	2700U	2100U	3100U	14000U	11000U	11000U	2900U
4-NITROPHENOL	µg/Kg	13000U	2700U	2100U	3100U	14000U	11000U	11000U	2900U
ACENAPHTHENE	µg/Kg	490J	71J	410U	610U	750J	310J	400J	570U
ACENAPHTHYLENE	µg/Kg	280J	340J	410U	120J	530J	510J	430J	570U
ANTHRACENE	µg/Kg	700J	340J	410U	100J	1100J	900J	950J	570U
BENZO(A)ANTHRACENE	µg/Kg	4100	1700	410U	720	5100	5600	4800	120J
BENZO(A)PYRENE	µg/Kg	4300	1700	410U	1200	5900	6500	5100	120J
BENZO(B)FLUORANTHENE	µg/Kg	7600	3100	410U	2300	9500	11000	8400	180J
BENZO(G,H,I)PERYLENE	µg/Kg	1400J	450J	410U	460J	2200J	2100	1500J	88J
BENZO(K)FLUORANTHENE	µg/Kg	2200J	1100	410U	600J	3300	4000	2800	71J
BIS(2-CHLOROETHOXY)METHANE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
BIS(2-CHLOROETHYL)ETHER	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
BIS(2-ETHYLHEXYL)PHTHALATE	µg/Kg	830J	110J	410U	680	920J	1000J	650J	62J
BUTYLBENZYL PHTHALATE	µg/Kg	2600U	540U	410U	280J	2700U	370J	280J	570U
CARBAZOLE	µg/Kg	400J	86J	410U	610U	1000J	430J	450J	570U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1044-06	HB-1040-02	HB-1040-04	HB-1039-06	HB-1039-12	HB-1039-02	HB-1039-04	HB-1035-02
	Location	HB-WSD-36	HB-WSD-37	HB-WSD-37	HB-WSD-38	HB-WSD-38	HB-WSD-39	HB-WSD-39	HB-WSD-40
	Sample Date	7/16/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/9/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
CHRYSENE	µg/Kg	4600	1700	410U	970	7100	6200	5300	150J
DI-N-BUTYL PHTHALATE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
DI-N-OCTYL PHTHALATE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
DIBENZO(A,H)ANTHRACENE	µg/Kg	420J	150J	410U	120J	620J	580J	480J	570U
DIBENZOFURAN	µg/Kg	2600U	70J	410U	610U	490J	2100U	2200U	570U
DIETHYL PHTHALATE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
DIMETHYL PHTHALATE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
FLUORANTHENE	µg/Kg	11000	4700	71J	1400	14000	12000	11000	220J
FLUORENE	µg/Kg	1400J	350J	410U	260J	970J	1100J	1200J	570U
HEXACHLOROBUTADIENE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
HEXACHLOROBUTADIENE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
HEXACHLOROCYCLOPENTADIENE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
HEXACHLOROETHANE	µg/Kg	2600U	540UJ	410U	610U	2700U	2100U	2200U	570U
INDENO(1,2,3-CD)PYRENE	µg/Kg	750J	280J	410U	240J	1300J	1100J	950J	84J
ISOPHORONE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
N-NITROSO-DI-N-PROPYLAMINE	µg/Kg	2600U	540UJ	410U	610U	2700U	2100U	2200U	570U
N-NITROSODIPHENYLAMINE	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
NAPHTHALENE	µg/Kg	2600U	61J	410U	610U	2700U	2100U	2200U	570U
NITROBENZENE	µg/Kg	2600U	540UJ	410U	610U	2700U	2100U	2200U	570U
PENTACHLOROPHENOL	µg/Kg	13000U	2700U	2100U	3100U	14000U	11000U	11000U	2900U
PHENANTHRENE	µg/Kg	5400	2100	57J	500J	8800	5200	6100	94J
PHENOL	µg/Kg	2600U	540U	410U	610U	2700U	2100U	2200U	570U
PYRENE	µg/Kg	10000	3500	61J	1500J	13000	12000	11000	210J

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Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1035-04	HB-1036-02	HB-1036-04	HB-1045-02	HB-1045-04
	Location	HB-WSD-40	HB-WSD-41	HB-WSD-41	HB-WSD-42	HB-WSD-42
	Sample Date	7/9/2008	7/9/2008	7/9/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
1,1'-BIPHENYL	µg/Kg	390U	500U	2400U	620U	510U
1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	µg/Kg	390U	500U	2400U	620U	510U
1-PHENYL-1-(4-METHYLPHENYL) ETHANE	µg/Kg	390U	500U	2400U	620U	510U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/Kg	390U	500U	2400U	620U	510U
2,4,5-TRICHLOROPHENOL	µg/Kg	1900U	2500U	12000U	3100U	2600U
2,4,6-TRICHLOROPHENOL	µg/Kg	390U	500U	2400U	620U	510U
2,4-DICHLOROPHENOL	µg/Kg	390U	500U	2400U	620U	510U
2,4-DIMETHYLPHENOL	µg/Kg	390U	500U	2400U	620U	510U
2,4-DINITROPHENOL	µg/Kg	1900U	2500U	12000U	3100U	2600U
2,4-DINITROTOLUENE	µg/Kg	390U	500U	2400U	620U	510U
2,6-DINITROTOLUENE	µg/Kg	390U	500U	2400U	620U	510U
2-CHLORONAPHTHALENE	µg/Kg	390U	500U	2400U	620U	510U
2-CHLOROPHENOL	µg/Kg	390U	500U	2400U	620U	510U
2-METHYLNAPHTHALENE	µg/Kg	80J	500U	470J	620U	93J
2-METHYLPHENOL	µg/Kg	390U	500U	2400U	620U	510U
2-NITROANILINE	µg/Kg	1900U	2500U	12000U	3100U	2600U
2-NITROPHENOL	µg/Kg	390U	500U	2400U	620U	510U
3,3'-DICHLOROBENZIDINE	µg/Kg	770U	1000U	4700U	1200U	1000U
3-NITROANILINE	µg/Kg	1900U	2500U	12000U	3100U	2600U
4,6-DINITRO-2-METHYLPHENOL	µg/Kg	1900U	2500U	12000U	3100U	2600U
4-BROMOPHENYL PHENYL ETHER	µg/Kg	390U	500U	2400U	620U	510U
4-CHLORO-3-METHYLPHENOL	µg/Kg	390U	500U	2400U	620U	510U
4-CHLOROANILINE	µg/Kg	390U	500U	2400U	620U	510U
4-CHLOROPHENYL PHENYL ETHER	µg/Kg	390U	500U	2400U	620U	510U
4-METHYLPHENOL	µg/Kg	390U	500U	2400U	620U	510U
4-NITROANILINE	µg/Kg	1900U	2500U	12000U	3100U	2600U
4-NITROPHENOL	µg/Kg	1900U	2500U	12000U	3100U	2600U
ACENAPHTHENE	µg/Kg	390U	500U	990J	620U	510U
ACENAPHTHYLENE	µg/Kg	390U	500U	320J	620U	70J
ANTHRACENE	µg/Kg	390U	500U	2000J	620U	590
BENZO(A)ANTHRACENE	µg/Kg	100J	170J	3800	110J	800
BENZO(A)PYRENE	µg/Kg	81J	160J	2900	100J	480J
BENZO(B)FLUORANTHENE	µg/Kg	120J	230J	3900	70J	760
BENZO(G,H,I)PERYLENE	µg/Kg	48J	74J	970J	68J	180J
BENZO(K)FLUORANTHENE	µg/Kg	50J	93J	1600J	620U	230J
BIS(2-CHLOROETHOXY)METHANE	µg/Kg	390U	500U	2400U	620U	510U
BIS(2-CHLOROETHYL)ETHER	µg/Kg	390U	500U	2400U	620U	510U
BIS(2-ETHYLHEXYL)PHTHALATE	µg/Kg	390U	52J	2400U	620U	510U
BUTYLBENZYL PHTHALATE	µg/Kg	390U	500U	2400U	620U	510U
CARBAZOLE	µg/Kg	390U	500U	580J	620U	510U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 2
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8270c Semivolatile Organic Compound Data

	Field Sample ID	HB-1035-04	HB-1036-02	HB-1036-04	HB-1045-02	HB-1045-04
	Location	HB-WSD-40	HB-WSD-41	HB-WSD-41	HB-WSD-42	HB-WSD-42
	Sample Date	7/9/2008	7/9/2008	7/9/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
CHRYSENE	µg/Kg	110J	190J	3700	110J	720
DI-N-BUTYL PHTHALATE	µg/Kg	390U	500U	2400U	620U	510U
DI-N-OCTYL PHTHALATE	µg/Kg	390U	500U	2400U	620U	510U
DIBENZO(A,H)ANTHRACENE	µg/Kg	390U	500U	320J	620U	510U
DIBENZOFURAN	µg/Kg	390U	500U	920J	620U	68J
DIETHYL PHTHALATE	µg/Kg	390U	500U	2400U	620U	510U
DIMETHYL PHTHALATE	µg/Kg	390U	500U	2400U	620U	510U
FLUORANTHENE	µg/Kg	200J	350J	11000	180J	2700
FLUORENE	µg/Kg	390U	500U	1100J	620U	270J
HEXACHLOROBUTADIENE	µg/Kg	390U	500U	2400U	620U	510U
HEXACHLOROBUTADIENE	µg/Kg	390U	500U	2400U	620U	510U
HEXACHLOROCYCLOPENTADIENE	µg/Kg	390U	500U	2400U	620U	510U
HEXACHLOROETHANE	µg/Kg	390U	500U	2400U	620U	510U
INDENO(1,2,3-CD)PYRENE	µg/Kg	47J	65J	780J	64J	180J
ISOPHORONE	µg/Kg	390U	500U	2400U	620U	510U
N-NITROSO-DI-N-PROPYLAMINE	µg/Kg	390U	500U	2400U	620U	510U
N-NITROSODIPHENYLAMINE	µg/Kg	390U	500U	2400U	620U	510U
NAPHTHALENE	µg/Kg	160J	500U	750J	83J	340J
NITROBENZENE	µg/Kg	390U	500U	2400U	620U	510U
PENTACHLOROPHENOL	µg/Kg	1900U	2500U	12000U	3100U	2600U
PHENANTHRENE	µg/Kg	150J	210J	12000	99J	800
PHENOL	µg/Kg	390U	500U	2400U	620U	510U
PYRENE	µg/Kg	160J	330J	9400	180J	2100

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 3
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8082 PCB Data

	Field Sample ID	HB-0045-02	HB-0044-03	HB-0050-02	HB-0049-02	HB-0046-02	HB-1031-06	HB-1031-08	HB-1032-03
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175	HB-SED-21	HB-SED-21	HB-SED-22
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008	7/2/2008	7/2/2008	7/3/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT	0-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
AROCLOR-1016	µg/Kg	49.3UJ	53UJ	21.1U	19.2U	30.2U	39.1UJ	37.9UJ	25.6U
AROCLOR-1221	µg/Kg	49.3UJ	53UJ	21.1U	19.2U	30.2U	39.1UJ	37.9UJ	25.6U
AROCLOR-1232	µg/Kg	49.3UJ	53UJ	21.1U	19.2U	30.2U	39.1UJ	37.9UJ	25.6U
AROCLOR-1242	µg/Kg	49.3UJ	53UJ	21.1U	19.2U	30.2U	39.1UJ	109J	25.6U
AROCLOR-1248	µg/Kg	49.3UJ	53UJ	21.1U	19.2U	43.7J	39.1UJ	37.9UJ	25.6U
AROCLOR-1254	µg/Kg	49.3UJ	53UJ	21.1U	19.2U	30.2U	39.1UJ	37.9UJ	25.6U
AROCLOR-1260	µg/Kg	49.3UJ	53UJ	42.8J	19.2U	21.3J	38.2J	89.3J	5.83J
AROCLOR-1268	µg/Kg	49.3UJ	53UJ	21.1U	19.2U	30.2U	39.1UJ	37.9UJ	25.6U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 3
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8082 PCB Data

	Field Sample ID	HB-1032-04	HB-1035-06	HB-1035-12	HB-1043-02	HB-1043-04	HB-1036-06	HB-1036-08	HB-1034-04
	Location	HB-SED-22	HB-SED-23	HB-SED-23	HB-SED-24	HB-SED-24	HB-SED-25	HB-SED-25	HB-SED-26
	Sample Date	7/3/2008	7/9/2008	7/9/2008	7/15/2008	7/15/2008	7/9/2008	7/9/2008	7/8/2008
	Sample Depth	1-4 FT	0-1 FT	1-3 FT	0-1 FT	1-4 FT	9-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
AROCLOR-1016	µg/Kg	29.4U	20.8U	20.4U	30.9U	54.8UJ	33.7U	34.5U	33.2U
AROCLOR-1221	µg/Kg	29.4U	20.8U	20.4U	30.9U	54.8UJ	33.7U	34.5U	33.2U
AROCLOR-1232	µg/Kg	29.4U	20.8U	20.4U	30.9U	54.8UJ	33.7U	34.5U	33.2U
AROCLOR-1242	µg/Kg	29.4U	20.8U	20.4U	30.9U	54.8UJ	33.7U	34.5U	33.2U
AROCLOR-1248	µg/Kg	29.4U	20.8U	20.4U	30.9U	54.8UJ	33.7U	34.5U	33.2U
AROCLOR-1254	µg/Kg	29.4U	20.8U	20.4U	30.9U	54.8UJ	33.7U	34.5U	33.2U
AROCLOR-1260	µg/Kg	14J	16.8J	6.24J	7.77J	54.8UJ	14.3J	34.5U	13.1J
AROCLOR-1268	µg/Kg	29.4U	20.8U	20.4U	30.9U	54.8UJ	33.7U	34.5U	33.2U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 3
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8082 PCB Data

	Field Sample ID	HB-1034-06	HB-1038-02	HB-1038-04	HB-1031-02	HB-1031-04	HB-1033-12	HB-1034-02	HB-1033-08
	Location	HB-SED-26	HB-SED-27	HB-SED-27	HB-SED-28	HB-SED-28	HB-WSD-31	HB-WSD-31	HB-WSD-32
	Sample Date	7/8/2008	7/9/2008	7/9/2008	7/2/2008	7/2/2008	7/8/2008	7/8/2008	7/8/2008
	Sample Depth	1-4 FT	1.5-2.5 FT	2.5-3.5 FT	1-2 Ft	2-3 Ft	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
AROCLOR-1016	µg/Kg	40.8UJ	27.8U	26.4U	49UJ	41.9UJ	31.1U	34.6UJ	19.4U
AROCLOR-1221	µg/Kg	40.8UJ	27.8U	26.4U	49UJ	41.9UJ	31.1U	34.6UJ	19.4U
AROCLOR-1232	µg/Kg	40.8UJ	27.8U	26.4U	49UJ	41.9UJ	31.1U	34.6UJ	19.4U
AROCLOR-1242	µg/Kg	40.8UJ	27.8U	26.4U	49UJ	7.64J	31.1U	34.6UJ	19.4U
AROCLOR-1248	µg/Kg	40.8UJ	27.8U	26.4U	49UJ	41.9UJ	31.1U	34.6UJ	19.4U
AROCLOR-1254	µg/Kg	40.8UJ	27.8U	26.4U	49UJ	41.9UJ	31.1U	34.6UJ	19.4U
AROCLOR-1260	µg/Kg	10.9J	14.7J	63.6	11.7J	71.9J	42.9	4.5J	11.5J
AROCLOR-1268	µg/Kg	40.8UJ	27.8U	26.4U	49UJ	41.9UJ	31.1U	34.6UJ	19.4U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 3
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8082 PCB Data

	Field Sample ID	HB-1033-10	HB-1033-02	HB-1033-04	HB-1043-06	HB-1043-08	HB-1044-08	HB-1044-10	HB-1044-02
	Location	HB-WSD-32	HB-WSD-33	HB-WSD-33	HB-WSD-34	HB-WSD-34	HB-WSD-35	HB-WSD-35	HB-WSD-36
	Sample Date	7/8/2008	7/8/2008	7/8/2008	7/15/2008	7/15/2008	7/16/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
AROCLOR-1016	µg/Kg	24.3U	23.1U	26.3U	33.7UJ	40.3UJ	23.2U	20.9U	29.9U
AROCLOR-1221	µg/Kg	24.3U	23.1U	26.3U	33.7UJ	40.3UJ	23.2U	20.9U	29.9U
AROCLOR-1232	µg/Kg	24.3U	23.1U	26.3U	33.7UJ	40.3UJ	23.2U	20.9U	29.9U
AROCLOR-1242	µg/Kg	24.3U	23.1U	26.3U	33.7UJ	40.3UJ	23.2U	20.9U	29.9U
AROCLOR-1248	µg/Kg	24.3U	23.1U	26.3U	33.7UJ	40.3UJ	23.2U	20.9U	29.9U
AROCLOR-1254	µg/Kg	24.3U	23.1U	26.3U	33.7UJ	40.3UJ	23.2U	20.9U	29.9U
AROCLOR-1260	µg/Kg	70.2J	20.7J	8.27J	32.8J	40.3UJ	14.6J	23.5	78.8
AROCLOR-1268	µg/Kg	24.3U	23.1U	26.3U	33.7UJ	40.3UJ	23.2U	20.9U	29.9U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 3
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8082 PCB Data

	Field Sample ID	HB-1044-06	HB-1040-02	HB-1040-04	HB-1039-06	HB-1039-12	HB-1039-02	HB-1039-04	HB-1035-02
	Location	HB-WSD-36	HB-WSD-37	HB-WSD-37	HB-WSD-38	HB-WSD-38	HB-WSD-39	HB-WSD-39	HB-WSD-40
	Sample Date	7/16/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/9/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
AROCLOR-1016	µg/Kg	27.2U	27.8U	21.1U	31.4U	28.1U	21.6U	22.8U	29.1U
AROCLOR-1221	µg/Kg	27.2U	27.8U	21.1U	31.4U	28.1U	21.6U	22.8U	29.1U
AROCLOR-1232	µg/Kg	27.2U	27.8U	21.1U	31.4U	28.1U	21.6U	22.8U	29.1U
AROCLOR-1242	µg/Kg	27.2U	27.8U	21.1U	31.4U	28.1U	21.6U	22.8U	29.1U
AROCLOR-1248	µg/Kg	27.2U	27.8U	21.1U	31.4U	28.1U	21.6U	22.8U	29.1U
AROCLOR-1254	µg/Kg	27.2U	27.8U	21.1U	31.4U	28.1U	21.6U	22.8U	29.1U
AROCLOR-1260	µg/Kg	94.4	24.2J	21.1U	40.3	105	107	84.7	16.7J
AROCLOR-1268	µg/Kg	27.2U	27.8U	21.1U	31.4U	28.1U	21.6U	22.8U	29.1U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 3
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Method 8082 PCB Data

	Field Sample ID	HB-1035-04	HB-1036-02	HB-1036-04	HB-1045-02	HB-1045-04
	Location	HB-WSD-40	HB-WSD-41	HB-WSD-41	HB-WSD-42	HB-WSD-42
	Sample Date	7/9/2008	7/9/2008	7/9/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
AROCLOR-1016	µg/Kg	19.8U	25.9U	24.4U	31.9U	26.5U
AROCLOR-1221	µg/Kg	19.8U	25.9U	24.4U	31.9U	26.5U
AROCLOR-1232	µg/Kg	19.8U	25.9U	24.4U	31.9U	26.5U
AROCLOR-1242	µg/Kg	19.8U	25.9U	24.4U	31.9U	26.5U
AROCLOR-1248	µg/Kg	19.8U	25.9U	24.4U	31.9U	26.5U
AROCLOR-1254	µg/Kg	19.8U	25.9U	24.4U	31.9U	26.5U
AROCLOR-1260	µg/Kg	9.59J	11.7J	12.3J	20.8J	5.11J
AROCLOR-1268	µg/Kg	19.8U	25.9U	24.4U	31.9U	26.5U

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 4
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Inorganic Compound Data

	Field Sample ID	HB-0045-02	HB-0044-03	HB-0050-02	HB-0049-02	HB-0046-02	HB-1031-06	HB-1031-08	HB-1032-03
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175	HB-SED-21	HB-SED-21	HB-SED-22
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008	7/2/2008	7/2/2008	7/3/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT	0-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
ALUMINUM	mg/Kg	7200J	9400J	4800	5500	2400	4300J	9600J	1500
ANTIMONY	mg/Kg	17UJ	19UJ	7.5UJ	6.8U	11UJ	14UJ	13UJ	9.0UJ
ARSENIC	mg/Kg	4.7J	6.2J	4.1	3.7	1.9	6.1J	13J	5.7
BARIUM	mg/Kg	15J	25J	29	30	380	100J	80J	71
BERYLLIUM	mg/Kg	0.42J	0.48J	0.24J	0.26J	0.17J	0.28J	0.78J	0.093J
CADMIUM	mg/Kg	2.9UJ	3.1UJ	0.46J	0.20J	0.10J	1.7J	1.0J	0.39J
CALCIUM	mg/Kg	360000J	280000J	120000	100000	280000	330000J	230000J	370000
CHROMIUM	mg/Kg	11J	13J	11J	10	6.6J	31J	29J	8.8
COBALT	mg/Kg	3.0J	3.4J	4.2J	5.2J	1.6J	3.7J	7.6J	0.88J
COPPER	mg/Kg	17J	24J	23	20	15	37J	46J	19
CYANIDE	mg/Kg	14J	1.6UJ	0.62UJ	0.57U	1.8UJ	1.4J	9.3J	0.87
IRON	mg/Kg	5700J	7100J	14000	12000	16000	9100J	15000J	1700
LEAD	mg/Kg	8.5J	12J	130	9.2	93	89J	130J	29
MAGNESIUM	mg/Kg	52000J	69000J	38000	40000	5800	28000J	19000J	8200
MANGANESE	mg/Kg	310J	370J	300	240	490	220J	510J	64
MERCURY	mg/kg	0.19J	0.35	0.15	0.040J	0.27	0.27J	0.63J	1
NICKEL	mg/Kg	8.7J	10J	12	13	6.7J	12J	21J	3.9J
POTASSIUM	mg/Kg	140J	87J	820	980	460J	810J	1000J	210J
SELENIUM	mg/Kg	2.9UJ	3.1UJ	1.2U	1.1U	0.49J	2.3UJ	0.68J	1.5U
SILVER	mg/Kg	2.9UJ	3.1UJ	1.2U	1.1U	1.8U	0.58J	0.25J	1.5U
SODIUM	mg/Kg	1800J	1800J	390	220	1600	1600J	1400J	820
THALLIUM	mg/Kg	5.8UJ	6.2UJ	2.5UJ	2.3UJ	3.6U	4.6UJ	4.5UJ	1.6J
VANADIUM	mg/Kg	12J	17J	12	9.8	5.9J	15J	28J	9.7
ZINC	mg/Kg	65J	81J	57	26	56J	150J	110J	96

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 4
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Inorganic Compound Data

	Field Sample ID	HB-1032-04	HB-1035-06	HB-1035-12	HB-1043-02	HB-1043-04	HB-1036-06	HB-1036-08	HB-1034-04
	Location	HB-SED-22	HB-SED-23	HB-SED-23	HB-SED-24	HB-SED-24	HB-SED-25	HB-SED-25	HB-SED-26
	Sample Date	7/3/2008	7/9/2008	7/9/2008	7/15/2008	7/15/2008	7/9/2008	7/9/2008	7/8/2008
	Sample Depth	1-4 FT	0-1 FT	1-3 FT	0-1 FT	1-4 FT	9-1 FT	1-4 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
ALUMINUM	mg/Kg	1500	6000	6100	1100	6800J	1900	5500J	1200
ANTIMONY	mg/Kg	10UJ	7.3UJ	1.1J	11U	19UJ	12UJ	12UJ	12UJ
ARSENIC	mg/Kg	9.2	5.7	10	2.1	5.0J	2.5	2.8J	2.5
BARIUM	mg/Kg	90	56	59	550	87J	610	64J	640
BERYLLIUM	mg/Kg	0.15J	0.45J	0.41J	0.096J	0.36J	0.14J	0.35J	0.14J
CADMIUM	mg/Kg	0.60J	0.26J	0.22J	0.089J	3.2UJ	0.14J	2.0UJ	0.21J
CALCIUM	mg/Kg	410000	210000	130000	300000	230000J	380000	140000J	380000
CHROMIUM	mg/Kg	17	17J	13J	6.4J	12J	7.3J	8.8J	7.4J
COBALT	mg/Kg	1.3J	6.1J	5.4J	9.1U	2.0J	0.71J	3.6J	0.65J
COPPER	mg/Kg	15	33	43	28	24J	17	16J	17
CYANIDE	mg/Kg	0.33J	1.2U	1.2U	1.2	11J	0.86J	2.0UJ	1.1
IRON	mg/Kg	2500	14000	32000	20000	7600J	15000	9700J	23000
LEAD	mg/Kg	78	56	61	30	34J	33	17J	24
MAGNESIUM	mg/Kg	5900	28000	51000	3400J	49000J	9400	28000J	5800
MANGANESE	mg/Kg	75	380	350	510J	370J	490	300J	450
MERCURY	mg/kg	1.6	0.27	0.3	0.13J	0.37J	0.11J	0.093J	0.088J
NICKEL	mg/Kg	6.1J	16	15	4.1J	8.7J	5.2J	11J	4.6J
POTASSIUM	mg/Kg	290J	1100	970	310J	280J	390J	510J	340J
SELENIUM	mg/Kg	1.7U	0.49J	0.99J	1.8U	3.2UJ	2.0U	0.82J	2.0U
SILVER	mg/Kg	1.7U	1.2U	1.2U	1.8U	3.2UJ	2.0U	2.0UJ	2.0U
SODIUM	mg/Kg	1300	190	230	1800	4400J	3000	2700J	2500
THALLIUM	mg/Kg	1.6J	2.4U	2.4U	3.6U	6.5UJ	4.0U	4.1UJ	2.7J
VANADIUM	mg/Kg	11	14	14	4.4J	12J	5.2J	9.1J	4.5J
ZINC	mg/Kg	120	72J	50J	72	73J	70J	42J	78

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Table 4
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Inorganic Compound Data

	Field Sample ID	HB-1034-06	HB-1038-02	HB-1038-04	HB-1031-02	HB-1031-04	HB-1033-12	HB-1034-02	HB-1033-08
	Location	HB-SED-26	HB-SED-27	HB-SED-27	HB-SED-28	HB-SED-28	HB-WSD-31	HB-WSD-31	HB-WSD-32
	Sample Date	7/8/2008	7/9/2008	7/9/2008	7/2/2008	7/2/2008	7/8/2008	7/8/2008	7/8/2008
	Sample Depth	1-4 FT	1.5-2.5 FT	2.5-3.5 FT	1-2 Ft	2-3 Ft	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
ALUMINUM	mg/Kg	7300J	1500	1600	7400J	5500J	4200	11000J	6400
ANTIMONY	mg/Kg	14UJ	9.8UJ	9.3UJ	17UJ	15UJ	11UJ	12UJ	6.8UJ
ARSENIC	mg/Kg	5.9J	1.1J	1.4J	4.8J	3.6J	10	22J	6.6
BARIUM	mg/Kg	140J	84	95	26J	59J	82	46J	42
BERYLLIUM	mg/Kg	0.42J	0.13J	0.13J	0.35J	0.33J	0.63J	0.88J	0.43J
CADMIUM	mg/Kg	0.17J	1.6U	0.14J	0.20J	0.24J	0.29J	0.14J	0.066J
CALCIUM	mg/Kg	280000J	310000	320000	230000J	250000J	310000	230000J	120000
CHROMIUM	mg/Kg	12J	10J	15J	13J	17J	26J	13J	17J
COBALT	mg/Kg	3.7J	1.1J	1.3J	2.7J	2.5J	5.0J	5.3J	5.7J
COPPER	mg/Kg	22J	29	24	24J	30J	15	24J	19
CYANIDE	mg/Kg	1.3J	1.6U	1.6U	19J	10J	0.92U	1U	0.57U
IRON	mg/Kg	11000J	4700	4500	6300J	8300J	10000	13000J	16000
LEAD	mg/Kg	24J	64	120	23J	39J	47	25J	27
MAGNESIUM	mg/Kg	44000J	4500	5700	53000J	35000J	6200	31000J	35000
MANGANESE	mg/Kg	540J	460	380	350J	420J	100	200J	280
MERCURY	mg/kg	0.18J	0.15J	0.14J	0.21J	0.19J	0.25	0.44J	0.11J
NICKEL	mg/Kg	11J	5.4J	6.1J	9.3J	9.8J	12	15J	17
POTASSIUM	mg/Kg	570J	340J	360J	220J	500J	390J	520J	990J
SELENIUM	mg/Kg	2.4UJ	1.6U	0.40J	2.9UJ	2.5UJ	1.0J	2.2J	0.26J
SILVER	mg/Kg	2.4UJ	0.17J	0.23J	2.9UJ	2.5UJ	1.8U	2.0UJ	1.1U
SODIUM	mg/Kg	3700J	2700	3000	1200J	950J	540	940J	190
THALLIUM	mg/Kg	4.8UJ	3.3U	3.1U	5.8UJ	4.9UJ	1.9J	1.3J	0.76J
VANADIUM	mg/Kg	12J	3.3J	4.1J	15J	13J	13	26J	13
ZINC	mg/Kg	64J	44J	51J	94J	120J	58	63J	47

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Table 4
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Inorganic Compound Data

	Field Sample ID	HB-1033-10	HB-1033-02	HB-1033-04	HB-1043-06	HB-1043-08	HB-1044-08	HB-1044-10	HB-1044-02
	Location	HB-WSD-32	HB-WSD-33	HB-WSD-33	HB-WSD-34	HB-WSD-34	HB-WSD-35	HB-WSD-35	HB-WSD-36
	Sample Date	7/8/2008	7/8/2008	7/8/2008	7/15/2008	7/15/2008	7/16/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
ALUMINUM	mg/Kg	4300	4000	6700	6500	8400J	6500	3600	6400
ANTIMONY	mg/Kg	8.6UJ	8.1UJ	1.0J	1.1J	14UJ	8.2U	7.4U	0.99J
ARSENIC	mg/Kg	6.8	5	31	33	8.3J	7.4	5.5	12
BARIUM	mg/Kg	53	40	92	83	44J	53	36	150
BERYLLIUM	mg/Kg	0.36J	0.31J	1.0J	0.89J	0.50J	0.40J	0.27J	0.42J
CADMIUM	mg/Kg	0.16J	0.13J	0.13J	0.40J	0.11J	0.54J	0.30J	1.8
CALCIUM	mg/Kg	140000	31000	120000	130000	310000J	84000	110000	100000
CHROMIUM	mg/Kg	21J	12J	12J	22J	9.6J	30J	12J	48J
COBALT	mg/Kg	5.1J	4.2J	6.2J	6.5J	3.7J	6.4J	4.1J	7.2J
COPPER	mg/Kg	21	17	44	53	24J	61	28	220
CYANIDE	mg/Kg	0.31J	0.26J	1.2	0.99U	3.2J	0.68U	0.62U	0.88U
IRON	mg/Kg	18000	11000	28000	18000	7100J	19000	14000	21000
LEAD	mg/Kg	38	31	70	79	9.5J	230	140	270
MAGNESIUM	mg/Kg	24000	5800	5400	12000J	38000J	16000J	13000J	22000J
MANGANESE	mg/Kg	250	170	240	240J	370J	330J	230J	280J
MERCURY	mg/kg	0.33	0.16	0.11J	0.49	0.25J	0.35	0.39	0.88
NICKEL	mg/Kg	15	13	16	19	11J	20	12	28
POTASSIUM	mg/Kg	640J	580J	400J	270J	150J	1000	690	980
SELENIUM	mg/Kg	0.71J	0.68J	1.8	3.3	0.98J	1.2J	0.84J	3.5
SILVER	mg/Kg	1.4U	1.4U	1.5U	2.0U	2.4UJ	0.25J	1.2U	1.3J
SODIUM	mg/Kg	270	87J	560	1600	3200J	390	280	430
THALLIUM	mg/Kg	0.84J	2.7U	1.9J	4.0U	4.7UJ	2.7U	2.5U	3.5U
VANADIUM	mg/Kg	13	9.7	14	21	13J	19	11	29
ZINC	mg/Kg	68	42	58	87	74J	170	140	460

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Table 4
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Inorganic Compound Data

	Field Sample ID	HB-1044-06	HB-1040-02	HB-1040-04	HB-1039-06	HB-1039-12	HB-1039-02	HB-1039-04	HB-1035-02
	Location	HB-WSD-36	HB-WSD-37	HB-WSD-37	HB-WSD-38	HB-WSD-38	HB-WSD-39	HB-WSD-39	HB-WSD-40
	Sample Date	7/16/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/9/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
ALUMINUM	mg/Kg	6400	9900	11000	11000	8600	5600	5500	6900
ANTIMONY	mg/Kg	0.80J	1.1J	7.4UJ	11UJ	0.81J	0.58J	8.0UJ	10UJ
ARSENIC	mg/Kg	8.3	19	6.5	6.7	8.9	8.1	8.1	4.7
BARIUM	mg/Kg	95	150	100	70	41	83	83	110
BERYLLIUM	mg/Kg	0.41J	0.76J	0.51J	0.59J	0.50J	0.37J	0.37J	0.42J
CADMIUM	mg/Kg	1.2J	0.69J	1.2U	1.0J	1.0J	1.0J	0.82J	0.48J
CALCIUM	mg/Kg	99000	31000	4400	120000	110000	110000	110000	150000
CHROMIUM	mg/Kg	32J	30J	15J	36J	24J	43J	32J	21J
COBALT	mg/Kg	7.2J	8.2J	7.4	7.1J	7.3J	6.3J	5.7J	5.5J
COPPER	mg/Kg	98	72	23	79	49	94	65	44
CYANIDE	mg/Kg	0.80U	0.82U	0.62U	0.92U	0.83U	0.64U	0.67U	1.7U
IRON	mg/Kg	17000	25000	21000	20000	18000	16000	16000	14000
LEAD	mg/Kg	320	290	62	340	250	310	310	93
MAGNESIUM	mg/Kg	25000J	11000	4000	37000	39000	24000	22000	30000
MANGANESE	mg/Kg	250J	420	420	290	260	350	290	270
MERCURY	mg/kg	0.72	0.6	0.35	0.54	0.54	0.59	0.63	0.3
NICKEL	mg/Kg	25	24	17	29	24	24	23	19
POTASSIUM	mg/Kg	1100	1300J	1200J	2200J	1700J	910J	920J	1100
SELENIUM	mg/Kg	1.3J	2.6	0.56J	3.9	2.1	1.1J	1.1J	0.86J
SILVER	mg/Kg	0.57J	1.6U	1.2U	0.21J	1.7U	0.43J	0.27J	0.29J
SODIUM	mg/Kg	720	590	660	880	760	310	300	450
THALLIUM	mg/Kg	3.2U	3.3U	2.5U	3.7U	3.3U	0.81J	2.7U	3.4U
VANADIUM	mg/Kg	23	26	21	29	23	20	22	16
ZINC	mg/Kg	260	300	170	260	170	250	200	130J

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Table 4
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Inorganic Compound Data

	Field Sample ID	HB-1035-04	HB-1036-02	HB-1036-04	HB-1045-02	HB-1045-04
	Location	HB-WSD-40	HB-WSD-41	HB-WSD-41	HB-WSD-42	HB-WSD-42
	Sample Date	7/9/2008	7/9/2008	7/9/2008	7/16/2008	7/16/2008
	Sample Depth	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
ALUMINUM	mg/Kg	6200	6500	6400	3500	5900
ANTIMONY	mg/Kg	7.0UJ	9.1UJ	8.6UJ	11U	9.4U
ARSENIC	mg/Kg	5.4	6.2	5.5	5.3	6.2
BARIUM	mg/Kg	44	87	59	86	39
BERYLLIUM	mg/Kg	0.36J	0.45J	0.40J	0.35J	0.39J
CADMIUM	mg/Kg	0.11J	0.29J	0.18J	0.76J	0.050J
CALCIUM	mg/Kg	130000	220000	200000	310000	220000
CHROMIUM	mg/Kg	13J	19J	15J	40J	13J
COBALT	mg/Kg	4.9J	5.7J	5.0J	3.4J	5.0J
COPPER	mg/Kg	31	34	30	28	25
CYANIDE	mg/Kg	1.2U	1.5U	1.4U	0.48J	0.30J
IRON	mg/Kg	13000	14000	13000	6700	10000
LEAD	mg/Kg	17	74	49	140	14
MAGNESIUM	mg/Kg	47000	27000	55000	6600J	22000J
MANGANESE	mg/Kg	270	360	330	340J	350J
MERCURY	mg/kg	0.13	0.14J	0.2	0.45	0.48
NICKEL	mg/Kg	14	17	15	14	12
POTASSIUM	mg/Kg	1200	1000	990	640J	1200
SELENIUM	mg/Kg	0.32J	0.63J	0.47J	0.58J	1.6U
SILVER	mg/Kg	1.2U	1.5U	1.4U	1.9U	1.6U
SODIUM	mg/Kg	280	420	330	1800J	1500
THALLIUM	mg/Kg	2.3U	3.0U	2.9U	3.8U	3.1U
VANADIUM	mg/Kg	13	14	13	13	13
ZINC	mg/Kg	42J	92J	62J	120	34J

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Table 5
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Other Data

	Field Sample ID	HB-0045-02	HB-0044-02	HB-0044-03	HB-0050-02	HB-0049-02	HB-0046-02	HB-1031-06	HB-1031-08
	Location	HB-SB-157	HB-SB-160	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175	HB-SED-21	HB-SED-21
	Sample Date	7/3/2008	7/1/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008	7/2/2008	7/2/2008
	Sample Depth	10-12 FT	6-8 Ft	6-8 Ft	2-4 FT	2-4 FT	2-4 FT	0-1 FT	1-4 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
TOTAL ORGANIC CARBON	mg/kg	NA	74000J	NA	NA	NA	NA	120000J	93400J
pH	S.U.	12.17	NA	11.41	8.14	8.03	8.28	10.42	11.85
PERCENT MOISTURE	wt%	65.5	NA	67.9	19.5	11.6	43.8	56.5	55.2

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Table 5
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Other Data

	Field Sample ID	HB-1032-03	HB-1032-04	HB-1035-06	HB-1035-12	HB-1043-02	HB-1043-04	HB-1036-06	HB-1036-08
	Location	HB-SED-22	HB-SED-22	HB-SED-23	HB-SED-23	HB-SED-24	HB-SED-24	HB-SED-25	HB-SED-25
	Sample Date	7/3/2008	7/3/2008	7/9/2008	7/9/2008	7/15/2008	7/15/2008	7/9/2008	7/9/2008
	Sample Depth	0-1 FT	1-4 FT	0-1 FT	1-3 FT	0-1 FT	1-4 FT	9-1 FT	1-4 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
TOTAL ORGANIC CARBON	mg/kg	112000	123000	106000	148000	119000	74700J	115000	72900J
pH	S.U.	8.61	10.63	8.21	8.4	9.63	10.48	9.84	9.76
PERCENT MOISTURE	wt%	33.6	42.1	18.1	16.7	45	69	49.5	50.7

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Table 5
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Other Data

	Field Sample ID	HB-1034-04	HB-1034-06	HB-1038-02	HB-1038-04	HB-1031-02	HB-1031-04	HB-1033-12	HB-1034-02
	Location	HB-SED-26	HB-SED-26	HB-SED-27	HB-SED-27	HB-SED-28	HB-SED-28	HB-WSD-31	HB-WSD-31
	Sample Date	7/8/2008	7/8/2008	7/9/2008	7/9/2008	7/2/2008	7/2/2008	7/8/2008	7/8/2008
	Sample Depth	0-1 FT	1-4 FT	1.5-2.5 FT	2.5-3.5 FT	1-2 Ft	2-3 Ft	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
TOTAL ORGANIC CARBON	mg/kg	117000	90200J	120000	120000	NA	NA	212000	170000J
pH	S.U.	8.62	8.85	7.69	7.78	11.57	11.47	9.5	9.63
PERCENT MOISTURE	wt%	48.8	58.3	38.8	35.5	65.3	59.4	45.4	50.8

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R - rejected value.

Table 5
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Other Data

	Field Sample ID	HB-1033-08	HB-1033-10	HB-1033-02	HB-1033-04	HB-1043-06	HB-1043-08	HB-1044-08	HB-1044-10
	Location	HB-WSD-32	HB-WSD-32	HB-WSD-33	HB-WSD-33	HB-WSD-34	HB-WSD-34	HB-WSD-35	HB-WSD-35
	Sample Date	7/8/2008	7/8/2008	7/8/2008	7/8/2008	7/15/2008	7/15/2008	7/16/2008	7/16/2008
	Sample Depth	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
TOTAL ORGANIC CARBON	mg/kg	160000	191000	111000	363000	258000	101000J	78900	91800
pH	S.U.	10.52	10.82	7.95	8.29	7.69	7.92	8.25	8.42
PERCENT MOISTURE	wt%	12.3	30.1	26.3	35.3	49.5	57.8	26.8	18.7

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Table 5
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Other Data

	Field Sample ID	HB-1044-02	HB-1044-06	HB-1040-02	HB-1040-04	HB-1039-06	HB-1039-12	HB-1039-02	HB-1039-04
	Location	HB-WSD-36	HB-WSD-36	HB-WSD-37	HB-WSD-37	HB-WSD-38	HB-WSD-38	HB-WSD-39	HB-WSD-39
	Sample Date	7/16/2008	7/16/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/11/2008
	Sample Depth	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units								
TOTAL ORGANIC CARBON	mg/kg	121000	98300	146000	23800	107000	105000	85400	93600
pH	S.U.	7.85	8.42	7.85	8.29	8.57	8.24	7.66	7.88
PERCENT MOISTURE	wt%	43.2	37.6	38.9	19.4	45.8	39.6	21.3	25.3

Notes:
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Table 5
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Other Data

	Field Sample ID	HB-1035-02	HB-1035-04	HB-1036-02	HB-1036-04	HB-1045-02	HB-1045-04
	Location	HB-WSD-40	HB-WSD-40	HB-WSD-41	HB-WSD-41	HB-WSD-42	HB-WSD-42
	Sample Date	7/9/2008	7/9/2008	7/9/2008	7/9/2008	7/16/2008	7/16/2008
	Sample Depth	0-1 FT	1-2 FT	0-1 FT	1-2 FT	0-1 FT	1-2 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units						
TOTAL ORGANIC CARBON	mg/kg	119000	116000	117000	117000	129000	113000
pH	S.U.	8.03	7.96	8.01	7.6	7.9	8.52
PERCENT MOISTURE	wt%	41.6	14.3	34.3	30.2	46.7	35.9

Notes:
U - denotes result was below the detection limit; J - estimated value;
R - rejected value.

Table 6
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments - TCLP
Method 8260 Volatile Organic Compound Data

	Field Sample ID	HB-0045-01	HB-0044-01	HB-0050-01	HB-0049-01	HB-0046-01
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
1,1-DICHLOROETHENE	mg/L	0.01U	0.01U	0.01U	0.01U	0.01U
1,2-DICHLOROETHANE	mg/L	0.0100U	0.0100U	0.0100U	0.0100U	0.0100U
2-BUTANONE	mg/L	0.2U	0.2U	0.2U	0.2U	0.2U
BENZENE	mg/L	0.01U	0.01U	0.01U	0.0032J	0.01U
CARBON TETRACHLORIDE	mg/L	0.01U	0.01U	0.01U	0.01U	0.01U
CHLOROBENZENE	mg/L	0.0100U	0.0100U	0.0100U	0.0100U	0.0100U
CHLOROFORM	mg/L	0.01U	0.01U	0.01U	0.01U	0.01U
TETRACHLOROETHENE	mg/L	0.0100U	0.0100U	0.0100U	0.0100U	0.0100U
TRICHLOROETHENE	mg/L	0.01U	0.01U	0.01U	0.01U	0.01U
VINYL CHLORIDE	mg/L	0.02U	0.02U	0.02U	0.02U	0.02U

Notes:

U - not detected, J - estimated value, R - Rejected/Unusable.

Table 7
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments - TCLP
Method 8270 Semivolatile Organic Compound Data

	Field Sample ID	HB-0045-02	HB-0044-03	HB-0050-02	HB-0049-02	HB-0046-02
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
1,4-DICHLOROBENZENE	mg/L	0.10U	0.10U	0.10U	0.10U	0.10U
2,4,5-TRICHLOROPHENOL	mg/L	0.5U	0.5U	0.5U	0.5U	0.5U
2,4,6-TRICHLOROPHENOL	mg/L	0.1U	0.1U	0.1U	0.1U	0.1U
2,4-DINITROTOLUENE	mg/L	0.1U	0.1U	0.1U	0.1U	0.1U
2-METHYLPHENOL	mg/L	0.1U	0.1U	0.1U	0.1U	0.1U
3&4-METHYLPHENOL	mg/L	0.10U	0.10U	0.10U	0.10U	0.10U
HEXACHLOROBENZENE	mg/L	0.1U	0.1U	0.1U	0.1U	0.1U
HEXACHLOROBUTADIENE	mg/L	0.1U	0.1U	0.1U	0.1U	0.1U
HEXACHLOROETHANE	mg/L	0.1U	0.1U	0.1U	0.1U	0.1U
NITROBENZENE	mg/L	0.1U	0.1U	0.1U	0.1U	0.1U
PENTACHLOROPHENOL	mg/L	0.5U	0.5U	0.5U	0.5U	0.5U

Notes:
U - not detected, J - estimated value, R - Rejected/Unusable.

Table 8
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments - TCLP
Inorganic Compound Data

	Field Sample ID	HB-0045-02	HB-0044-03	HB-0050-02	HB-0049-02	HB-0046-02
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
ARSENIC	mg/L	0.5UJ	0.5U	0.5U	0.5U	0.5U
BARIUM	mg/L	0.063J	0.048J	0.38J	0.41J	1.1
CADMIUM	mg/L	0.1UJ	0.1U	0.1U	0.1U	0.1U
CHROMIUM	mg/L	0.5UJ	0.027J	0.5U	0.5U	0.5U
LEAD	mg/L	0.5UJ	0.5U	0.063J	0.5U	0.5U
MERCURY	mg/L	0.0004U	0.0004U	0.0004U	9.6e-005J	0.0004U
SELENIUM	mg/L	0.1UJ	0.011J	0.1U	0.1U	0.1U
SILVER	mg/L	0.5UJ	0.5U	0.5U	0.5U	0.5U

Notes:
U - not detected, J - estimated value, R - Rejected/Unusable.

Table 9
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments - TCLP
Other Data

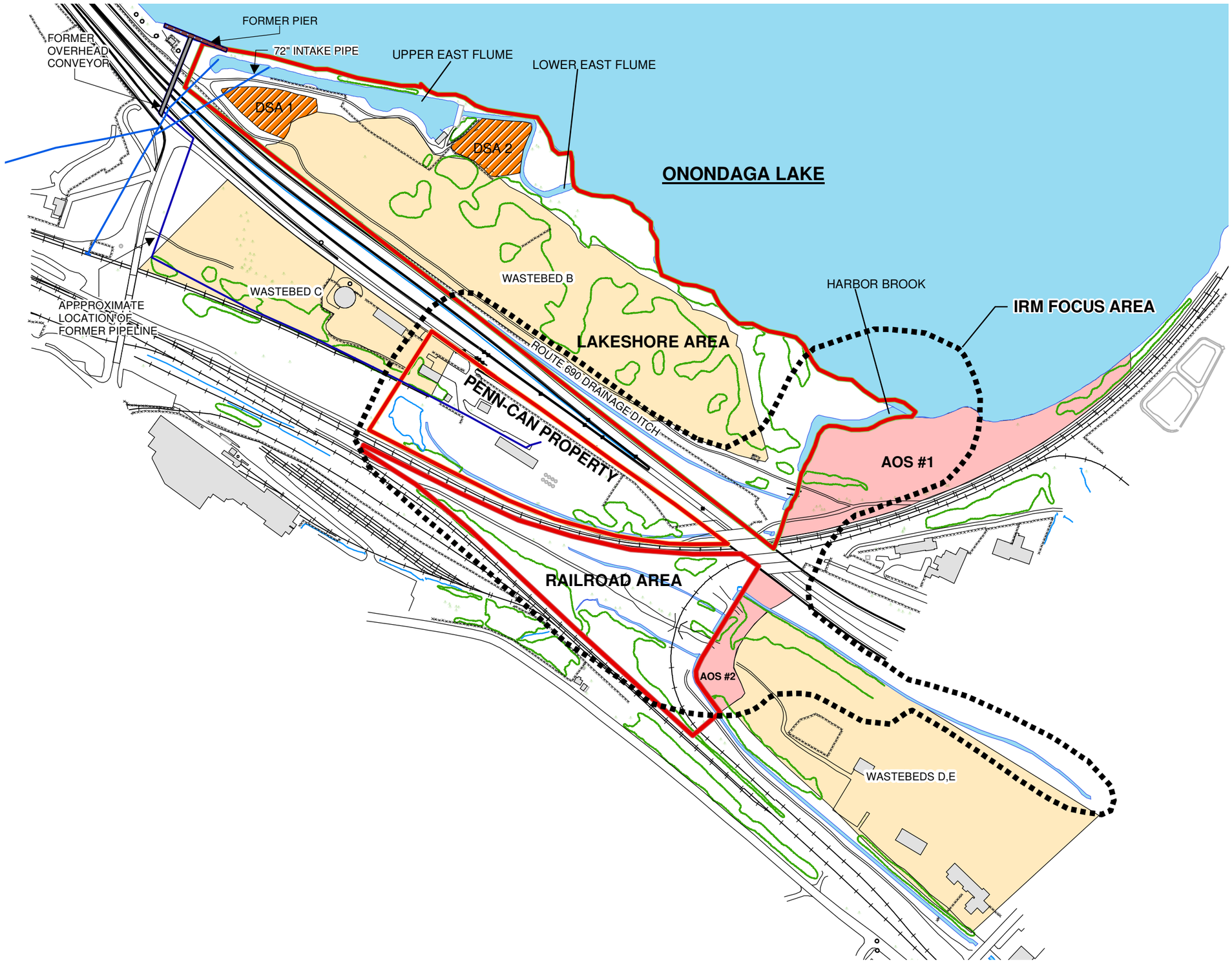
	Field Sample ID	HB-0045-02	HB-0044-03	HB-0050-02	HB-0049-02	HB-0046-02
	Location	HB-SB-157	HB-SB-160	HB-SB-168	HB-SB-172	HB-SB-175
	Sample Date	7/3/2008	7/1/2008	9/12/2008	9/10/2008	7/9/2008
	Sample Depth	10-12 FT	6-8 Ft	2-4 FT	2-4 FT	2-4 FT
	Sample Purpose	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Parameter Name	Units					
REACTIVE CYANIDE	mg/Kg	25R	25R	25R	25U	25R
REACTIVE SULFIDE	mg/Kg	50UJ	50UJ	50U	50U	50U
IGNITABILITY	mm/sec	0U	0U	0U	0U	0U
pH	S.U.	12.17	11.41	8.14	8.03	8.28
PERCENT MOISTURE	wt%	65.5	67.9	19.5	11.6	43.8

Notes:
U - not detected, J - estimated value, R - Rejected/Unusable.

Table 10
Honeywell
Harbor Brook PDI
Soil Borings, Sediments, and Wetland Sediments
Geotechnical Data

							Atterberg Limits			CU Triaxial	
Boring	Depth	Soil	NMC	Grain Size	Hydromter Analysis	Specific Gravity	Plastic Limit	Liquid Limit	Plasticity Index	ϕ/ϕ' Degrees	C'/C psi
			% dry weight	% passing #200	% finer than 0.0014						
HB-SED-26	0.0-1.0	Silt		89.4	13.4						
HB-SED-26	1.0-4.0	SW/organic silt		62.9	6.2						
HB-WSD-31	0.0-1.0	Sand		36.4	3.6						
HB-WSD-31	1.0-2.0	Solvay Waste		55.1	3.3						
HB-WSD-32	0.0-1.0	Sand & Gravel		11.8	2.3						
HB-WSD-32	1.0-2.0	Sandy Clay		20.5	4.6						
HB-WSD-33	0.0-1.0	Clay/Sand		45.9	8.4						
HB-WSD-33	1.0-2.0	Sand		14.7	11.0						
HB-OW-1	1.0-2.0			56.3	3.9						
HB-SB-158	4.0-6.0	Solvay Waste	29.8	25.9	3.6		NP	-	-		
HB-SB-159	4.0-6.0	Fill	31.1	22.2	2.6		NP	-	-		
HB-SB-160	6.0-8.0	Solvay Waste	182.5	62.2	7.2		NP	-	-		
HB-SB-157	6.0-8.0	Solvay Waste	76.3	49.6	9.9		NP	-	-		
HB-WSD-40	0.0-1.0	Silty Clay		25.7	5.7						
HB-WSD-40	1.0-2.0	Silty Clay		21.4	5.8						
HB-WSD-41	0.0-1.0	SW/Clay		66.5	10.0						
HB-WSD-41	1.0-2.0	Clay		26.8	4.1						
HB-SED-25	1.0-4.0	SW/Marl		45.3	5.3						
HB-SED-23	0.0-1.0	Clay		28.0	6.7						
HB-SED-23	1.0-4.0	Clay		30.1	8.2						
HB-WSD-37	0.0-1.0	Silty Clay		45.0	6.1						
HB-WSD-37	1.0-2.0	Silty Clay		87.0	15.7						
HB-WSD-38	0.0-1.0	Silty Clay		71.9	10.1						
HB-WSD-38	1.0-2.0	Silty Clay		57.9	6.1						
HB-WSD-39	0.0-1.0	Clayey Silt		32.0	2.9						
HB-WSD-39	1.0-2.0	Silty Clay		48.2	5.1						
HB-WSD-34	0.0-1.0	Solvay Waste		36.1	3.4						
HB-WSD-34	1.0-2.0	Solvay Waste		66.4	6.6						
HB-SED-24	0.0-1.0	silt/f. sand		80.1	5.0						
HB-SED-24	1.0-4.0	SW/silt		73.0	4.5						
HB-OW-3	0.5-1.5			6.4	0.6						
HB-SB-164	6.0-8.0	Solvay Waste	201.2	87.6	13.8		NP	-	-		
HB-SB-161A	0.0-1.3	Gravel	11.4	10.0	2.4		NP	-	-		
HB-SB-162	0.0-0.9	F. Sand/Silt	8.6	23.1	3.3		NP	-	-		
HB-SB-163	4.0-6.0	Solvay Waste	152.6	63.3	12.0		NP	-	-		
HB-SB-165B	0.0-1.5	Silt	54.2	36.2	4.1		NP	-	-		
HB-SB-175	4.0-6.0	Fill/Marl	60.1	23.2	4.2		NP	-	-		
HB-WSD-35	0.0-1.0	Silty Clay		42.2	8.2						
HB-WSD-35	1.0-2.0	Clayey Gravel		12.8	3.9						
HB-WSD-36	0.0-1.0	Silty Clay		68.3	6.9						
HB-WSD-36	1.0-2.0	Silty Clay		52.7	6.4						
HB-WSD-42	0.0-1.0	Silty Clay		63.5	9.0						
HB-WSD-42	1.0-2.0	Silty Clay/SW		62.9	5.1						
HB-SED-21	0.0-2.0	Silt/Fine Sand		72.7	3.6						
HB-SED-21	2.0-4.0	Silt		63.2	3.8						
HB-SED-22	0.0-4.0	Sand		57.1	9.2						
HB-SB-168	8.0-10.0	Clayey Gravel	8.4	38.2			12.0	16	4		
HB-SB-169	6.0-8.0	F. Sand/Silt	23.3	18.1			NP	-	-		
HB-SB-171	4.0-5.3	Clayey Gravel	11.7	59.2			17.0	23	6		
HB-SB-174	28.0-30.0	F. Sand	24.3	36			NP	-	-		
HB-SB-176	24.0-26.0	Sand	23.9	10.2			NP	-	-		
HB-SB-166	6.0-8.0	Sand	18.5	26.3			NP	-	-		
HB-SB-167	8.0-10.0	Clayey Gravel	14.7	42.7			18.0	23	4		
HB-SB-170	4.0-6.0	Silt	24.6	97.8			18.0	30	12		
HB-SB-172	10.0-12.0	Silty Sand	36.9	23.1			NP	-	-		
HB-SB-173	0.0-2.0	Sand	8.6	28.7			23.0	30	7		
HB-SB-176	34.0-36.0	Silty Sand								12.9/21.9	12.45/5.41

FIGURE 1



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LEGEND

- IRM FOCUS AREA
- HARBOR BROOK SITE
- DREDGE SPOIL AREA
- ADDITIONAL AREA OF STUDY
- WASTEBEDS

HONEYWELL INTERNATIONAL, INC.
UPPER HARBOR BROOK IRM
SYRACUSE, NY

SITE LOCATION PLAN

0 225 450 900
Feet

JUNE 2010
1163.46096

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PATH: I:\Honeywell.1163\46096.Wastebed-B-Harb\Docs\Reports\95% Design report\MXD\FIGURE 1 SITE LOCATION PLAN.mxd
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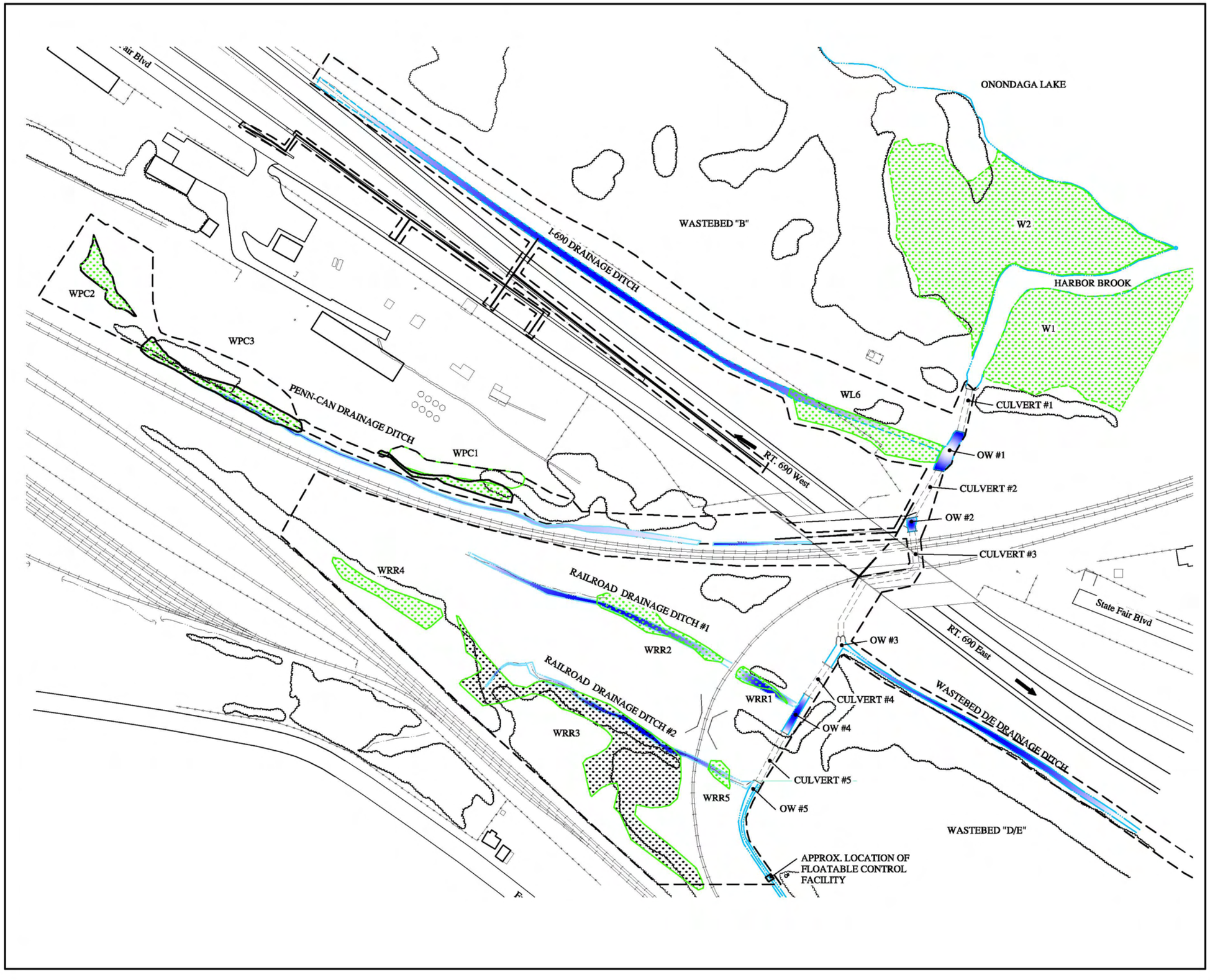
FIGURE 2



LEGEND:

- TREE LINE
- FENCE
- RAILROAD
- OW #5 OPEN WATER
- OPEN WATER/ DRAINAGE DITCH
- WRR3 DELINEATED WETLAND
- LIMITS OF WORK

HONEYWELL
INTERNATIONAL INC.
UPPER HARBOR BROOK IRM
SYRACUSE, NEW YORK

SITE PLAN

1"=200' 200 0 200

FILE NO. 1163.42071-092
SEPTEMBER 2010

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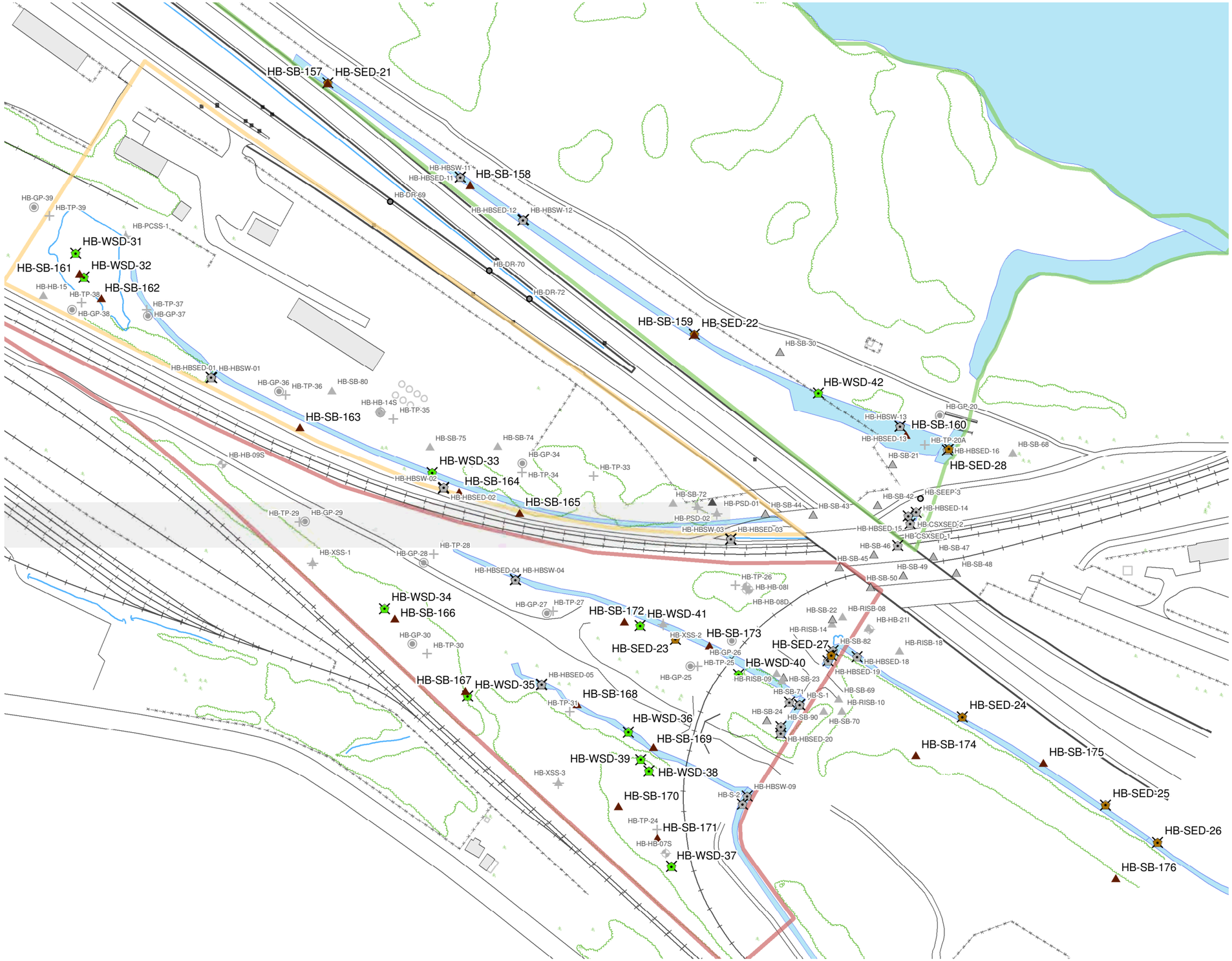
FIGURE 3



LEGEND

PDI LOCATIONS

- SOIL BORING
- SEDIMENT
- WETLAND SEDIMENT

HISTORIC LOCATIONS

- CATCH BASIN
- GEOTECHNICAL BORING
- GEOPROBE
- MONITORING WELL
- SOIL BORING
- SEDIMENT
- SEEP
- SURFACE SOIL
- SURFACE WATER
- TAR
- TEST PIT

NOTE: HB-SB-157 AND HB-SED-21 ARE CO-LOCATED; HB-SB-159 AND SB-SED-22 ARE CO-LOCATED.

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UPPER HARBOR BROOK IRM
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PDI SAMPLE LOCATION PLAN

0 100 200 400
Feet

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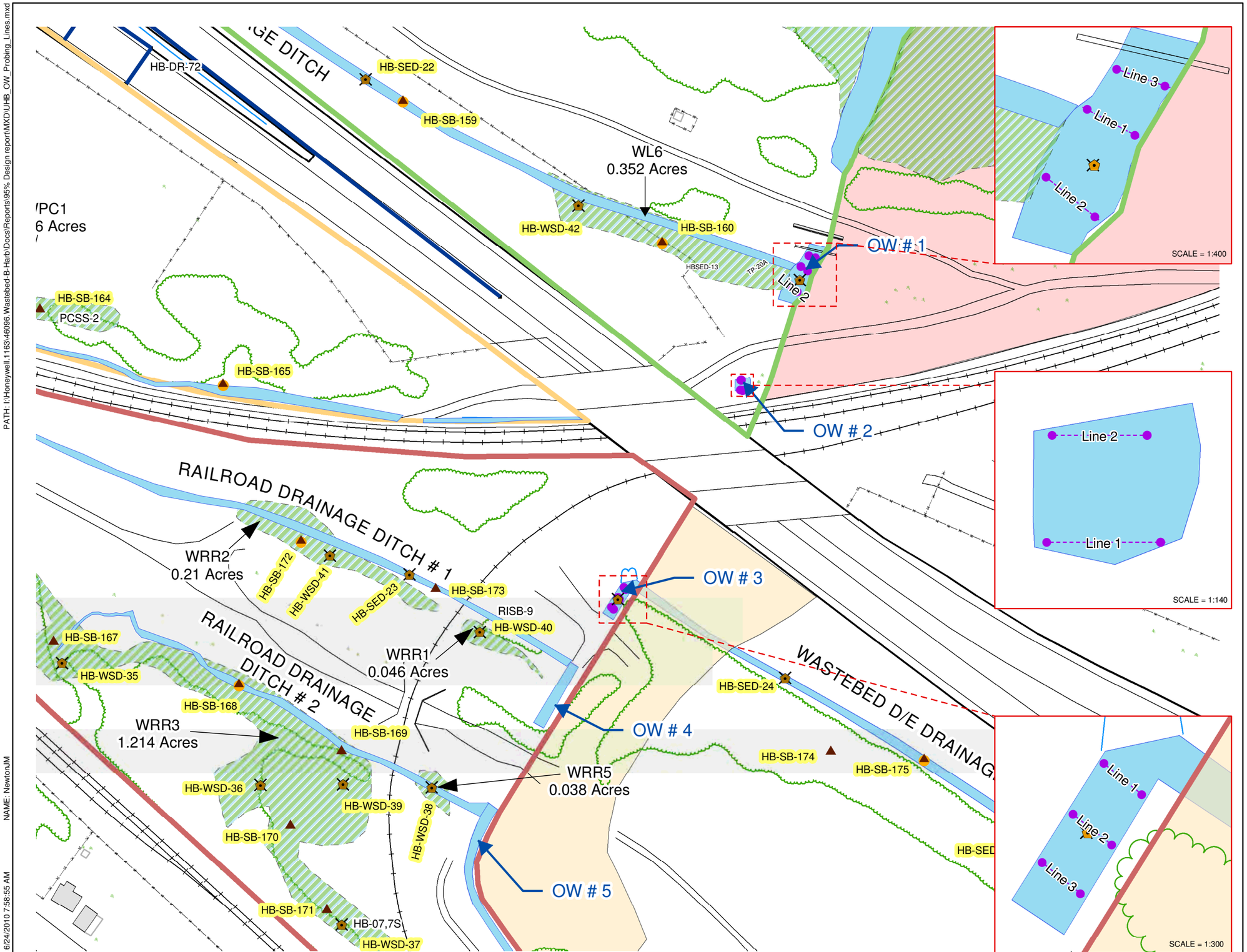
FIGURE 4



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LEGEND

ESTIMATED OWA SEDIMENT PROBING LINE LOCATIONS

PDI SAMPLE LOCATIONS

- SOIL BORING
- SOIL BORING WITH ANALYTICAL SAMPLE
- SEDIMENT / WETLAND SEDIMENT SAMPLE

HONEYWELL INTERNATIONAL, INC.
UPPER HARBOR BROOK IRM
SYRACUSE, NY

OPEN WATER AREA SEDIMENT PROBING LOCATIONS

0 62.5 125 250
Feet

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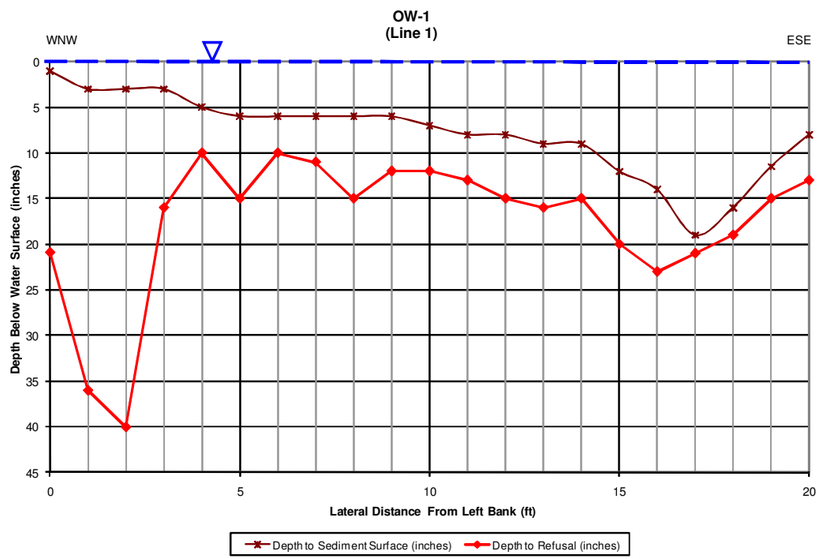
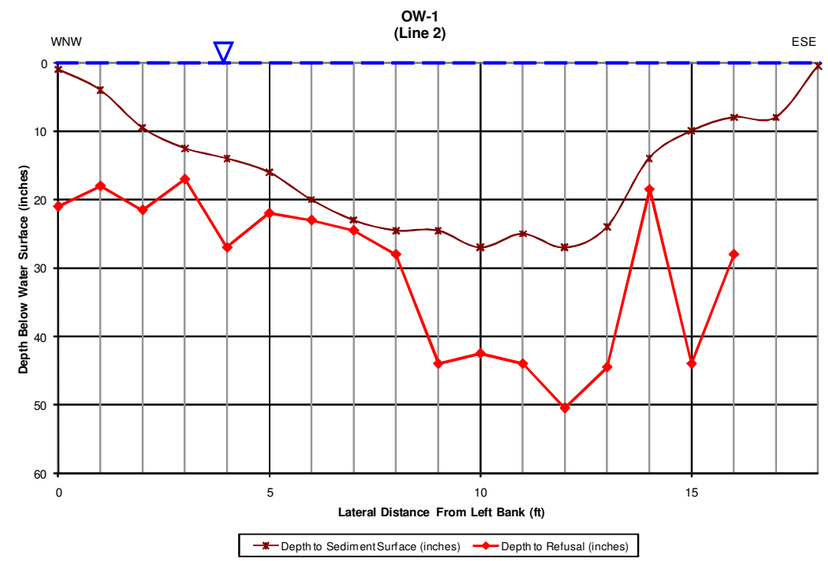
FIGURE 5





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OW #1 WATER AND
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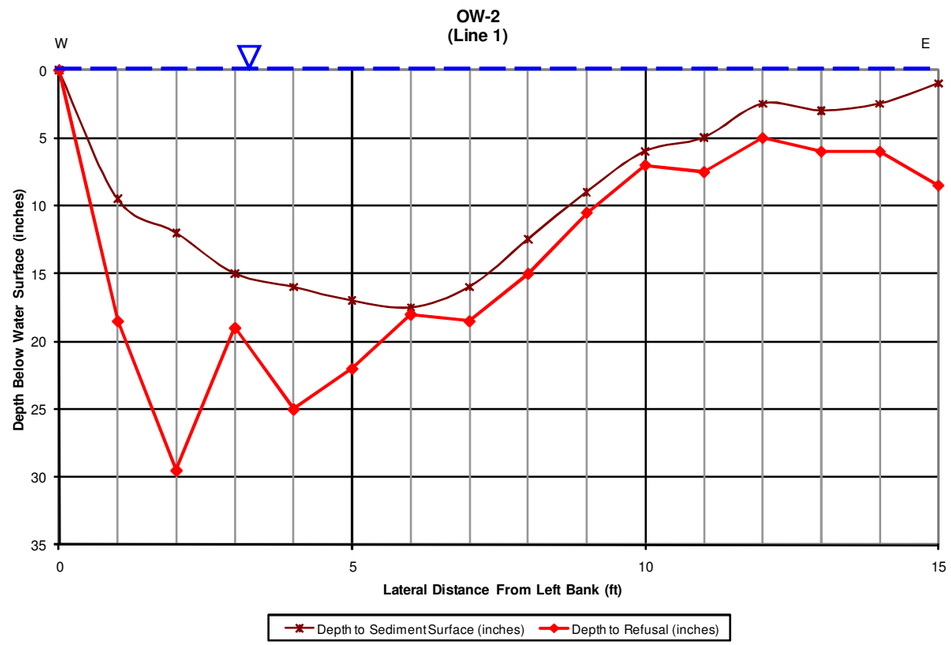
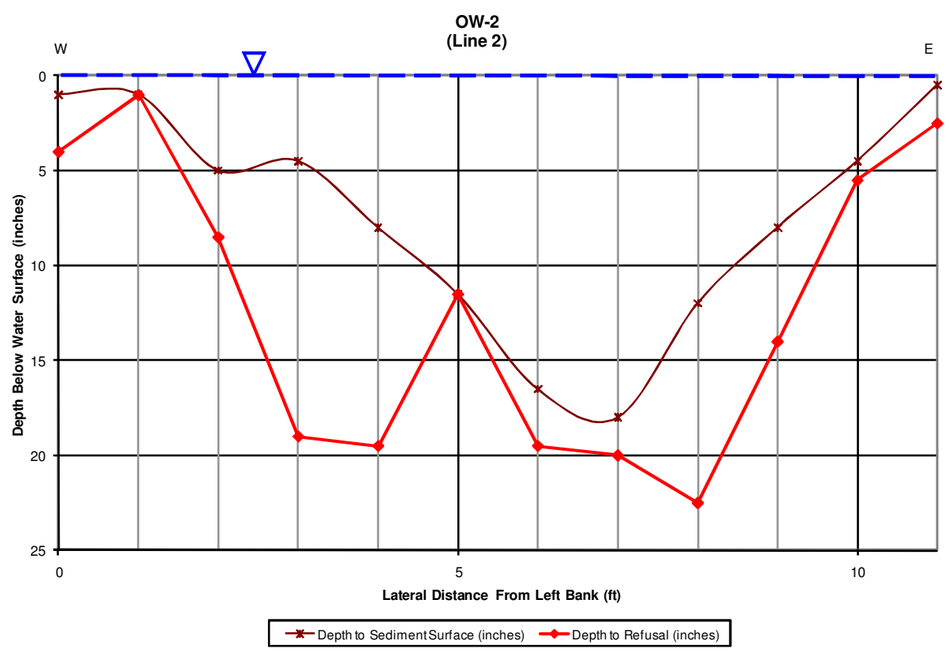
FIGURE 6





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OW #2 WATER AND
REFUSAL DEPTHS

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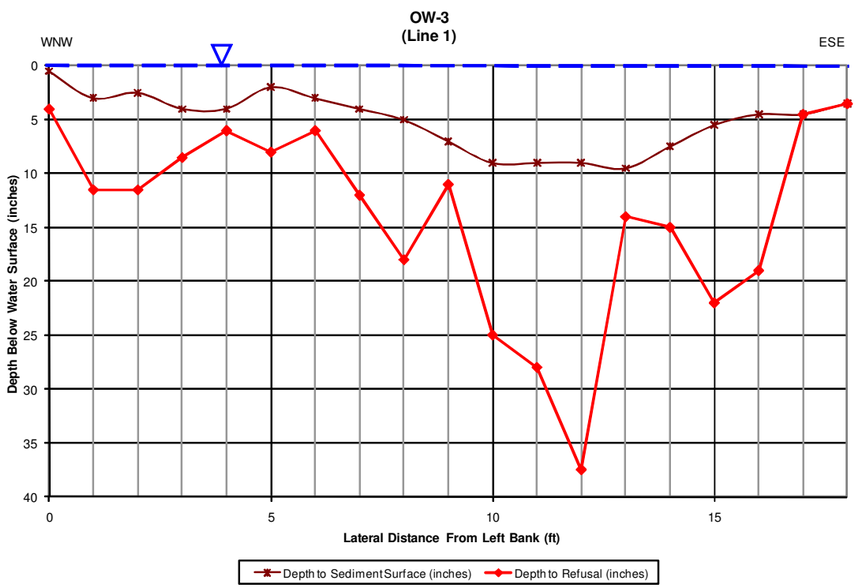
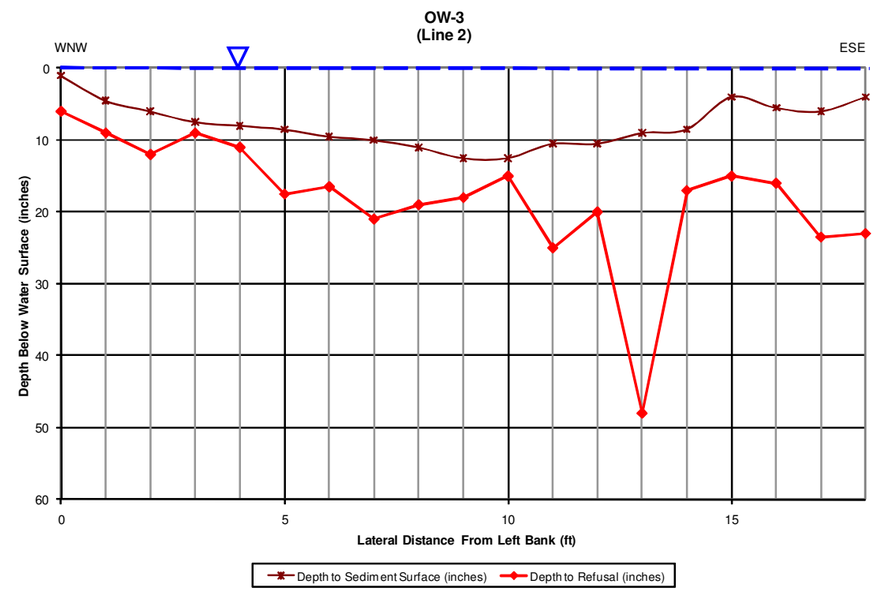
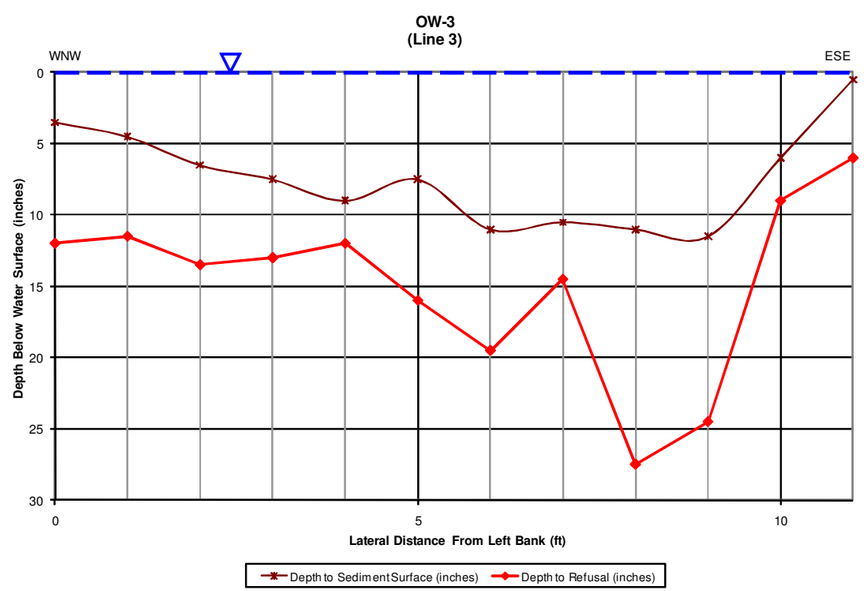
FIGURE 7







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UPPER HARBOR BROOK IRM
SYRACUSE, NEW YORK

OW #3 WATER AND
REFUSAL DEPTHS

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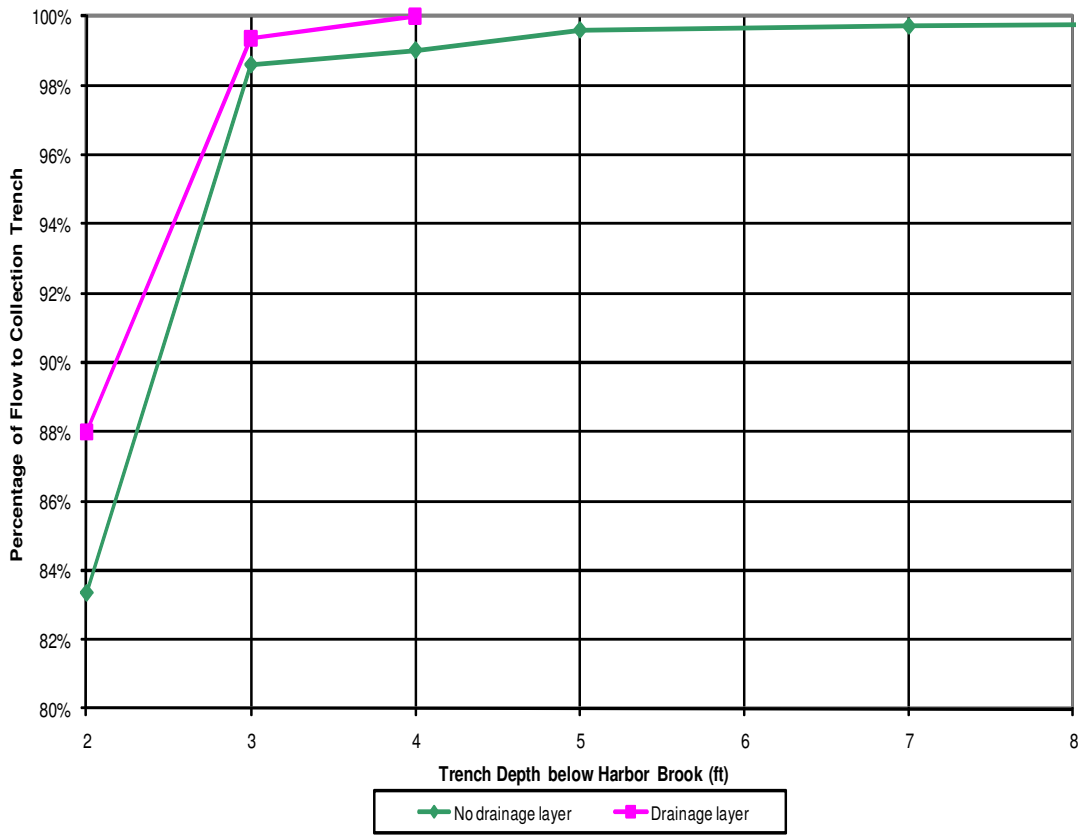
Figure 8 Harbor Brook IRM: Trench Depth Variations



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SYRACUSE, NEW YORK

TRENCH DEPTH VARIATIONS

NOT TO SCALE

FIGURE 8

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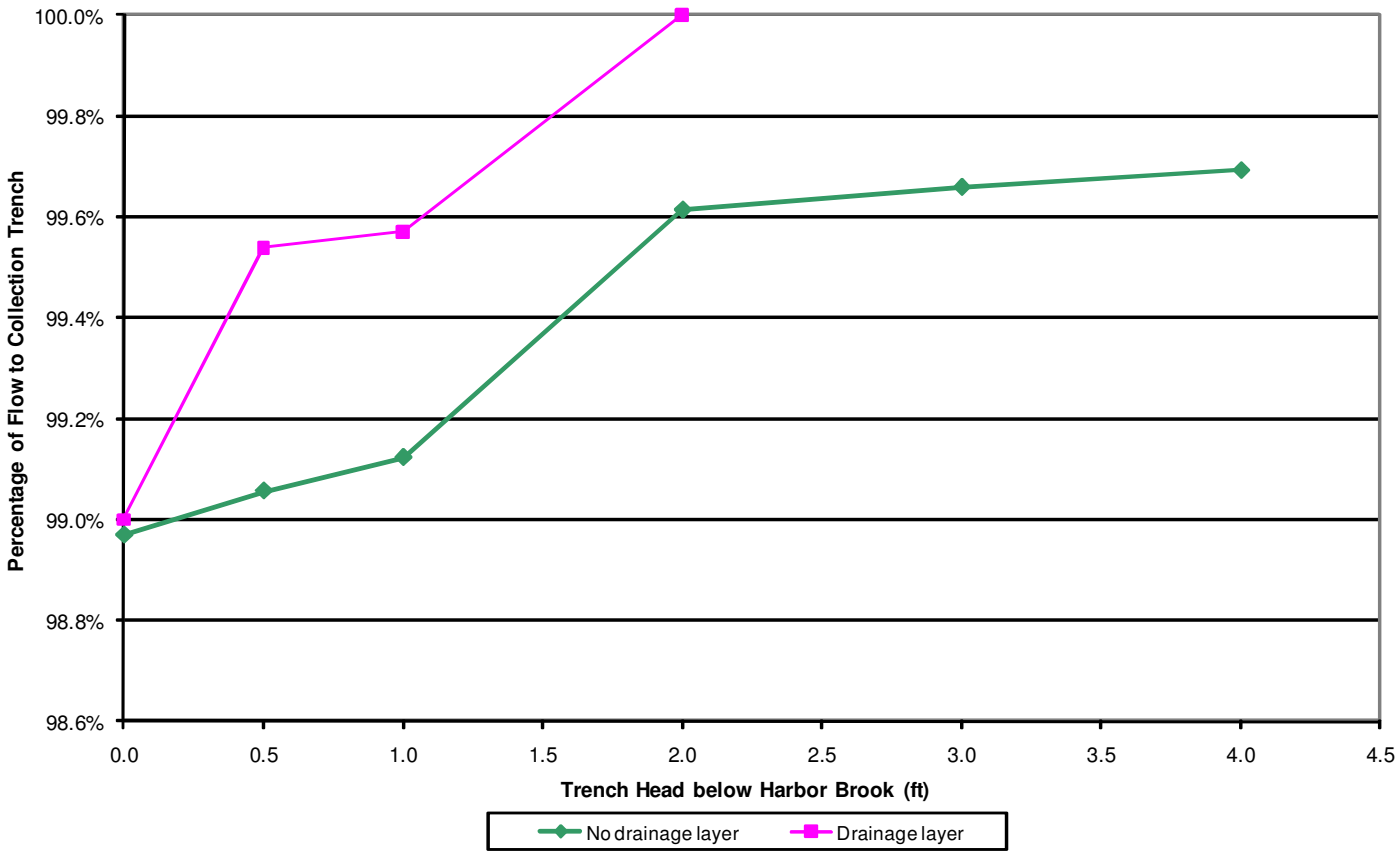
Figure 9 Harbor Brook IRM: Trench Head Variations



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UPPER HARBOR BROOK IRM
SYRACUSE, NEW YORK

TRENCH HEAD VARIATIONS

NOT TO SCALE

FIGURE 9

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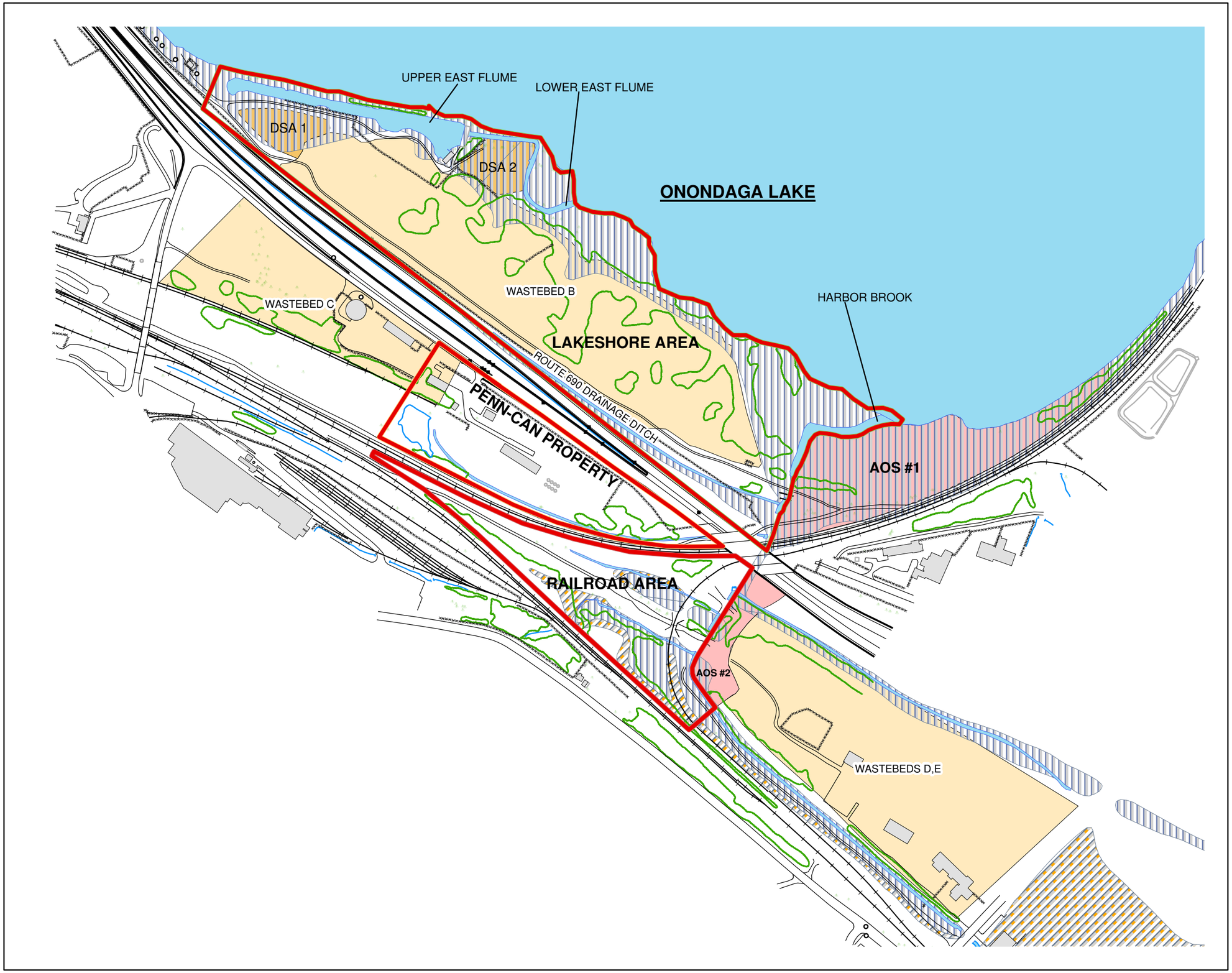
FIGURE 10



N

LEGEND

- HARBOR BROOK SITE

FLOODPLAIN

- 500-YEAR FLOODPLAIN
- 100-YEAR FLOODPLAIN
- ADDITIONAL AREA OF STUDY
- WASTEBEDS
- DREDGE SPOIL AREA

HONEYWELL INTERNATIONAL, INC.
UPPER HARBOR BROOK IRM
SYRACUSE, NY

FEMA 100-YEAR AND 500-YEAR FLOODPLAINS

0 225 450 900
Feet

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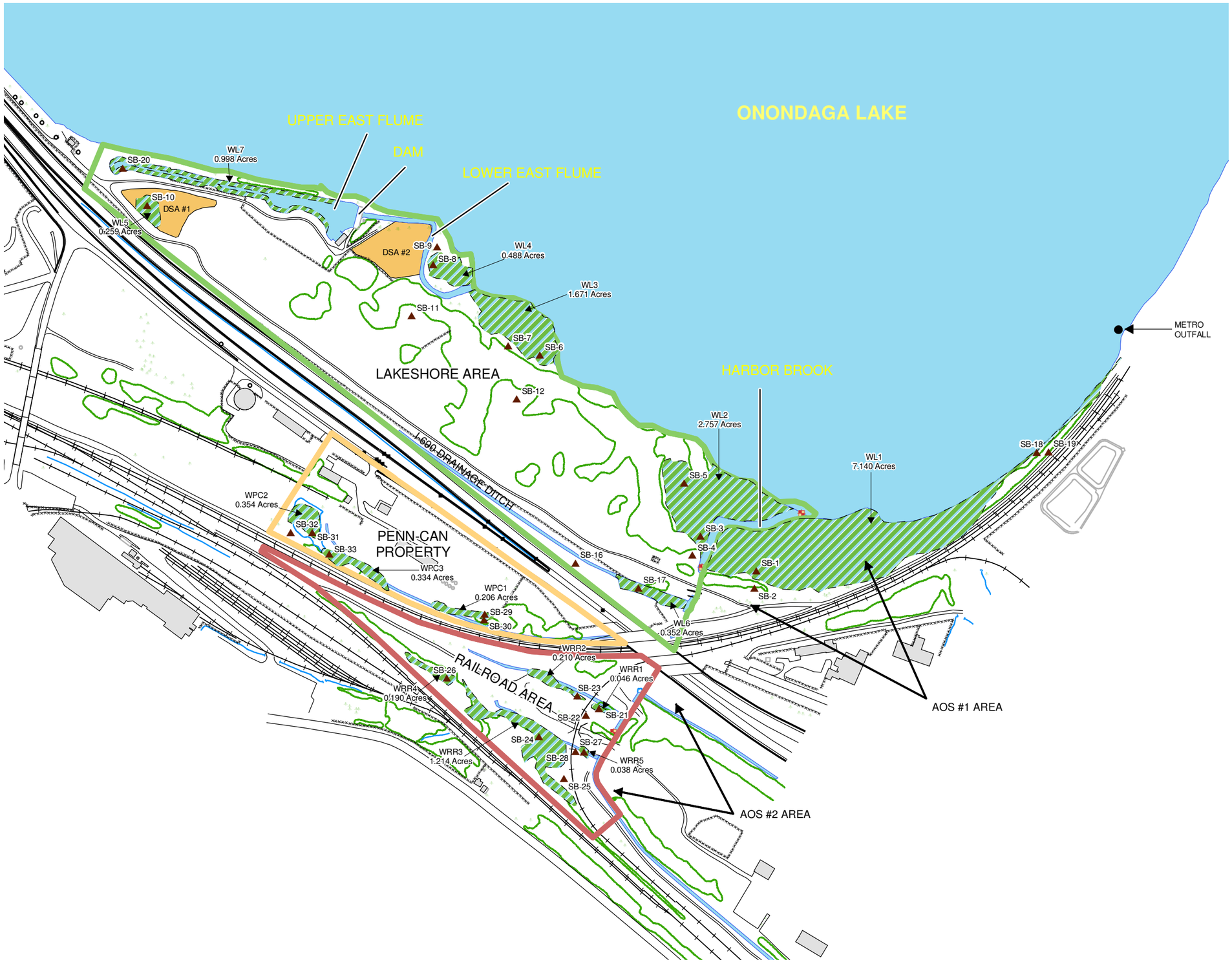
FIGURE 11



N

LEGEND

SB-1 SOIL BORING

GAUGING STATION

WL1 DELINEATED WETLAND

SUB-SITE NAME

- Railroad Area
- Lakeshore Area
- Penn-Can Property
- DREDGE SPOIL AREA

HONEYWELL INTERNATIONAL, INC.
UPPER HARBOR BROOK IRM
SYRACUSE, NY

DELINEATED WETLANDS

0 225 450 900
Feet

JUNE 2010
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NAME: NewtonJM

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