Howland Hook Marine Terminal – Port Ivory Facility Site 2
40 Western Avenue
Staten Island, New York

2014 Periodic Review Report

NYSDEC VCP Site Number V-00674-2
NYSDEC Index Number W2-0986-02-04

Prepared by:
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TRC Project Number: 208889.1000.0000

March 2015

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March 6, 2015

Ms. Sally Dewes
Environmental Engineer II
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau B, Section D
625 Broadway
Albany, New York 12233-7016

Re: Howland Hook Marine Terminal – Port Ivory Facility Site 2
40 Western Avenue, Staten Island, New York
VCP Site Number: V-00674-2
2014 Periodic Review Report

Dear Ms. Dewes:

To facilitate the remediation of a 28.6-acre portion of the Howland Hook Marine Terminal (HHMT) - Port Ivory Facility located at 40 Western Avenue, Staten Island, New York (the Site), The Port Authority of New York and New Jersey (the Port Authority) entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) in June 2004. VCA Number W2-0986-02-04 and Voluntary Cleanup Program (VCP) Site Number V-00674-2 (Site 2) were assigned. Under the terms of the VCA, remediation of the Site was completed in accordance with the NYSDEC-approved Remedial Action Work Plan (RAWP) dated October 2007.

As documented in the Final Engineering Report (FER), the results of the remedial activities indicated that the identified areas of concern had been satisfactorily addressed. The NYSDEC approved the FER and Site Management Plan (SMP) and issued a "Release and Covenant Not to Sue" dated October 23, 2013.

This Periodic Review Report describes activities completed during the 2014 reporting period (October 23, 2013 through January 22, 2015) in accordance with the SMP and includes the following information:

- Identification, assessment and certification of the Engineering Control/Institutional Control (EC/IC) required by the remedy for the Site;
- Results of the required annual Site inspections;
- Applicable inspection forms and other records generated for the Site during the reporting period;
- Data summary tables of contaminants of concern by media (groundwater and surface water), which include a listing of parameters analyzed, along with the applicable standards, with exceedances highlighted;

- Results of analyses, copies of laboratory data sheets, and the required laboratory data deliverables for samples collected during the reporting period;
- A Site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the Site-specific RAWP;
    - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
    - The overall performance and effectiveness of the remedy.

There were no areas of non-compliance regarding major elements of the SMP. There are no recommended changes to the SMP. Continued annual submission of Periodic Review Reports is recommended.

Site Description

The Site is a portion of the HHMT - Port Ivory Facility, which consists of three parcels: Block 1309, Lot 10; Block 1338, Lot 1; and Block 1400, Lot 1. Public roadways separate the three parcels: Western Avenue separates Block 1400, Lot 1 from Block 1338, Lot 1 and Richmond Terrace separates Block 1309, Lot 10 from Block 1338, Lot 1 and Block 1400, Lot 1. As shown on Figure 1, the HHMT - Port Ivory Facility is bordered by Bridge Creek to the west, the Arthur Kill to the north, wetlands and undeveloped land to the east, and railroad tracks to the south.

The Site consists of Area 2A (23.94 acres) and Area 2B (4.66 acres) which encompass 28.6 acres of the 123.75-acre HHMT - Port Ivory Facility (refer to Figure 1). The only remaining structures currently in Area 2A are Building No. 41, Building No. 45, and a modular building in the footprint of former Building No. 40. Otherwise, no improvements other than parking areas and railroad spurs are present in Area 2A. Area 2A is generally flat and is paved with asphalt or concrete except for landscaped/vegetated areas that are enclosed within the HHMT - Port Ivory fence line. Area 2A is used for the storage and transportation of containers, and the buildings are used for office space.

The improvements in Area 2B consist of an access drive and railroad spurs. Area 2B is generally flat and, except for landscaped/vegetated areas, is either paved with asphalt or covered with crushed stone. The unnamed tributary to Bridge Creek is tidally influenced and the vegetated land immediately adjacent to the stream is tidal wetlands. Based on NYSDEC regulations (6 NYCRR Part 661), the buffer zone/transition area for this wetlands area extends from the wetlands boundary to 150 feet inland from the wetlands boundary. Two tidally-influenced drainage ditches are present in Area 2B; although not regulated wetlands, these ditches also have associated 150-foot buffer zones.

The Port Authority is in the process of redeveloping the HHMT - Port Ivory Facility for industrial use; specifically, the Port Authority intends to utilize the Site as an intermodal facility. With regard to the HHMT - Port Ivory Facility, an intermodal facility is defined as a facility where cargo transported by ship is transferred to rail or truck for transport to intermediate or final destinations.

Site History

The Port Authority purchased the HHMT - Port Ivory Facility from P&G in 2000. P&G used the Facility for the manufacture, warehousing, and distribution of edible oils, baking mixes, orange juice, and other foodstuffs; manufacture, warehousing, and distribution of soaps and cleaning products; and, burning of wood chips for fuel. In addition, numerous easements were established by various energy companies for underground pipelines that conveyed petroleum products. Operations at the P&G Facility began in or about 1908 and continued through approximately 1990.

The Port Authority entered into the NYSDEC VCP in June 2004. The Port Authority's objective for entering into the VCP was to investigate and remediate metals and organic compounds in soil, surface water, sediment, and/or groundwater with NYSDEC oversight. The presence of these substances is attributable to prior Facility operations by P&G that were/are unrelated to the Port Authority. The Port Authority has established different redevelopment schedules for different areas at the HHMT - Port Ivory Facility, and the NYSDEC agreed to expedite the review of information pertaining to these areas. Thus, the Port Authority agreed to establish three VCP Sites at the facility and to present assessment, investigation, and remedial action information/documentation for each Site.

Remedial Investigation

After cessation of P&G operations at the Port Ivory Facility, the Port Authority purchased the property and removed most of the remaining infrastructure at Site 2. The Port Authority retained Hatch Mott McDonald (HMM) to conduct the necessary environmental investigations. HMM's environmental evaluation efforts at the Site included the performance of a Phase I Environmental Site Assessment (Phase I ESA) with a supplemental file review, a Site Investigation (SI), a Remedial Investigation (RI), a Supplemental Remedial Investigation (SRI) and a Focused Supplemental Remedial Investigation (FSRI). The results of these investigations are summarized in the Comprehensive Remedial Investigation Report (CRIR) dated April 2008.

Both the Phase I ESA and the SI were conducted prior to the Port Authority's purchase of the Facility in December 2000, while the RI and SRI were conducted subsequent to the transfer of the property from P&G to the Port Authority. The RI and SRI were conducted to characterize the nature and extent of impacts in environmental media at and immediately adjacent to the Site. Based on the results of the RI and SRI, the Port Authority identified 24 AOCs at Site 2. Based on the results of the RI, remedial action was deemed necessary at ten (10) AOCs, which are described below.

Interim Remedial Measure (IRM) and Remedial Actions

The Port Authority completed an IRM consisting of excavation and off-site disposal of soil at 10 AOCs. The IRM was completed to address petroleum impacts in AOC-Area A, AOC-Area B, AOC-Building No. 20, AOC-Building Nos. 32/32A, AOC-Former Structures (Vicinity of FS-1B), AOC-OP-1, AOC-Southern Area, AOC-UST-7, and AOC-Western Area. In addition, soil impacted by metals and semivolatile organic compounds (SVOCs) in AOC-Stain 3, located adjacent to Building 20, was excavated and transported off-site for disposal. A summary of the IRM activities conducted in connection with each of the 10 AOCs is presented in the table below.

Summary of Completed IRM		
Area of Concern	**Nature of Concern**	**Remedy**
AOC-Area A	Petroleum impacted soil near several former aboveground storage tanks (ASTs).	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. SVOCs detected in post-excavation soil samples were attributed to fill material.
AOC-Area B	Petroleum impacted soil near several former ASTs.	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. SVOCs detected in post-excavation soil samples were attributed to fill material.
AOC-Building No. 20	Light non-aqueous phase liquid (LNAPL)-impacted soil remained from an underground storage tank (UST) removal in the 1990s.	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. Metals and SVOCs detected in post-excavation soil samples were attributed to fill material.
AOC-Building No. 32/32A	LNAPL-impacted soil remained following a UST removal in the 1990s.	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. Metals and SVOCs detected in post-excavation soil samples were attributed to fill material.
AOC-Former Structures (Vicinity of FS-1B)	LNAPL-impacted soil encountered near soil boring.	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. SVOCs detected in post-excavation soil samples were attributed to fill material.
AOC-OP-1	LNAPL-impacted soil encountered near soil boring.	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. There were no compounds detected at concentrations above the comparison criteria in post-excavation samples.
AOC-Stain 3	SVOCs and metals detected in soil below a portion of Building No. 20. After soil removal, various PAHs and metals were detected above RSCOs in post-excavation soil samples.	All elevated compounds detected in post-excavation soil samples were attributed to fill material. The environmental cap precludes direct contact with soil and limits migration of potential contaminants to groundwater and is considered sufficient action.
AOC-Southern Area	LNAPL-impacted soil encountered.	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. SVOCs detected in post-excavation soil samples were attributed to fill material.
AOC-UST7	Two USTs and petroleum impacted soil.	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. Metals and SVOCs detected in post-excavation soil samples were attributed to fill material.
AOC-Western Area	LNAPL-impacted soil encountered. Source believed to be pipelines located on-Site.	Soil was excavated and disposed of off-site and post-excavation soil samples were collected. SVOCs detected in post-excavation soil samples were attributed to fill material.

Following completion of the IRM, construction of an environmental cap and establishment of a Deed Restriction were implemented in accordance with the October 2007 RAWP. The IRM and remedial actions are documented in the FER dated December 2012.

As documented in the FER, the results of the remedial activities conducted in VCP Site V-00674-2 (Site 2) indicated that the identified areas of concern were satisfactorily addressed. As mentioned above, NYSDEC issued a "Release and Covenant Not to Sue" determination letter dated October 23, 2013 after reviewing the FER and SMP.

Following completion of the remedial measures, impacted soil and groundwater remain at the Site. As a result, an EC and an IC are required to protect human health and the environment. An environmental cap serves as an EC and a Site-wide Deed Restriction has been established as an IC. Additional details regarding the EC and IC are provided below.

Engineering Control

The EC for the Site consists of an environmental cap. As required in the RAWP, the potential for exposure to impacted soil and groundwater beneath the Site is minimized by an environmental cap placed above the impacted soil.

In Area 2A, the environmental cap consists of the following:

- Concrete pavement, asphalt pavement, existing buildings and one foot of crushed stone. Note that landscaped/vegetated areas within a fence line are also present in Site 2A.

In Area 2B, the environmental cap consists of the following:

- Concrete pavement and one foot of crushed stone. In addition, portions of Area 2B consist of the transition area/buffer zone associated with tidal wetlands and surface water drainage ditches.

In accordance with the SMP, the environmental cap and the landscaped/vegetated areas within the fence line must be inspected and maintained. Inspections will continue until the NYSDEC confirms in writing that the Site-wide Deed Restriction is no longer necessary. Inspections of the EC are discussed below.

Institutional Control

The IC is required by the RAWP to (1) implement, maintain, and monitor the EC, (2) prevent future exposure to impacted soil and groundwater remaining beneath the Site, (3) limit the use and development of the Site to industrial and commercial uses only, and (4) prevent the use and development of landscaped/vegetated areas and tidal wetland buffer zones, which extend 150 inland from wetland boundaries. The IC for the Site is a Deed Restriction, which the Port Authority recorded at the Richmond County Courthouse.

General provisions of the Deed Restriction include the following:

- Compliance with the Deed Restriction and the NYSDEC-approved SMP;
- Limiting the use and development of the property to industrial/commercial uses only;

- Restricting disturbance of the environmental cap unless in accordance with the SMP;
- Requiring the inspection of the environmental cap at a frequency and in a manner defined in the SMP;
- Requiring the operation and maintenance of the environmental cap as specified in the SMP;
- Preventing the use and development of landscaped/vegetated areas and tidal wetland buffer zones/transition areas; and,
- Restricting the use of groundwater as a source of potable water, without necessary water quality treatment as determined by NYSDOH.

The Deed Restriction will notify future property owners of the impacts at the Site. The Deed Restriction will remain in effect until the NYSDEC informs the Port Authority in writing that the Deed Restriction is no longer needed.

Site Inspections

The SMP requires periodic inspections of VCP Site V-00674-2 to confirm that the cap continues to limit exposure to underlying impacted soil and groundwater. TRC representative Ms. Lindsay Metcalf conducted the first inspection of VCP Site V-00674-2 on March 19, 2014. The inspection confirmed that the environmental cap was in good condition and that it continues to limit exposure to underlying impacted soil and groundwater; however, TRC identified an area of excavation in the western portion of Site 2 (refer to Figure 2). The excavation work began in early Fall 2013 in support of development of the railroad tracks for the New York Container Terminal. Soil was excavated to approximately two to three feet below ground surface in this area.

TRC representatives Ms. Lindsay Metcalf and Mr. Charles Guder conducted the second inspection of VCP Site V-00674-2 on September 29, 2014. The inspection confirmed that the environmental cap was in good condition and that it continues to limit exposure to underlying impacted soil and groundwater. The environmental cap in the area of the track excavation (identified during the March 19, 2014 inspection) was restored in accordance with the requirements of the SMP.

The conditions of the environmental cap during the March 19, 2014 and September 29, 2014 inspections are presented on Figures 2 and 3. Photographic documentation of the Site inspections are provided in Attachment A.

Groundwater Monitoring Well Installation

Five monitoring wells (PRW-8 through PRW-12) were installed in Area 2A, and three monitoring wells (PRW-13 through PRW-15) were installed in Area 2B in accordance with the NYSDEC-approved Site Management Plan. Four of the wells installed in Area 2A are located downgradient of areas where the presence of soil and/or groundwater impacts have been confirmed; specifically, three wells (PRW-8, PRW-9 and PRW-10) are located downgradient of AOC-Stain 3 and AOC-Building No. 20, one well (PRW-11) is located downgradient of AOC-UST 7, and one well (PRW-12) is located upgradient near the eastern property boundary at Western Avenue. Two of the monitoring wells (PRW-13 and PRW-14) in Area 2B are located along the southern property boundary (i.e., along the unnamed tributary of Bridge Creek). The remaining well (PRW-15) in Area 2B is located upgradient of the unnamed tributary of Bridge Creek and near the Area 2A and Site 3 (Area 3A) boundary. The locations of the Site 2 monitoring wells as well as

the surface water sampling points and gauging stations are shown on Figure 4. Well construction logs are provided in Attachment B.

Groundwater and Surface Water Monitoring

In March 2014, groundwater and surface water samples were collected at Site 2 of the Howland Hook Marine Terminal – Port Ivory facility in accordance with the NYSDEC-approved SMP. Additionally, surface water elevations were measured at two gauging stations along Bridge Creek (refer to Figure 4). Attached are the tabulated results of the analyses of the nine groundwater samples (including one duplicate sample) and four surface water samples collected (refer to Tables 1 through 10). Also attached are the groundwater surface elevation contour maps generated from high tide and low tide measurements (refer to Figures 5 and 6). Laboratory analytical data packages are provided in Attachment D. A brief discussion of the analytical results is presented below.

Groundwater Sampling – Summary of Analytical Results

The groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, pesticides, polychlorinated biphenyls (PCBs), and cyanide. As shown on the attached tables, three semi-volatile organic compounds (SVOCs): benzo (a) pyrene (in PRW-08), benzo(b)fluoranthene (in PRW-08), and indeno (1,2,3-cd) pyrene (in PRW-08, PRW-09 and its duplicate sample, PRW-10, and PRW-14); and the metal arsenic (in PRW-09 and its duplicate sample, and PRW-13, both filtered and unfiltered), were detected at concentrations above the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Standards and Guidance Values (Class GA Values). The remaining SVOCs and metals were not detected or were detected at concentrations below Class GA Values. There were no VOCs, PCBs, or pesticides detected in the groundwater samples at concentrations above Class GA Values. Cyanide was either not detected or detected at concentrations below the Class GA Standard in the groundwater samples. The results exceeding the Class GA Values are shown on Figure 7.

Surface Water Elevations – Summary of Results

The surface water elevations measured at Bridge Creek during high tide and low tide in March 2014 are presented below.

Surface Water Elevations – March 2014		
Gauging Station Number	**Low Tide Elevation (Feet)**	**High Tide Elevation (Feet)**
1	2.52	2.62
2	-1.75	2.52

Note: Datum is NAVD 1983

Review of the surface water elevations indicates that during low tide and high tide, surface water flowed toward Gauging Station No. 2 (located south of Site 2, Area 2A). There is a significantly steeper gradient during low tide (toward Gauging Station No. 2) than during high tide. The locations of the gauging stations are shown on Figure 4.

Surface Water Sampling – Summary of Analytical Results

The four surface water samples were analyzed for VOCs, SVOCs, metals, pesticides, PCBs, and cyanide. One SVOC, benzo(a)pyrene, was detected at concentrations exceeding the TOGS 1.1.1 Ambient Water Quality Guidance Value for Class SD Saline Surface Water (AWQSGVs) in three of the four surface water samples collected. Copper (filtered and unfiltered) was detected at concentrations exceeding the AWQSGVs in three surface water samples (SW-1, SW-3, and SW-4). Zinc was detected in two unfiltered surface water samples (SW-1 and SW-3) at concentrations exceeding the AWQS; but was not detected in any filtered surface water samples at concentrations exceeding the AWQS. The remaining SVOCs and metals were not detected or were detected at concentrations below the AWQSGVs. There were no VOCs, PCBs, or pesticides detected above AWQSGVs. Cyanide was not detected in the surface water samples at concentrations above the AWQS. The results exceeding the NYS AWQSGVs for Class SD Saline Surface Water are shown on Figure 7.

Conclusions – Groundwater and Surface Water Sampling

Although one SVOC, benzo (a)pyrene, was detected in one groundwater sample collected from PRW-8, and in three surface water samples (SW-1, SW-2, and SW-4) at concentrations above the comparison criteria, benzo (a)pyrene was not detected in the surface water sample collected from SW-3, which is the surface water monitoring station closest to well PRW-8. The SVOCs benzo(b)fluoranthene and indeno (1,2,3-cd) pyrene, and the metal arsenic, which were detected in groundwater at concentrations above the Class GA Values, were not detected in any surface water samples at concentrations above the AWQSGVs for Class SD Surface Water. Similarly, the metals zinc and copper which were detected in surface water at concentrations which exceed the Ambient Water Quality Standards for Class SD Saline Surface Water, were not found in groundwater at concentrations exceeding Class GA Values.

Based on the results, TRC concludes that surface water quality at Bridge Creek has not been degraded by Site groundwater and sediment sampling is not required. Additionally, the results of the groundwater sampling are consistent with the results of previous sampling performed at Site 2.

Certification of Engineering and Institutional Controls

The annual certification for VCP Site V-00674-2 consisting of a completed NYSDEC Institutional and Engineering Controls Certification Form (Form 1), dated March 6, 2015 is attached. The annual certification was prepared in accordance with the SMP and has been certified by a Qualified Environmental Professional.

Conclusions and Recommendations

The overall objective of the remedial action was to remediate VCP Site V-00674-2 to the satisfaction of the NYSDEC for the future industrial and commercial uses. Under the terms of the VCA (Index Number W2-0986-02-04), remediation of the area designated as VCP Site V-00674-2 was completed. As documented in the VCP Site V-00674-2 Final Engineering Report, the results of the remedial activities

indicate that the identified areas of concern were satisfactorily addressed. NYSDEC issued a "Release and Covenant Not to Sue" determination after reviewing the FER and SMP.

Based on the evaluation of the inspection and monitoring data, TRC concludes that:

- The EC and IC were in place, performed properly and remain effective; and
- The Monitoring Plan was properly implemented and indicates that groundwater and surface water conditions are consistent with the results of previous sampling events performed at Site 2.

In summary, the remedy continues to be protective of public health and the environment and compliant with the decision documents for VCP Site V-00674-2. Continued annual submission of Periodic Review Reports is recommended.

Continued annual groundwater monitoring and sampling in accordance with the approved SMP for VCP Site V-00674-2 is recommended through the end of the next monitoring period, January 22, 2016. At that time, available data will be evaluated to determine if a reduction in the frequency of sampling and/or sampling parameters is warranted. It is expected, if the results of 2015 sampling are consistent with 2014 sampling results, that as part of the next Periodic Review Report, the Port Authority will request eliminating analyses of groundwater and surface water samples for VOCs, cyanide, PCBs, and pesticides. Please let me know if you have any questions pertaining to this Periodic Review Report.

Very truly yours,
TRC Engineers, Inc.

Lindsay Metcalf
Project Manager

Enclosures:
Figure 1 – Site Location Map
Figure 2 – Engineering Control Map with Environmental Cap (March 19, 2014 Inspection)
Figure 3 – Engineering Control Map with Environmental Cap (September 29, 2014 Inspection)
Figure 4 – Groundwater and Surface Water Sampling Locations and Surface Water Gauging Stations
Figure 5 – Groundwater Elevation Contour Map (High Tide – March 19, 2014)
Figure 6 – Groundwater Elevation Contour Map (Low Tide – March 19, 2014)
Figure 7 – Summary of Groundwater and Surface Water Sampling Results

Table 1 – Summary of Results of Analysis of Groundwater for Volatile Organic Compounds
Table 2 – Summary of Results of Analysis of Groundwater for Semi-Volatile Organic Compounds
Table 3 – Summary of Results of Analysis of Groundwater for Metals
Table 4 – Summary of Results of Analysis of Groundwater for Pesticides
Table 5 – Summary of Results of Analysis of Groundwater for PCBs and Cyanide
Table 6 – Summary of Results of Analysis of Surface Water for Volatile Organic Compounds
Table 7 – Summary of Results of Analysis of Surface Water for Semi-Volatile Organic Compounds
Table 8 – Summary of Results of Analysis of Surface Water for Metals

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Table 9 – Summary of Results of Analysis of Surface Water for Pesticides
Table 10 – Summary of Results of Analysis of Surface Water for PCBs and Cyanide

Attachment A - Photographic Log
Attachment B – Well Construction Logs
Attachment C – Groundwater Sampling Logs
Attachment D – Laboratory Analytical Data Reports

Form 1 - NYSDEC Institutional and Engineering Controls Certification Form

cc. W. Glynn, PANYNJ
V. Carley, PANYNJ
D. Glass, TRC
C. Guder, TRC

FIGURES

SOURCE:
UNITED STATES GEOLOGICAL SURVEY
7.5 MINUTE SERIES TOPOGRAPHIC QUADRANGLES
ELIZABETH AND ARTHUR KILL, NY–NJ,
1967, PHOTOREVISED 1981

NOTES:
HHMT – PORT IVORY FACILITY
CONSISTS OF SITES 1 THROUGH 3.

2000 0 2000 4000

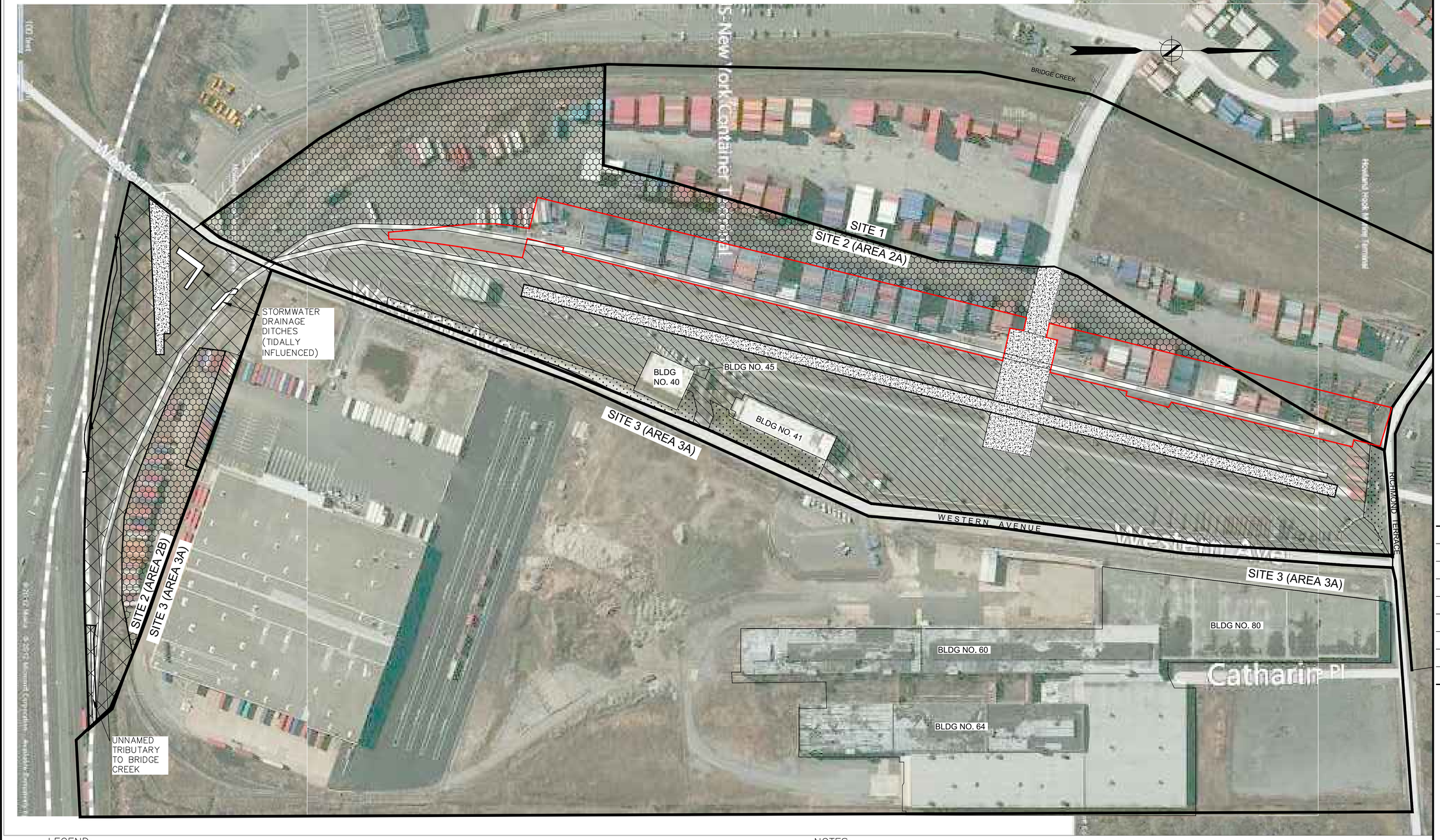
SCALE IN FEET
1" = 2000'
CONTOUR INTERVAL = 10 FEET

THE PORT AUTHORITY
OF NY & NJ

HHMT - PORT IVORY FACILITY

SITE LOCATION MAP
FIGURE 1

Date FEBRUARY 2015



LEGEND:

- ASPHALT COVER
- CONCRETE COVER
- CRUSHED STONE COVER
- WETLAND BUFFER TRANSITION AREA
- LANDSCAPED VEGETATED AREA
- VCP SITE BOUNDARY
- TRAIN TRACKS
- APPROXIMATE BOUNDARY OF EXCAVATION FOR NEW RAILROAD TRACKS

NOTES:

1. BUILDING 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING NO. 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM

100 0 100 200
SCALE IN FEET

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY
SITE 2
(AREA 2A AND 2B)

Title

ENGINEERING CONTROL MAP - ENVIRONMENTAL CAP (MARCH 19, 2014 INSPECTION)

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

LM	HD	CG
Designed by	Drawn by	Checked by

Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 2

Path\Name: \\NTAPA-NYC\environmental\Shared\Projects\Port Authority of NY & NJ\Port Ivory\Site 2\2015 02 – Periodic Review Report\Figures\CADD\Figure 2 – Eng. Control Map – Env. Cap (3.19.14 Insp.) 02.17.15.dwg – Date\Time: Tue, 17 Feb 2015 – 7:21pm

LEGEND:

- ASPHALT COVER
- CONCRETE COVER
- CRUSHED STONE COVER
- WETLAND BUFFER TRANSITION AREA
- LANDSCAPED VEGETATED AREA
- VCP SITE BOUNDARY
- TRAIN TRACKS

NOTES:

1. BUILDING 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING NO. 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM

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SCALE IN FEET

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY

SITE 2 (AREA 2A AND 2B)

Title

ENGINEERING CONTROL MAP - ENVIRONMENTAL CAP (SEPTEMBER 29, 2014 INSPECTION)

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

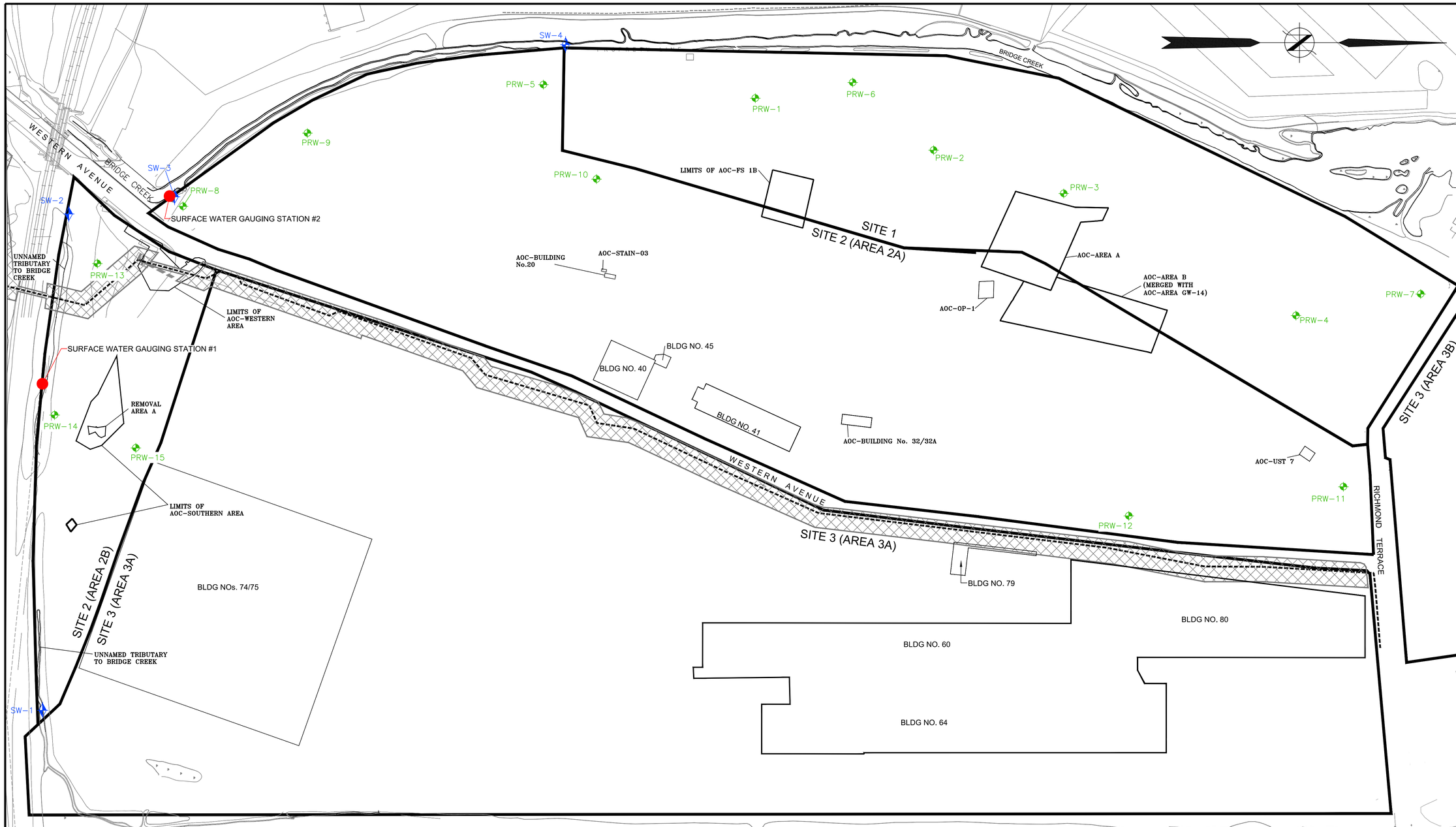
LM	HD	CG
Designed by	Drawn by	Checked by

Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 3

Path\Name: \\NTAPA-NYC\environmental\Shared\Projects\Port Authority of NY & NJ\Port Ivory\Site 2\2015 02 – Periodic Review Report\Figures\CADDFigure 3 – Eng. Control Map – Env. Cap (09.29.14 Insp.) 02.17.15.dwg – Date\Time: Tue, 17 Feb 2015 – 7:



LEGEND (SYMBOLS NOT TO SCALE):

- VCP SITE BOUINDARY
- EXISTING BUILDING
- SW-1 SURFACE WATER SAMPLING LOCATION
- PRW-8 GROUNDWATER MONITORING WELL LOCATION
- 30" PIPELINE
- APPROXIMATE AREA OF PIPELINE EASEMENT
- APPROXIMATE LOCATION OF SURFACE WATER GAUGING STATION

NOTES:

1. BUILDING NO. 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING MOUNTED ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM

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SCALE IN FEET

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY
SITE 2
(AREAS 2A AND 2B)

Title

GROUNDWATER AND SURFACE WATER SAMPLING LOCATIONS AND SURFACE WATER GAUGING STATIONS

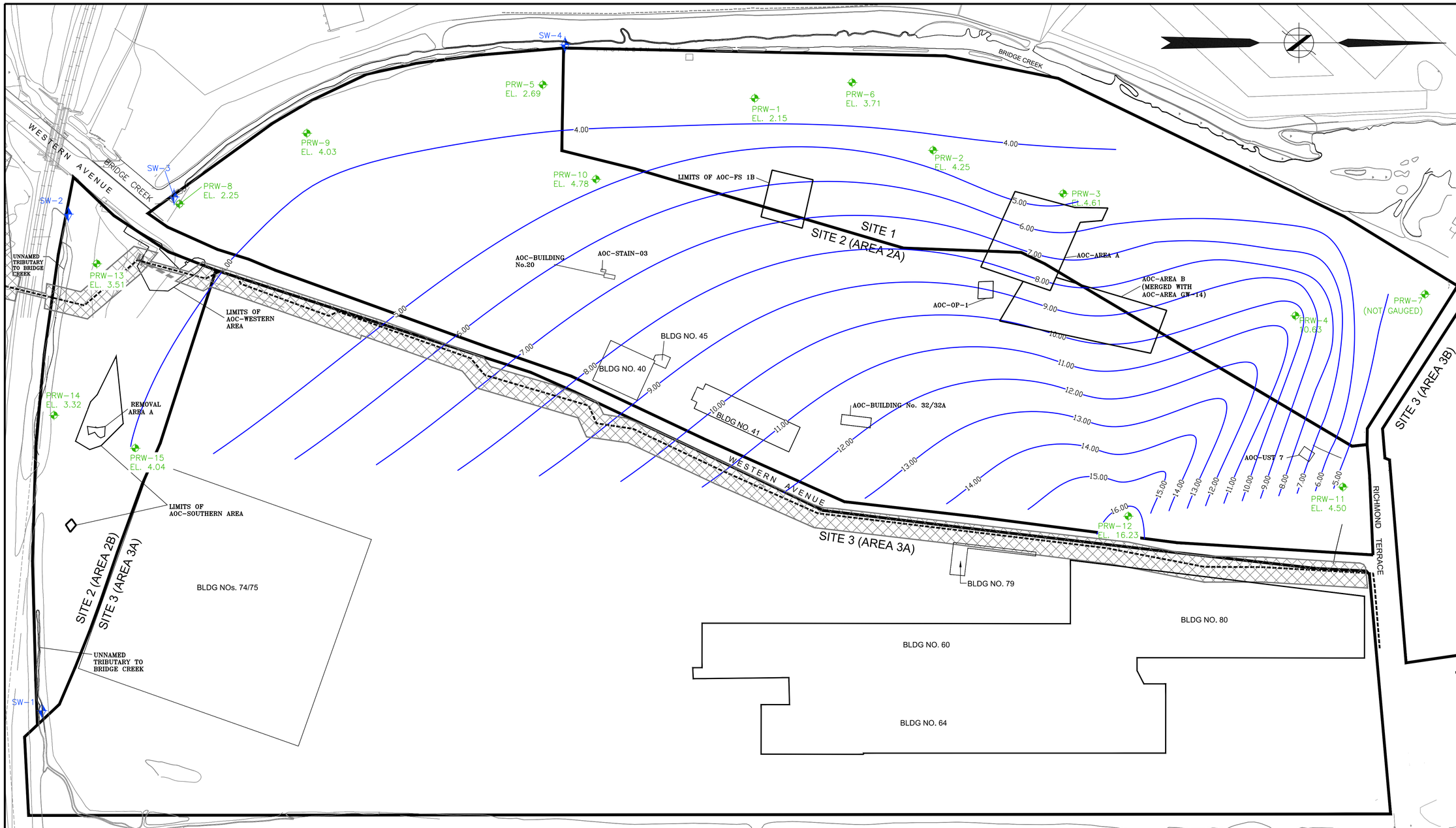
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

LM Designed by
HD Drawn by
CG Checked by

Date MARCH 2015

Contract Number

Drawing Number FIGURE 4



LEGEND (SYMBOLS NOT TO SCALE):

- VCP SITE BOUINDARY
- EXISTING BUILDING
- SW-1 — SURFACE WATER SAMPLING LOCATION
- PRW-8 — GROUNDWATER MONITORING WELL LOCATION
- 30" PIPELINE
- APPROXIMATE AREA OF PIPELINE EASEMENT
- 12.00 — GROUNDWATER SURFACE ELEVATION CONTOUR (FEET)
- EL. 2.15 — GROUNDWATER SURFACE ELEVATION (FEET)

NOTES:

1. BUILDING NO. 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING MOUNTED ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM
3. GROUNDWATER SURFACE ELEVATIONS WERE MEASURED ON 3/19/2014. DATUM: NAD 1983.
4. PRW-7 WAS NOT GAUGED.

100 0 100 200
SCALE IN FEET

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ENGINEERING PROGRAM MANAGER

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ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY

SITE 2 (AREAS 2A AND 2B)

Title

GROUNDWATER SURFACE ELEVATION CONTOUR MAP (HIGH TIDE - MARCH 19, 2014)

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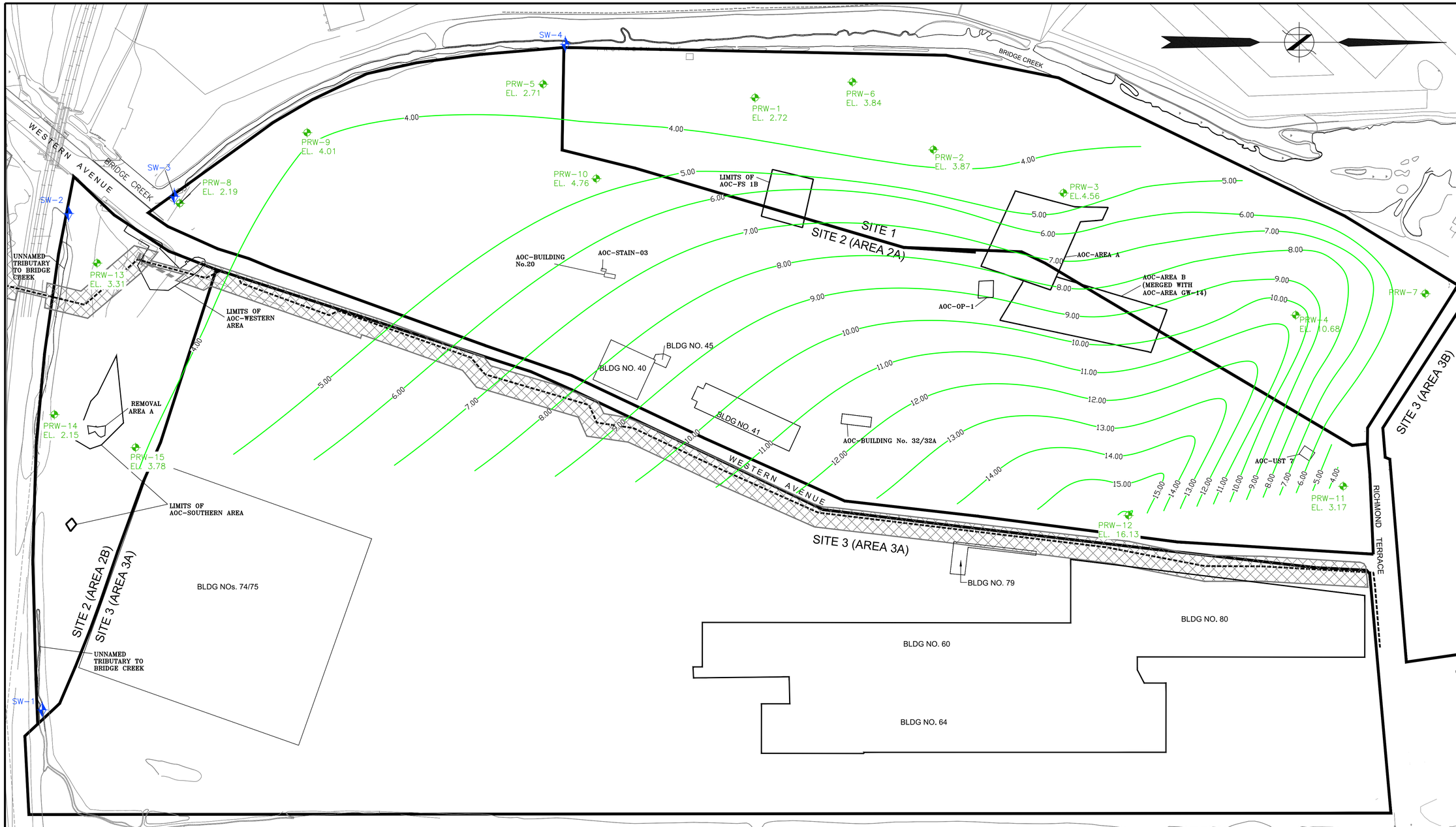
Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 5



LEGEND (SYMBOLS NOT TO SCALE):

- VCP SITE BOUINDARY
- EXISTING BUILDING
- SW-1 — SURFACE WATER SAMPLING LOCATION
- PRW-8 — GROUNDWATER MONITORING WELL LOCATION
- 30" PIPELINE
- APPROXIMATE AREA OF PIPELINE EASEMENT
- 12.00 — GROUNDWATER SURFACE ELEVATION CONTOUR (FEET)
- EL. 2.71 — GROUNDWATER SURFACE ELEVATION (FEET)

NOTES:

1. BUILDING NO. 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING MOUNTED ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM
3. GROUNDWATER SURFACE ELEVATIONS WERE MEASURED ON 3/19/2014. DATUM: NAD 1983.
4. PRW-7 WAS NOT GAUGED.

100 0 100 200
SCALE IN FEET

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ENGINEERING PROGRAM MANAGER

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ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY
SITE 2
(AREAS 2A AND 2B)

Title

GROUNDWATER SURFACE ELEVATION CONTOUR MAP (LOW TIDE - MARCH 19, 2014)

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

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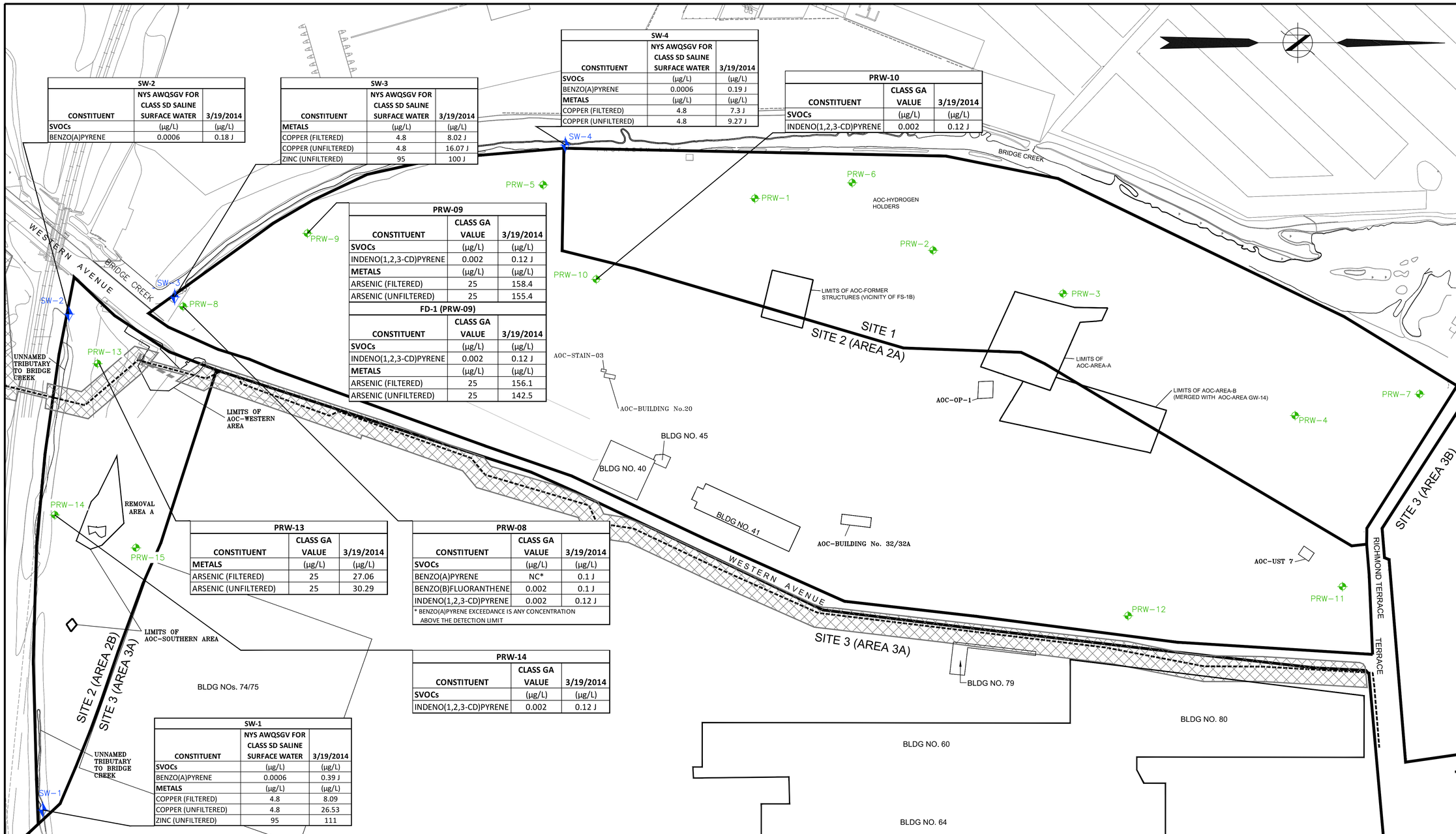
Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 6



SW-2		
CONSTITUENT	NYS AWQSGV FOR CLASS SD SALINE SURFACE WATER	3/19/2014
SVOCs	(µg/L)	(µg/L)
BENZO(A)PYRENE	0.0006	0.18 J

SW-3		
CONSTITUENT	NYS AWQSGV FOR CLASS SD SALINE SURFACE WATER	3/19/2014
METALS	(µg/L)	(µg/L)
COPPER (FILTERED)	4.8	8.02 J
COPPER (UNFILTERED)	4.8	16.07 J
ZINC (UNFILTERED)	95	100 J

SW-4		
CONSTITUENT	NYS AWQSGV FOR CLASS SD SALINE SURFACE WATER	3/19/2014
SVOCs	(µg/L)	(µg/L)
BENZO(A)PYRENE	0.0006	0.19 J
METALS	(µg/L)	(µg/L)
COPPER (FILTERED)	4.8	7.3 J
COPPER (UNFILTERED)	4.8	9.27 J

PRW-10		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J

PRW-09		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J
METALS	(µg/L)	(µg/L)
ARSENIC (FILTERED)	25	158.4
ARSENIC (UNFILTERED)	25	155.4

FD-1 (PRW-09)		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J
METALS	(µg/L)	(µg/L)
ARSENIC (FILTERED)	25	156.1
ARSENIC (UNFILTERED)	25	142.5

PRW-13		
CONSTITUENT	CLASS GA VALUE	3/19/2014
METALS	(µg/L)	(µg/L)
ARSENIC (FILTERED)	25	27.06
ARSENIC (UNFILTERED)	25	30.29

PRW-08		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
BENZO(A)PYRENE	NC*	0.1 J
BENZO(B)FLUORANTHENE	0.002	0.1 J
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J

* BENZO(A)PYRENE EXCEEDANCE IS ANY CONCENTRATION ABOVE THE DETECTION LIMIT

PRW-14		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J

SW-1		
CONSTITUENT	NYS AWQSGV FOR CLASS SD SALINE SURFACE WATER	3/19/2014
SVOCs	(µg/L)	(µg/L)
BENZO(A)PYRENE	0.0006	0.39 J
METALS	(µg/L)	(µg/L)
COPPER (FILTERED)	4.8	8.09
COPPER (UNFILTERED)	4.8	26.53
ZINC (UNFILTERED)	95	111

LEGEND (SYMBOLS NOT TO SCALE):

- VCP SITE BOUINDARY
- EXISTING BUILDING
- SW-1 — SURFACE WATER SAMPLING LOCATION
- PRW-8 — GROUNDWATER MONITORING WELL LOCATION
- 30" PIPELINE
- APPROXIMATE AREA OF PIPELINE EASEMENT

NOTES:

1. VCP = VOLUNTARY CLEANUP PROGRAM
2. SVOC = SEMI-VOLATILE ORGANIC COMPOUND
3. CLASS GA VALUES = NYSDEC DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 CLASS GA STANDARDS AND GUIDANCE VALUES
4. NYS AWQSGV = NEW YORK STATE AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES
5. J = ESTIMATED VALUE
6. ONLY RESULTS ABOVE CLASS GA VALUES AND AWQSGVs ARE SHOWN.
7. PRW-5 IS CONSIDERED A SITE 1 MONITORING WELL.

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SCALE IN FEET
1"=80'

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HHMT-PORT IVORY FACILITY

SITE 2 (AREAS 2A AND 2B)

Title

SUMMARY OF GROUNDWATER AND SURFACE WATER SAMPLING RESULTS

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Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 7

TABLES

Table 1
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Volatile Organic Compounds

SAMPLE ID		PRW-08-WG-201403191416			PRW-09-WG-201403191516			WG-201403190000-FD-1 (Duplicate of PRW-09)			PRW-10-WG-201403191546			PRW-11-WG-201403191016			PRW-12-WG-201403191051			PRW-13-WG-201403191346			PRW-14-WG-201403191241			PRW-15-WG-201403191256			WQ-201403190930-FB-1 (Field Blank)			WQ-201403190000-TB-1 (Trip Blank)		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-03			L1405912-08			L1405912-14			L1405912-04			L1405912-01			L1405912-05			L1405912-07			L1405912-06			L1405912-02			L1405912-13			L1405912-15		
SAMPLE MATRIX		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
VOLATILE ORGANIC COMPOUNDS (VOCs)	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Methylene chloride	5	ND	3	0.29	0.98J	3	0.29	0.98J	3	0.29	ND	3	0.29	1.3J	3	0.29	1.4J	3	0.29	0.94J	3	0.29	0.59J	3	0.29	0.32J	3	0.29	0.42J	3	0.29	ND	3	0.29
1,1-Dichloroethane	5	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15
Chloroform	7	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Carbon tetrachloride	5	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,2-Dichloropropane	1	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13
Dibromochloromethane	50	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15
1,1,2-Trichloroethane	1	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14
2-Chloroethylvinyl ether	NC	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4
Tetrachloroethene	5	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	0.26J	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18
Chlorobenzene	5	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18
1,2-Dichloroethane	0.6	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,1,1-Trichloroethane	5	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Bromodichloromethane	50	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19
trans-1,3-Dichloropropene	0.4[(a)]	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
cis-1,3-Dichloropropene	0.4[(a)]	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
Bromoform	50	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25
1,1,2,2-Tetrachloroethane	5	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
Benzene	1	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	0.4J	0.5	0.16	0.34J	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Toluene	5	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	0.18J	0.75	0.16	0.3J	0.75	0.16	3.5	0.75	0.16	0.34J	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Ethylbenzene	5	0.24J	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	0.23J	0.5	0.17	0.22J	0.5	0.17	0.19J	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
Chloromethane	5	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18
Bromomethane	5	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26
Vinyl chloride	2	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14
Chloroethane	5	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13
1,1-Dichloroethene	5	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
trans-1,2-Dichloroethene	5	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Trichloroethene	5	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	0.74	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
1,2-Dichlorobenzene	3	0.18J	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	0.19J	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18
1,3-Dichlorobenzene	3	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	0.2J	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19
1,4-Dichlorobenzene	3	0.22J	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	0.2J	2.5	0.19	0.22J	2.5	0.19	0.2J	2.5	0.19	ND	2.5	0.19	0.2J	2.5	0.19	0.71J	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19
p/m-Xylene	5	ND	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33	0.56J	1	0.33	0.6J	1	0.33	0.52J	1	0.33	0.42J	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33
o-Xylene	5	ND	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33	0.44J	1	0.33	0.57J	1	0.33	0.38J	1	0.33	0.37J	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33
Acrolein	5	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63
Acrylonitrile	5	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43

Notes:
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
[(a)] 0.4 µg/L applies to the sum of cis- and trans-1,3-dichloropropene.

Table 2
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Semi-Volatile Organic Compounds

SAMPLE ID		PRW-08-WG-201403191416			PRW-09-WG-201403191516			WG-201403190000-FD-1 (Duplicate of PRW-09)			PRW-10-WG-201403191546			PRW-11-WG-201403191016			PRW-12-WG-201403191051			PRW-13-WG-201403191346			PRW-14-WG-201403191241			PRW-15-WG-201403191256			WQ-201403190930-FB-1 (Field Blank)		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-03			L1405912-08			L1405912-14			L1405912-04			L1405912-01			L1405912-05			L1405912-07			L1405912-06			L1405912-02			L1405912-13		
SAMPLE MATRIX		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Benzidine	5	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2
1,2,4-Trichlorobenzene	5	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21
Bis(2-chloroethyl)ether	1	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41
3,3'-Dichlorobenzidine	5	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48
2,4-Dinitrotoluene	5	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1
2,6-Dinitrotoluene	5	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89
(Hydr)Azobenzene	5	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54
4-Chlorophenyl phenyl ether	NC	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36
4-Bromophenyl phenyl ether	NC	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43
Bis(2-chloroisopropyl)ether	5	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6
Bis(2-chloroethoxy)methane	5	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6
Isophorone	50	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79
Nitrobenzene	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4
NDPA/DPA	50	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34
n-Nitrosodi-n-propylamine	NC	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64
Bis(2-ethylhexyl)phthalate	5	ND	3	0.93	ND	3	0.93	3	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93
Butyl benzyl phthalate	50	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1
Di-n-butylphthalate	50	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77
Di-n-octylphthalate	50	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2
Diethyl phthalate	50	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39
Dimethyl phthalate	50	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33
n-Nitrosodimethylamine	NC	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5
2,4,6-Trichlorophenol	NC	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78
p-Chloro-m-cresol	NC	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54
2-Chlorophenol	NC	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58
2,4-Dichlorophenol	5	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56
2,4-Dimethylphenol	50	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58
2-Nitrophenol	NC	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1
4-Nitrophenol	NC	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1
2,4-Dinitrophenol	10	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4
4,6-Dinitro-o-cresol	NC	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4
Phenol	1	ND	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27	10	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27
Acenaphthene	20	0.38	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.4	0.13	0.61	0.4	0.13	0.34J	1	0.32	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
2-Chloronaphthalene	10	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.4	0.13	ND	0.4	0.13	ND	1	0.33	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Fluoranthene	50	ND	0.2	0.04	ND	0.2	0.04	ND	0.2	0.04	ND	0.2	0.04	ND	0.4	0.09	0.1J	0.4	0.09	ND	1	0.22	ND	0.2	0.04	ND	0.2	0.04	ND	0.2	0.04
Hexachlorobutadiene	0.5	ND	0.5	0.07	ND	0.5	0.07	ND	0.5	0.07	ND	0.5	0.07	ND	1	0.14	ND	1	0.14	ND	2.5	0.36	ND	0.5	0.07	ND	0.5	0.07	ND	0.5	0.07
Naphthalene	10	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.4	0.13	0.89	0.4	0.13	ND	1	0.32	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
Benzo(a)anthracene	0.002	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.4	0.11	ND	0.4	0.11	ND	1	0.28	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
Benzo(a)pyrene	NC*	**0.1J**	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.4	0.14	ND	0.4	0.14	ND	1	0.34	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Benzo(b)fluoranthene	0.002	**0.1J**	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.4	0.14	ND	0.4	0.14	ND	1	0.36	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Benzo(k)fluoranthene	0.002	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.4	0.14	ND	0.4	0.14	ND	1	0.34	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Chrysene	0.002	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.4	0.1	ND	0.4	0.1	ND	1	0.24	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05
Acenaphthylene	NC	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.4	0.1	ND	0.4	0.1	0.88J	1	0.25	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05
Anthracene	50	ND	0.2	0.06	0.07J	0.2	0.06	0.07J	0.2	0.06	0.07J	0.2	0.06	ND	0.4	0.13	ND	0.4	0.13	ND	1	0.32	ND	0.2	0.06	0.08J	0.2	0.06	ND	0.2	0.06
Benzo(ghi)perylene	NC	0.11J	0.2	0.07	0.1J	0.2	0.07	0.11J	0.2	0.07	0.11J	0.2	0.07	ND	0.4	0.14	ND	0.4	0.14	ND	1	0.35	0.11J	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Fluorene	50	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	0.62	0.4	0.11	0.47	0.4	0.11	ND	1	0.28	0.18J	0.2	0.06	0.06J	0.2	0.06	ND	0.2	0.06
Phenanthrene	50	0.14J	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	0.06J	0.2	0.06	0.27J	0.4	0.13	1.3	0.4	0.13	ND	1	0.32	0.7	0.2	0.06	0.09J	0.2	0.06	ND	0.2	0.06
Dibenzo(a,h)anthracene	NC	0.13J	0.2	0.07	0.13J	0.2	0.07	0.13J	0.2	0.07	0.13J	0.2	0.07	ND	0.4	0.15	ND	0.4	0.15	ND	1	0.36	0.13J	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Indeno(1,2,3-cd)Pyrene	0.002	**0.12J**	0.2	0.08	**0.12J**	0.2	0.08	**0.12J**	0.2	0.08	**0.12J**	0.2	0.08	ND	0.4	0.16	ND	0.4	0.16	ND	1	0.4	**0.12J**	0.2	0.08	ND	0.2	0.08	ND	0.2	0.08
Pyrene	50	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.4	0.11	ND	0.4	0.11	ND	1	0.28	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
2-Methylnaphthalene	NC	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	0.17J	0.4	0.12	0.7	0.4	0.12	ND	1	0.3	0.08J	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
Pentachlorophenol	1	ND	0.8	0.19	0.45J	0.8	0.19	0.49J	0.8	0.19	ND	0.8	0.19	ND	1.6	0.37	ND	1.6	0.37	ND	4	0.94	ND	0.8	0.19	ND	0.8	0.19	ND	0.8	0.19
Hexachlorobenzene	0.04	ND	0.8	0.01	ND	0.8	0.01	ND	0.8	0.01	ND	0.8	0.01	ND	1.6	0.03	ND	1.6	0.03	ND	4	0.07	ND	0.8	0.01	ND	0.8	0.01	ND	0.8	0.01
Hexachloroethane	5	ND	0.8	0.06	ND	0.8	0.06	ND	0.8	0.06	ND	0.8	0.06	ND	1.6	0.11	ND	1.6	0.11	ND	4	0.28	ND	0.8	0.06	ND	0.8	0.06	ND	0.8	0.06

Notes:
Bold and highlighted indicates the value exceeds the corresponding Class GA value.
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
* Benzo(a)pyrene exceedance is any concentration above the detection limit

Table 3
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Metals

SAMPLE ID		PRW-08-WG-201403191416						PRW-09-WG-201403191516						WG-201403190000-FD-1 (Duplicate of PRW-09)						PRW-10-WG-201403191546						PRW-11-WG-201403191016					
SAMPLING DATE		3/19/2014						3/19/2014						3/19/2014						3/19/2014						3/19/2014					
LAB SAMPLE ID		L1405912-03						L1405912-08						L1405912-14						L1405912-04						L1405912-01					
SAMPLE MATRIX		WATER						WATER						WATER						WATER						WATER					
SAMPLE PREPARATION		DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL		
METALS	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Antimony	3	0.35J	2	0.1	0.49J	2	0.1	0.31J	2	0.1	0.3J	2	0.1	0.28J	2	0.1	0.33J	2	0.1	0.65J	2	0.1	0.66J	2	0.1	0.74J	2	0.1	1.02J	2	0.1
Arsenic	25	21.24	0.5	0.2	20.64	0.5	0.2	**158.4**	0.5	0.2	**155.4**	0.5	0.2	**156.1**	0.5	0.2	**142.5**	0.5	0.2	3.44	0.5	0.2	4.29	0.5	0.2	2.11	0.5	0.2	1.96	0.5	0.2
Beryllium	3	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	0.13J	0.5	0.1	ND	0.5	0.1	0.18J	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1
Cadmium	5	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	0.06J	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	0.06J	0.2	0.05	0.11J	0.2	0.05
Chromium	50	0.57J	1	0.2	1.61	1	0.2	0.73J	1	0.2	2.96	1	0.2	0.6J	1	0.2	3.22	1	0.2	0.58J	1	0.2	2.94	1	0.2	1.06	1	0.2	1.4	1	0.2
Copper	200	0.71J	1	0.1	2.59	1	0.1	1.23	1	0.1	19.15	1	0.1	0.98J	1	0.1	22.94	1	0.1	0.98J	1	0.1	1.8	1	0.1	2.97	1	0.1	4.13	1	0.1
Lead	25	ND	1	0.2	1.42	1	0.2	ND	1	0.2	3.08	1	0.2	ND	1	0.2	3.82	1	0.2	ND	1	0.2	2.28	1	0.2	0.57J	1	0.2	1.5	1	0.2
Mercury	0.7	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066
Nickel	100	1.39	0.5	0.1	2.75	0.5	0.1	1.42	0.5	0.1	2.52	0.5	0.1	1.46	0.5	0.1	2.83	0.5	0.1	3.97	0.5	0.1	3.5	0.5	0.1	5.21	0.5	0.1	5.52	0.5	0.1
Selenium	10	1.47J	5	0.3	1.86J	5	0.3	1.07J	5	0.3	1.01J	5	0.3	0.96J	5	0.3	1.27J	5	0.3	1.34J	5	0.3	1.46J	5	0.3	4.25J	5	0.3	3.72J	5	0.3
Silver	50	ND	0.4	0.1	0.13J	0.4	0.1	ND	0.4	0.1	0.18J	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	0.13J	0.4	0.1	ND	0.4	0.1	0.13J	0.4	0.1
Thallium	0.5	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	0.03J	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	0.05J	0.5	0.03	0.06J	0.5	0.03
Zinc	2000	3.85J	10	1.2	9.51J	10	1.2	3.94J	10	1.2	9.1J	10	1.2	4.22J	10	1.2	12.14	10	1.2	7.93J	10	1.2	6.84J	10	1.2	7.92J	10	1.2	9.96J	10	1.2

Notes:
Bold and highlighted indicates the value exceeds the corresponding Class GA value.
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter

Table 3
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Metals

SAMPLE ID		PRW-12-WG-201403191051						PRW-13-WG-201403191346						PRW-14-WG-201403191241						PRW-15-WG-201403191256						WQ-201403190930-FB-1 (Field Blank)					
SAMPLING DATE		3/19/2014						3/19/2014						3/19/2014						3/19/2014						3/19/2014					
LAB SAMPLE ID		L1405912-05						L1405912-07						L1405912-06						L1405912-02						L1405912-13					
SAMPLE MATRIX		WATER						WATER						WATER						WATER						WATER					
SAMPLE PREPARATION		DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL		
METALS	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Antimony	3	0.75J	2	0.1	0.78J	2	0.1	0.56J	2	0.1	0.72J	2	0.1	0.65J	2	0.1	0.91J	2	0.1	0.26J	2	0.1	0.51J	2	0.1	0.13J	2	0.1	0.15J	2	0.1
Arsenic	25	8.82	0.5	0.2	9.15	0.5	0.2	**27.06**	0.5	0.2	**30.29**	0.5	0.2	5.38	0.5	0.2	6.09	0.5	0.2	9.27	0.5	0.2	11.41	0.5	0.2	ND	0.5	0.2	ND	0.5	0.2
Beryllium	3	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1
Cadmium	5	ND	0.2	0.05	ND	0.2	0.05	0.09J	0.2	0.05	0.11J	0.2	0.05	ND	0.2	0.05	0.09J	0.2	0.05	ND	0.2	0.05	0.14J	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05
Chromium	50	1.24	1	0.2	1.38	1	0.2	2.78	1	0.2	2.73	1	0.2	1.83	1	0.2	2.1	1	0.2	0.69J	1	0.2	1.97	1	0.2	0.44J	1	0.2	0.36J	1	0.2
Copper	200	5.23	1	0.1	5.62	1	0.1	1.89	1	0.1	3.02	1	0.1	1.35	1	0.1	3.71	1	0.1	1.22	1	0.1	6.21	1	0.1	0.14J	1	0.1	0.21J	1	0.1
Lead	25	0.21J	1	0.2	0.61J	1	0.2	0.56J	1	0.2	2.58	1	0.2	ND	1	0.2	2.14	1	0.2	0.4J	1	0.2	5.12	1	0.2	ND	1	0.2	ND	1	0.2
Mercury	0.7	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066
Nickel	100	21.34	0.5	0.1	21.44	0.5	0.1	12.86	0.5	0.1	17.24	0.5	0.1	7.73	0.5	0.1	6.71	0.5	0.1	4.96	0.5	0.1	5.03	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1
Selenium	10	2.9J	5	0.3	3.08J	5	0.3	4.6J	5	0.3	4.57J	5	0.3	2.54J	5	0.3	2.78J	5	0.3	2.98J	5	0.3	2.75J	5	0.3	ND	5	0.3	0.31J	5	0.3
Silver	50	ND	0.4	0.1	0.12J	0.4	0.1	ND	0.4	0.1	0.24J	0.4	0.1	ND	0.4	0.1	0.1J	0.4	0.1	ND	0.4	0.1	0.12J	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1
Thallium	0.5	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03
Zinc	2000	5.97J	10	1.2	6.61J	10	1.2	8.01J	10	1.2	13.23	10	1.2	11.52	10	1.2	23.02	10	1.2	6.61J	10	1.2	23.05	10	1.2	1.52J	10	1.2	1.86J	10	1.2

Notes:
Bold and highlighted indicates the value exceeds the corresponding Class GA value.
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter

Table 4
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Pesticides

SAMPLE ID		PRW-08-WG-201403191416			PRW-09-WG-201403191516			WG-201403190000-FD-1 (Duplicate of PRW-09)			PRW-10-WG-201403191546			PRW-11-WG-201403191016			PRW-12-WG-201403191051			PRW-13-WG-201403191346			PRW-14-WG-201403191241			PRW-15-WG-201403191256			WQ-201403190930-FB-1 (Field Blank)		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-03			L1405912-08			L1405912-14			L1405912-04			L1405912-01			L1405912-05			L1405912-07			L1405912-06			L1405912-02			L1405912-13		
SAMPLE MATRIX		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
PESTICIDES	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Delta-BHC	0.04	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005
Lindane	NC	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004
Alpha-BHC	0.01	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004
Beta-BHC	0.04	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006
Heptachlor	0.04	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003
Aldrin	NC	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002
Heptachlor epoxide	0.03	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004
Endrin	NC	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004
Endrin aldehyde	5	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008
Endrin ketone	5	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005
Dieldrin	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004
4,4'-DDE	0.2	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004
4,4'-DDD	0.3	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005
4,4'-DDT	0.2	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004
Endosulfan I	NC	0.012J	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	0.02	0.02	0.003	ND	0.02	0.003
Endosulfan II	NC	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005
Endosulfan sulfate	NC	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005
Methoxychlor	35	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007
Toxaphene	0.06	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063
Chlordane	0.05	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046

Notes:
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter

Table 5
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for PCBs and Cyanide

SAMPLE ID		PRW-08-WG-201403191416			PRW-09-WG-201403191516			WG-201403190000-FD-1 (Duplicate of PRW-09)			PRW-10-WG-201403191546			PRW-11-WG-201403191016			PRW-12-WG-201403191051			PRW-13-WG-201403191346			PRW-14-WG-201403191241			PRW-15-WG-201403191256			WQ-201403190930-FB-1 (Field Blank)		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-03			L1405912-08			L1405912-14			L1405912-04			L1405912-01			L1405912-05			L1405912-07			L1405912-06			L1405912-02			L1405912-13		
SAMPLE MATRIX		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
POLYCHLORINATED BIPHENYLS (PCBs)	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Aroclor 1016	NC	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055
Aroclor 1221	NC	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053
Aroclor 1232	NC	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031
Aroclor 1242	NC	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06
Aroclor 1248	NC	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051
Aroclor 1254	NC	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034
Aroclor 1260	NC	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032
CYANIDE	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Cyanide, Total	200	ND	5	1.28	1.28J	5	1.28	1.46J	5	1.28	5.94	5	1.28	1.48J	5	1.28	2.06J	5	1.28	17.4	5	1.28	5.41	5	1.28	4.42J	5	1.28	1.68J	5	1.28

Notes:
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter

Table 6
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for Volatile Organic Compounds

SAMPLE ID		SW-1-WS-201403191815			SW-2-WS-201403191745			SW-3-WS-201403191725			SW-4-WS-201403191705		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-12			L1405912-11			L1405912-10			L1405912-09		
SAMPLE MATRIX		WATER			WATER			WATER			WATER		
VOLATILE ORGANIC COMPOUNDS (VOCs)	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Methylene chloride	200	ND	3	0.29	ND	3	0.29	ND	3	0.29	ND	3	0.29
1,1-Dichloroethane	NC	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15
Chloroform	NC	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Carbon tetrachloride	NC	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,2-Dichloropropane	NC	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13
Dibromochloromethane	NC	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15
1,1,2-Trichloroethane	NC	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14
2-Chloroethylvinyl ether	NC	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4
Tetrachloroethene	1	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18
Chlorobenzene	50	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18
1,2-Dichloroethane	NC	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,1,1-Trichloroethane	NC	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Bromodichloromethane	NC	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19
trans-1,3-Dichloropropene	NC	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
cis-1,3-Dichloropropene	NC	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
Bromoform	NC	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25
1,1,2,2-Tetrachloroethane	NC	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
Benzene	10	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Toluene	430	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Ethylbenzene	41	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
Chloromethane	NC	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18
Bromomethane	NC	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26
Vinyl chloride	NC	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14
Chloroethane	NC	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13
1,1-Dichloroethene	NC	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
trans-1,2-Dichloroethene	NC	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Trichloroethene	40	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
1,2-Dichlorobenzene	50*	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18
1,3-Dichlorobenzene	50*	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19
1,4-Dichlorobenzene	50*	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19
p/m-Xylene	170 (total)	ND	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33
o-Xylene	170 (total)	ND	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33
Acrolein	NC	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63
Acrylonitrile	NC	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43

Notes:

AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
* Applies to the sum of 1,2-, 1-3-, and 1,4-dichlorobenzene.

Table 7
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for Semi-Volatile Organic Compounds

SAMPLE ID		SW-1-WS-201403191815			SW-2-WS-201403191745			SW-3-WS-201403191725			SW-4-WS-201403191705		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-12			L1405912-11			L1405912-10			L1405912-09		
SAMPLE MATRIX		WATER			WATER			WATER			WATER		
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Benzidine	NC	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2
1,2,4-Trichlorobenzene	50	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21
Bis(2-chloroethyl)ether	NC	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41
3,3'-Dichlorobenzidine	NC	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48
2,4-Dinitrotoluene	NC	ND	5	1	ND	5	1	ND	5	1	ND	5	1
2,6-Dinitrotoluene	NC	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89
(Hydr)Azobenzene	NC	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54
4-Chlorophenyl phenyl ether	NC	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36
4-Bromophenyl phenyl ether	NC	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43
Bis(2-chloroisopropyl)ether	NC	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6
Bis(2-chloroethoxy)methane	NC	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6
Isophorone	NC	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79
Nitrobenzene	NC	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4
NDPA/DPA	NC	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34
n-Nitrosodi-n-propylamine	NC	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64
Bis(2-ethylhexyl)phthalate	NC	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93
Butyl benzyl phthalate	NC	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1
Di-n-butylphthalate	NC	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77
Di-n-octylphthalate	NC	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2
Diethyl phthalate	NC	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39
Dimethyl phthalate	NC	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33
n-Nitrosodimethylamine	NC	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5
2,4,6-Trichlorophenol	NC	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78
p-Chloro-m-cresol	NC	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54
2-Chlorophenol	NC	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58
2,4-Dichlorophenol	NC	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56
2,4-Dimethylphenol	1,000	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58
2-Nitrophenol	NC	ND	10	1	ND	10	1	ND	10	1	ND	10	1
4-Nitrophenol	NC	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1
2,4-Dinitrophenol	400	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4
4,6-Dinitro-o-cresol	NC	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4
Phenol	NC	ND	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27
Acenaphthene	60	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13
2-Chloronaphthalene	NC	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13
Fluoranthene	NC	0.32J	0.4	0.09	ND	0.4	0.09	0.18J	0.4	0.09	ND	0.4	0.09
Hexachlorobutadiene	0.01	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14
Naphthalene	140	ND	0.4	0.13	ND	0.4	0.13	0.19J	0.4	0.13	ND	0.4	0.13
Benzo(a)anthracene	NC	0.19J	0.4	0.11	ND	0.4	0.11	ND	0.4	0.11	ND	0.4	0.11
Benzo(a)pyrene	0.0006	**0.39J**	0.4	0.14	**0.18J**	0.4	0.14	ND	0.4	0.14	**0.19J**	0.4	0.14
Benzo(b)fluoranthene	NC	0.48	0.4	0.14	0.2J	0.4	0.14	ND	0.4	0.14	0.21J	0.4	0.14
Benzo(k)fluoranthene	NC	0.19J	0.4	0.14	ND	0.4	0.14	ND	0.4	0.14	ND	0.4	0.14
Chrysene	NC	0.23J	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1
Acenaphthylene	NC	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1
Anthracene	50	0.15J	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13
Benzo(ghi)perylene	NC	0.3J	0.4	0.14	0.21J	0.4	0.14	0.23J	0.4	0.14	0.22J	0.4	0.14
Fluorene	23	ND	0.4	0.11	ND	0.4	0.11	ND	0.4	0.11	ND	0.4	0.11
Phenanthrene	14	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13
Dibenzo(a,h)anthracene	NC	0.24J	0.4	0.15	0.25J	0.4	0.15	0.22J	0.4	0.15	0.25J	0.4	0.15
Indeno(1,2,3-cd)Pyrene	NC	0.41	0.4	0.16	0.24J	0.4	0.16	0.33J	0.4	0.16	0.24J	0.4	0.16
Pyrene	NC	0.3J	0.4	0.11	ND	0.4	0.11	0.16J	0.4	0.11	ND	0.4	0.11
2-Methylnaphthalene	NC	ND	0.4	0.12	ND	0.4	0.12	0.14J	0.4	0.12	ND	0.4	0.12
Pentachlorophenol	NC	ND	1.6	0.37	ND	1.6	0.37	ND	1.6	0.37	ND	1.6	0.37
Hexachlorobenzene	0.00003	ND	1.6	0.03	ND	1.6	0.03	ND	1.6	0.03	ND	1.6	0.03
Hexachloroethane	0.6	ND	1.6	0.11	ND	1.6	0.11	ND	1.6	0.11	ND	1.6	0.11

Notes:

AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
Bold concentrations in shaded cells exceed the AWQSGVs.

Table 8
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for Metals

SAMPLE ID		SW-1-WS-201403191815						SW-2-WS-201403191745						SW-3-WS-201403191725						SW-4-WS-201403191705					
SAMPLING DATE		3/19/2014						3/19/2014						3/19/2014						3/19/2014					
LAB SAMPLE ID		L1405912-12						L1405912-11						L1405912-10						L1405912-09					
SAMPLE MATRIX		WATER						WATER						WATER						WATER					
SAMPLE PREPARATION		DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL		
METALS	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Antimony	NC	0.75J	2	0.1	1.03J	2	0.1	0.63J	2	0.1	1.04J	2	0.1	ND	40	2	ND	40	2	ND	40	2	ND	40	2
Arsenic	120*	5.93	0.5	0.2	11.98	0.5	0.2	1.54	0.5	0.2	1.48	0.5	0.2	11.58	10	4	13.07	10	4	16.06	10	4	19.11	10	4
Beryllium	NC	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	10	2	ND	10	2	ND	10	2	ND	10	2
Cadmium	21	0.11J	0.2	0.05	0.29	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	4	1	ND	4	1	ND	4	1	ND	4	1
Chromium	NC	1.59	1	0.2	3.76	1	0.2	0.68J	1	0.2	0.53J	1	0.2	ND	20	4	4.56J	20	4	ND	20	4	ND	20	4
Copper	4.8	**8.09**	1	0.1	**26.53**	1	0.1	2.71	1	0.1	2.56	1	0.1	**8.02 J**	20	2	**16.07 J**	20	2	**7.3 J**	20	2	**9.27J**	20	2
Lead	204	9.22	1	0.2	36.61	1	0.2	ND	1	0.2	0.57J	1	0.2	ND	20	4	10.48J	20	4	ND	20	4	ND	20	4
Mercury	0.0007*	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Nickel	74	4.59	0.5	0.1	8.85	0.5	0.1	4.97	0.5	0.1	2.66	0.5	0.1	9.73J	10	2	8.37J	10	2	8.41J	10	2	6.81J	10	2
Selenium	NC	1.75J	5	0.3	2.09J	5	0.3	3.39J	5	0.3	2.41J	5	0.3	54.8J	100	6	55.9J	100	6	60.1J	100	6	51.3J	100	6
Silver	2.3	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	8	2	ND	8	2	ND	8	2	ND	8	2
Thallium	NC	ND	0.5	0.03	0.03J	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	10	0.6	ND	10	0.6	ND	10	0.6	ND	10	0.6
Zinc	95	38.07	10	1.2	**111**	10	1.2	18.07	10	1.2	19.19	10	1.2	26.5J	200	24	**100 J**	200	24	26.2J	200	24	51.48J	200	24

Notes:
AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
* Applies to dissolved only
Bold concentrations in shaded cells exceed the AWQSGVs.

Table 9
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for Pesticides

SAMPLE ID		SW-1-WS-201403191815			SW-2-WS-201403191745			SW-3-WS-201403191725			SW-4-WS-201403191705		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-12			L1405912-11			L1405912-10			L1405912-09		
SAMPLE MATRIX		WATER			WATER			WATER			WATER		
PESTICIDES	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Delta-BHC	0.008	ND	0.02	0.01	ND	0.02	0.01	ND	0.02	0.01	ND	0.02	0.01
Lindane	0.008	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Alpha-BHC	0.002	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Beta-BHC	0.007	ND	0.02	0.01	ND	0.02	0.01	ND	0.02	0.01	ND	0.02	0.01
Heptachlor	0.0002	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Aldrin	NC	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Heptachlor epoxide	0.0003	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Endrin	0.002	ND	0.04	0	ND	0.04	0	ND	0.04	0	ND	0.04	0
Endrin aldehyde	NC	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
Endrin ketone	NC	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
Dieldrin	0.001	ND	0.04	0	ND	0.04	0	ND	0.04	0	ND	0.04	0
4,4'-DDE	0.000011*	ND	0.04	0	ND	0.04	0	ND	0.04	0	ND	0.04	0
4,4'-DDD	0.000011*	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
4,4'-DDT	0.000011*	ND	0.04	0	ND	0.04	0	ND	0.04	0	ND	0.04	0
Endosulfan I	NC	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Endosulfan II	NC	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
Endosulfan sulfate	NC	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
Methoxychlor	NC	ND	0.2	0.01	ND	0.2	0.01	ND	0.2	0.01	ND	0.2	0.01
Toxaphene	0.000006	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
Chlordane	0.0002	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05

Notes:
AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
** Applies to the sum of 4,4'-DDE, 4,4'-DDD, and 4'4-DDT.

Table 10
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for PCBs and Cyanide

SAMPLE ID		SW-1-WS-201403191815			SW-2-WS-201403191745			SW-3-WS-201403191725			SW-4-WS-201403191705		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-12			L1405912-11			L1405912-10			L1405912-09		
SAMPLE MATRIX		WATER			WATER			WATER			WATER		
POLYCHLORINATED BIPHENYLS (PCBs)	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Aroclor 1016	NC	ND	0.08	0.06	ND	0.08	0.06	ND	0.08	0.06	ND	0.08	0.06
Aroclor 1221	NC	ND	0.08	0.05	ND	0.08	0.05	ND	0.08	0.05	ND	0.08	0.05
Aroclor 1232	NC	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03
Aroclor 1242	NC	ND	0.08	0.06	ND	0.08	0.06	ND	0.08	0.06	ND	0.08	0.06
Aroclor 1248	NC	ND	0.08	0.05	ND	0.08	0.05	ND	0.08	0.05	ND	0.08	0.05
Aroclor 1254	NC	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03
Aroclor 1260	NC	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03
Total PCBs	0.00012*	ND			ND			ND			ND		
CYANIDE		Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Cyanide, Total	9,000	11.5	5	1.28	5.04	5	1.28	7.48	5	1.28	2.01J	5	1.28

Notes:
AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
* Applies to the sum of PCBs

ATTACHMENT A

PHOTOGRAPH LOG

Attachment A
Photograph Log – March 19, 2014 Inspection

Photo 1: Site 2, Area 2A taken facing north.

Photo 2: Site 2, Area 2A, taken facing southwest.

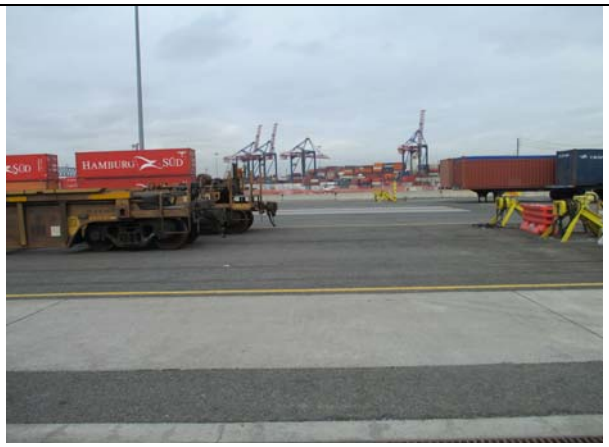


Photo 3: Site 2, Area 2A, taken facing west.

Photo 4: Construction for new rail tracks in Site 2, Area 2A taken facing southwest.

Photo 5: Crushed stone cover in Site 2, Area 2B.

Photo 6: Stormwater drainage ditch in Site 2, Area 2B.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:
208889.1000 .0000	L. Metcalf	1 of 3	The Port Authority of New York and New Jersey	Site 2, Areas 2A & 2B Port Ivory 40 Western Avenue Staten Island, New York

Attachment A
Photograph Log – March 19, 2014 Inspection

Photo 7: Asphalt cover and wetland buffer transition area in Site 2, Area 2B (taken facing southwest).

Photo 8: Excavation area for rail tracks in Site 2, Area 2B (tacking facing northwest).

Photo 9: Crushed stone cover in Site 2, Area 2A, taken facing south.

Photo 10: Railroad tracks in Site 2 Area, 2A (taken facing north).

Photo 11: Crushed stone cover in Site 2, Area 2A, taken facing north.

Photo 12: PRW-10 taken facing northeast. Note excavation for railroad track installation in background.

Attachment A
Photograph Log – March 19, 2014 Inspection

Photo 13: Crushed stone cover in Site 2, Area 2A, taken facing northeast.

Photo 14: Asphalt cover in Site 2, Area 2A taken facing north.

Photo 15: Asphalt cover in Site 2, Area 2A taken facing southwest.

Photo 16: Asphalt cover in Site 2, Area 2A (taken facing east).

Photo 17: Asphalt cover in Site 2, Area 2A (taken facing northeast).

Photo 18: Building No. 40 and 45 in Site 2A.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
208889.1000 .0000	L. Metcalf	3 of 3	The Port Authority of New York and New Jersey	Site 2, Areas 2A & 2B Port Ivory 40 Western Avenue Staten Island, New York	TRC

Attachment A
Photograph Log – September 29, 2014 Inspection

Photo 1: Environmental cap in Area 2A taken facing south.

Photo 2: Environmental cap (one foot of crushed stone) in Area 2A taken facing south.

Photo 3: Asphalt and crushed stone in Area 2A taking facing north.

Photo 4: Wetlands buffer zone in area 2B.

Photo 5: Railroad tracks and wetlands buffer zone in Area 2B taken facing east.

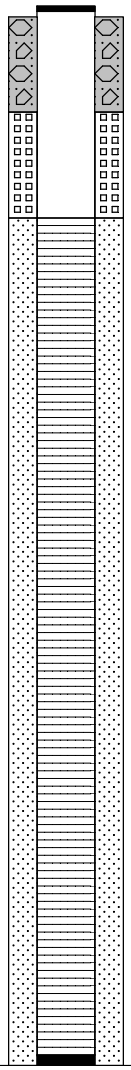
Photo 6: Drainage ditch in Area 2B.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:
208889.1000 .0000	L. Metcalf / C. Guder	1 of 1	The Port Authority of New York and New Jersey	Site 2, Areas 2A & 2B Port Ivory 40 Western Avenue Staten Island, New York

ATTACHMENT B

WELL CONSTRUCTION LOGS

Project: SITE12_SMP_SO_2014	**X Coordinate:** 999999.00	**Borehole ID:** PRW-08
Contract No.: P11-955.502	**Y Coordinate:** 999999.00	**Date Start/Finish:** 3/4/2014 / 3/5/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 9' north of surveyed location	**Total Depth:** 10.4 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-08-WG-201403191041 PRW-08-WG-201403191416		☒	HAND AUGER			(0.00- 0.30') ASPHALT
				HAND AUGER	0		(0.30- 2.00') FILL, Brown M-F SAND, some SILT, little GRAVEL
1							
2				HAND AUGER	0		(2.00- 3.00') FILL, Brown M-F SAND, some SILT, little GRAVEL
3				HAND AUGER	0		(3.00- 4.00') FILL, CONCRETE
4				HAND AUGER	0		(4.00- 6.00') FILL, Brown M-F SAND, trace SILT
5							
6				1,2,1,3	0		(6.00- 8.00') FILL, Brown M-F SAND, trace SILT
7		24					
8				15,15,18,11	0		(8.00- 10.40') FILL, Brown M-F SAND, trace SILT
9		24					
10							

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Remarks:

Coordinates provided in State Plane NAD83.

SL 102
1/06

Engineering Department
Materials Engineering

Well Installation Report

PROJECT: HHMT Port Ivory Facility Site 2A/2B		**CONTRACT NO.** 426-12-014	
LOCATION: Laid out as per drawing		**CONTRACTOR** Craig	
WELL NO. PRW-09	**WELL TYPE** A	**DATE:** 4/10/12	
DRILLER: K. Parent	**INSPECTOR:** J. Zarks		

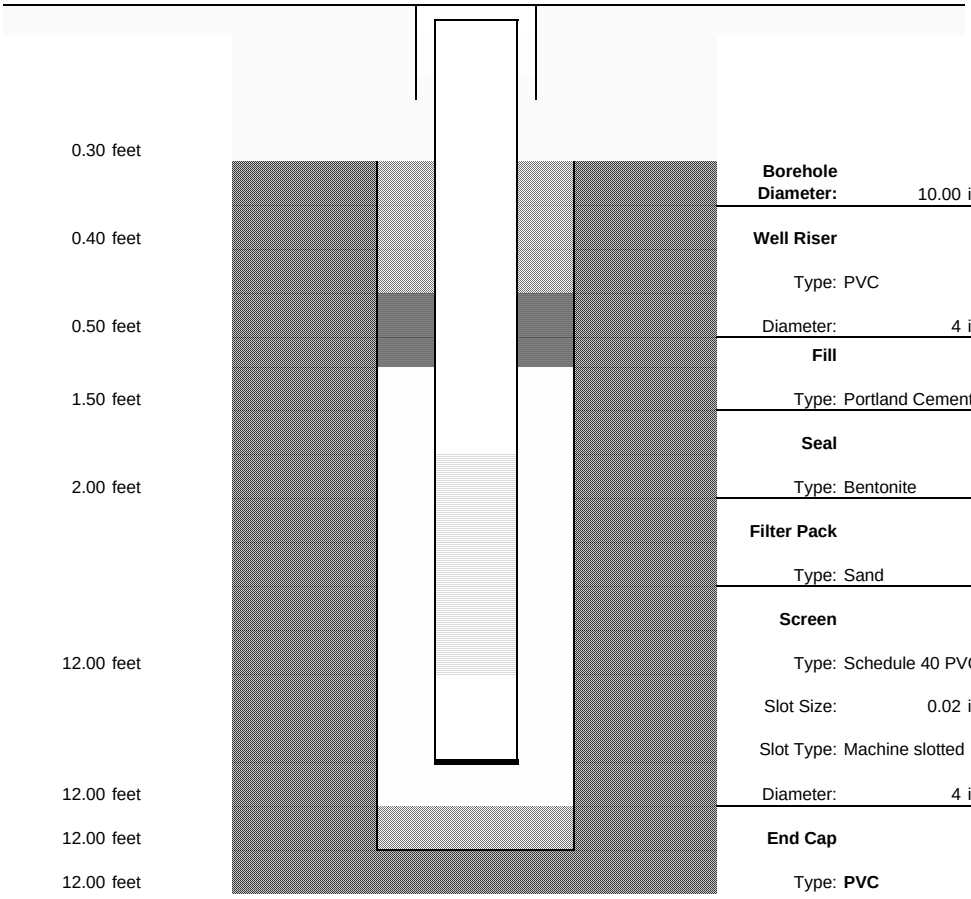
Well Development Report (NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE:	**WATER LEVEL BEFORE:**	**WATER LEVEL AFTER:**
TAKEN	**MINUTES AFTER DEVELOPMENT**	

Protective Cover Type: **Steel**

Top of Protective Cover: 0.00 feet

Well Cap Type: **PVC**



Top of Well Riser: 0.30 feet

Top of Fill: 0.40 feet

Top of Seal: 0.50 feet

Top of Filter: 1.50 feet

Top of Screen: 2.00 feet

Base of Screen: 12.00 feet

Base of Filter: 12.00 feet

Total Depth Well: 12.00 feet

Total Depth Boring: 12.00 feet

Borehole Diameter: 10.00 inches

Well Riser
Type: PVC
Diameter: 4 inches

Fill
Type: Portland Cement

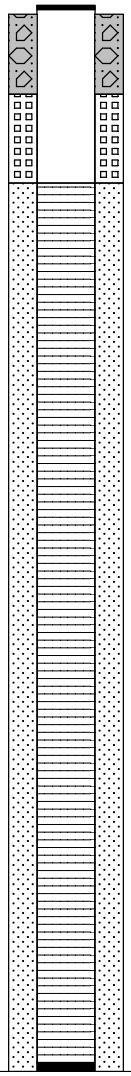
Seal
Type: Bentonite

Filter Pack
Type: Sand

Screen
Type: Schedule 40 PVC Pipe
Slot Size: 0.02 inches
Slot Type: Machine slotted
Diameter: 4 inches

End Cap
Type: **PVC**

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580208.88	**Borehole ID:** PRW-10
Contract No.: P11-955.502	**Y Coordinate:** 656922.79	**Date Start/Finish:** 3/5/2014 / 3/6/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: As laid out	**Total Depth:** 12.4 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-10-WG-201403191041 PRW-10-WG-201403191546			HAND AUGER	0		(0.00- 2.00') MISC-FILL, Brown C-F SAND & GRAVEL, little BRICKS, little CONCRETE, trace SILT
1							
2				HAND AUGER	0		(2.00- 4.00') MISC-FILL, Brown C-F SAND & GRAVEL, little BRICKS, little CONCRETE, trace SILT
3							
4				HAND AUGER	0		(4.00- 6.00') MISC-FILL, Brown C-F SAND & GRAVEL, little BRICKS, little CONCRETE, trace SILT
5							
6					0		(6.00- 8.00') NO RECOVERY
7		0					
8					0		(8.00- 10.00') NO RECOVERY
9		0					
10				15,38,100/6",50/0"	0		(10.00- 12.40') MISC-FILL, Brown C-F SAND & GRAVEL, little BRICKS, little CONCRETE, trace SILT
11		14					
12							

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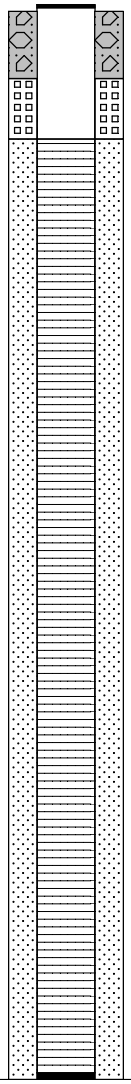
Remarks:

Coordinates provided in State Plane NAD83.

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580830.88	**Borehole ID:** PRW-11
Contract No.: P11-955.502	**Y Coordinate:** 658433.36	**Date Start/Finish:** 3/10/2014 / 3/10/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 35' SW of surveyed location	**Total Depth:** 16.4 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-11-WG-201403191041			HAND AUGER			(0.00- 0.50') ASPHALT
1	PRW-11-WG-201403191016			HAND AUGER	0		(0.50- 1.00') CONCRETE
2				HAND AUGER	0		(1.00- 2.00') FILL, Brown M-F SAND, some GRAVEL, little SILT
3							(2.00- 4.00') FILL, Brown M-F SAND, some GRAVEL, little SILT
4				HAND AUGER	0		(4.00- 6.00') FILL, Brown M-F SAND, some GRAVEL, little SILT
5							
6				21,22,22,24	0		(6.00- 8.00') Red Brown clayey SILT, little GRAVEL, trace M-F SAND
7		24					
8				17,25,15,14	0		(8.00- 10.00') Red Brown silty CLAY, little GRAVEL, trace M-F SAND
9		24					
10				6,8,8,12	0		(10.00- 12.00') Red Brown silty CLAY, little GRAVEL, trace M-F SAND
11		24					
12				7,8,8,8	0		(12.00- 14.00') Red Brown silty CLAY, little GRAVEL, trace M-F SAND
13		24					
14				7,8,10,2	0		(14.00- 16.00') Red Brown silty CLAY, little GRAVEL, trace M-F SAND
15		24					
16				8,14,11,12	0		(16.00- 16.40') Red Brown silty CLAY, little GRAVEL, trace M-F SAND

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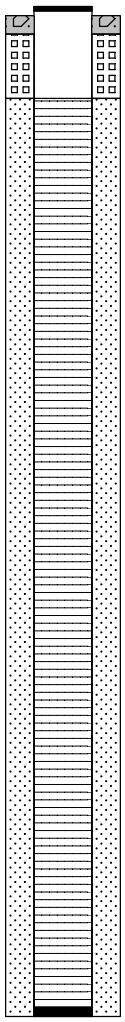
Remarks:

Coordinates provided in State Plane NAD83.

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580889.81	**Borehole ID:** PRW-12
Contract No.: P11-955.502	**Y Coordinate:** 657999.30	**Date Start/Finish:** 3/6/2014 / 3/6/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 15' west of surveyed location	**Total Depth:** 12 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-12-WG-201403191051			HAND AUGER			(0.00- 1.00') ASPHALT
1				HAND AUGER	0		(1.00- 2.00') MISC-FILL, Brown C-F SAND, some GRAVEL, little BRICKS, trace SILT
2			☒	HAND AUGER	0		(2.00- 3.00') MISC-FILL, GRAVEL & BRICKS
3				HAND AUGER	0		(3.00- 4.00') FILL, Brown C-F SAND, some SILT, some GRAVEL
4				HAND AUGER	0		(4.00- 5.50') FILL, Brown C-F SAND, some SILT, some GRAVEL
5				HAND AUGER	0		(5.50- 6.00') Red Brown CLAY & SILT, little GRAVEL, trace M-F SAND
6		24		10,20,25,19	0		(6.00- 8.00') Red Brown CLAY & SILT, little GRAVEL, trace M-F SAND
7							
8		24		13,15,25,21	0		(8.00- 10.00') Red Brown CLAY & SILT, little GRAVEL, trace M-F SAND
9							
10		24		6,6,6,8	0		(10.00- 12.00') Red Brown CLAY & SILT, little GRAVEL, trace M-F SAND
11							
12							

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Remarks:

Coordinates provided in State Plane NAD83.

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1/06

Engineering Department
Materials Engineering

Well Installation Report

PROJECT:	HHMT Port Ivory Facility Site 2a/2b		**CONTRACT NO.**	426-12-014	
LOCATION:	As Marked		**CONTRACTOR**	Craig	
WELL NO.	PRW-13	**WELL TYPE** A	**DATE:**	4/10/12	
DRILLER:	E. Flawagan	**INSPECTOR:**	B. Patel		

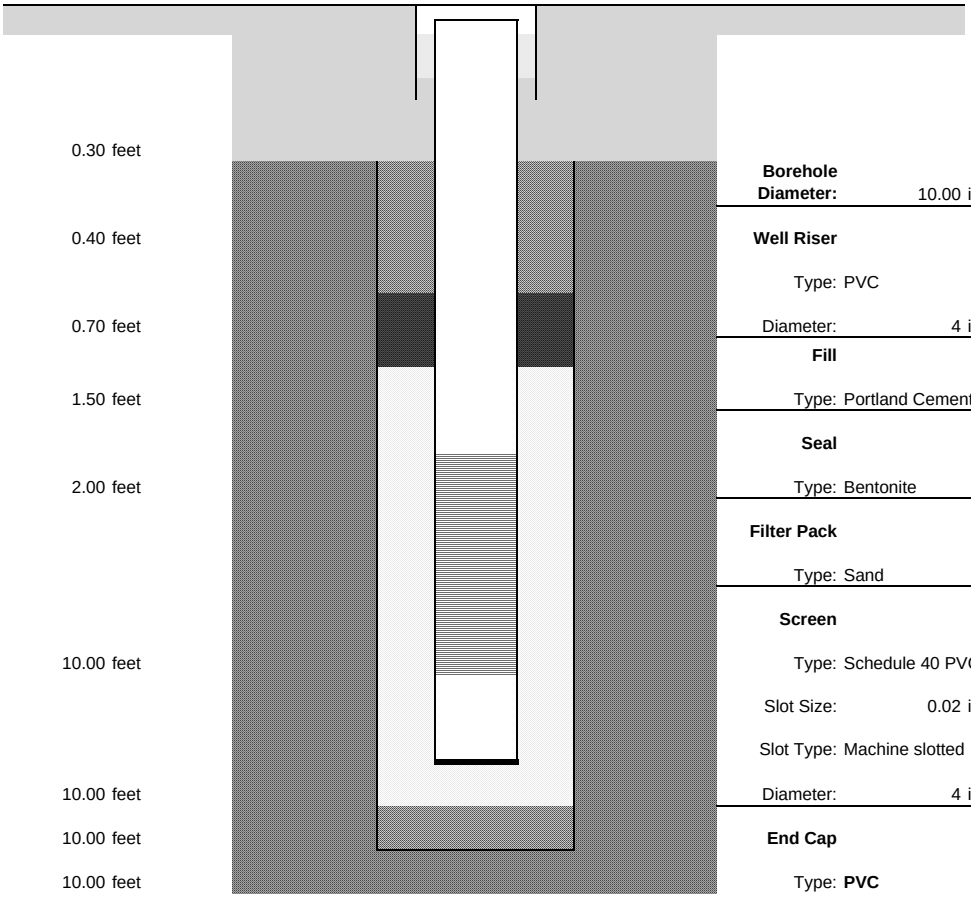
Well Development Report (NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE:	**WATER LEVEL BEFORE:**	**WATER LEVEL AFTER:**
TAKEN	**MINUTES AFTER DEVELOPMENT**	

Protective Cover Type: **Steel**

Top of Protective Cover: 0.00 feet

Well Cap Type: **PVC**



Top of Well Riser: 0.30 feet

Top of Fill: 0.40 feet

Top of Seal: 0.70 feet

Top of Filter: 1.50 feet

Top of Screen: 2.00 feet

Base of Screen: 10.00 feet

Base of Filter: 10.00 feet

Total Depth Well: 10.00 feet

Total Depth Boring: 10.00 feet

Borehole Diameter: 10.00 inches

Well Riser
Type: PVC
Diameter: 4 inches

Fill
Type: Portland Cement

Seal
Type: Bentonite

Filter Pack
Type: Sand

Screen
Type: Schedule 40 PVC Pipe
Slot Size: 0.02 inches
Slot Type: Machine slotted
Diameter: 4 inches

End Cap
Type: **PVC**

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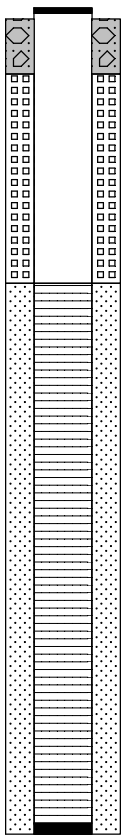
Engineering Department
Materials Engineering

Boring Report

Project	HHMT Port Ivory Facility Site 2A/2B	**Contractor**	Craig	**Boring No.**	PRW-13	**Date**	4/10/12
Location	As Marked	**Contract No.**	426-09-014	**Surface Elev.**			
Spoon	2" O.D. 1.375" I.D.	**Hammer/ Fall (in.)**	140 lbs./30"	**Ground Water Level**			
Hammer Type	Auto	**Hole Type**	1	Date	Time	Depth (ft)	Remarks
Inspector	B. Patel			4/10/12	10:40 AM	4.8	Observed during HA, in S-3
Driller	E. Flawagan			4/11/12	9:00AM	3.7	Top of PVC
site_code							

Sample No.	Start Depth (ft)	End Depth (ft)	Method	Spoon Blows/6"	Re-cov'd	PID Reading	Sample Description and Remarks
01	0.0	2.0	HA	Hand Auger	Full	0.0	Fill: brown c-f Sand, trace Gravel, trace Silt, trace brick
02	2.0	4.0	HA	Hand Auger	Full	0.0	Fill: grey c-f Sand, trace Gravel, trace Silt, trace Clay
03	4.0	6.0	HA	Hand Auger	Full	0.0	Fill: brown-grey c-f Sand, trace Silt, little Clay (wet)
	6.0						Change in Strata
04	6.0	8.0	SS	7-3-3-3	18"	0.0	brown Silty Clay, little fine Sand
05	8.0	9.0	SS	3-1	12"	0.0	Same
	9.0						Change in Strata
06	9.0	10.0	SS	1-1	12"	0.0	grey Organic Silty Clay, some Peat
	10.0						Bottom of Boring
							Installed 4" MW PRW-14 (8' Screen 2' Riser) See Well Report for Well Data.

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580685.88	**Borehole ID:** PRW-14
Contract No.: P11-955.502	**Y Coordinate:** 655826.82	**Date Start/Finish:** 3/4/2014 / 3/4/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 3' north of surveyed location	**Total Depth:** 10 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-14-WG-201403191241		▽	HAND AUGER	0		(0.00- 2.00') FILL, Brown M-F SAND, some GRAVEL, little SILT
1							
2				HAND AUGER	0		(2.00- 4.00') FILL, Red Brown M-F SAND, some SILT, little GRAVEL
3							
4				HAND AUGER	0		(4.00- 5.00') FILL, Red Brown M-F SAND, some SILT, little GRAVEL
5				HAND AUGER	0		(5.00- 6.00') Black organic CLAY & SILT, little C-F SAND, little GRAVEL
6		8		WOH,WOH,1,WOH	0		(6.00- 6.70') Black organic CLAY, trace PEAT FIBERS
7		8		WOH,WOH,1,WOH	0		(6.70- 7.40') Brown M-F SAND, little SILT
		8		WOH,WOH,1,WOH	0		(7.40- 8.00') Brown PEAT
8		0		1,1,WOH,WOH	0		(8.00- 10.00') NO RECOVERY
9							
10							

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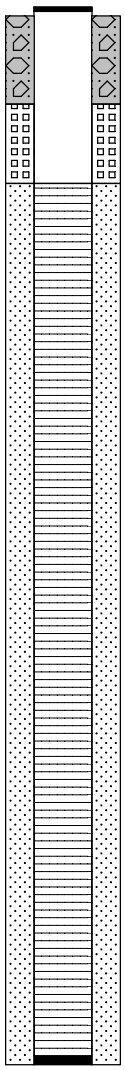
Remarks:

Coordinates provided in State Plane NAD83.

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580752.37	**Borehole ID:** PRW-15
Contract No.: P11-955.502	**Y Coordinate:** 655991.06	**Date Start/Finish:** 3/5/2014 / 3/5/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 25' south of surveyed location	**Total Depth:** 12.5 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-15-WG-201403191256			HAND AUGER	0		(0.00- 1.50') FILL, Brown GRAVEL, some M-F SAND, little SILT
1							(1.50- 2.00') MISC-FILL, Brown clayey SILT & GRAVEL, little M-F SAND, trace BRICKS, trace CONCRETE, trace GLASS
				HAND AUGER	0		
2				HAND AUGER	0		(2.00- 4.00') MISC-FILL, Brown clayey SILT & GRAVEL, little M-F SAND, trace BRICKS, trace CONCRETE, trace GLASS
3							
4				HAND AUGER	0		(4.00- 5.50') MISC-FILL, Brown clayey SILT & GRAVEL, little M-F SAND, trace BRICKS, trace CONCRETE, trace GLASS
5							(5.50- 6.00') FILL, Black silty CLAY. some C-F SAND, little GRAVEL, petroleum odor
				HAND AUGER	4.0		
6		12		2,3,3,4	0		(6.00- 7.00') Black organic CLAY
7		12		2,3,3,4	0		(7.00- 8.00') Dark Grey FINE SAND, trace SILT
8		6		3,3,2,2	0		(8.00- 8.50') Black organic CLAY
				3,3,2,2	0		(8.50- 10.00') Dark Grey M-F SAND, trace SILT
9		18					
10				2,3,3,3	0		(10.00- 12.50') Brown M-F SAND, trace SILT
11		24					
12							

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Remarks:

Coordinates provided in State Plane NAD83.

ATTACHMENT C

GROUNDWATER SAMPLING LOGS

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 13:50	Sheet 1 of 8
	Well Identification:	PRW-08		
	Personnel:	Karl Jensen (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground) NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	10.3
Depth to Water (ft):	2.52
Height of water column (ft.):	7.78
Volume of Water in Well (gal):	5.06
Total Gallons Purged:	1.6

[Vol. = $r^2h(0.163)$]

Reference Point:
- X top of riser
- top of casing
- _____

- historical
- measured:
- notch
- X north side
- high pt
- pen mark

- .16 gal/ft (2 in.)
- X .65 gal/ft (4 in.)
- ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	13:50	13:55	14:00	14:05	14:10	14:15			
Temp. (C.)	8.73	8.84	8.70	8.81	8.70	8.68			
Conduct.(umhos/com)	912	887	879	867	866	860			
DO (mg/L)	0.72	0.71	0.7	0.68	0.70	0.69			
pH (Std.Units)	8.61	8.7	8.74	8.82	8.83	8.83			
ORP (millivolts)	-15.9	-15.4	-15.6	-15.7	-15.7	-15.7			
Turb. (NTU)	31.6	24.8	23.21	20.23	19.81	19.65			
Flow (ml/min)-approx.	250	250	250	250	250	250			
Depth to water (ft)	2.52	2.52	2.52	2.52	2.52	2.52			
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	14:16	PRW-08-WG-201403191416

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 14:45	Sheet 2 of 8
	Well Identification:	PRW-09		
	Personnel:	Mark Pasquarello (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground) NA

WELL DIAMETER: [ ] 2 inch [X] 4 inch [ ] 6 inch

WELL MATERIAL: [X] PVC [ ] SS [ ] ___

Well Depth (ft.):	12
Depth to Water (ft):	2.26
Height of water column (ft.):	9.74
Volume of Water in Well (gal):	6.33
Total Gallons Purged:	2.4

[Vol. = $r^2h(0.163)$]

Reference Point:
- [X] top of riser
- [ ] top of casing
- [ ] _____

- [ ] historical
- [ ] measured:
- [ ] notch
- [X] north side
- [ ] high pt
- [ ] pen mark

- [ ] .16 gal/ft (2 in.)
- [X] .65 gal/ft (4 in.)
- [ ] ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	14:45	14:50	14:55	15:00	15:05	15:10	15:15		
Temp. (C.)	8.44	8.48	8.45	8.48	8.40	8.39	8.37		
Conduct.(umhos/com)	1160	1207	1259	1310	1330	1340	1355		
DO (mg/L)	1.05	0.94	0.93	0.87	0.84	0.83	0.81		
pH (Std.Units)	7.78	8.47	9.01	8.74	8.79	8.85	8.87		
ORP (millivolts)	-86.9	-130	-100.1	-77.4	-67.8	-62.9	-60.7		
Turb. (NTU)	14.1	13.7	12.6	12.8	11.3	11.6	11.3		
Flow (ml/min)-approx.	300	300	300	300	300	300	300		
Depth to water (ft)	2.26	2.26	2.26	2.26	2.26	2.26	2.26		
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	15:16	PRW-09-WG-201403191516

REMARKS:

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 15:20	Sheet 3 of 8
	Well Identification:	PRW-10		
	Personnel:	Karl Jensen (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground) NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	12.3
Depth to Water (ft):	5.54
Height of water column (ft.):	6.76
Volume of Water in Well (gal):	4.394
Total Gallons Purged:	1.7

[Vol. = $r^2h(0.163)$]

Reference Point:
- X top of riser
- top of casing
- _____

- historical
- measured:
- notch
- X north side
- high pt
- pen mark

- .16 gal/ft (2 in.)
- X .65 gal/ft (4 in.)
- ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	15:20	15:25	15:30	15:35	15:40	15:45			
Temp. (C.)	8.10	7.29	9.23	9.24	9.09	9.06			
Conduct.(umhos/com)	1255	1249	1267	1264	1259	1258			
DO (mg/L)	1.47	1.07	0.82	0.79	0.74	0.74			
pH (Std.Units)	7.97	7.83	7.82	7.83	7.83	7.83			
ORP (millivolts)	-32.4	-33.3	-35.1	-36.8	-34.2	-34.7			
Turb. (NTU)	40.21	28.3	24.93	23.79	23.41	22.7			
Flow (ml/min)-approx.	250	250	250	250	250	250			
Depth to water (ft)	5.54	5.54	5.54	5.54	5.54	5.54			
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	15:46	PRW-10-WG-201403191546

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 9:55	Sheet 4 of 8
	Well Identification:	PRW-11		
	Personnel:	Karl Jensen (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: _____ ft. (from Ground)

WELL DIAMETER: 2 inch [ ] 4 inch [X] 6 inch [ ]

WELL MATERIAL: PVC [X] SS [ ] ___ [ ]

Well Depth (ft.):	16.3
Depth to Water (ft):	13.84
Height of water column (ft.):	2.46
Volume of Water in Well (gal):	1.6
Total Gallons Purged:	1.3

[Vol. = $r^2h(0.163)$]

Reference Point: [X] top of riser [ ] top of casing [ ] _____

[ ] historical measured: [ ] notch [X] north side [ ] high pt [ ] pen mark

[ ] .16 gal/ft (2 in.) [X] .65 gal/ft (4 in.) [ ] ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	9:55	10:00	10:05	10:10	10:15				
Temp. (C.)	12.19	13.03	13.22	13.16	13.10				
Conduct.(umhos/com)	1422	1399	1363	1354	1342				
DO (mg/L)	2.31	1.99	1.89	1.92	1.94				
pH (Std.Units)	6.9	6.88	6.85	6.84	6.84				
ORP (millivolts)	-7.8	-2.4	0.5	1.1	1.3				
Turb. (NTU)	20.6	14.8	16.6	15.4	15.2				
Flow (ml/min)-approx.	250	250	250	250	250				
Depth to water (ft)	13.84	13.84	13.84	13.84	13.84				
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	10:16	PRW-11-WG-201403191016

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 10:20	Sheet 5 of 8
	Well Identification:	PRW-12		
	Personnel:	Mark Pasquarello (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground): NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	11.3
Depth to Water (ft):	2.15
Height of water column (ft.):	9.15
Volume of Water in Well (gal):	5.95
Total Gallons Purged:	2.4

[Vol. = $r^2h(0.163)$]

Reference Point: X top of riser; top of casing; _____

historical; measured: notch; X north side; high pt; pen mark

.16 gal/ft (2 in.); X .65 gal/ft (4 in.); ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	10:20	10:25	10:30	10:35	10:40	10:45	10:50		
Temp. (C.)	9.39	9.13	9.12	9.13	9.10	9.06	9.06		
Conduct.(umhos/com)	2545	2637	2739	2780	2808	2817	2859		
DO (mg/L)	3.78	3.5	3.2	3.13	3.05	2.82	2.8		
pH (Std.Units)	11.74	11.72	11.73	11.75	11.76	11.81	11.81		
ORP (millivolts)	201.6	203.6	192.2	180.7	175	161.3	155.7		
Turb. (NTU)	6.46	6.06	5.88	5.76	5.6	5.49	5.4		
Flow (ml/min)-approx.	300	300	300	300	300	300	300		
Depth to water (ft)	2.15	2.15	2.15	2.15	2.15	2.15	2.15		
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	10:51	PRW-12-WG-201403191051

REMARKS:

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 13:25	Sheet 6 of 8
	Well Identification:	PRW-13		
	Personnel:	Mark Pasquarello (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground): NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	10
Depth to Water (ft):	2.86
Height of water column (ft.):	7.14
Volume of Water in Well (gal):	4.64
Total Gallons Purged:	1.1

[Vol. = $r^2h(0.163)$]

Reference Point: X top of riser; top of casing; _____

historical; measured:; notch; X north side; high pt; pen mark

.16 gal/ft (2 in.); X .65 gal/ft (4 in.); ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	13:25	13:30	13:35	13:40	13:45				
Temp. (C.)	6.52	6.52	6.55	6.52	6.50				
Conduct.(umhos/com)	2314	2286	2235	2200	2196				
DO (mg/L)	0.80	0.74	0.72	0.7	0.68				
pH (Std.Units)	6.12	6.12	6.14	6.16	6.17				
ORP (millivolts)	-22	-22.5	-25.2	-26.4	-27.5				
Turb. (NTU)	10.01	8.37	8.2	8.14	8.06				
Flow (ml/min)-approx.	200	200	200	200	200				
Depth to water (ft)	2.86	2.86	2.86	2.86	2.86				
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	13:46	PRW-13-WG-201403191346

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 12:05	Sheet 7 of 8
	Well Identification:	PRW-14		
	Personnel:	Mark Pasquarello (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground): NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	7.8
Depth to Water (ft):	4.7
Height of water column (ft.):	3.1
Volume of Water in Well (gal):	2.02
Total Gallons Purged:	2.3

[Vol. = $r^2h(0.163)$]

Reference Point:
- X top of riser
- top of casing
- _____

- historical
- measured:
- notch
- X north side
- high pt
- pen mark

- .16 gal/ft (2 in.)
- X .65 gal/ft (4 in.)
- ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	
Temp. (C.)	7.96	7.89	7.91	7.98	8.04	8.02	8.02	8.00	
Conduct.(umhos/com)	1900	1904	1880	1876	1869	1861	1853	1845	
DO (mg/L)	1.80	1.89	1.76	1.35	1.09	0.94	0.91	0.88	
pH (Std.Units)	6.47	6.46	6.42	6.43	6.44	6.45	6.47	6.47	
ORP (millivolts)	43.7	40.8	26.8	22.1	18	14.7	9.4	6.9	
Turb. (NTU)	54.4	39.8	27.6	22.1	21.9	19.8	18.9	18.1	
Flow (ml/min)-approx.	250	250	250	250	250	250	250	250	
Depth to water (ft)	4.6	4.63	4.66	4.70	4.70	4.7	4.7	4.7	
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	12:41	PRW-14-WG-201403191241

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 12:25	Sheet 8 of 8
	Well Identification:	PRW-15		
	Personnel:	Karl Jensen (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground) NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	12.3
Depth to Water (ft):	4.68
Height of water column (ft.):	7.62
Volume of Water in Well (gal):	4.95
Total Gallons Purged:	2.0

[Vol. = $r^2h(0.163)$]

Reference Point: X top of riser; top of casing; _____

historical; measured: notch; X north side; high pt; pen mark

.16 gal/ft (2 in.); X .65 gal/ft (4 in.); ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	12:25	12:30	12:35	12:40	12:45	12:50	12:55		
Temp. (C.)	9.20	9.68	9.90	9.95	9.69	9.96	9.94		
Conduct.(umhos/com)	1460	1448	1447	1445	1441	1430	1430		
DO (mg/L)	3.77	1.4	1.07	0.95	0.80	0.74	0.73		
pH (Std.Units)	7.1	7.19	7.2	7.22	7.23	7.23	7.23		
ORP (millivolts)	-23.1	-28.6	-29.3	-35.1	-37.8	-39.1	-44.8		
Turb. (NTU)	81.7	62.6	40.83	32.66	30.21	29.86	28.64		
Flow (ml/min)-approx.	250	250	250	250	250	250	250		
Depth to water (ft)	4.68	4.68	4.68	4.68	4.68	4.68	4.68		
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	12:56	PRW-15-WG-201403191256

REMARKS: _____

ATTACHMENT D

LABORATORY ANALYTICAL DATA REPORTS

ANALYTICAL REPORT

Lab Number:	L1405912
Client:	Port Authority of New York/New Jersey Materials Engineering-Chemical/Env Lab 241 Erie Street-Room 210 Jersey City, NJ 07310
ATTN:	Angelos Zafirelis
Phone:	(201) 216-2960
Project Name:	HHMT PORT IVORY
Project Number:	SITE2_SMP_2014
Report Date:	04/23/14

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1405912-01	PRW-11-WG-201403191016	HOWLAND HOOK MARINE TERMINAL	03/19/14 10:16
L1405912-02	PRW-15-WG-201403191256	HOWLAND HOOK MARINE TERMINAL	03/19/14 12:56
L1405912-03	PRW-08-WG-201403191416	HOWLAND HOOK MARINE TERMINAL	03/19/14 14:16
L1405912-04	PRW-10-WG-201403191546	HOWLAND HOOK MARINE TERMINAL	03/19/14 15:46
L1405912-05	PRW-12-WG-201403191051	HOWLAND HOOK MARINE TERMINAL	03/19/14 10:51
L1405912-06	PRW-14-WG-201403191241	HOWLAND HOOK MARINE TERMINAL	03/19/14 12:41
L1405912-07	PRW-13-WG-201403191346	HOWLAND HOOK MARINE TERMINAL	03/19/14 13:46
L1405912-08	PRW-09-WG-201403191516	HOWLAND HOOK MARINE TERMINAL	03/19/14 15:16
L1405912-09	SW-4-WS-201403191705	HOWLAND HOOK MARINE TERMINAL	03/19/14 17:05
L1405912-10	SW-3-WS-201403191725	HOWLAND HOOK MARINE TERMINAL	03/19/14 17:25
L1405912-11	SW-2-WS-201403191745	HOWLAND HOOK MARINE TERMINAL	03/19/14 17:45
L1405912-12	SW-1-WS-201403191815	HOWLAND HOOK MARINE TERMINAL	03/19/14 18:15
L1405912-13	WQ-201403190930-FB-1	HOWLAND HOOK MARINE TERMINAL	03/19/14 09:30
L1405912-14	WG-201403190000-FD-1	HOWLAND HOOK MARINE TERMINAL	03/19/14 00:00
L1405912-15	WQ-201403190000-TB-1	HOWLAND HOOK MARINE TERMINAL	03/19/14 00:00

Project Name: HHMT PORT IVORY **Lab Number:** L1405912
Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: HHMT PORT IVORY **Lab Number:** L1405912
Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Case Narrative (continued)

Report Submission

This report replaces the report issued March 27, 2014. AT the client's request, the Pesticide compound list has been amended to include endrin aldehyde and methoxychlor.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L1405912-01 through -14 were field filtered for Dissolved Metals.

Semivolatile Organics

All samples and the associated Method Blank were evaluated for the presence of 2,3,7,8-TCDD as a TIC and were determined to be non-detect.

Semivolatile Organics by SIM

L1405912-01, -05, -07, and -09 through -12 have elevated detection limits due to the dilutions required by the sample matrices.

Total and Dissolved Metals

L1405912-09 and -10 have elevated detection limits for all elements, with the exception of mercury, due to the dilutions required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 04/23/14

ORGANICS

VOLATILES

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 13:03		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	1.3	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	0.26	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	0.30	J	ug/l	0.75	0.16	1
Ethylbenzene	0.23	J	ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.74		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	0.19	J	ug/l	2.5	0.18	1
1,3-Dichlorobenzene	0.20	J	ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.22	J	ug/l	2.5	0.19	1
p/m-Xylene	0.56	J	ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	0.44	J	ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	100		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 13:32		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.32	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.71	J	ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 14:00		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	0.24	J	ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	0.18	J	ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.22	J	ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 14:29		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	0.18	J	ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.20	J	ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 14:58		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	1.4	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	0.40	J	ug/l	0.50	0.16	1
Toluene	3.5		ug/l	0.75	0.16	1
Ethylbenzene	0.22	J	ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.20	J	ug/l	2.5	0.19	1
p/m-Xylene	0.60	J	ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	0.57	J	ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 15:27		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.59	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.20	J	ug/l	2.5	0.19	1
p/m-Xylene	0.42	J	ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	0.37	J	ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 15:55		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.94	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	0.34	J	ug/l	0.50	0.16	1
Toluene	0.34	J	ug/l	0.75	0.16	1
Ethylbenzene	0.19	J	ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	0.52	J	ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	0.38	J	ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 16:24		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.98	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 16:53		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	102		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 17:22		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	103		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 17:51		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 18:19		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 18:48		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.42	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	103		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 19:17		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.98	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-15	Date Collected:	03/19/14 00:00
Client ID:	WQ-201403190000-TB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	None
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 19:46		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-15	Date Collected:	03/19/14 00:00
Client ID:	WQ-201403190000-TB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	105		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/25/14 11:36
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG677851-3					
Methylene chloride	ND		ug/l	3.0	0.29
1,1-Dichloroethane	ND		ug/l	0.75	0.15
Chloroform	ND		ug/l	0.75	0.16
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.8	0.13
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14
2-Chloroethylvinyl ether	ND		ug/l	10	0.40
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	0.22	J	ug/l	0.50	0.18
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14
Benzene	ND		ug/l	0.50	0.16
Toluene	0.18	J	ug/l	0.75	0.16
Ethylbenzene	0.17	J	ug/l	0.50	0.17
Chloromethane	ND		ug/l	2.5	0.18
Bromomethane	ND		ug/l	1.0	0.26
Vinyl chloride	ND		ug/l	1.0	0.14
Chloroethane	ND		ug/l	1.0	0.13
1,1-Dichloroethene	ND		ug/l	0.50	0.14
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16
Trichloroethene	ND		ug/l	0.50	0.17
1,2-Dichlorobenzene	0.23	J	ug/l	2.5	0.18
1,3-Dichlorobenzene	0.24	J	ug/l	2.5	0.19
1,4-Dichlorobenzene	0.28	J	ug/l	2.5	0.19
p/m-Xylene	ND		ug/l	1.0	0.33

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/25/14 11:36
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG677851-3					
o-Xylene	ND		ug/l	1.0	0.33
Acrolein	ND		ug/l	5.0	0.63
Acrylonitrile	ND		ug/l	5.0	0.43

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
Methylene chloride	99		98		70-130	1		20
1,1-Dichloroethane	107		107		70-130	0		20
Chloroform	105		105		70-130	0		20
Carbon tetrachloride	108		108		63-132	0		20
1,2-Dichloropropane	106		106		70-130	0		20
Dibromochloromethane	107		109		63-130	2		20
1,1,2-Trichloroethane	105		107		70-130	2		20
2-Chloroethylvinyl ether	108		111		70-130	3		20
Tetrachloroethene	105		106		70-130	1		20
Chlorobenzene	100		101		75-130	1		25
Trichlorofluoromethane	106		104		62-150	2		20
1,2-Dichloroethane	105		105		70-130	0		20
1,1,1-Trichloroethane	108		107		67-130	1		20
Bromodichloromethane	107		107		67-130	0		20
trans-1,3-Dichloropropene	109		111		70-130	2		20
cis-1,3-Dichloropropene	109		110		70-130	1		20
1,1-Dichloropropene	110		109		70-130	1		20
Bromoform	108		110		54-136	2		20
1,1,2,2-Tetrachloroethane	104		107		67-130	3		20
Benzene	106		106		70-130	0		25
Toluene	102		104		70-130	2		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
Ethylbenzene	103		105		70-130	2		20
Chloromethane	106		104		64-130	2		20
Bromomethane	93		104		39-139	11		20
Vinyl chloride	108		107		55-140	1		20
Chloroethane	110		106		55-138	4		20
1,1-Dichloroethene	107		105		61-145	2		25
trans-1,2-Dichloroethene	107		106		70-130	1		20
Trichloroethene	107		106		70-130	1		25
1,2-Dichlorobenzene	102		103		70-130	1		20
1,3-Dichlorobenzene	102		103		70-130	1		20
1,4-Dichlorobenzene	101		102		70-130	1		20
Methyl tert butyl ether	109		111		63-130	2		20
p/m-Xylene	105		107		70-130	2		20
o-Xylene	105		106		70-130	1		20
cis-1,2-Dichloroethene	106		106		70-130	0		20
Dibromomethane	104		105		70-130	1		20
1,4-Dichlorobutane	103		105		70-130	2		20
Iodomethane	85		98		70-130	14		20
1,2,3-Trichloropropane	104		108		64-130	4		20
Styrene	105		106		70-130	1		20
Dichlorodifluoromethane	110		107		36-147	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
Acetone	98		99		58-148	1		20
Carbon disulfide	104		103		51-130	1		20
2-Butanone	98		102		63-138	4		20
Vinyl acetate	113		113		70-130	0		20
4-Methyl-2-pentanone	116		120		59-130	3		20
2-Hexanone	113		120		57-130	6		20
Ethyl methacrylate	114		117		70-130	3		20
Acrolein	100		97		70-130	3		20
Acrylonitrile	110		113		70-130	3		20
Bromochloromethane	103		103		70-130	0		20
Tetrahydrofuran	109		112		58-130	3		20
2,2-Dichloropropane	115		113		63-133	2		20
1,2-Dibromoethane	105		108		70-130	3		20
1,3-Dichloropropane	106		108		70-130	2		20
1,1,1,2-Tetrachloroethane	104		106		64-130	2		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	108		116		53-136	7		20
sec-Butylbenzene	108		113		70-130	5		20
tert-Butylbenzene	107		111		70-130	4		20
o-Chlorotoluene	105		105		70-130	0		20
p-Chlorotoluene	104		106		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
1,2-Dibromo-3-chloropropane	104		108		41-144	4		20
Hexachlorobutadiene	95		109		63-130	14		20
Isopropylbenzene	107		109		70-130	2		20
p-Isopropyltoluene	109		114		70-130	4		20
Naphthalene	104		118		70-130	13		20
n-Propylbenzene	106		109		69-130	3		20
1,2,3-Trichlorobenzene	103		112		70-130	8		20
1,2,4-Trichlorobenzene	104		112		70-130	7		20
1,3,5-Trimethylbenzene	106		109		64-130	3		20
1,3,5-Trichlorobenzene	104		107		70-130	3		20
1,2,4-Trimethylbenzene	108		109		70-130	1		20
trans-1,4-Dichloro-2-butene	109		111		70-130	2		20
Halothane	107		107		70-130	0		20
Ethyl ether	106		106		59-134	0		20
Methyl Acetate	107		108		70-130	1		20
Ethyl Acetate	106		108		70-130	2		20
Isopropyl Ether	108		107		70-130	1		20
Cyclohexane	112		110		70-130	2		20
tert-Butyl Alcohol	105		116		70-130	10		20
Ethyl-Tert-Butyl-Ether	109		110		70-130	1		20
Tertiary-Amyl Methyl Ether	110		112		66-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
1,4-Dioxane	95		107		56-162	12		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	109		107		70-130	2		20
Methyl cyclohexane	112		111		70-130	1		20
1,4-Diethylbenzene	109		114		70-130	4		20
4-Ethyltoluene	108		110		70-130	2		20
1,2,4,5-Tetramethylbenzene	106		115		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103		103		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	102		103		70-130

SEMIVOLATILES

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 17:58		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	19		10-120
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	68		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	81		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01 D	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 22:33		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	ND		ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	ND		ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	ND		ug/l	0.40	0.14	2
Benzo(b)fluoranthene	ND		ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	ND		ug/l	0.40	0.14	2
Fluorene	0.62		ug/l	0.40	0.11	2
Phenanthrene	0.27	J	ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	ND		ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.40	0.16	2
Pyrene	ND		ug/l	0.40	0.11	2
2-Methylnaphthalene	0.17	J	ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	88		15-120
2,4,6-Tribromophenol	105		10-120
4-Terphenyl-d14	90		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 18:25		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	34		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	77		15-120
2,4,6-Tribromophenol	108		10-120
4-Terphenyl-d14	98		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 17:01		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	0.08	J	ug/l	0.20	0.06	1
Benzo(ghi)perylene	ND		ug/l	0.20	0.07	1
Fluorene	0.06	J	ug/l	0.20	0.06	1
Phenanthrene	0.09	J	ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	67		15-120
2,4,6-Tribromophenol	85		10-120
4-Terphenyl-d14	68		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 18:52		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	95		10-120
4-Terphenyl-d14	85		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 17:25		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.38		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	0.10	J	ug/l	0.20	0.07	1
Benzo(b)fluoranthene	0.10	J	ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	ND		ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.11	J	ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	0.14	J	ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	73		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 19:19		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	85		15-120
2,4,6-Tribromophenol	106		10-120
4-Terphenyl-d14	95		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 17:50		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	0.07	J	ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.11	J	ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	0.06	J	ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	86		15-120
2,4,6-Tribromophenol	96		10-120
4-Terphenyl-d14	85		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 19:46		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	10		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	93		15-120
2,4,6-Tribromophenol	113		10-120
4-Terphenyl-d14	99		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05 D	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 22:57		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.61		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	0.10	J	ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	0.89		ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	ND		ug/l	0.40	0.14	2
Benzo(b)fluoranthene	ND		ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	ND		ug/l	0.40	0.14	2
Fluorene	0.47		ug/l	0.40	0.11	2
Phenanthrene	1.3		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	ND		ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.40	0.16	2
Pyrene	ND		ug/l	0.40	0.11	2
2-Methylnaphthalene	0.70		ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	30		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	79		10-120
4-Terphenyl-d14	68		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 20:13		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	109		10-120
4-Terphenyl-d14	100		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 18:15		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	ND		ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.11	J	ug/l	0.20	0.07	1
Fluorene	0.18	J	ug/l	0.20	0.06	1
Phenanthrene	0.70		ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	0.08	J	ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	70		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 20:41		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	87		15-120
2,4,6-Tribromophenol	104		10-120
4-Terphenyl-d14	76		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07 D	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/25/14 00:11		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.34	J	ug/l	1.0	0.32	5
2-Chloronaphthalene	ND		ug/l	1.0	0.33	5
Fluoranthene	ND		ug/l	1.0	0.22	5
Hexachlorobutadiene	ND		ug/l	2.5	0.36	5
Naphthalene	ND		ug/l	1.0	0.32	5
Benzo(a)anthracene	ND		ug/l	1.0	0.28	5
Benzo(a)pyrene	ND		ug/l	1.0	0.34	5
Benzo(b)fluoranthene	ND		ug/l	1.0	0.36	5
Benzo(k)fluoranthene	ND		ug/l	1.0	0.34	5
Chrysene	ND		ug/l	1.0	0.24	5
Acenaphthylene	0.88	J	ug/l	1.0	0.25	5
Anthracene	ND		ug/l	1.0	0.32	5
Benzo(ghi)perylene	ND		ug/l	1.0	0.35	5
Fluorene	ND		ug/l	1.0	0.28	5
Phenanthrene	ND		ug/l	1.0	0.32	5
Dibenzo(a,h)anthracene	ND		ug/l	1.0	0.36	5
Indeno(1,2,3-cd)Pyrene	ND		ug/l	1.0	0.40	5
Pyrene	ND		ug/l	1.0	0.28	5
2-Methylnaphthalene	ND		ug/l	1.0	0.30	5
Pentachlorophenol	ND		ug/l	4.0	0.94	5
Hexachlorobenzene	ND		ug/l	4.0	0.07	5
Hexachloroethane	ND		ug/l	4.0	0.28	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	102		23-120
2-Fluorobiphenyl	89		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	70		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 21:07		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	100		10-120
4-Terphenyl-d14	87		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 18:40		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	0.07	J	ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.10	J	ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	ND		ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	0.45	J	ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	74		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 21:34		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	80		15-120
2,4,6-Tribromophenol	113		10-120
4-Terphenyl-d14	97		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09 D	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 23:22		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	ND		ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	ND		ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	0.19	J	ug/l	0.40	0.14	2
Benzo(b)fluoranthene	0.21	J	ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	0.22	J	ug/l	0.40	0.14	2
Fluorene	ND		ug/l	0.40	0.11	2
Phenanthrene	ND		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	0.25	J	ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	0.24	J	ug/l	0.40	0.16	2
Pyrene	ND		ug/l	0.40	0.11	2
2-Methylnaphthalene	ND		ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	87		10-120
4-Terphenyl-d14	88		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 22:02		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	33		10-120
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	119		10-120
4-Terphenyl-d14	93		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10 D	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/26/14 10:27		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	0.18	J	ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	0.19	J	ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	ND		ug/l	0.40	0.14	2
Benzo(b)fluoranthene	ND		ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	0.23	J	ug/l	0.40	0.14	2
Fluorene	ND		ug/l	0.40	0.11	2
Phenanthrene	ND		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	0.22	J	ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	0.33	J	ug/l	0.40	0.16	2
Pyrene	0.16	J	ug/l	0.40	0.11	2
2-Methylnaphthalene	0.14	J	ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	27		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	90		10-120
4-Terphenyl-d14	79		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 22:29		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	35		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	107		10-120
4-Terphenyl-d14	89		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11 D	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 23:46		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	ND		ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	ND		ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	0.18	J	ug/l	0.40	0.14	2
Benzo(b)fluoranthene	0.20	J	ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	0.21	J	ug/l	0.40	0.14	2
Fluorene	ND		ug/l	0.40	0.11	2
Phenanthrene	ND		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	0.25	J	ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	0.24	J	ug/l	0.40	0.16	2
Pyrene	ND		ug/l	0.40	0.11	2
2-Methylnaphthalene	ND		ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	34		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	81		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	90		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/25/14 11:26		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	76		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	96		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12 D	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/26/14 10:57		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	0.32	J	ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	ND		ug/l	0.40	0.13	2
Benzo(a)anthracene	0.19	J	ug/l	0.40	0.11	2
Benzo(a)pyrene	0.39	J	ug/l	0.40	0.14	2
Benzo(b)fluoranthene	0.48		ug/l	0.40	0.14	2
Benzo(k)fluoranthene	0.19	J	ug/l	0.40	0.14	2
Chrysene	0.23	J	ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	0.15	J	ug/l	0.40	0.13	2
Benzo(ghi)perylene	0.30	J	ug/l	0.40	0.14	2
Fluorene	ND		ug/l	0.40	0.11	2
Phenanthrene	ND		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	0.24	J	ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	0.41		ug/l	0.40	0.16	2
Pyrene	0.30	J	ug/l	0.40	0.11	2
2-Methylnaphthalene	ND		ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	24		21-120
Phenol-d6	17		10-120
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	50		15-120
2,4,6-Tribromophenol	77		10-120
4-Terphenyl-d14	66		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/24/14 21:45		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	66		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	83		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 19:04		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	ND		ug/l	0.20	0.06	1
Benzo(ghi)perylene	ND		ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	ND		ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	85		15-120
2,4,6-Tribromophenol	84		10-120
4-Terphenyl-d14	86		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/24/14 22:12		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	3.0		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	32		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	88		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 19:29		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	0.07	J	ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.11	J	ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	ND		ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	0.49	J	ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	79		15-120
2,4,6-Tribromophenol	92		10-120
4-Terphenyl-d14	81		41-149

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/23/14 12:32
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 01:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG677219-1					
Acenaphthene	ND		ug/l	2.0	0.28
Benzidine	ND		ug/l	20	5.2
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21
Hexachlorobenzene	ND		ug/l	2.0	0.40
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41
2-Chloronaphthalene	ND		ug/l	2.0	0.46
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89
Azobenzene	ND		ug/l	2.0	0.54
Fluoranthene	ND		ug/l	2.0	0.40
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60
Hexachlorobutadiene	ND		ug/l	2.0	0.42
Hexachlorocyclopentadiene	ND		ug/l	20	0.58
Hexachloroethane	ND		ug/l	2.0	0.30
Isophorone	ND		ug/l	5.0	0.79
Naphthalene	ND		ug/l	2.0	0.33
Nitrobenzene	ND		ug/l	2.0	0.40
NDPA/DPA	ND		ug/l	2.0	0.34
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93
Butyl benzyl phthalate	ND		ug/l	5.0	1.1
Di-n-butylphthalate	ND		ug/l	5.0	0.77
Di-n-octylphthalate	ND		ug/l	5.0	1.2
Diethyl phthalate	ND		ug/l	5.0	0.39
Dimethyl phthalate	ND		ug/l	5.0	0.33
Benzo(a)anthracene	ND		ug/l	2.0	0.32
Benzo(a)pyrene	ND		ug/l	2.0	0.66

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/23/14 12:32
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 01:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG677219-1					
Benzo(b)fluoranthene	ND		ug/l	2.0	0.37
Benzo(k)fluoranthene	ND		ug/l	2.0	0.30
Chrysene	ND		ug/l	2.0	0.30
Acenaphthylene	ND		ug/l	2.0	0.37
Anthracene	ND		ug/l	2.0	0.20
Benzo(ghi)perylene	ND		ug/l	2.0	0.57
Fluorene	ND		ug/l	2.0	0.32
Phenanthrene	ND		ug/l	2.0	0.23
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.44
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.43
Pyrene	ND		ug/l	2.0	0.52
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78
p-Chloro-m-cresol	ND		ug/l	2.0	0.54
2-Chlorophenol	ND		ug/l	2.0	0.58
2,4-Dichlorophenol	ND		ug/l	5.0	0.56
2,4-Dimethylphenol	ND		ug/l	5.0	0.58
2-Nitrophenol	ND		ug/l	10	1.0
4-Nitrophenol	ND		ug/l	10	1.1
2,4-Dinitrophenol	ND		ug/l	20	1.4
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4
Pentachlorophenol	ND		ug/l	10	3.2
Phenol	ND		ug/l	5.0	0.27

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/23/14 12:32
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 01:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG677219-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	19		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	61		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	96		41-149

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 03/24/14 15:47
Analyst: MW

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 00:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-14 Batch: WG677220-1					
Acenaphthene	ND		ug/l	0.20	0.06
2-Chloronaphthalene	ND		ug/l	0.20	0.07
Fluoranthene	ND		ug/l	0.20	0.04
Hexachlorobutadiene	ND		ug/l	0.50	0.07
Naphthalene	ND		ug/l	0.20	0.06
Benzo(a)anthracene	ND		ug/l	0.20	0.06
Benzo(a)pyrene	ND		ug/l	0.20	0.07
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07
Chrysene	ND		ug/l	0.20	0.05
Acenaphthylene	ND		ug/l	0.20	0.05
Anthracene	ND		ug/l	0.20	0.06
Benzo(ghi)perylene	ND		ug/l	0.20	0.07
Fluorene	ND		ug/l	0.20	0.06
Phenanthrene	ND		ug/l	0.20	0.06
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.07
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	0.08
Pyrene	ND		ug/l	0.20	0.06
2-Methylnaphthalene	ND		ug/l	0.20	0.06
Pentachlorophenol	ND		ug/l	0.80	0.19
Hexachlorobenzene	ND		ug/l	0.80	0.01
Hexachloroethane	ND		ug/l	0.80	0.06

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 03/24/14 15:47
Analyst: MW

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 00:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-14 Batch: WG677220-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	87		10-120
4-Terphenyl-d14	88		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								
Acenaphthene	73		66		37-111	10		30
Benzidine	24		29		10-75	19		30
1,2,4-Trichlorobenzene	53		45		39-98	16		30
Hexachlorobenzene	97		87		40-140	11		30
Bis(2-chloroethyl)ether	82		57		40-140	**36**	Q	30
2-Chloronaphthalene	71		66		40-140	7		30
1,2-Dichlorobenzene	58		46		40-140	23		30
1,3-Dichlorobenzene	54		42		40-140	25		30
1,4-Dichlorobenzene	55		44		36-97	22		30
3,3'-Dichlorobenzidine	74		66		40-140	11		30
2,4-Dinitrotoluene	**113**	Q	**102**	Q	24-96	10		30
2,6-Dinitrotoluene	112		99		40-140	12		30
Azobenzene	87		78		40-140	11		30
Fluoranthene	98		84		40-140	15		30
4-Chlorophenyl phenyl ether	80		76		40-140	5		30
4-Bromophenyl phenyl ether	94		84		40-140	11		30
Bis(2-chloroisopropyl)ether	79		60		40-140	27		30
Bis(2-chloroethoxy)methane	92		71		40-140	26		30
Hexachlorobutadiene	50		43		40-140	15		30
Hexachlorocyclopentadiene	**28**	Q	**25**	Q	40-140	11		30
Hexachloroethane	52		41		40-140	24		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								
Isophorone	98		75		40-140	27		30
Naphthalene	60		51		40-140	16		30
Nitrobenzene	82		69		40-140	17		30
NDPA/DPA	92		83		40-140	10		30
n-Nitrosodi-n-propylamine	88		69		29-132	24		30
Bis(2-ethylhexyl)phthalate	99		81		40-140	20		30
Butyl benzyl phthalate	110		93		40-140	17		30
Di-n-butylphthalate	101		85		40-140	17		30
Di-n-octylphthalate	105		89		40-140	16		30
Diethyl phthalate	94		82		40-140	14		30
Dimethyl phthalate	93		80		40-140	15		30
Benzo(a)anthracene	92		79		40-140	15		30
Benzo(a)pyrene	92		80		40-140	14		30
Benzo(b)fluoranthene	92		78		40-140	16		30
Benzo(k)fluoranthene	94		80		40-140	16		30
Chrysene	94		79		40-140	17		30
Acenaphthylene	86		79		45-123	8		30
Anthracene	91		79		40-140	14		30
Benzo(ghi)perylene	93		79		40-140	16		30
Fluorene	85		80		40-140	6		30
Phenanthrene	91		79		40-140	14		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								
Dibenzo(a,h)anthracene	91		79		40-140	14		30
Indeno(1,2,3-cd)pyrene	91		77		40-140	17		30
Pyrene	97		84		26-127	14		30
Biphenyl	66		61		40-140	8		30
Aniline	47		**34**	Q	40-140	**32**	Q	30
4-Chloroaniline	51		53		40-140	4		30
1-Methylnaphthalene	63		56		41-103	12		30
2-Nitroaniline	121		102		52-143	17		30
3-Nitroaniline	70		59		25-145	17		30
4-Nitroaniline	95		84		51-143	12		30
Dibenzofuran	80		73		40-140	9		30
2-Methylnaphthalene	66		58		40-140	13		30
1,2,4,5-Tetrachlorobenzene	57		53		2-134	7		30
Acetophenone	89		70		39-129	24		30
n-Nitrosodimethylamine	38		28		22-74	30		30
2,4,6-Trichlorophenol	103		88		30-130	16		30
p-Chloro-m-cresol	96		80		23-97	18		30
2-Chlorophenol	74		55		27-123	29		30
2,4-Dichlorophenol	88		70		30-130	23		30
2,4-Dimethylphenol	95		72		30-130	28		30
2-Nitrophenol	109		87		30-130	22		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								
4-Nitrophenol	50		44		10-80	13		30
2,4-Dinitrophenol	**135**	Q	120		20-130	12		30
4,6-Dinitro-o-cresol	130		122		20-164	6		30
Pentachlorophenol	102		87		9-103	16		30
Phenol	31		23		12-110	30		30
2-Methylphenol	69		50		30-130	**32**	Q	30
3-Methylphenol/4-Methylphenol	64		49		30-130	27		30
2,4,5-Trichlorophenol	111		91		30-130	20		30
Benzoic Acid	48		45		10-164	6		30
Benzyl Alcohol	64		47		26-116	**31**	Q	30
Carbazole	96		81		55-144	17		30
Pyridine	27		20		10-66	30		30
Parathion, ethyl	215		189			13		30
Atrazine	111		91		40-140	20		30
Benzaldehyde	86		64		40-140	29		30
Caprolactam	25		20		10-130	22		30
2,3,4,6-Tetrachlorophenol	104		91		40-140	13		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	41		31		21-120
Phenol-d6	28		22		10-120
Nitrobenzene-d5	101		77		23-120
2-Fluorobiphenyl	82		66		15-120
2,4,6-Tribromophenol	103		88		10-120
4-Terphenyl-d14	96		84		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-14 Batch: WG677220-2 WG677220-3								
Acenaphthene	106		78		37-111	30		40
2-Chloronaphthalene	98		74		40-140	28		40
Fluoranthene	133		98		40-140	30		40
Hexachlorobutadiene	87		63		40-140	32		40
Naphthalene	94		69		40-140	31		40
Benzo(a)anthracene	**142**	Q	105		40-140	30		40
Benzo(a)pyrene	112		86		40-140	26		40
Benzo(b)fluoranthene	126		82		40-140	**42**	Q	40
Benzo(k)fluoranthene	112		102		40-140	9		40
Chrysene	117		87		40-140	29		40
Acenaphthylene	117		85		40-140	32		40
Anthracene	119		93		40-140	25		40
Benzo(ghi)perylene	106		74		40-140	36		40
Fluorene	126		92		40-140	31		40
Phenanthrene	118		84		40-140	34		40
Dibenzo(a,h)anthracene	105		77		40-140	31		40
Indeno(1,2,3-cd)Pyrene	110		79		40-140	33		40
Pyrene	126		92		26-127	31		40
2-Methylnaphthalene	107		77		40-140	33		40
Pentachlorophenol	**104**	Q	85		9-103	20		40
Hexachlorobenzene	112		79		40-140	35		40

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-14 Batch: WG677220-2 WG677220-3								
Hexachloroethane	94		67		40-140	34		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	53		39		21-120
Phenol-d6	38		27		10-120
Nitrobenzene-d5	**125**	Q	91		23-120
2-Fluorobiphenyl	95		68		15-120
2,4,6-Tribromophenol	113		89		10-120
4-Terphenyl-d14	113		82		41-149

PCBS

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 18:15	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	82		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 18:28	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	A
Decachlorobiphenyl	53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	74		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 18:42	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	67		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 18:55	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	95		30-150	B
Decachlorobiphenyl	73		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 19:09	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	79		30-150	A
2,4,5,6-Tetrachloro-m-xylene	103		30-150	B
Decachlorobiphenyl	132		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 19:22	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	87		30-150	B
Decachlorobiphenyl	76		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 19:36	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 19:49	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	60		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		30-150	B
Decachlorobiphenyl	69		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:03	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	94		30-150	A
Decachlorobiphenyl	76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	103		30-150	B
Decachlorobiphenyl	93		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:16	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	72		30-150	A
2,4,5,6-Tetrachloro-m-xylene	94		30-150	B
Decachlorobiphenyl	85		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:30	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	82		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:43	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	52		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	68		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:57	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		30-150	A
Decachlorobiphenyl	62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	96		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 21:10	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	57		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		30-150	B
Decachlorobiphenyl	87		30-150	B

Project Name: HHMT PORT IVORY

Project Number: SITE2_SMP_2014

Lab Number: L1405912

Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 03/22/14 21:24
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 03/21/14 19:30
Cleanup Method1: EPA 3665A
Cleanup Date1: 03/22/14
Cleanup Method2: EPA 3660B
Cleanup Date2: 03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-14 Batch: WG677189-1						
Aroclor 1016	ND		ug/l	0.083	0.055	A
Aroclor 1221	ND		ug/l	0.083	0.053	A
Aroclor 1232	ND		ug/l	0.083	0.031	A
Aroclor 1242	ND		ug/l	0.083	0.060	A
Aroclor 1248	ND		ug/l	0.083	0.051	A
Aroclor 1254	ND		ug/l	0.083	0.034	A
Aroclor 1260	ND		ug/l	0.083	0.032	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	114		30-150	B
Decachlorobiphenyl	74		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-14 Batch: WG677189-2 WG677189-3									
Aroclor 1016	79		83		40-140	5		50	A
Aroclor 1260	96		97		40-140	0		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		82		30-150	A
Decachlorobiphenyl	84		85		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		88		30-150	B
Decachlorobiphenyl	127		132		30-150	B

PESTICIDES

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 08:55	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	49		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 09:09	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	0.020		ug/l	0.020	0.003	1	B
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	63		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 09:22	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	0.012	J	ug/l	0.020	0.003	1	B
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 09:35	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	71		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	73		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 09:48	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	83		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	94		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:01	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	65		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:15	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	55		30-150	B
Decachlorobiphenyl	60		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:28	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	69		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:41	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	A
Decachlorobiphenyl	85		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	80		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:54	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 11:08	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 11:21	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 11:34	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	47		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	44		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 11:47	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	69		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	65		30-150	B

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 03/25/14 08:42
Analyst: SH

Extraction Method: EPA 3510C
Extraction Date: 03/21/14 21:52
Cleanup Method1: EPA 3620B
Cleanup Date1: 03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-14 Batch: WG677202-1						
Delta-BHC	ND		ug/l	0.020	0.005	A
Lindane	ND		ug/l	0.020	0.004	A
Alpha-BHC	ND		ug/l	0.020	0.004	A
Beta-BHC	ND		ug/l	0.020	0.006	A
Heptachlor	ND		ug/l	0.020	0.003	A
Aldrin	ND		ug/l	0.020	0.002	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	A
Endrin	ND		ug/l	0.040	0.004	A
Endrin aldehyde	ND		ug/l	0.040	0.008	A
Endrin ketone	ND		ug/l	0.040	0.005	A
Dieldrin	ND		ug/l	0.040	0.004	A
4,4'-DDE	ND		ug/l	0.040	0.004	A
4,4'-DDD	ND		ug/l	0.040	0.005	A
4,4'-DDT	ND		ug/l	0.040	0.004	A
Endosulfan I	ND		ug/l	0.020	0.003	A
Endosulfan II	ND		ug/l	0.040	0.005	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	A
Methoxychlor	ND		ug/l	0.200	0.007	A
Toxaphene	ND		ug/l	0.200	0.063	A
Chlordane	ND		ug/l	0.200	0.046	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	77		30-150	B
Decachlorobiphenyl	76		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-14 Batch: WG677202-2 WG677202-3									
Delta-BHC	82		84		30-150	2		20	A
Lindane	81		80		30-150	1		20	A
Alpha-BHC	84		82		30-150	3		20	A
Beta-BHC	73		72		30-150	1		20	A
Heptachlor	77		75		30-150	2		20	A
Aldrin	86		83		30-150	4		20	A
Heptachlor epoxide	84		82		30-150	2		20	A
Endrin	90		90		30-150	1		20	A
Endrin aldehyde	72		72		30-150	0		20	A
Endrin ketone	83		83		30-150	0		20	A
Dieldrin	90		89		30-150	2		20	A
4,4'-DDE	85		84		30-150	1		20	A
4,4'-DDD	88		88		30-150	0		20	A
4,4'-DDT	88		88		30-150	0		20	A
Endosulfan I	86		84		30-150	2		20	A
Endosulfan II	84		84		30-150	0		20	A
Endosulfan sulfate	78		79		30-150	1		20	A
Methoxychlor	78		78		30-150	0		20	A
cis-Chlordane	91		90		30-150	1		20	A
trans-Chlordane	83		82		30-150	1		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-14 Batch: WG677202-2 WG677202-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		73		30-150	A
Decachlorobiphenyl	82		76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		74		30-150	B
Decachlorobiphenyl	77		77		30-150	B

METALS

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	1.020	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Arsenic, Total	1.960		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Cadmium, Total	0.1100	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Chromium, Total	1.400		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Copper, Total	4.130		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Lead, Total	1.500		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:17	EPA 7470A	1,7470A	AK
Nickel, Total	5.520		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Selenium, Total	3.72	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Silver, Total	0.1300	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Thallium, Total	0.0600	J	ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Zinc, Total	9.960	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.7400	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Arsenic, Dissolved	2.110		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Cadmium, Dissolved	0.0600	J	ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Chromium, Dissolved	1.060		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Copper, Dissolved	2.970		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Lead, Dissolved	0.5700	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 12:56	EPA 7470A	1,7470A	AK
Nickel, Dissolved	5.210		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Selenium, Dissolved	4.25	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Thallium, Dissolved	0.0500	J	ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Zinc, Dissolved	7.920	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.5100	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Arsenic, Total	11.41		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Cadmium, Total	0.1400	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Chromium, Total	1.970		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Copper, Total	6.210		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Lead, Total	5.120		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:19	EPA 7470A	1,7470A	AK
Nickel, Total	5.030		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Selenium, Total	2.75	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Silver, Total	0.1200	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Zinc, Total	23.05		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.2600	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Arsenic, Dissolved	9.270		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Chromium, Dissolved	0.6900	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Copper, Dissolved	1.220		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Lead, Dissolved	0.4000	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 12:58	EPA 7470A	1,7470A	AK
Nickel, Dissolved	4.960		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Selenium, Dissolved	2.98	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Zinc, Dissolved	6.610	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.4900	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Arsenic, Total	20.64		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Chromium, Total	1.610		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Copper, Total	2.590		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Lead, Total	1.420		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:21	EPA 7470A	1,7470A	AK
Nickel, Total	2.750		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Selenium, Total	1.86	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Silver, Total	0.1300	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Zinc, Total	9.510	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.3500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Arsenic, Dissolved	21.24		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Chromium, Dissolved	0.5700	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Copper, Dissolved	0.7100	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 12:59	EPA 7470A	1,7470A	AK
Nickel, Dissolved	1.390		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Selenium, Dissolved	1.47	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Zinc, Dissolved	3.850	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.6600	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Arsenic, Total	4.290		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Chromium, Total	2.940		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Copper, Total	1.800		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Lead, Total	2.280		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:23	EPA 7470A	1,7470A	AK
Nickel, Total	3.500		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Selenium, Total	1.46	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Silver, Total	0.1300	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Zinc, Total	6.840	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.6500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Arsenic, Dissolved	3.440		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Chromium, Dissolved	0.5800	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Copper, Dissolved	0.9800	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:01	EPA 7470A	1,7470A	AK
Nickel, Dissolved	3.970		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Selenium, Dissolved	1.34	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Zinc, Dissolved	7.930	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.7800	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Arsenic, Total	9.150		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Chromium, Total	1.380		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Copper, Total	5.620		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Lead, Total	0.6100	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:25	EPA 7470A	1,7470A	AK
Nickel, Total	21.44		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Selenium, Total	3.08	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Silver, Total	0.1200	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Zinc, Total	6.610	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.7500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Arsenic, Dissolved	8.820		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Chromium, Dissolved	1.240		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Copper, Dissolved	5.230		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Lead, Dissolved	0.2100	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:03	EPA 7470A	1,7470A	AK
Nickel, Dissolved	21.34		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Selenium, Dissolved	2.90	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Zinc, Dissolved	5.970	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.9100	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Arsenic, Total	6.090		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Cadmium, Total	0.0900	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Chromium, Total	2.100		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Copper, Total	3.710		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Lead, Total	2.140		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:26	EPA 7470A	1,7470A	AK
Nickel, Total	6.710		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Selenium, Total	2.78	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Silver, Total	0.1000	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Zinc, Total	23.02		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.6500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Arsenic, Dissolved	5.380		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Chromium, Dissolved	1.830		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Copper, Dissolved	1.350		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:05	EPA 7470A	1,7470A	AK
Nickel, Dissolved	7.730		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Selenium, Dissolved	2.54	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Zinc, Dissolved	11.52		ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.7200	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Arsenic, Total	30.29		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Cadmium, Total	0.1100	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Chromium, Total	2.730		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Copper, Total	3.020		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Lead, Total	2.580		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:28	EPA 7470A	1,7470A	AK
Nickel, Total	17.24		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Selenium, Total	4.57	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Silver, Total	0.2400	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Zinc, Total	13.23		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.5600	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Arsenic, Dissolved	27.06		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Cadmium, Dissolved	0.0900	J	ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Chromium, Dissolved	2.780		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Copper, Dissolved	1.890		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Lead, Dissolved	0.5600	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:07	EPA 7470A	1,7470A	AK
Nickel, Dissolved	12.86		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Selenium, Dissolved	4.60	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Zinc, Dissolved	8.010	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.3000	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Arsenic, Total	155.4		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Beryllium, Total	0.1300	J	ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Chromium, Total	2.960		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Copper, Total	19.15		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Lead, Total	3.080		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:30	EPA 7470A	1,7470A	AK
Nickel, Total	2.520		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Selenium, Total	1.01	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Silver, Total	0.1800	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Thallium, Total	0.0300	J	ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Zinc, Total	9.100	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.3100	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Arsenic, Dissolved	158.4		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Chromium, Dissolved	0.7300	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Copper, Dissolved	1.230		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:08	EPA 7470A	1,7470A	AK
Nickel, Dissolved	1.420		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Selenium, Dissolved	1.07	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Zinc, Dissolved	3.940	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		ug/l	40.00	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Arsenic, Total	19.11		ug/l	10.00	4.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	10.00	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	4.000	1.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Chromium, Total	ND		ug/l	20.00	4.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Copper, Total	9.270	J	ug/l	20.00	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Lead, Total	ND		ug/l	20.00	4.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:32	EPA 7470A	1,7470A	AK
Nickel, Total	6.810	J	ug/l	10.00	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Selenium, Total	51.3	J	ug/l	100.	6.00	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	8.000	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	10.00	0.6000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Zinc, Total	51.48	J	ug/l	200.0	24.00	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	ND		ug/l	40.00	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Arsenic, Dissolved	16.06		ug/l	10.00	4.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	10.00	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	4.000	1.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Chromium, Dissolved	ND		ug/l	20.00	4.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Copper, Dissolved	7.300	J	ug/l	20.00	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	20.00	4.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:10	EPA 7470A	1,7470A	AK
Nickel, Dissolved	8.410	J	ug/l	10.00	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Selenium, Dissolved	60.1	J	ug/l	100.	6.00	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	8.000	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	10.00	0.6000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Zinc, Dissolved	26.20	J	ug/l	200.0	24.00	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		ug/l	40.00	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Arsenic, Total	13.07		ug/l	10.00	4.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	10.00	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	4.000	1.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Chromium, Total	4.560	J	ug/l	20.00	4.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Copper, Total	16.07	J	ug/l	20.00	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Lead, Total	10.48	J	ug/l	20.00	4.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:34	EPA 7470A	1,7470A	AK
Nickel, Total	8.370	J	ug/l	10.00	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Selenium, Total	55.9	J	ug/l	100.	6.00	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	8.000	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	10.00	0.6000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Zinc, Total	100.0	J	ug/l	200.0	24.00	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	ND		ug/l	40.00	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Arsenic, Dissolved	11.58		ug/l	10.00	4.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	10.00	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	4.000	1.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Chromium, Dissolved	ND		ug/l	20.00	4.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Copper, Dissolved	8.020	J	ug/l	20.00	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	20.00	4.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:16	EPA 7470A	1,7470A	AK
Nickel, Dissolved	9.730	J	ug/l	10.00	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Selenium, Dissolved	54.8	J	ug/l	100.	6.00	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	8.000	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	10.00	0.6000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Zinc, Dissolved	26.50	J	ug/l	200.0	24.00	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-11 Date Collected: 03/19/14 17:45

Client ID: SW-2-WS-201403191745 Date Received: 03/20/14

Sample Location: HOWLAND HOOK MARINE TERMINAL Field Prep: See Narrative

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	1.040	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Arsenic, Total	1.480		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Chromium, Total	0.5300	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Copper, Total	2.560		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Lead, Total	0.5700	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:39	EPA 7470A	1,7470A	AK
Nickel, Total	2.660		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Selenium, Total	2.41	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Zinc, Total	19.19		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.6300	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Arsenic, Dissolved	1.540		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Chromium, Dissolved	0.6800	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Copper, Dissolved	2.710		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:18	EPA 7470A	1,7470A	AK
Nickel, Dissolved	4.970		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Selenium, Dissolved	3.39	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Zinc, Dissolved	18.07		ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	1.030	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Arsenic, Total	11.98		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Cadmium, Total	0.2900		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Chromium, Total	3.760		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Copper, Total	26.53		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Lead, Total	36.61		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:41	EPA 7470A	1,7470A	AK
Nickel, Total	8.850		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Selenium, Total	2.09	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Thallium, Total	0.0300	J	ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Zinc, Total	111.0		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.7500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Arsenic, Dissolved	5.930		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Cadmium, Dissolved	0.1100	J	ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Chromium, Dissolved	1.590		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Copper, Dissolved	8.090		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Lead, Dissolved	9.220		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:19	EPA 7470A	1,7470A	AK
Nickel, Dissolved	4.590		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Selenium, Dissolved	1.75	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Zinc, Dissolved	38.07		ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.1500	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Arsenic, Total	ND		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Chromium, Total	0.3600	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Copper, Total	0.2100	J	ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Lead, Total	ND		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:43	EPA 7470A	1,7470A	AK
Nickel, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Selenium, Total	0.310	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Zinc, Total	1.860	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.1300	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Arsenic, Dissolved	ND		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Chromium, Dissolved	0.4400	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Copper, Dissolved	0.1400	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:21	EPA 7470A	1,7470A	AK
Nickel, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Selenium, Dissolved	ND		ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Zinc, Dissolved	1.520	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.3300	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Arsenic, Total	142.5		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Beryllium, Total	0.1800	J	ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Cadmium, Total	0.0600	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Chromium, Total	3.220		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Copper, Total	22.94		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Lead, Total	3.820		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:45	EPA 7470A	1,7470A	AK
Nickel, Total	2.830		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Selenium, Total	1.27	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Zinc, Total	12.14		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.2800	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Arsenic, Dissolved	156.1		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Chromium, Dissolved	0.6000	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Copper, Dissolved	0.9800	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:23	EPA 7470A	1,7470A	AK
Nickel, Dissolved	1.460		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Selenium, Dissolved	0.960	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Zinc, Dissolved	4.220	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01-14 Batch: WG677669-1										
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 13:56	1,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01-14 Batch: WG677711-1										
Antimony, Total	0.1300	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Arsenic, Total	ND		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Chromium, Total	0.3200	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Copper, Total	0.2300	J	ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Lead, Total	ND		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Nickel, Total	0.1700	J	ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Selenium, Total	ND		ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Zinc, Total	ND		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Westborough Lab for sample(s): 01-14 Batch: WG677818-1										
Antimony, Dissolved	ND		ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Arsenic, Dissolved	ND		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Chromium, Dissolved	0.3200	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Copper, Dissolved	0.1200	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Nickel, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Selenium, Dissolved	ND		ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Zinc, Dissolved	ND		ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM

Prep Information

Digestion Method: NA

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Westborough Lab for sample(s): 01-14 Batch: WG678011-1										
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 12:36	1,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-14 Batch: WG677669-2								
Mercury, Total	97		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01-14 Batch: WG677711-2								
Antimony, Total	96		-		80-120	-		
Arsenic, Total	101		-		80-120	-		
Beryllium, Total	95		-		80-120	-		
Cadmium, Total	106		-		80-120	-		
Chromium, Total	95		-		80-120	-		
Copper, Total	101		-		80-120	-		
Lead, Total	99		-		80-120	-		
Nickel, Total	101		-		80-120	-		
Selenium, Total	102		-		80-120	-		
Silver, Total	95		-		80-120	-		
Thallium, Total	95		-		80-120	-		
Zinc, Total	98		-		80-120	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 Batch: WG677818-2					
Antimony, Dissolved	82	-	80-120	-	
Arsenic, Dissolved	96	-	80-120	-	
Beryllium, Dissolved	93	-	80-120	-	
Cadmium, Dissolved	100	-	80-120	-	
Chromium, Dissolved	89	-	80-120	-	
Copper, Dissolved	96	-	80-120	-	
Lead, Dissolved	95	-	80-120	-	
Nickel, Dissolved	96	-	80-120	-	
Selenium, Dissolved	98	-	80-120	-	
Silver, Dissolved	89	-	80-120	-	
Thallium, Dissolved	92	-	80-120	-	
Zinc, Dissolved	93	-	80-120	-	
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 Batch: WG678011-2					
Mercury, Dissolved	106	-	70-130	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677669-3 WG677669-4 QC Sample: L1405871-02 Client ID: MS Sample												
Mercury, Total	ND	5	2.764	**55**	Q	2.773	**55**	Q	75-125	0		20
Total Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677711-4 QC Sample: L1405912-11 Client ID: SW-2-WS-201403191745												
Antimony, Total	1.040J	500	520.7	104		-	-		75-125	-		20
Arsenic, Total	1.480	120	123.6	102		-	-		75-125	-		20
Beryllium, Total	ND	50	47.78	96		-	-		75-125	-		20
Cadmium, Total	ND	51	54.74	107		-	-		75-125	-		20
Chromium, Total	0.5300J	200	190.8	95		-	-		75-125	-		20
Copper, Total	2.560	250	260.7	103		-	-		75-125	-		20
Lead, Total	0.5700J	510	503.8	99		-	-		75-125	-		20
Nickel, Total	2.660	500	511.3	102		-	-		75-125	-		20
Selenium, Total	2.41J	120	127	106		-	-		75-125	-		20
Silver, Total	ND	50	46.92	94		-	-		75-125	-		20
Thallium, Total	ND	120	113.8	95		-	-		75-125	-		20
Zinc, Total	19.19	500	495.6	95		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677818-4 QC Sample: L1405627-01 Client ID: MS Sample											
Antimony, Dissolved	0.8400J	500	503.5	101		-	-		75-125	-	20
Arsenic, Dissolved	0.9300	120	126.7	105		-	-		75-125	-	20
Beryllium, Dissolved	ND	50	50.04	100		-	-		75-125	-	20
Cadmium, Dissolved	ND	51	54.18	106		-	-		75-125	-	20
Chromium, Dissolved	4.950	200	191.0	93		-	-		75-125	-	20
Copper, Dissolved	1.240	250	249.0	99		-	-		75-125	-	20
Lead, Dissolved	ND	510	518.3	102		-	-		75-125	-	20
Nickel, Dissolved	4.420	500	498.3	99		-	-		75-125	-	20
Selenium, Dissolved	3.84J	120	130	108		-	-		75-125	-	20
Silver, Dissolved	ND	50	46.93	94		-	-		75-125	-	20
Thallium, Dissolved	0.0300J	120	117.5	98		-	-		75-125	-	20
Zinc, Dissolved	2.860J	500	487.6	98		-	-		75-125	-	20
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG678011-3 WG678011-4 QC Sample: L1405871-02 Client ID: MS Sample											
Mercury, Dissolved	ND	5	3.158	**63**	Q	3.164	**63**	Q	75-125	0	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677711-3 QC Sample: L1405912-11 Client ID: SW-2-WS-201403191745						
Antimony, Total	1.040J	0.6600J	ug/l	NC		20
Arsenic, Total	1.480	1.540	ug/l	4		20
Beryllium, Total	ND	ND	ug/l	NC		20
Cadmium, Total	ND	ND	ug/l	NC		20
Chromium, Total	0.5300J	0.5400J	ug/l	NC		20
Copper, Total	2.560	2.590	ug/l	1		20
Lead, Total	0.5700J	0.5000J	ug/l	NC		20
Nickel, Total	2.660	2.690	ug/l	1		20
Selenium, Total	2.41J	2.37J	ug/l	NC		20
Silver, Total	ND	ND	ug/l	NC		20
Thallium, Total	ND	ND	ug/l	NC		20
Zinc, Total	19.19	17.16	ug/l	11		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677818-3 QC Sample: L1405627-01 Client ID: DUP Sample					
Antimony, Dissolved	0.8400J	0.4000J	ug/l	NC	20
Arsenic, Dissolved	0.9300	0.9600	ug/l	3	20
Beryllium, Dissolved	ND	ND	ug/l	NC	20
Cadmium, Dissolved	ND	ND	ug/l	NC	20
Chromium, Dissolved	4.950	5.060	ug/l	2	20
Copper, Dissolved	1.240	1.170	ug/l	6	20
Lead, Dissolved	ND	ND	ug/l	NC	20
Nickel, Dissolved	4.420	4.400	ug/l	0	20
Selenium, Dissolved	3.84J	3.76J	ug/l	NC	20
Silver, Dissolved	ND	ND	ug/l	NC	20
Thallium, Dissolved	0.0300J	ND	ug/l	NC	20
Zinc, Dissolved	2.860J	2.920J	ug/l	NC	20

INORGANICS
&
MISCELLANEOUS

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-01
Client ID: PRW-11-WG-201403191016
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 10:16
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.48	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:36	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-02
Client ID: PRW-15-WG-201403191256
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 12:56
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	4.42	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:38	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-03
Client ID: PRW-08-WG-201403191416
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 14:16
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:39	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-04
Client ID: PRW-10-WG-201403191546
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 15:46
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	5.94		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:48	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-05
Client ID: PRW-12-WG-201403191051
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 10:51
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	2.06	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:42	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-06
Client ID: PRW-14-WG-201403191241
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 12:41
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	5.41		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:43	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-07
Client ID: PRW-13-WG-201403191346
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 13:46
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	17.4		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:43	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-08
Client ID: PRW-09-WG-201403191516
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 15:16
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.28	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:44	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-09
Client ID: SW-4-WS-201403191705
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 17:05
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	2.01	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:45	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-10
Client ID: SW-3-WS-201403191725
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 17:25
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	7.48		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:46	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-11
Client ID: SW-2-WS-201403191745
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 17:45
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	5.04		ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:25	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-12
Client ID: SW-1-WS-201403191815
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 18:15
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	11.5		ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:26	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-13
Client ID: WQ-201403190930-FB-1
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 09:30
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.68	J	ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:27	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-14
Client ID: WG-201403190000-FD-1
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 00:00
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.46	J	ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:43	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-10 Batch: WG677548-1										
Cyanide, Total	2.67	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:33	1,9010C/9012B	JO
General Chemistry - Westborough Lab for sample(s): 11-14 Batch: WG678020-1										
Cyanide, Total	ND		ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:18	1,9010C/9012B	JO

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-10 Batch: WG677548-2 WG677548-3								
Cyanide, Total	98		97		80-120	1		20
General Chemistry - Westborough Lab Associated sample(s): 11-14 Batch: WG678020-2 WG678020-3								
Cyanide, Total	99		99		80-120	0		20

Matrix Spike Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG677548-4 WG677548-6 QC Sample: L1405912-01 Client ID: PRW-11-WG-201403191016												
Cyanide, Total	1.48J	200	199	100		188	94		80-120	6		20
General Chemistry - Westborough Lab Associated sample(s): 11-14 QC Batch ID: WG678020-4 WG678020-5 QC Sample: L1405912-13 Client ID: WQ-201403190930-FB-1												
Cyanide, Total	1.68J	200	179	90		193	92		80-120	8		20

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Cooler	Custody Seal
A	Absent
D	Absent
B	Absent
C	Absent
E	Absent
H	Absent
F	Absent
G	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-01A	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-01B	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-01C	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-01D	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8270(7),8270TCL(7),NYTCL-8270-SIM(7),8270TCL-SIM(7)
L1405912-01E	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8270(7),8270TCL(7),NYTCL-8270-SIM(7),8270TCL-SIM(7)
L1405912-01F	Amber 500ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8081(7)
L1405912-01G	Amber 500ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8081(7)
L1405912-01H	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-01I	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-01J	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-01K	Plastic 500ml HNO3 preserved	D	<2	2.4	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-01L	Plastic 250ml NaOH preserved	D	>12	2.4	Y	Absent	TCN-9010-PPB(14)
L1405912-02A	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-02B	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-02C	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-02D	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-02E	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-02F	Amber 500ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8081(7)
L1405912-02G	Amber 500ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8081(7)
L1405912-02H	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-02I	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-02J	Plastic 500ml HNO3 preserved	D	<2	2.4	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-02K	Plastic 500ml HNO3 preserved	D	<2	2.4	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-02L	Plastic 250ml NaOH preserved	D	>12	2.4	Y	Absent	TCN-9010-PPB(14)
L1405912-03A	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-03B	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-03C	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-03D	Amber 1000ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-03E	Amber 1000ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-03F	Amber 500ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8081(7)
L1405912-03G	Amber 500ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8081(7)
L1405912-03H	Amber 1000ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-03I	Amber 1000ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-03J	Plastic 500ml HNO3 preserved	D	<2	2.4	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-03K	Plastic 500ml HNO3 preserved	E	<2	2.3	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-03L	Plastic 250ml NaOH preserved	E	>12	2.3	Y	Absent	TCN-9010-PPB(14)
L1405912-04A	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-04B	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-04C	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-04D	Amber 1000ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-04E	Amber 1000ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-04F	Amber 500ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8081(7)
L1405912-04G	Amber 500ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8081(7)
L1405912-04H	Amber 1000ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-04I	Amber 1000ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-04J	Plastic 500ml HNO3 preserved	E	<2	2.3	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-04K	Plastic 500ml HNO3 preserved	E	<2	2.3	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-04L	Plastic 250ml NaOH preserved	E	>12	2.3	Y	Absent	TCN-9010-PPB(14)
L1405912-05A	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-05B	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-05C	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-05D	Amber 1000ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-05E	Amber 1000ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-05F	Amber 500ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8081(7)
L1405912-05G	Amber 500ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8081(7)
L1405912-05H	Amber 1000ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-05I	Amber 1000ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-05J	Plastic 500ml HNO3 preserved	F	<2	2.5	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-05K	Plastic 500ml HNO3 preserved	F	<2	2.5	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-05L	Plastic 250ml NaOH preserved	F	>12	2.5	Y	Absent	TCN-9010-PPB(14)
L1405912-06A	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-06B	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-06C	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-06D	Amber 1000ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-06E	Amber 1000ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-06F	Amber 500ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8081(7)
L1405912-06G	Amber 500ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8081(7)
L1405912-06H	Amber 1000ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-06I	Amber 1000ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-06J	Plastic 500ml HNO3 preserved	F	<2	2.5	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-06K	Plastic 500ml HNO3 preserved	F	<2	2.5	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-06L	Plastic 250ml NaOH preserved	F	>12	2.5	Y	Absent	TCN-9010-PPB(14)
L1405912-07A	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-07B	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-07C	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-07D	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-07E	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-07F	Amber 500ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-07G	Amber 500ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-07H	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-07I	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-07J	Plastic 500ml HNO3 preserved	C	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-07K	Plastic 500ml HNO3 preserved	C	<2	2.0	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-07L	Plastic 250ml NaOH preserved	C	>12	2.0	Y	Absent	TCN-9010-PPB(14)
L1405912-08A	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-08B	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-08C	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-08D	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-08E	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-08F	Amber 500ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-08G	Amber 500ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-08H	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-08I	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-08J	Plastic 500ml HNO3 preserved	C	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-08K	Plastic 500ml HNO3 preserved	C	<2	2.0	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-08L	Plastic 250ml NaOH preserved	C	>12	2.0	Y	Absent	TCN-9010-PPB(14)
L1405912-09A	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-09B	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-09C	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-09D	Amber 1000ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-09E	Amber 1000ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-09F	Amber 500ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8081(7)
L1405912-09G	Amber 500ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8081(7)
L1405912-09H	Amber 1000ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-09I	Amber 1000ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-09J	Plastic 500ml HNO3 preserved	H	<2	3.9	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-09K	Plastic 500ml HNO3 preserved	H	<2	3.9	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-09L	Plastic 250ml NaOH preserved	H	>12	3.9	Y	Absent	TCN-9010-PPB(14)
L1405912-10A	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-10B	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-10C	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-10D	Amber 1000ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-10E	Amber 1000ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-10F	Amber 500ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8081(7)
L1405912-10G	Amber 500ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8081(7)
L1405912-10H	Amber 1000ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-10I	Amber 1000ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-10J	Plastic 500ml HNO3 preserved	H	<2	3.9	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-10K	Plastic 500ml HNO3 preserved	H	<2	3.9	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-10L	Plastic 250ml NaOH preserved	H	>12	3.9	Y	Absent	TCN-9010-PPB(14)
L1405912-11A	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-11B	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-11C	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-11D	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-11E	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-11F	Amber 500ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-11G	Amber 500ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-11H	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-11I	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-11J	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-11K	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-11L	Plastic 250ml NaOH preserved	A	>12	2.0	Y	Absent	TCN-9010-PPB(14)
L1405912-12A	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-12B	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-12C	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-12D	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-12E	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-12F	Amber 500ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-12G	Amber 500ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-12H	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-12I	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-12J	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-12K	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-12L	Plastic 250ml NaOH preserved	A	>12	2.0	Y	Absent	TCN-9010-PPB(14)
L1405912-13A	Vial HCl preserved	G	N/A	3.3	Y	Absent	8260(14)
L1405912-13B	Vial HCl preserved	G	N/A	3.3	Y	Absent	8260(14)
L1405912-13C	Vial HCl preserved	G	N/A	3.3	Y	Absent	8260(14)
L1405912-13D	Amber 1000ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-13E	Amber 1000ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-13F	Amber 500ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8081(7)
L1405912-13G	Amber 500ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8081(7)
L1405912-13H	Amber 1000ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-13I	Amber 1000ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-13J	Plastic 500ml HNO3 preserved	G	<2	3.3	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-13K	Plastic 500ml HNO3 preserved	G	<2	3.3	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-13L	Plastic 250ml NaOH preserved	G	>12	3.3	Y	Absent	TCN-9010-PPB(14)
L1405912-14A	Vial HCl preserved	B	N/A	2.3	Y	Absent	8260(14)
L1405912-14B	Vial HCl preserved	B	N/A	2.3	Y	Absent	8260(14)
L1405912-14C	Vial HCl preserved	B	N/A	2.3	Y	Absent	8260(14)
L1405912-14D	Amber 1000ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-14E	Amber 1000ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-14F	Amber 500ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8081(7)
L1405912-14G	Amber 500ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8081(7)
L1405912-14H	Amber 1000ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-14I	Amber 1000ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-14J	Plastic 500ml HNO3 preserved	B	<2	2.3	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-14K	Plastic 500ml HNO3 preserved	B	<2	2.3	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-14L	Plastic 250ml NaOH preserved	H	>12	3.9	Y	Absent	TCN-9010-PPB(14)
L1405912-15A	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-15B	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)

*Values in parentheses indicate holding time in days

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The lower value for the two columns has been reported due to obvious interference.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

Data Qualifiers

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name: HHMT PORT IVORY **Lab Number:** L1405912
Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NJ CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 3/20/14

ALPHA Job #: L1405917

WESTBORO, MA
8 Walkup Drive
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Port Authority NY/NJ

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: HHMT Port Ivory

Project Location:

Project #: Site2 SMP 2014

Project Manager:

ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 3/26/14 Time:

Report Type

☐ Data Summary ☐ NJ Full
☐ NJ Reduced ☐ Other

Regulatory Requirements

☐ SRS-Residential/Non Residential
☐ SRS-Impact To Groundwater
☐ NJ Ground Water Quality Standards

☐ Other

Billing Information

☐ Same as Client info PO #:

Site Information

Is this site impacted by Petroleum?
Yes / No (circle one)
(Please indicate Petroleum Product - See Table 2-1 on reverse side)

Petroleum Product:

Are any samples for waste disposal?
Yes / No (circle one)
(Please indicate which samples below in Sample Specific Comments field)

For EPH you MUST indicate Category 1 or 2. Please check one of the following:

☐ Category 1 ☐ Category 2

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	CL PP40	Diss. Metals	PP VOA	Sample Specific Comments	Total # Bottles
05912-01	PRW-11-wg-20140319 1016	3/19/14	1016	GW	KJ	X	X			
-02	PRW-15-wg-20140319 1256		1256			X	X			
-03	PRW-8-wg-20140319 1416		1416			X	X			
-04	PRW-10-wg-20140319 1546		1546			X	X			
-05	PRW-12-wg-20140319 1051		1051		MP	X	X			
-06	PRW-14-wg-20140319 1241		1241			X	X			
-07	PRW-13-wg-20140319 1346		1346			X	X			
-08	PRW-9-wg-20140319 1516		1516			X	X			
09	SW-4-WS-20140319 1705		1705			X	X			
-10	SW-3-WS-20140319 1725		1725			X	X			

Preservative Code:
A = None
B = HCl
C = HNO3
D = H2SO4
E = NaOH
F = MeOH
G = NaHSO4
H = Other

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type											
Preservative											

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	3/20/14 12:14	[illegible]	3/20/14 12:11
[illegible]	3-20-14 1823	[illegible]	3-20-14 1823
Tom Toler	3-20-14	[illegible]	3/20/14 0[illegible]

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-14 (rev. 30-AUG-10)

NJ CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 3/20/14

ALPHA Job #: L1405912

WESTBORO, MA
8 Walkup Drive
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client:

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name:

Project Location:

Project #:

Project Manager:

ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 3/24/14 Time:

Report Type

☐ Data Summary ☐ NJ Full
☐ NJ Reduced ☐ Other

Regulatory Requirements

☐ SRS-Residential/Non Residential
☐ SRS-Impact To Groundwater
☐ NJ Ground Water Quality Standards

☐ Other

Billing Information

☐ Same as Client info PO #:

Site Information

Is this site impacted by Petroleum?
Yes / No (circle one)
(Please indicate Petroleum Product - See Table 2-1 on reverse side)

Petroleum Product:

Are any samples for waste disposal?
Yes / No (circle one)
(Please indicate which samples below in Sample Specific Comments field)

For EPH you MUST indicate Category 1 or 2. Please check one of the following:

☐ Category 1 ☐ Category 2

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	GL PP40	Diss. Metals	PP VOA									Sample Specific Comments	TOTAL # BOTTLES
05912-11	SW-2-WS-20140319 1745	3/19/14	1745		MP	X	X											
-12	SW-1-WS-20140319 1815	↓	1815		MP	X	X											
-13	WQ-20140319 0930-FB-1	↓	0930	AQ	KJ	X	X											
-14	WQ-20140319 0000-FD-1	↓	—	GW	MP	X	X											
-15	WQ-20140317 0000-TB-1	3/17/14	—	AQ	LAB			X										

Preservative Code:
A = None
B = HCl
C = HNO3
D = H2SO4
E = NaOH
F = MeOH
G = NaHSO4
H = Other

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type												
Preservative												

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	3/20/14 12:14	[illegible]	3/20/14 12:14
[illegible]	3-20-14 1823	Tom Tober	3-20-14 1823
Tom Tober	3-20-14	[illegible]	3/20/14 01:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-14 (rev. 30-AUG-10)

THE PORT AUTHORITY OF NY & NJ

CHAIN-OF-CUSTODY / Analytical Request Document

PORT IVORYHHMT

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

Cooler # ALPHA of

Task:	SITE2_SMP_2014
Total # of Samples: 15	Event Complete?
TAT	SDG

Notes: F= Field Filtered , H= Hold

Project Information:

Facility:	Howland Hook Marine Terminal
Charge code	p11955502
Task Description	Water samples for SMP

Contact Name	Dorian Bailey / Angelos Zafirelis
Contact Phone No.	201-216-2963 / 201-216-2960
Contact Fax No.	201-216-2158
Contact Email	DBailey@panynj.gov / AZafirel@panynj.gov
Destination Laboratory	Alpha

ITEM #	Field Sample No. /Identification	MATRIX CODE	G=GRAB C=COMP	SAMPLE DATE	#OF CONTAINERS	Composite Description	Analysis / Preservative: CL_PP-METALS-13-D	PP+40	PPVOA+15					
1	PRW-08-WG-201403191416	WG	G	03/19/2014 14:16			X	X						
2	PRW-09-WG-201403191516	WG	G	03/19/2014 15:16			X	X						
3	PRW-10-WG-201403191546	WG	G	03/19/2014 15:46			X	X						
4	PRW-11-WG-201403191016	WG	G	03/19/2014 10:16			X	X						
5	PRW-12-WG-201403191051	WG	G	03/19/2014 10:51			X	X						
6	PRW-13-WG-201403191346	WG	G	03/19/2014 13:46			X	X						
7	PRW-14-WG-201403191241	WG	G	03/19/2014 12:41			X	X						
8	PRW-15-WG-201403191256	WG	G	03/19/2014 12:56			X	X						
9	SW-1-WS-201403191815	WS	G	03/19/2014 18:15			X	X						
10	SW-2-WS-201403191745	WS	G	03/19/2014 17:45			X	X						
11	SW-3-WS-201403191725	WS	G	03/19/2014 17:25			X	X						

Additional Comments/Special Instructions:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

Sample Receipt Conditions			
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in 0C	Samples on Ice?	Sample Intact?	Trip Blank?

Deliverables:

NAME OF SAMPLER	Karl Jensen	DATE/TIME:	
SIGNATURE of SAMPLER:			

THE PORT AUTHORITY OF NY & NJ

CHAIN-OF-CUSTODY / Analytical Request Document

PORT IVORYHHMT

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

Cooler # ALPHA of

Task:	SITE2_SMP_2014
Total # of Samples: 15	Event Complete?
TAT	SDG

Notes: F= Field Filtered , H= Hold

Project Information:

Facility:	Howland Hook Marine Terminal
Charge code	p11955502
Task Description	Water samples for SMP

Contact Name	Dorian Bailey / Angelos Zafirelis
Contact Phone No.	201-216-2963 / 201-216-2960
Contact Fax No.	201-216-2158
Contact Email	DBailey@panynj.gov / AZafirel@panynj.gov
Destination Laboratory	Alpha

ITEM #	Field Sample No. /Identification	MATRIX CODE	G=GRAB C=COMP	SAMPLE DATE	#OF CONTAINERS	Composite Description	Analysis / Preservative: CL_PP-METALS-13-D	PP+40	PPVOA+15					
12	SW-4-WS-201403191705	WS	G	03/19/2014 17:05			X	X						
13	WG-201403190000-FD-1	WG	G	03/19/2014 00:00			X	X						
14	WQ-201403190000-TB-1	WQ	G	03/19/2014 00:00					X					
15	WQ-201403190930-FB-1	WQ	G	03/19/2014 09:30			X	X						

FORMS

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **V00674**

Site Name Port Ivory Site (Former P & G) Site 2

Site Address: 40 Western Avenue Zip Code: 10303
City/Town: Staten Island
County: Richmond
Site Acreage: 28.6

Reporting Period: October 23, 2013 to January 22, 2015

	YES	NO
1. Is the information above correct?	☐	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☐
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☐
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☐
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☐

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☐	☐
7. Are all ICs/ECs in place and functioning as designed?	☐	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. V00674 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
1338-1 (a portion of)	Port Authority of New York and New Jersey	Ground Water Use Restriction

The IC restricts disturbance of the cover and limits the use of groundwater at the site in perpetuity. To ensure that the EC and IC remain protective of human health and the environment, periodic groundwater and surface water monitoring and periodic inspections of the EC will be conducted. The periodic monitoring and inspections will continue until the NYSDEC notifies the Port Authority in writing that periodic monitoring is no longer required. Additionally, the SMP requires that the Port Authority take certain actions if the EC is disturbed during site improvement activities.

1400-1 (a portion of)	Port Authority of New York and New Jersey	Ground Water Use Restriction

The IC restricts disturbance of the cover and limits the use of groundwater at the site in perpetuity. To ensure that the EC and IC remain protective of human health and the environment, periodic groundwater and surface water monitoring and periodic inspections of the EC will be conducted. The periodic monitoring and inspections will continue until the NYSDEC notifies the Port Authority in writing that periodic monitoring is no longer required. Additionally, the SMP requires that the Port Authority take certain actions if the EC is disturbed during site improvement activities.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
1338-1 (a portion of)	Cover System

The environmental cap consists of concrete pavement, asphalt pavement, existing buildings, or one foot of crushed stone. Concrete pavement, asphalt pavement, or one foot of crushed stone were placed throughout Area 2A, except in landscaped/vegetated areas situated within the secure, fenced, and gated HHMT-Port Ivory Facility or in areas containing existing buildings. Asphalt pavement or one foot of crushed stone was also placed throughout Area 2B, except in landscaped/vegetated areas which are tidal wetlands buffer zones.

1400-1 (a portion of)	Cover System

The environmental cap consists of concrete pavement, asphalt pavement, existing buildings, or one foot of crushed stone. Concrete pavement, asphalt pavement, or one foot of crushed stone were placed throughout Area 2A, except in landscaped/vegetated areas situated within the secure, fenced, and gated HHMT-Port Ivory Facility or in areas containing existing buildings. Asphalt pavement or one foot of crushed stone was also placed throughout Area 2B, except in landscaped/vegetated areas which are tidal wetlands buffer zones.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☐	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☐	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. V00674

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as _____(Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

_____ _____
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as a Qualified Environmental Professional for the _____
(Owner or Remedial Party)

_____	_____	_____
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	Date

FIGURES

SOURCE:
UNITED STATES GEOLOGICAL SURVEY
7.5 MINUTE SERIES TOPOGRAPHIC QUADRANGLES
ELIZABETH AND ARTHUR KILL, NY–NJ,
1967, PHOTOREVISED 1981

NOTES:
HHMT – PORT IVORY FACILITY
CONSISTS OF SITES 1 THROUGH 3.

2000 0 2000 4000

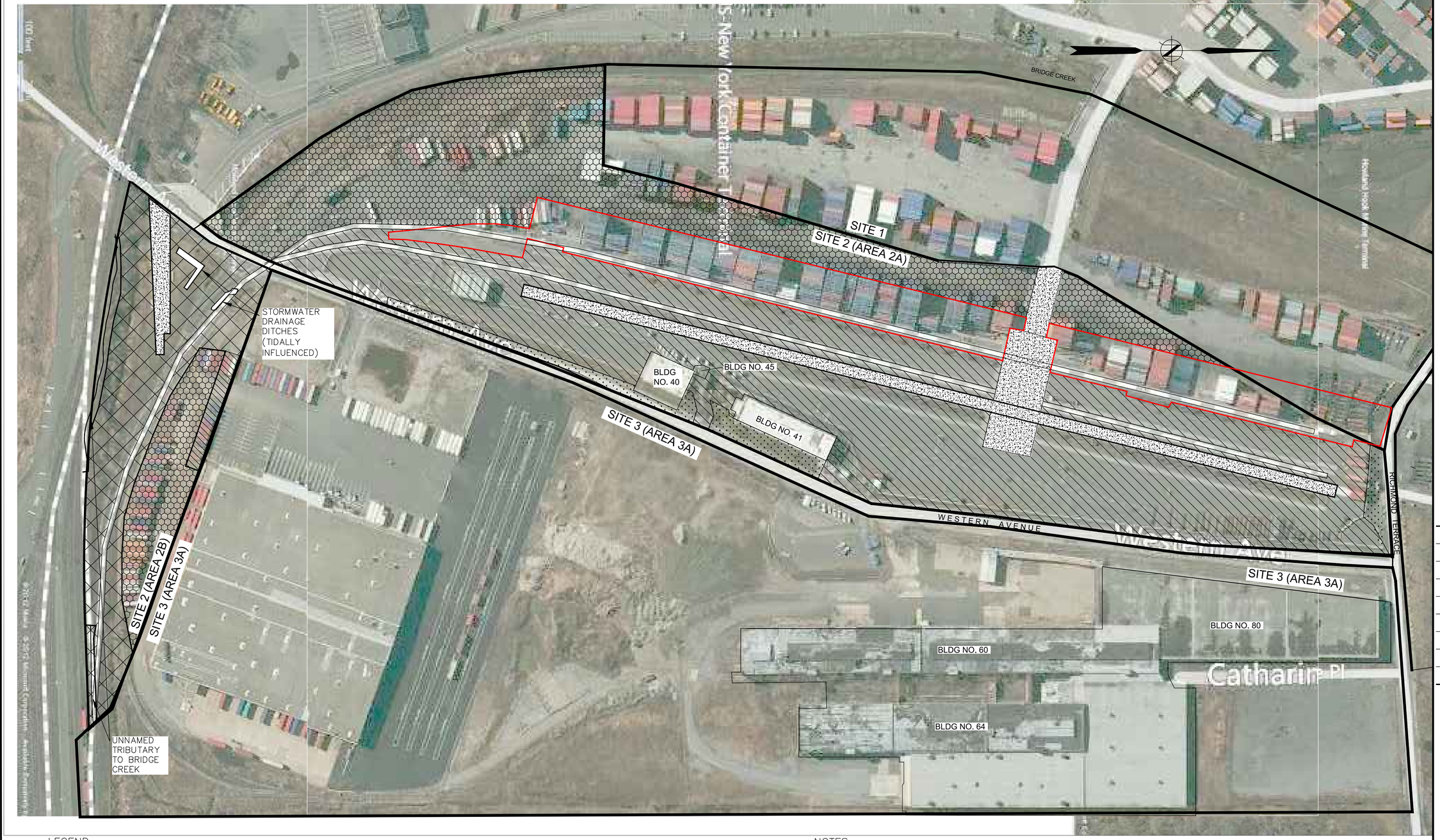
SCALE IN FEET
1" = 2000'
CONTOUR INTERVAL = 10 FEET

THE PORT AUTHORITY
OF NY & NJ

HHMT - PORT IVORY FACILITY

SITE LOCATION MAP
FIGURE 1

Date FEBRUARY 2015



LEGEND:

- ASPHALT COVER
- CONCRETE COVER
- CRUSHED STONE COVER
- WETLAND BUFFER TRANSITION AREA
- LANDSCAPED VEGETATED AREA
- VCP SITE BOUNDARY
- TRAIN TRACKS
- APPROXIMATE BOUNDARY OF EXCAVATION FOR NEW RAILROAD TRACKS

NOTES:

1. BUILDING 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING NO. 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM

100 0 100 200
SCALE IN FEET

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY
SITE 2
(AREA 2A AND 2B)

Title

ENGINEERING CONTROL MAP - ENVIRONMENTAL CAP (MARCH 19, 2014 INSPECTION)

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

LM	HD	CG
Designed by	Drawn by	Checked by

Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 2

Path\Name: \\NTAPA-NYC\environmental\Shared\Projects\Port Authority of NY & NJ\Port Ivory\Site 2\2015 02 – Periodic Review Report\Figures\CADD\Figure 2 – Eng. Control Map – Env. Cap (3.19.14 Insp.) 02.17.15.dwg – Date\Time: Tue, 17 Feb 2015 – 7:21pm

LEGEND:

- ASPHALT COVER
- CONCRETE COVER
- CRUSHED STONE COVER
- WETLAND BUFFER TRANSITION AREA
- LANDSCAPED VEGETATED AREA
- VCP SITE BOUNDARY
- TRAIN TRACKS

NOTES:

1. BUILDING 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING NO. 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM

100 0 100 200
SCALE IN FEET

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY

SITE 2 (AREA 2A AND 2B)

Title

ENGINEERING CONTROL MAP - ENVIRONMENTAL CAP (SEPTEMBER 29, 2014 INSPECTION)

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

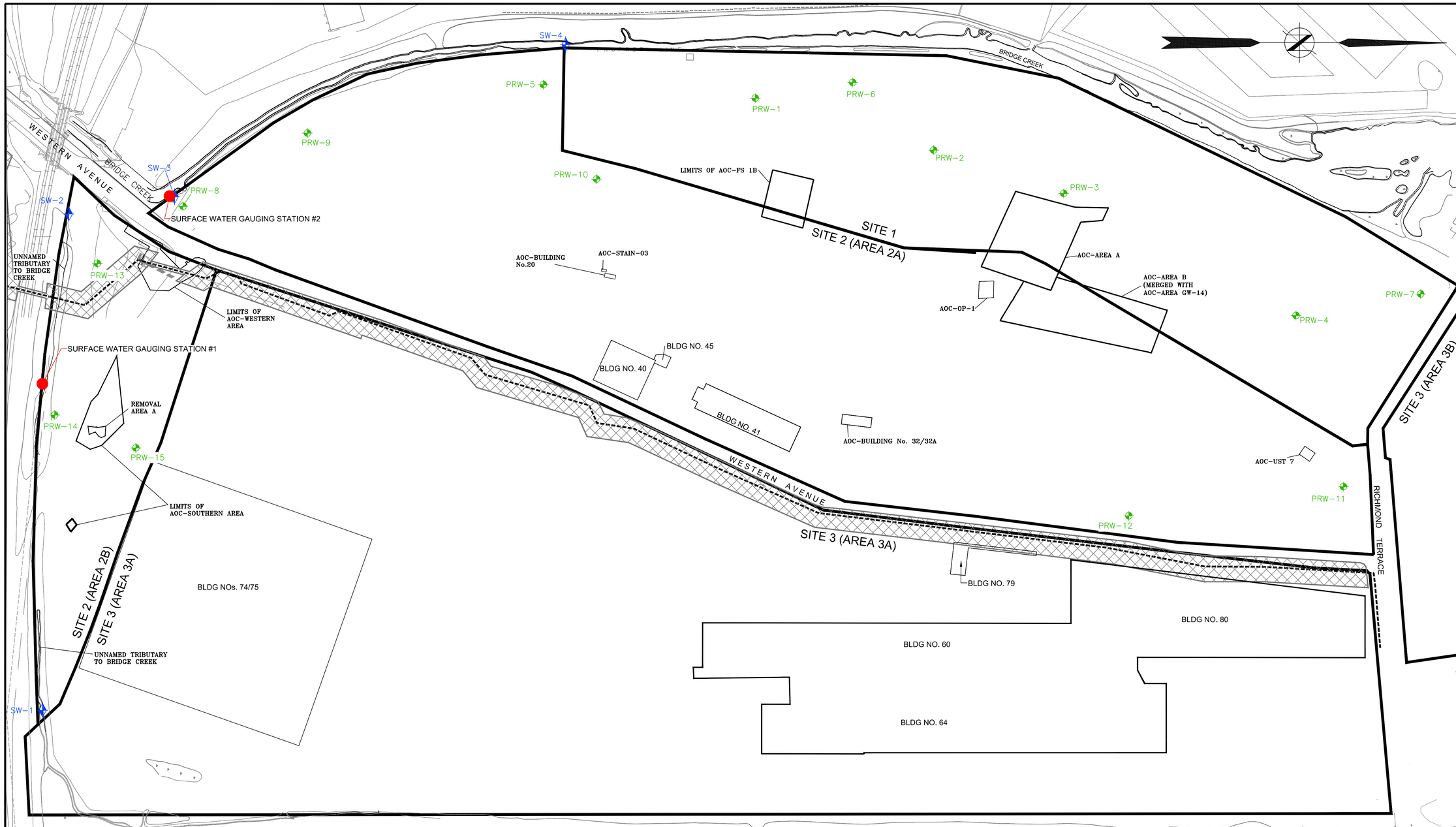
LM	HD	CG
Designed by	Drawn by	Checked by

Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 3

Path\Name: \\NTAPA-NYC\environmental\Shared\Projects\Port Authority of NY & NJ\Port Ivory\Site 2\2015 02 – Periodic Review Report\Figures\CADDFigure 3 – Eng. Control Map – Env. Cap (09.29.14 Insp.) 02.17.15.dwg – Date\Time: Tue, 17 Feb 2015 – 7:



LEGEND (SYMBOLS NOT TO SCALE):

- VCP SITE BOUINDARY
- EXISTING BUILDING
- SW-1 SURFACE WATER SAMPLING LOCATION
- PRW-8 GROUNDWATER MONITORING WELL LOCATION
- 30" PIPELINE
- APPROXIMATE AREA OF PIPELINE EASEMENT
- APPROXIMATE LOCATION OF SURFACE WATER GAUGING STATION

NOTES:

1. BUILDING NO. 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING MOUNTED ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM

100 0 100 200
SCALE IN FEET

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY
SITE 2
(AREAS 2A AND 2B)

Title

GROUNDWATER AND SURFACE WATER SAMPLING LOCATIONS AND SURFACE WATER GAUGING STATIONS

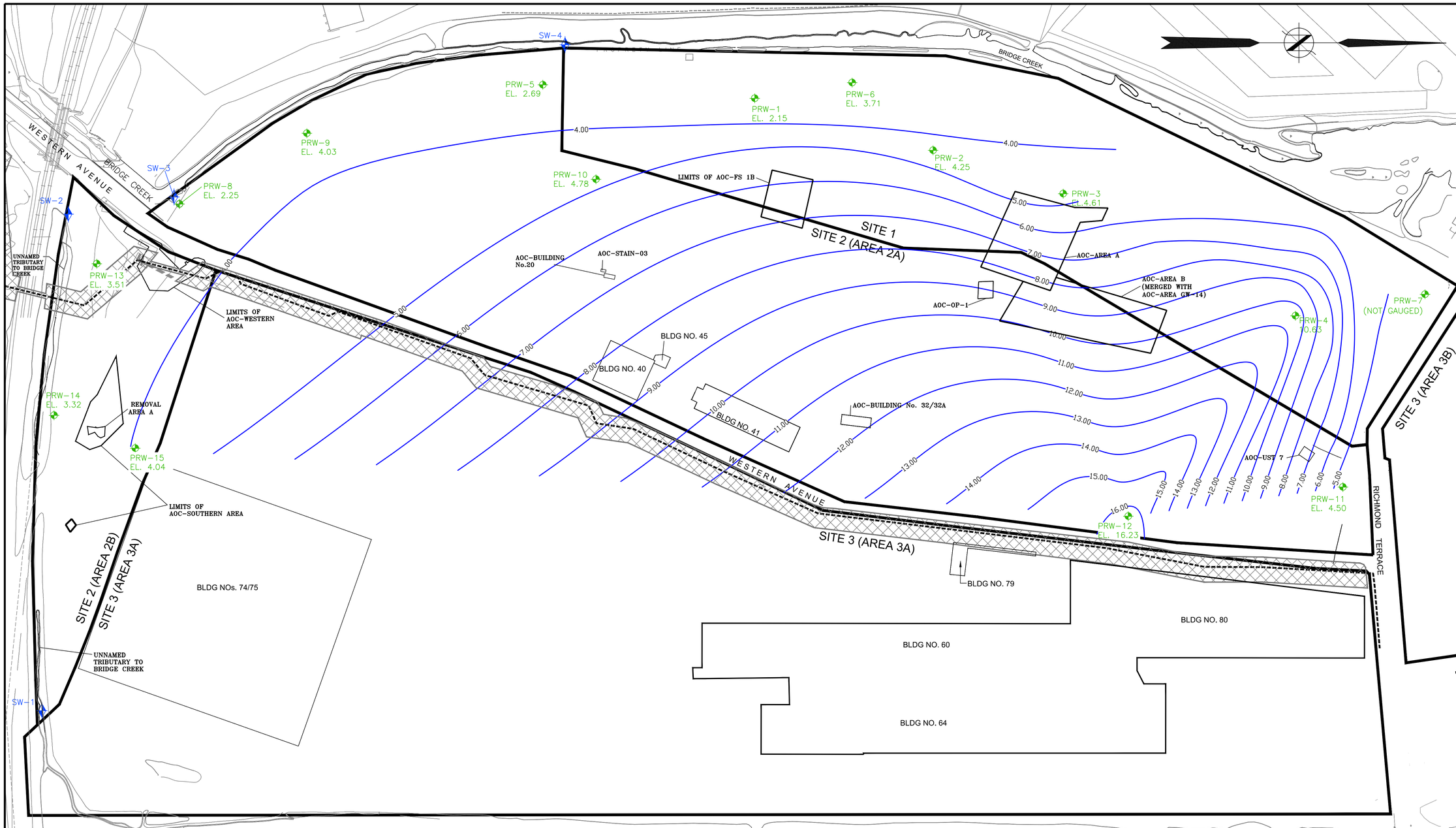
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

LM Designed by
HD Drawn by
CG Checked by

Date MARCH 2015

Contract Number

Drawing Number FIGURE 4



LEGEND (SYMBOLS NOT TO SCALE):

- VCP SITE BOUINDARY
- EXISTING BUILDING
- SW-1 — SURFACE WATER SAMPLING LOCATION
- PRW-8 — GROUNDWATER MONITORING WELL LOCATION
- 30" PIPELINE
- APPROXIMATE AREA OF PIPELINE EASEMENT
- 12.00 — GROUNDWATER SURFACE ELEVATION CONTOUR (FEET)
- EL. 2.15 — GROUNDWATER SURFACE ELEVATION (FEET)

NOTES:

1. BUILDING NO. 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING MOUNTED ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM
3. GROUNDWATER SURFACE ELEVATIONS WERE MEASURED ON 3/19/2014. DATUM: NAD 1983.
4. PRW-7 WAS NOT GAUGED.

100 0 100 200
SCALE IN FEET

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY

SITE 2 (AREAS 2A AND 2B)

Title

GROUNDWATER SURFACE ELEVATION CONTOUR MAP (HIGH TIDE - MARCH 19, 2014)

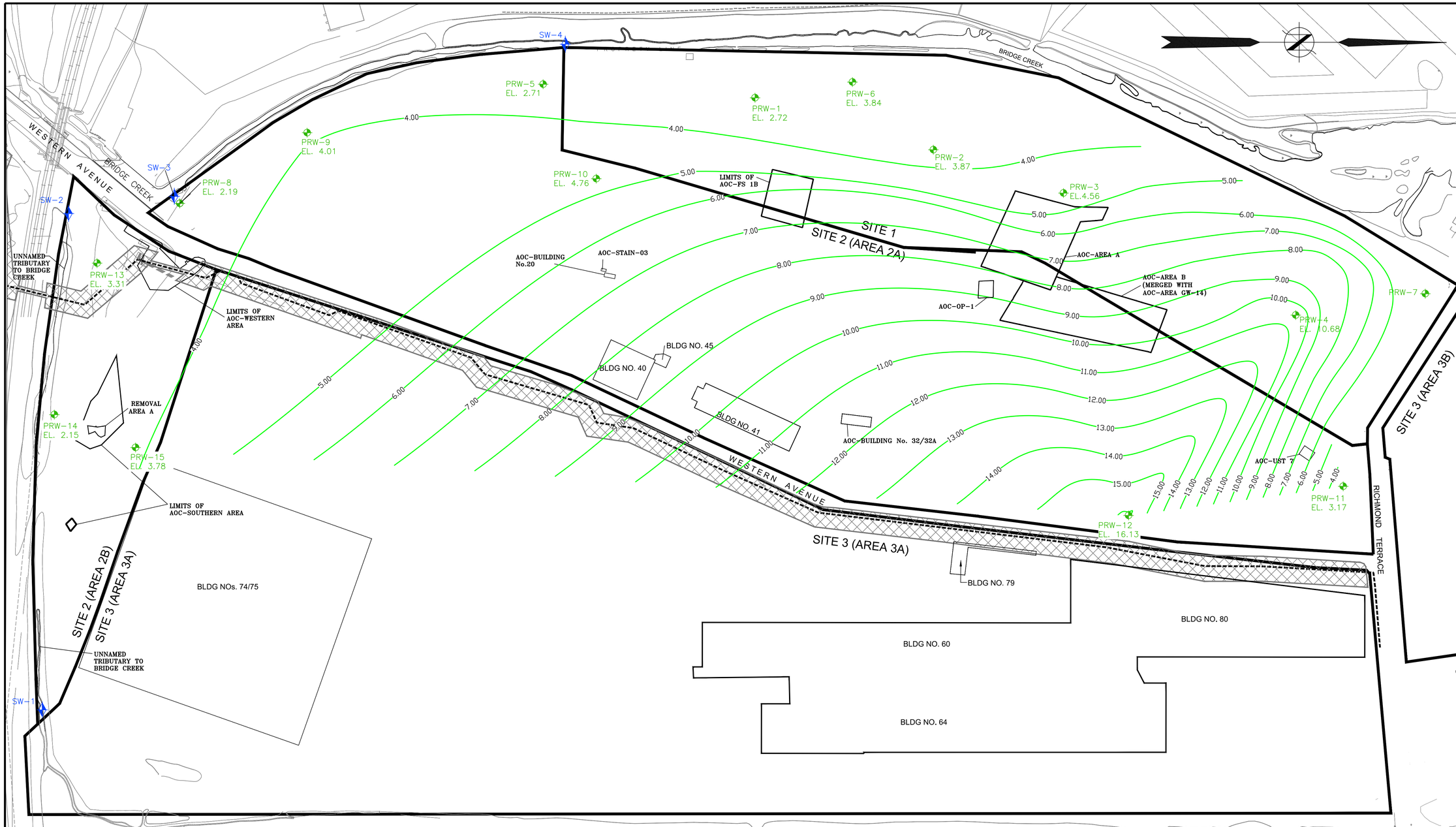
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

LM	HD	CG
Designed by	Drawn by	Checked by

Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 5



LEGEND (SYMBOLS NOT TO SCALE):

- VCP SITE BOUINDARY
- EXISTING BUILDING
- SW-1 — SURFACE WATER SAMPLING LOCATION
- PRW-8 — GROUNDWATER MONITORING WELL LOCATION
- 30" PIPELINE
- APPROXIMATE AREA OF PIPELINE EASEMENT
- 12.00 — GROUNDWATER SURFACE ELEVATION CONTOUR (FEET)
- EL. 2.71 — GROUNDWATER SURFACE ELEVATION (FEET)

NOTES:

1. BUILDING NO. 40 HAS BEEN DEMOLISHED. A MODULAR BUILDING MOUNTED ON PIERS HAS BEEN CONSTRUCTED IN THE FOOTPRINT OF FORMER BUILDING 40.
2. VCP – VOLUNTARY CLEANUP PROGRAM
3. GROUNDWATER SURFACE ELEVATIONS WERE MEASURED ON 3/19/2014. DATUM: NAD 1983.
4. PRW-7 WAS NOT GAUGED.

100 0 100 200
SCALE IN FEET

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY
SITE 2
(AREAS 2A AND 2B)

Title

GROUNDWATER SURFACE ELEVATION CONTOUR MAP (LOW TIDE - MARCH 19, 2014)

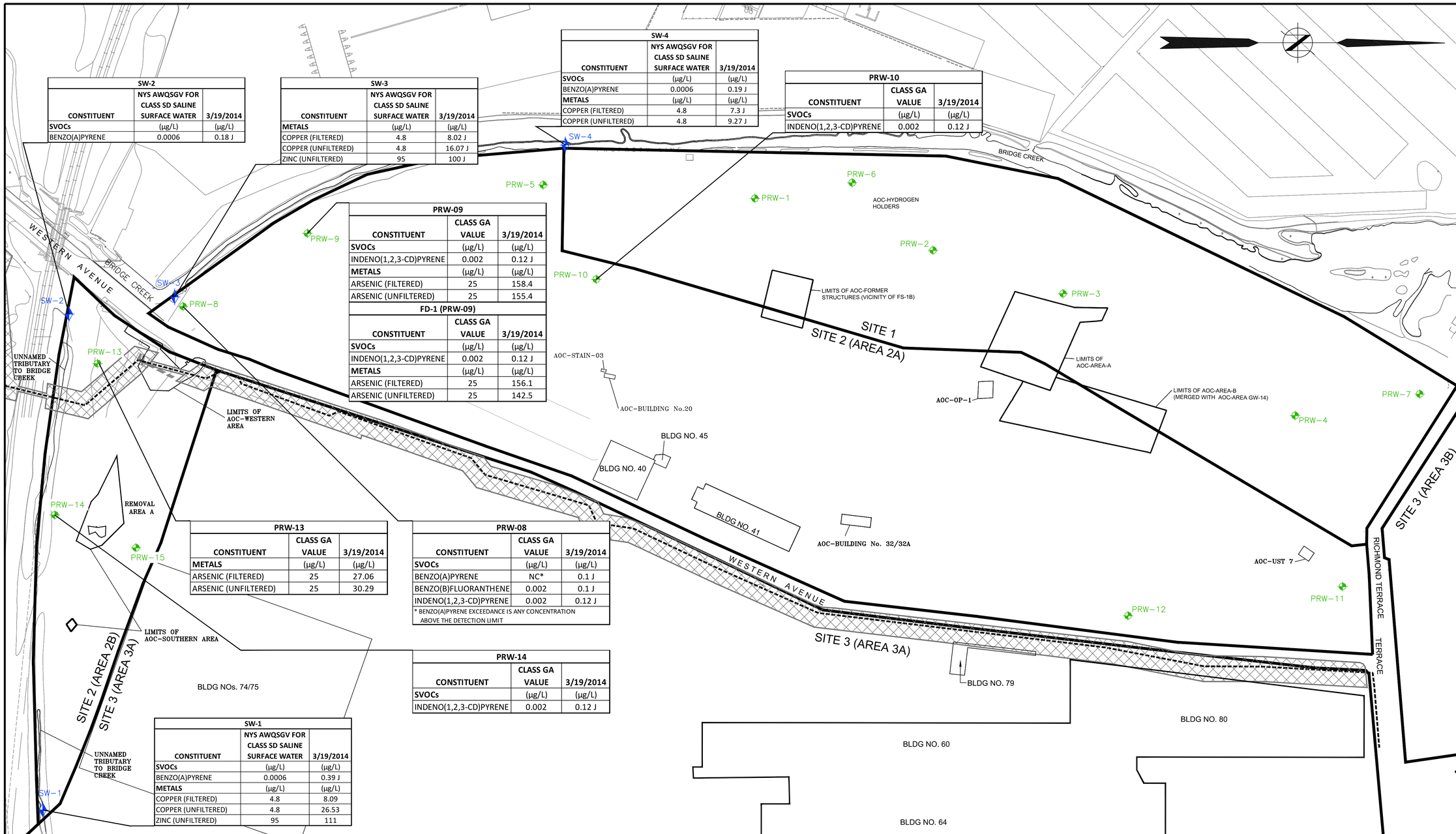
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

LM	HD	CG
Designed by	Drawn by	Checked by

Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 6



SW-2		
CONSTITUENT	NYS AWQSGV FOR CLASS SD SALINE SURFACE WATER	3/19/2014
SVOCs	(µg/L)	(µg/L)
BENZO(A)PYRENE	0.0006	0.18 J

SW-3		
CONSTITUENT	NYS AWQSGV FOR CLASS SD SALINE SURFACE WATER	3/19/2014
METALS	(µg/L)	(µg/L)
COPPER (FILTERED)	4.8	8.02 J
COPPER (UNFILTERED)	4.8	16.07 J
ZINC (UNFILTERED)	95	100 J

SW-4		
CONSTITUENT	NYS AWQSGV FOR CLASS SD SALINE SURFACE WATER	3/19/2014
SVOCs	(µg/L)	(µg/L)
BENZO(A)PYRENE	0.0006	0.19 J
METALS	(µg/L)	(µg/L)
COPPER (FILTERED)	4.8	7.3 J
COPPER (UNFILTERED)	4.8	9.27 J

PRW-10		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J

PRW-09		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J
METALS	(µg/L)	(µg/L)
ARSENIC (FILTERED)	25	158.4
ARSENIC (UNFILTERED)	25	155.4

FD-1 (PRW-09)		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J
METALS	(µg/L)	(µg/L)
ARSENIC (FILTERED)	25	156.1
ARSENIC (UNFILTERED)	25	142.5

PRW-13		
CONSTITUENT	CLASS GA VALUE	3/19/2014
METALS	(µg/L)	(µg/L)
ARSENIC (FILTERED)	25	27.06
ARSENIC (UNFILTERED)	25	30.29

PRW-08		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
BENZO(A)PYRENE	NC*	0.1 J
BENZO(B)FLUORANTHENE	0.002	0.1 J
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J

* BENZO(A)PYRENE EXCEEDANCE IS ANY CONCENTRATION ABOVE THE DETECTION LIMIT

PRW-14		
CONSTITUENT	CLASS GA VALUE	3/19/2014
SVOCs	(µg/L)	(µg/L)
INDENO(1,2,3-CD)PYRENE	0.002	0.12 J

SW-1		
CONSTITUENT	NYS AWQSGV FOR CLASS SD SALINE SURFACE WATER	3/19/2014
SVOCs	(µg/L)	(µg/L)
BENZO(A)PYRENE	0.0006	0.39 J
METALS	(µg/L)	(µg/L)
COPPER (FILTERED)	4.8	8.09
COPPER (UNFILTERED)	4.8	26.53
ZINC (UNFILTERED)	95	111

LEGEND (SYMBOLS NOT TO SCALE):

- VCP SITE BOUINDARY
- EXISTING BUILDING
- SW-1 — SURFACE WATER SAMPLING LOCATION
- PRW-8 — GROUNDWATER MONITORING WELL LOCATION
- 30" PIPELINE
- APPROXIMATE AREA OF PIPELINE EASEMENT

NOTES:

1. VCP = VOLUNTARY CLEANUP PROGRAM
2. SVOC = SEMI-VOLATILE ORGANIC COMPOUND
3. CLASS GA VALUES = NYSDEC DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 CLASS GA STANDARDS AND GUIDANCE VALUES
4. NYS AWQSGV = NEW YORK STATE AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES
5. J = ESTIMATED VALUE
6. ONLY RESULTS ABOVE CLASS GA VALUES AND AWQSGVs ARE SHOWN.
7. PRW-5 IS CONSIDERED A SITE 1 MONITORING WELL.

80 0 80 160
SCALE IN FEET
1"=80'

Sheet of

THE PORT AUTHORITY OF NY & NJ

ENGINEERING PROGRAM MANAGER

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

HHMT-PORT IVORY FACILITY

SITE 2 (AREAS 2A AND 2B)

Title

SUMMARY OF GROUNDWATER AND SURFACE WATER SAMPLING RESULTS

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

LM	HD	CG
Designed by	Drawn by	Checked by

Date FEBRUARY 2015

Contract Number

Drawing Number FIGURE 7

TABLES

Table 1
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Volatile Organic Compounds

SAMPLE ID		PRW-08-WG-201403191416			PRW-09-WG-201403191516			WG-201403190000-FD-1 (Duplicate of PRW-09)			PRW-10-WG-201403191546			PRW-11-WG-201403191016			PRW-12-WG-201403191051			PRW-13-WG-201403191346			PRW-14-WG-201403191241			PRW-15-WG-201403191256			WQ-201403190930-FB-1 (Field Blank)			WQ-201403190000-TB-1 (Trip Blank)		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-03			L1405912-08			L1405912-14			L1405912-04			L1405912-01			L1405912-05			L1405912-07			L1405912-06			L1405912-02			L1405912-13			L1405912-15		
SAMPLE MATRIX		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
VOLATILE ORGANIC COMPOUNDS (VOCs)	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Methylene chloride	5	ND	3	0.29	0.98J	3	0.29	0.98J	3	0.29	ND	3	0.29	1.3J	3	0.29	1.4J	3	0.29	0.94J	3	0.29	0.59J	3	0.29	0.32J	3	0.29	0.42J	3	0.29	ND	3	0.29
1,1-Dichloroethane	5	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15
Chloroform	7	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Carbon tetrachloride	5	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,2-Dichloropropane	1	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13
Dibromochloromethane	50	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15
1,1,2-Trichloroethane	1	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14
2-Chloroethylvinyl ether	NC	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4
Tetrachloroethene	5	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	0.26J	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18
Chlorobenzene	5	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18
1,2-Dichloroethane	0.6	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,1,1-Trichloroethane	5	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Bromodichloromethane	50	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19
trans-1,3-Dichloropropene	0.4[(a)]	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
cis-1,3-Dichloropropene	0.4[(a)]	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
Bromoform	50	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25
1,1,2,2-Tetrachloroethane	5	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
Benzene	1	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	0.4J	0.5	0.16	0.34J	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Toluene	5	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	0.18J	0.75	0.16	0.3J	0.75	0.16	3.5	0.75	0.16	0.34J	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Ethylbenzene	5	0.24J	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	0.23J	0.5	0.17	0.22J	0.5	0.17	0.19J	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
Chloromethane	5	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18
Bromomethane	5	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26
Vinyl chloride	2	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14
Chloroethane	5	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13
1,1-Dichloroethene	5	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
trans-1,2-Dichloroethene	5	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Trichloroethene	5	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	0.74	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
1,2-Dichlorobenzene	3	0.18J	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	0.19J	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18
1,3-Dichlorobenzene	3	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	0.2J	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19
1,4-Dichlorobenzene	3	0.22J	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	0.2J	2.5	0.19	0.22J	2.5	0.19	0.2J	2.5	0.19	ND	2.5	0.19	0.2J	2.5	0.19	0.71J	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19
p/m-Xylene	5	ND	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33	0.56J	1	0.33	0.6J	1	0.33	0.52J	1	0.33	0.42J	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33
o-Xylene	5	ND	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33	0.44J	1	0.33	0.57J	1	0.33	0.38J	1	0.33	0.37J	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33
Acrolein	5	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63
Acrylonitrile	5	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43

Notes:
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
[(a)] 0.4 µg/L applies to the sum of cis- and trans-1,3-dichloropropene.

Table 2
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Semi-Volatile Organic Compounds

SAMPLE ID		PRW-08-WG-201403191416			PRW-09-WG-201403191516			WG-201403190000-FD-1 (Duplicate of PRW-09)			PRW-10-WG-201403191546			PRW-11-WG-201403191016			PRW-12-WG-201403191051			PRW-13-WG-201403191346			PRW-14-WG-201403191241			PRW-15-WG-201403191256			WQ-201403190930-FB-1 (Field Blank)		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-03			L1405912-08			L1405912-14			L1405912-04			L1405912-01			L1405912-05			L1405912-07			L1405912-06			L1405912-02			L1405912-13		
SAMPLE MATRIX		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Benzidine	5	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2
1,2,4-Trichlorobenzene	5	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21
Bis(2-chloroethyl)ether	1	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41
3,3'-Dichlorobenzidine	5	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48
2,4-Dinitrotoluene	5	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1	ND	5	1
2,6-Dinitrotoluene	5	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89
(Hydr)Azobenzene	5	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54
4-Chlorophenyl phenyl ether	NC	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36
4-Bromophenyl phenyl ether	NC	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43
Bis(2-chloroisopropyl)ether	5	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6
Bis(2-chloroethoxy)methane	5	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6
Isophorone	50	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79
Nitrobenzene	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4
NDPA/DPA	50	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34
n-Nitrosodi-n-propylamine	NC	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64
Bis(2-ethylhexyl)phthalate	5	ND	3	0.93	ND	3	0.93	3	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93
Butyl benzyl phthalate	50	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1
Di-n-butylphthalate	50	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77
Di-n-octylphthalate	50	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2
Diethyl phthalate	50	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39
Dimethyl phthalate	50	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33
n-Nitrosodimethylamine	NC	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5
2,4,6-Trichlorophenol	NC	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78
p-Chloro-m-cresol	NC	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54
2-Chlorophenol	NC	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58
2,4-Dichlorophenol	5	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56
2,4-Dimethylphenol	50	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58
2-Nitrophenol	NC	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1	ND	10	1
4-Nitrophenol	NC	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1
2,4-Dinitrophenol	10	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4
4,6-Dinitro-o-cresol	NC	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4
Phenol	1	ND	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27	10	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27
Acenaphthene	20	0.38	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.4	0.13	0.61	0.4	0.13	0.34J	1	0.32	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
2-Chloronaphthalene	10	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.4	0.13	ND	0.4	0.13	ND	1	0.33	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Fluoranthene	50	ND	0.2	0.04	ND	0.2	0.04	ND	0.2	0.04	ND	0.2	0.04	ND	0.4	0.09	0.1J	0.4	0.09	ND	1	0.22	ND	0.2	0.04	ND	0.2	0.04	ND	0.2	0.04
Hexachlorobutadiene	0.5	ND	0.5	0.07	ND	0.5	0.07	ND	0.5	0.07	ND	0.5	0.07	ND	1	0.14	ND	1	0.14	ND	2.5	0.36	ND	0.5	0.07	ND	0.5	0.07	ND	0.5	0.07
Naphthalene	10	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.4	0.13	0.89	0.4	0.13	ND	1	0.32	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
Benzo(a)anthracene	0.002	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.4	0.11	ND	0.4	0.11	ND	1	0.28	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
Benzo(a)pyrene	NC*	**0.1J**	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.4	0.14	ND	0.4	0.14	ND	1	0.34	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Benzo(b)fluoranthene	0.002	**0.1J**	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.4	0.14	ND	0.4	0.14	ND	1	0.36	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Benzo(k)fluoranthene	0.002	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.4	0.14	ND	0.4	0.14	ND	1	0.34	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Chrysene	0.002	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.4	0.1	ND	0.4	0.1	ND	1	0.24	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05
Acenaphthylene	NC	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.4	0.1	ND	0.4	0.1	0.88J	1	0.25	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05
Anthracene	50	ND	0.2	0.06	0.07J	0.2	0.06	0.07J	0.2	0.06	0.07J	0.2	0.06	ND	0.4	0.13	ND	0.4	0.13	ND	1	0.32	ND	0.2	0.06	0.08J	0.2	0.06	ND	0.2	0.06
Benzo(ghi)perylene	NC	0.11J	0.2	0.07	0.1J	0.2	0.07	0.11J	0.2	0.07	0.11J	0.2	0.07	ND	0.4	0.14	ND	0.4	0.14	ND	1	0.35	0.11J	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Fluorene	50	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	0.62	0.4	0.11	0.47	0.4	0.11	ND	1	0.28	0.18J	0.2	0.06	0.06J	0.2	0.06	ND	0.2	0.06
Phenanthrene	50	0.14J	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	0.06J	0.2	0.06	0.27J	0.4	0.13	1.3	0.4	0.13	ND	1	0.32	0.7	0.2	0.06	0.09J	0.2	0.06	ND	0.2	0.06
Dibenzo(a,h)anthracene	NC	0.13J	0.2	0.07	0.13J	0.2	0.07	0.13J	0.2	0.07	0.13J	0.2	0.07	ND	0.4	0.15	ND	0.4	0.15	ND	1	0.36	0.13J	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Indeno(1,2,3-cd)Pyrene	0.002	**0.12J**	0.2	0.08	**0.12J**	0.2	0.08	**0.12J**	0.2	0.08	**0.12J**	0.2	0.08	ND	0.4	0.16	ND	0.4	0.16	ND	1	0.4	**0.12J**	0.2	0.08	ND	0.2	0.08	ND	0.2	0.08
Pyrene	50	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.4	0.11	ND	0.4	0.11	ND	1	0.28	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
2-Methylnaphthalene	NC	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	0.17J	0.4	0.12	0.7	0.4	0.12	ND	1	0.3	0.08J	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
Pentachlorophenol	1	ND	0.8	0.19	0.45J	0.8	0.19	0.49J	0.8	0.19	ND	0.8	0.19	ND	1.6	0.37	ND	1.6	0.37	ND	4	0.94	ND	0.8	0.19	ND	0.8	0.19	ND	0.8	0.19
Hexachlorobenzene	0.04	ND	0.8	0.01	ND	0.8	0.01	ND	0.8	0.01	ND	0.8	0.01	ND	1.6	0.03	ND	1.6	0.03	ND	4	0.07	ND	0.8	0.01	ND	0.8	0.01	ND	0.8	0.01
Hexachloroethane	5	ND	0.8	0.06	ND	0.8	0.06	ND	0.8	0.06	ND	0.8	0.06	ND	1.6	0.11	ND	1.6	0.11	ND	4	0.28	ND	0.8	0.06	ND	0.8	0.06	ND	0.8	0.06

Notes:
Bold and highlighted indicates the value exceeds the corresponding Class GA value.
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
* Benzo(a)pyrene exceedance is any concentration above the detection limit

Table 3
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Metals

SAMPLE ID		PRW-08-WG-201403191416						PRW-09-WG-201403191516						WG-201403190000-FD-1 (Duplicate of PRW-09)						PRW-10-WG-201403191546						PRW-11-WG-201403191016					
SAMPLING DATE		3/19/2014						3/19/2014						3/19/2014						3/19/2014						3/19/2014					
LAB SAMPLE ID		L1405912-03						L1405912-08						L1405912-14						L1405912-04						L1405912-01					
SAMPLE MATRIX		WATER						WATER						WATER						WATER						WATER					
SAMPLE PREPARATION		DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL		
METALS	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Antimony	3	0.35J	2	0.1	0.49J	2	0.1	0.31J	2	0.1	0.3J	2	0.1	0.28J	2	0.1	0.33J	2	0.1	0.65J	2	0.1	0.66J	2	0.1	0.74J	2	0.1	1.02J	2	0.1
Arsenic	25	21.24	0.5	0.2	20.64	0.5	0.2	**158.4**	0.5	0.2	**155.4**	0.5	0.2	**156.1**	0.5	0.2	**142.5**	0.5	0.2	3.44	0.5	0.2	4.29	0.5	0.2	2.11	0.5	0.2	1.96	0.5	0.2
Beryllium	3	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	0.13J	0.5	0.1	ND	0.5	0.1	0.18J	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1
Cadmium	5	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	0.06J	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	0.06J	0.2	0.05	0.11J	0.2	0.05
Chromium	50	0.57J	1	0.2	1.61	1	0.2	0.73J	1	0.2	2.96	1	0.2	0.6J	1	0.2	3.22	1	0.2	0.58J	1	0.2	2.94	1	0.2	1.06	1	0.2	1.4	1	0.2
Copper	200	0.71J	1	0.1	2.59	1	0.1	1.23	1	0.1	19.15	1	0.1	0.98J	1	0.1	22.94	1	0.1	0.98J	1	0.1	1.8	1	0.1	2.97	1	0.1	4.13	1	0.1
Lead	25	ND	1	0.2	1.42	1	0.2	ND	1	0.2	3.08	1	0.2	ND	1	0.2	3.82	1	0.2	ND	1	0.2	2.28	1	0.2	0.57J	1	0.2	1.5	1	0.2
Mercury	0.7	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066
Nickel	100	1.39	0.5	0.1	2.75	0.5	0.1	1.42	0.5	0.1	2.52	0.5	0.1	1.46	0.5	0.1	2.83	0.5	0.1	3.97	0.5	0.1	3.5	0.5	0.1	5.21	0.5	0.1	5.52	0.5	0.1
Selenium	10	1.47J	5	0.3	1.86J	5	0.3	1.07J	5	0.3	1.01J	5	0.3	0.96J	5	0.3	1.27J	5	0.3	1.34J	5	0.3	1.46J	5	0.3	4.25J	5	0.3	3.72J	5	0.3
Silver	50	ND	0.4	0.1	0.13J	0.4	0.1	ND	0.4	0.1	0.18J	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	0.13J	0.4	0.1	ND	0.4	0.1	0.13J	0.4	0.1
Thallium	0.5	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	0.03J	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	0.05J	0.5	0.03	0.06J	0.5	0.03
Zinc	2000	3.85J	10	1.2	9.51J	10	1.2	3.94J	10	1.2	9.1J	10	1.2	4.22J	10	1.2	12.14	10	1.2	7.93J	10	1.2	6.84J	10	1.2	7.92J	10	1.2	9.96J	10	1.2

Notes:
Bold and highlighted indicates the value exceeds the corresponding Class GA value.
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter

Table 3
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Metals

SAMPLE ID		PRW-12-WG-201403191051						PRW-13-WG-201403191346						PRW-14-WG-201403191241						PRW-15-WG-201403191256						WQ-201403190930-FB-1 (Field Blank)					
SAMPLING DATE		3/19/2014						3/19/2014						3/19/2014						3/19/2014						3/19/2014					
LAB SAMPLE ID		L1405912-05						L1405912-07						L1405912-06						L1405912-02						L1405912-13					
SAMPLE MATRIX		WATER						WATER						WATER						WATER						WATER					
SAMPLE PREPARATION		DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL		
METALS	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Antimony	3	0.75J	2	0.1	0.78J	2	0.1	0.56J	2	0.1	0.72J	2	0.1	0.65J	2	0.1	0.91J	2	0.1	0.26J	2	0.1	0.51J	2	0.1	0.13J	2	0.1	0.15J	2	0.1
Arsenic	25	8.82	0.5	0.2	9.15	0.5	0.2	**27.06**	0.5	0.2	**30.29**	0.5	0.2	5.38	0.5	0.2	6.09	0.5	0.2	9.27	0.5	0.2	11.41	0.5	0.2	ND	0.5	0.2	ND	0.5	0.2
Beryllium	3	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1
Cadmium	5	ND	0.2	0.05	ND	0.2	0.05	0.09J	0.2	0.05	0.11J	0.2	0.05	ND	0.2	0.05	0.09J	0.2	0.05	ND	0.2	0.05	0.14J	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05
Chromium	50	1.24	1	0.2	1.38	1	0.2	2.78	1	0.2	2.73	1	0.2	1.83	1	0.2	2.1	1	0.2	0.69J	1	0.2	1.97	1	0.2	0.44J	1	0.2	0.36J	1	0.2
Copper	200	5.23	1	0.1	5.62	1	0.1	1.89	1	0.1	3.02	1	0.1	1.35	1	0.1	3.71	1	0.1	1.22	1	0.1	6.21	1	0.1	0.14J	1	0.1	0.21J	1	0.1
Lead	25	0.21J	1	0.2	0.61J	1	0.2	0.56J	1	0.2	2.58	1	0.2	ND	1	0.2	2.14	1	0.2	0.4J	1	0.2	5.12	1	0.2	ND	1	0.2	ND	1	0.2
Mercury	0.7	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066	ND	0.2	0.066
Nickel	100	21.34	0.5	0.1	21.44	0.5	0.1	12.86	0.5	0.1	17.24	0.5	0.1	7.73	0.5	0.1	6.71	0.5	0.1	4.96	0.5	0.1	5.03	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1
Selenium	10	2.9J	5	0.3	3.08J	5	0.3	4.6J	5	0.3	4.57J	5	0.3	2.54J	5	0.3	2.78J	5	0.3	2.98J	5	0.3	2.75J	5	0.3	ND	5	0.3	0.31J	5	0.3
Silver	50	ND	0.4	0.1	0.12J	0.4	0.1	ND	0.4	0.1	0.24J	0.4	0.1	ND	0.4	0.1	0.1J	0.4	0.1	ND	0.4	0.1	0.12J	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1
Thallium	0.5	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03
Zinc	2000	5.97J	10	1.2	6.61J	10	1.2	8.01J	10	1.2	13.23	10	1.2	11.52	10	1.2	23.02	10	1.2	6.61J	10	1.2	23.05	10	1.2	1.52J	10	1.2	1.86J	10	1.2

Notes:
Bold and highlighted indicates the value exceeds the corresponding Class GA value.
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter

Table 4
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for Pesticides

SAMPLE ID		PRW-08-WG-201403191416			PRW-09-WG-201403191516			WG-201403190000-FD-1 (Duplicate of PRW-09)			PRW-10-WG-201403191546			PRW-11-WG-201403191016			PRW-12-WG-201403191051			PRW-13-WG-201403191346			PRW-14-WG-201403191241			PRW-15-WG-201403191256			WQ-201403190930-FB-1 (Field Blank)		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-03			L1405912-08			L1405912-14			L1405912-04			L1405912-01			L1405912-05			L1405912-07			L1405912-06			L1405912-02			L1405912-13		
SAMPLE MATRIX		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
PESTICIDES	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Delta-BHC	0.04	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005	ND	0.02	0.005
Lindane	NC	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004
Alpha-BHC	0.01	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004
Beta-BHC	0.04	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006	ND	0.02	0.006
Heptachlor	0.04	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003
Aldrin	NC	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002	ND	0.02	0.002
Heptachlor epoxide	0.03	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004	ND	0.02	0.004
Endrin	NC	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004
Endrin aldehyde	5	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008	ND	0.04	0.008
Endrin ketone	5	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005
Dieldrin	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004
4,4'-DDE	0.2	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004
4,4'-DDD	0.3	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005
4,4'-DDT	0.2	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004	ND	0.04	0.004
Endosulfan I	NC	0.012J	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	ND	0.02	0.003	0.02	0.02	0.003	ND	0.02	0.003
Endosulfan II	NC	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005
Endosulfan sulfate	NC	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005	ND	0.04	0.005
Methoxychlor	35	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007	ND	0.2	0.007
Toxaphene	0.06	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063	ND	0.2	0.063
Chlordane	0.05	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046	ND	0.2	0.046

Notes:
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter

Table 5
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Groundwater for PCBs and Cyanide

SAMPLE ID		PRW-08-WG-201403191416			PRW-09-WG-201403191516			WG-201403190000-FD-1 (Duplicate of PRW-09)			PRW-10-WG-201403191546			PRW-11-WG-201403191016			PRW-12-WG-201403191051			PRW-13-WG-201403191346			PRW-14-WG-201403191241			PRW-15-WG-201403191256			WQ-201403190930-FB-1 (Field Blank)		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-03			L1405912-08			L1405912-14			L1405912-04			L1405912-01			L1405912-05			L1405912-07			L1405912-06			L1405912-02			L1405912-13		
SAMPLE MATRIX		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
POLYCHLORINATED BIPHENYLS (PCBs)	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Aroclor 1016	NC	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055	ND	0.083	0.055
Aroclor 1221	NC	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053	ND	0.083	0.053
Aroclor 1232	NC	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031	ND	0.083	0.031
Aroclor 1242	NC	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06	ND	0.083	0.06
Aroclor 1248	NC	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051	ND	0.083	0.051
Aroclor 1254	NC	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034	ND	0.083	0.034
Aroclor 1260	NC	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032	ND	0.083	0.032
CYANIDE	Class GA Value (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Cyanide, Total	200	ND	5	1.28	1.28J	5	1.28	1.46J	5	1.28	5.94	5	1.28	1.48J	5	1.28	2.06J	5	1.28	17.4	5	1.28	5.41	5	1.28	4.42J	5	1.28	1.68J	5	1.28

Notes:
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter

Table 6
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for Volatile Organic Compounds

SAMPLE ID		SW-1-WS-201403191815			SW-2-WS-201403191745			SW-3-WS-201403191725			SW-4-WS-201403191705		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-12			L1405912-11			L1405912-10			L1405912-09		
SAMPLE MATRIX		WATER			WATER			WATER			WATER		
VOLATILE ORGANIC COMPOUNDS (VOCs)	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Methylene chloride	200	ND	3	0.29	ND	3	0.29	ND	3	0.29	ND	3	0.29
1,1-Dichloroethane	NC	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15	ND	0.75	0.15
Chloroform	NC	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Carbon tetrachloride	NC	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,2-Dichloropropane	NC	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13	ND	1.8	0.13
Dibromochloromethane	NC	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15
1,1,2-Trichloroethane	NC	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14	ND	0.75	0.14
2-Chloroethylvinyl ether	NC	ND	10	0.4	ND	10	0.4	ND	10	0.4	ND	10	0.4
Tetrachloroethene	1	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18
Chlorobenzene	50	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18	ND	0.5	0.18
1,2-Dichloroethane	NC	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,1,1-Trichloroethane	NC	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Bromodichloromethane	NC	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19
trans-1,3-Dichloropropene	NC	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
cis-1,3-Dichloropropene	NC	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
Bromoform	NC	ND	2	0.25	ND	2	0.25	ND	2	0.25	ND	2	0.25
1,1,2,2-Tetrachloroethane	NC	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
Benzene	10	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Toluene	430	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Ethylbenzene	41	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
Chloromethane	NC	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18
Bromomethane	NC	ND	1	0.26	ND	1	0.26	ND	1	0.26	ND	1	0.26
Vinyl chloride	NC	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14
Chloroethane	NC	ND	1	0.13	ND	1	0.13	ND	1	0.13	ND	1	0.13
1,1-Dichloroethene	NC	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
trans-1,2-Dichloroethene	NC	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16	ND	0.75	0.16
Trichloroethene	40	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
1,2-Dichlorobenzene	50*	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18	ND	2.5	0.18
1,3-Dichlorobenzene	50*	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19
1,4-Dichlorobenzene	50*	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19	ND	2.5	0.19
p/m-Xylene	170 (total)	ND	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33
o-Xylene	170 (total)	ND	1	0.33	ND	1	0.33	ND	1	0.33	ND	1	0.33
Acrolein	NC	ND	5	0.63	ND	5	0.63	ND	5	0.63	ND	5	0.63
Acrylonitrile	NC	ND	5	0.43	ND	5	0.43	ND	5	0.43	ND	5	0.43

Notes:

AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
* Applies to the sum of 1,2-, 1-3-, and 1,4-dichlorobenzene.

Table 7
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for Semi-Volatile Organic Compounds

SAMPLE ID		SW-1-WS-201403191815			SW-2-WS-201403191745			SW-3-WS-201403191725			SW-4-WS-201403191705		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-12			L1405912-11			L1405912-10			L1405912-09		
SAMPLE MATRIX		WATER			WATER			WATER			WATER		
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Benzidine	NC	ND	20	5.2	ND	20	5.2	ND	20	5.2	ND	20	5.2
1,2,4-Trichlorobenzene	50	ND	5	0.21	ND	5	0.21	ND	5	0.21	ND	5	0.21
Bis(2-chloroethyl)ether	NC	ND	2	0.41	ND	2	0.41	ND	2	0.41	ND	2	0.41
3,3'-Dichlorobenzidine	NC	ND	5	0.48	ND	5	0.48	ND	5	0.48	ND	5	0.48
2,4-Dinitrotoluene	NC	ND	5	1	ND	5	1	ND	5	1	ND	5	1
2,6-Dinitrotoluene	NC	ND	5	0.89	ND	5	0.89	ND	5	0.89	ND	5	0.89
(Hydr)Azobenzene	NC	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54
4-Chlorophenyl phenyl ether	NC	ND	2	0.36	ND	2	0.36	ND	2	0.36	ND	2	0.36
4-Bromophenyl phenyl ether	NC	ND	2	0.43	ND	2	0.43	ND	2	0.43	ND	2	0.43
Bis(2-chloroisopropyl)ether	NC	ND	2	0.6	ND	2	0.6	ND	2	0.6	ND	2	0.6
Bis(2-chloroethoxy)methane	NC	ND	5	0.6	ND	5	0.6	ND	5	0.6	ND	5	0.6
Isophorone	NC	ND	5	0.79	ND	5	0.79	ND	5	0.79	ND	5	0.79
Nitrobenzene	NC	ND	2	0.4	ND	2	0.4	ND	2	0.4	ND	2	0.4
NDPA/DPA	NC	ND	2	0.34	ND	2	0.34	ND	2	0.34	ND	2	0.34
n-Nitrosodi-n-propylamine	NC	ND	5	0.64	ND	5	0.64	ND	5	0.64	ND	5	0.64
Bis(2-ethylhexyl)phthalate	NC	ND	3	0.93	ND	3	0.93	ND	3	0.93	ND	3	0.93
Butyl benzyl phthalate	NC	ND	5	1.1	ND	5	1.1	ND	5	1.1	ND	5	1.1
Di-n-butylphthalate	NC	ND	5	0.77	ND	5	0.77	ND	5	0.77	ND	5	0.77
Di-n-octylphthalate	NC	ND	5	1.2	ND	5	1.2	ND	5	1.2	ND	5	1.2
Diethyl phthalate	NC	ND	5	0.39	ND	5	0.39	ND	5	0.39	ND	5	0.39
Dimethyl phthalate	NC	ND	5	0.33	ND	5	0.33	ND	5	0.33	ND	5	0.33
n-Nitrosodimethylamine	NC	ND	2	0.5	ND	2	0.5	ND	2	0.5	ND	2	0.5
2,4,6-Trichlorophenol	NC	ND	5	0.78	ND	5	0.78	ND	5	0.78	ND	5	0.78
p-Chloro-m-cresol	NC	ND	2	0.54	ND	2	0.54	ND	2	0.54	ND	2	0.54
2-Chlorophenol	NC	ND	2	0.58	ND	2	0.58	ND	2	0.58	ND	2	0.58
2,4-Dichlorophenol	NC	ND	5	0.56	ND	5	0.56	ND	5	0.56	ND	5	0.56
2,4-Dimethylphenol	1,000	ND	5	0.58	ND	5	0.58	ND	5	0.58	ND	5	0.58
2-Nitrophenol	NC	ND	10	1	ND	10	1	ND	10	1	ND	10	1
4-Nitrophenol	NC	ND	10	1.1	ND	10	1.1	ND	10	1.1	ND	10	1.1
2,4-Dinitrophenol	400	ND	20	1.4	ND	20	1.4	ND	20	1.4	ND	20	1.4
4,6-Dinitro-o-cresol	NC	ND	10	1.4	ND	10	1.4	ND	10	1.4	ND	10	1.4
Phenol	NC	ND	5	0.27	ND	5	0.27	ND	5	0.27	ND	5	0.27
Acenaphthene	60	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13
2-Chloronaphthalene	NC	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13
Fluoranthene	NC	0.32J	0.4	0.09	ND	0.4	0.09	0.18J	0.4	0.09	ND	0.4	0.09
Hexachlorobutadiene	0.01	ND	1	0.14	ND	1	0.14	ND	1	0.14	ND	1	0.14
Naphthalene	140	ND	0.4	0.13	ND	0.4	0.13	0.19J	0.4	0.13	ND	0.4	0.13
Benzo(a)anthracene	NC	0.19J	0.4	0.11	ND	0.4	0.11	ND	0.4	0.11	ND	0.4	0.11
Benzo(a)pyrene	0.0006	**0.39J**	0.4	0.14	**0.18J**	0.4	0.14	ND	0.4	0.14	**0.19J**	0.4	0.14
Benzo(b)fluoranthene	NC	0.48	0.4	0.14	0.2J	0.4	0.14	ND	0.4	0.14	0.21J	0.4	0.14
Benzo(k)fluoranthene	NC	0.19J	0.4	0.14	ND	0.4	0.14	ND	0.4	0.14	ND	0.4	0.14
Chrysene	NC	0.23J	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1
Acenaphthylene	NC	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1
Anthracene	50	0.15J	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13
Benzo(ghi)perylene	NC	0.3J	0.4	0.14	0.21J	0.4	0.14	0.23J	0.4	0.14	0.22J	0.4	0.14
Fluorene	23	ND	0.4	0.11	ND	0.4	0.11	ND	0.4	0.11	ND	0.4	0.11
Phenanthrene	14	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13	ND	0.4	0.13
Dibenzo(a,h)anthracene	NC	0.24J	0.4	0.15	0.25J	0.4	0.15	0.22J	0.4	0.15	0.25J	0.4	0.15
Indeno(1,2,3-cd)Pyrene	NC	0.41	0.4	0.16	0.24J	0.4	0.16	0.33J	0.4	0.16	0.24J	0.4	0.16
Pyrene	NC	0.3J	0.4	0.11	ND	0.4	0.11	0.16J	0.4	0.11	ND	0.4	0.11
2-Methylnaphthalene	NC	ND	0.4	0.12	ND	0.4	0.12	0.14J	0.4	0.12	ND	0.4	0.12
Pentachlorophenol	NC	ND	1.6	0.37	ND	1.6	0.37	ND	1.6	0.37	ND	1.6	0.37
Hexachlorobenzene	0.00003	ND	1.6	0.03	ND	1.6	0.03	ND	1.6	0.03	ND	1.6	0.03
Hexachloroethane	0.6	ND	1.6	0.11	ND	1.6	0.11	ND	1.6	0.11	ND	1.6	0.11

Notes:

AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
Bold concentrations in shaded cells exceed the AWQSGVs.

Table 8
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for Metals

SAMPLE ID		SW-1-WS-201403191815						SW-2-WS-201403191745						SW-3-WS-201403191725						SW-4-WS-201403191705					
SAMPLING DATE		3/19/2014						3/19/2014						3/19/2014						3/19/2014					
LAB SAMPLE ID		L1405912-12						L1405912-11						L1405912-10						L1405912-09					
SAMPLE MATRIX		WATER						WATER						WATER						WATER					
SAMPLE PREPARATION		DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL			DISSOLVED			TOTAL		
METALS	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Antimony	NC	0.75J	2	0.1	1.03J	2	0.1	0.63J	2	0.1	1.04J	2	0.1	ND	40	2	ND	40	2	ND	40	2	ND	40	2
Arsenic	120*	5.93	0.5	0.2	11.98	0.5	0.2	1.54	0.5	0.2	1.48	0.5	0.2	11.58	10	4	13.07	10	4	16.06	10	4	19.11	10	4
Beryllium	NC	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	0.5	0.1	ND	10	2	ND	10	2	ND	10	2	ND	10	2
Cadmium	21	0.11J	0.2	0.05	0.29	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	4	1	ND	4	1	ND	4	1	ND	4	1
Chromium	NC	1.59	1	0.2	3.76	1	0.2	0.68J	1	0.2	0.53J	1	0.2	ND	20	4	4.56J	20	4	ND	20	4	ND	20	4
Copper	4.8	**8.09**	1	0.1	**26.53**	1	0.1	2.71	1	0.1	2.56	1	0.1	**8.02 J**	20	2	**16.07 J**	20	2	**7.3 J**	20	2	**9.27J**	20	2
Lead	204	9.22	1	0.2	36.61	1	0.2	ND	1	0.2	0.57J	1	0.2	ND	20	4	10.48J	20	4	ND	20	4	ND	20	4
Mercury	0.0007*	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07	ND	0.2	0.07
Nickel	74	4.59	0.5	0.1	8.85	0.5	0.1	4.97	0.5	0.1	2.66	0.5	0.1	9.73J	10	2	8.37J	10	2	8.41J	10	2	6.81J	10	2
Selenium	NC	1.75J	5	0.3	2.09J	5	0.3	3.39J	5	0.3	2.41J	5	0.3	54.8J	100	6	55.9J	100	6	60.1J	100	6	51.3J	100	6
Silver	2.3	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	0.4	0.1	ND	8	2	ND	8	2	ND	8	2	ND	8	2
Thallium	NC	ND	0.5	0.03	0.03J	0.5	0.03	ND	0.5	0.03	ND	0.5	0.03	ND	10	0.6	ND	10	0.6	ND	10	0.6	ND	10	0.6
Zinc	95	38.07	10	1.2	**111**	10	1.2	18.07	10	1.2	19.19	10	1.2	26.5J	200	24	**100 J**	200	24	26.2J	200	24	51.48J	200	24

Notes:
AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
* Applies to dissolved only
Bold concentrations in shaded cells exceed the AWQSGVs.

Table 9
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for Pesticides

SAMPLE ID		SW-1-WS-201403191815			SW-2-WS-201403191745			SW-3-WS-201403191725			SW-4-WS-201403191705		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-12			L1405912-11			L1405912-10			L1405912-09		
SAMPLE MATRIX		WATER			WATER			WATER			WATER		
PESTICIDES	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Delta-BHC	0.008	ND	0.02	0.01	ND	0.02	0.01	ND	0.02	0.01	ND	0.02	0.01
Lindane	0.008	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Alpha-BHC	0.002	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Beta-BHC	0.007	ND	0.02	0.01	ND	0.02	0.01	ND	0.02	0.01	ND	0.02	0.01
Heptachlor	0.0002	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Aldrin	NC	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Heptachlor epoxide	0.0003	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Endrin	0.002	ND	0.04	0	ND	0.04	0	ND	0.04	0	ND	0.04	0
Endrin aldehyde	NC	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
Endrin ketone	NC	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
Dieldrin	0.001	ND	0.04	0	ND	0.04	0	ND	0.04	0	ND	0.04	0
4,4'-DDE	0.000011*	ND	0.04	0	ND	0.04	0	ND	0.04	0	ND	0.04	0
4,4'-DDD	0.000011*	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
4,4'-DDT	0.000011*	ND	0.04	0	ND	0.04	0	ND	0.04	0	ND	0.04	0
Endosulfan I	NC	ND	0.02	0	ND	0.02	0	ND	0.02	0	ND	0.02	0
Endosulfan II	NC	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
Endosulfan sulfate	NC	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01	ND	0.04	0.01
Methoxychlor	NC	ND	0.2	0.01	ND	0.2	0.01	ND	0.2	0.01	ND	0.2	0.01
Toxaphene	0.000006	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06	ND	0.2	0.06
Chlordane	0.0002	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05	ND	0.2	0.05

Notes:
AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
** Applies to the sum of 4,4'-DDE, 4,4'-DDD, and 4'4-DDT.

Table 10
The Port Authority of New York and New Jersey
Howland Hook Marine Terminal - Port Ivory Facility - Site 2
Staten Island, New York
Summary of Results of Analysis of Surface Water for PCBs and Cyanide

SAMPLE ID		SW-1-WS-201403191815			SW-2-WS-201403191745			SW-3-WS-201403191725			SW-4-WS-201403191705		
SAMPLING DATE		3/19/2014			3/19/2014			3/19/2014			3/19/2014		
LAB SAMPLE ID		L1405912-12			L1405912-11			L1405912-10			L1405912-09		
SAMPLE MATRIX		WATER			WATER			WATER			WATER		
POLYCHLORINATED BIPHENYLS (PCBs)	New York State AWQSGV for Class SD Saline Surface Water (µg/L)	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Aroclor 1016	NC	ND	0.08	0.06	ND	0.08	0.06	ND	0.08	0.06	ND	0.08	0.06
Aroclor 1221	NC	ND	0.08	0.05	ND	0.08	0.05	ND	0.08	0.05	ND	0.08	0.05
Aroclor 1232	NC	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03
Aroclor 1242	NC	ND	0.08	0.06	ND	0.08	0.06	ND	0.08	0.06	ND	0.08	0.06
Aroclor 1248	NC	ND	0.08	0.05	ND	0.08	0.05	ND	0.08	0.05	ND	0.08	0.05
Aroclor 1254	NC	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03
Aroclor 1260	NC	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03	ND	0.08	0.03
Total PCBs	0.00012*	ND			ND			ND			ND		
CYANIDE		Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL	Result (µg/L)	RL	MDL
Cyanide, Total	9,000	11.5	5	1.28	5.04	5	1.28	7.48	5	1.28	2.01J	5	1.28

Notes:
AWQSGV = Ambient Water Quality Standards and Guidance Values for SD water classification as published in the Division of Water Technical and Operational Guidance Series (1.1.1).
NC - No criterion
ND - Compound not detected
J - Estimated value
RL - Reporting limit
MDL - Method detection limit
µg/L - Micrograms per liter
* Applies to the sum of PCBs

ATTACHMENT A

PHOTOGRAPH LOG

Attachment A
Photograph Log – March 19, 2014 Inspection

Photo 1: Site 2, Area 2A taken facing north.

Photo 2: Site 2, Area 2A, taken facing southwest.

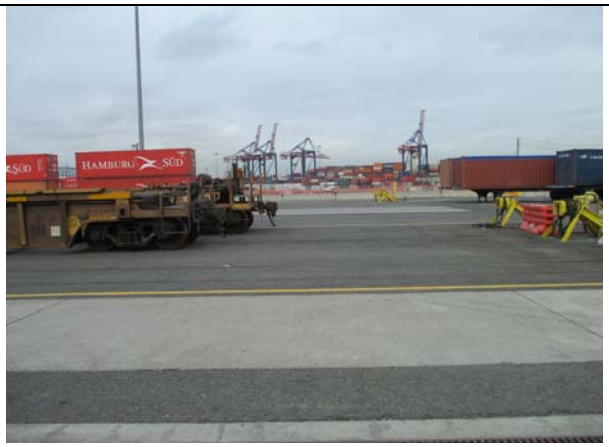


Photo 3: Site 2, Area 2A, taken facing west.

Photo 4: Construction for new rail tracks in Site 2, Area 2A taken facing southwest.

Photo 5: Crushed stone cover in Site 2, Area 2B.

Photo 6: Stormwater drainage ditch in Site 2, Area 2B.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:
208889.1000 .0000	L. Metcalf	1 of 3	The Port Authority of New York and New Jersey	Site 2, Areas 2A & 2B Port Ivory 40 Western Avenue Staten Island, New York

Attachment A
Photograph Log – March 19, 2014 Inspection

Photo 7: Asphalt cover and wetland buffer transition area in Site 2, Area 2B (taken facing southwest).

Photo 8: Excavation area for rail tracks in Site 2, Area 2B (tacking facing northwest).

Photo 9: Crushed stone cover in Site 2, Area 2A, taken facing south.

Photo 10: Railroad tracks in Site 2 Area, 2A (taken facing north).

Photo 11: Crushed stone cover in Site 2, Area 2A, taken facing north.

Photo 12: PRW-10 taken facing northeast. Note excavation for railroad track installation in background.

Attachment A
Photograph Log – March 19, 2014 Inspection

Photo 13: Crushed stone cover in Site 2, Area 2A, taken facing northeast.

Photo 14: Asphalt cover in Site 2, Area 2A taken facing north.

Photo 15: Asphalt cover in Site 2, Area 2A taken facing southwest.

Photo 16: Asphalt cover in Site 2, Area 2A (taken facing east).

Photo 17: Asphalt cover in Site 2, Area 2A (taken facing northeast).

Photo 18: Building No. 40 and 45 in Site 2A.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
208889.1000 .0000	L. Metcalf	3 of 3	The Port Authority of New York and New Jersey	Site 2, Areas 2A & 2B Port Ivory 40 Western Avenue Staten Island, New York	TRC

Attachment A
Photograph Log – September 29, 2014 Inspection

Photo 1: Environmental cap in Area 2A taken facing south.

Photo 2: Environmental cap (one foot of crushed stone) in Area 2A taken facing south.

Photo 3: Asphalt and crushed stone in Area 2A taking facing north.

Photo 4: Wetlands buffer zone in area 2B.

Photo 5: Railroad tracks and wetlands buffer zone in Area 2B taken facing east.

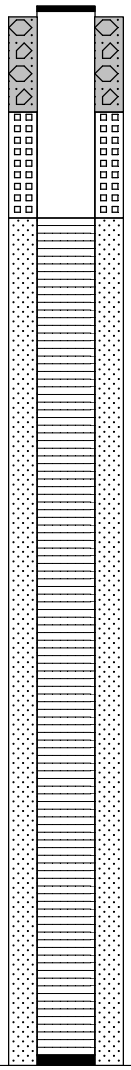
Photo 6: Drainage ditch in Area 2B.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:
208889.1000 .0000	L. Metcalf / C. Guder	1 of 1	The Port Authority of New York and New Jersey	Site 2, Areas 2A & 2B Port Ivory 40 Western Avenue Staten Island, New York

ATTACHMENT B

WELL CONSTRUCTION LOGS

Project: SITE12_SMP_SO_2014	**X Coordinate:** 999999.00	**Borehole ID:** PRW-08
Contract No.: P11-955.502	**Y Coordinate:** 999999.00	**Date Start/Finish:** 3/4/2014 / 3/5/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 9' north of surveyed location	**Total Depth:** 10.4 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-08-WG-201403191041 PRW-08-WG-201403191416		☒	HAND AUGER			(0.00- 0.30') ASPHALT
				HAND AUGER	0		(0.30- 2.00') FILL, Brown M-F SAND, some SILT, little GRAVEL
1							
2				HAND AUGER	0		(2.00- 3.00') FILL, Brown M-F SAND, some SILT, little GRAVEL
3				HAND AUGER	0		(3.00- 4.00') FILL, CONCRETE
4				HAND AUGER	0		(4.00- 6.00') FILL, Brown M-F SAND, trace SILT
5							
6				1,2,1,3	0		(6.00- 8.00') FILL, Brown M-F SAND, trace SILT
7		24					
8				15,15,18,11	0		(8.00- 10.40') FILL, Brown M-F SAND, trace SILT
9		24					
10							

THE PORT AUTHORITY OF NY & NJ

Remarks:

Coordinates provided in State Plane NAD83.

SL 102
1/06

Engineering Department
Materials Engineering

Well Installation Report

PROJECT: HHMT Port Ivory Facility Site 2A/2B		**CONTRACT NO.** 426-12-014	
LOCATION: Laid out as per drawing		**CONTRACTOR** Craig	
WELL NO. PRW-09	**WELL TYPE** A	**DATE:** 4/10/12	
DRILLER: K. Parent	**INSPECTOR:** J. Zarks		

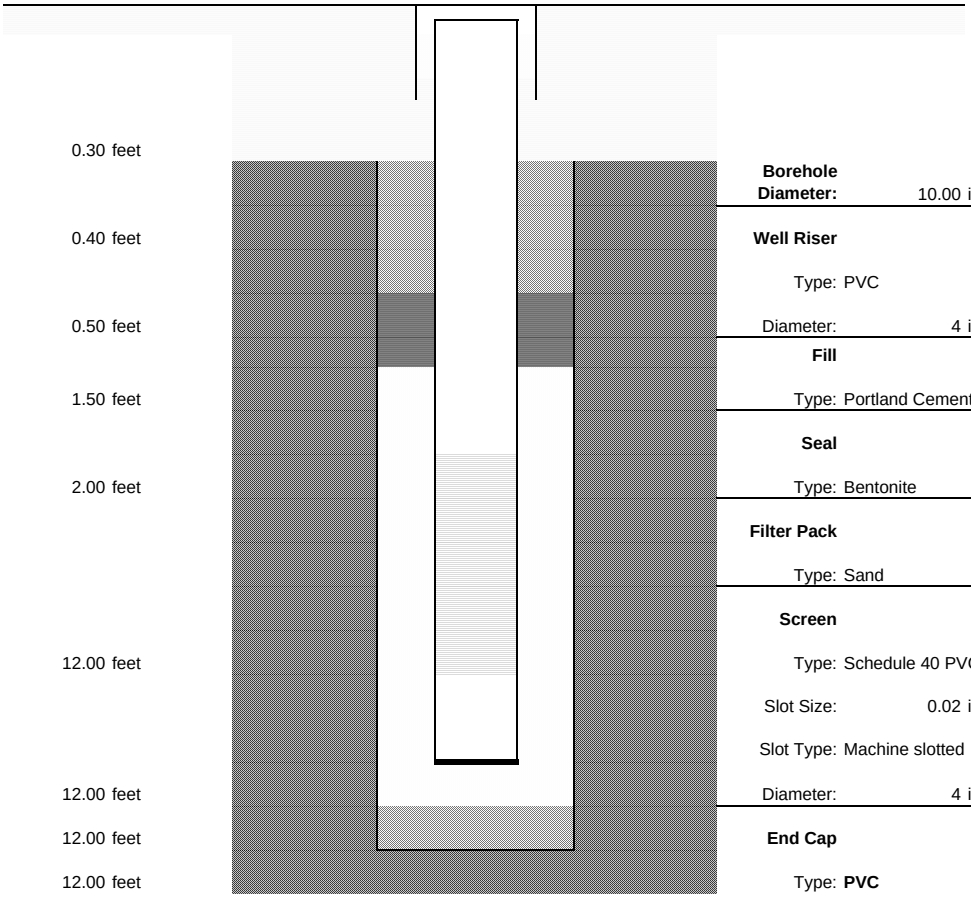
Well Development Report (NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE:	**WATER LEVEL BEFORE:**	**WATER LEVEL AFTER:**
TAKEN	**MINUTES AFTER DEVELOPMENT**	

Protective Cover Type: **Steel**

Top of Protective Cover: 0.00 feet

Well Cap Type: **PVC**



Top of Well Riser: 0.30 feet

Top of Fill: 0.40 feet

Top of Seal: 0.50 feet

Top of Filter: 1.50 feet

Top of Screen: 2.00 feet

Base of Screen: 12.00 feet

Base of Filter: 12.00 feet

Total Depth Well: 12.00 feet

Total Depth Boring: 12.00 feet

Borehole Diameter: 10.00 inches

Well Riser
Type: PVC
Diameter: 4 inches

Fill
Type: Portland Cement

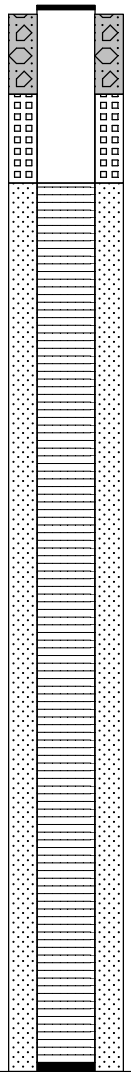
Seal
Type: Bentonite

Filter Pack
Type: Sand

Screen
Type: Schedule 40 PVC Pipe
Slot Size: 0.02 inches
Slot Type: Machine slotted
Diameter: 4 inches

End Cap
Type: **PVC**

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580208.88	**Borehole ID:** PRW-10
Contract No.: P11-955.502	**Y Coordinate:** 656922.79	**Date Start/Finish:** 3/5/2014 / 3/6/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: As laid out	**Total Depth:** 12.4 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

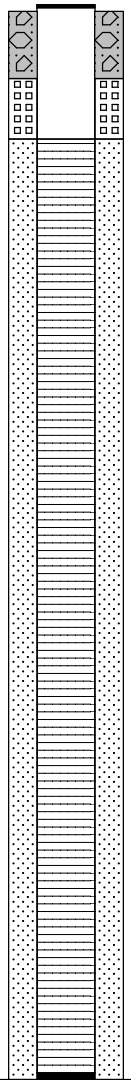
Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-10-WG-201403191041 PRW-10-WG-201403191546			HAND AUGER	0		(0.00- 2.00') MISC-FILL, Brown C-F SAND & GRAVEL, little BRICKS, little CONCRETE, trace SILT
1							
2				HAND AUGER	0		(2.00- 4.00') MISC-FILL, Brown C-F SAND & GRAVEL, little BRICKS, little CONCRETE, trace SILT
3							
4				HAND AUGER	0		(4.00- 6.00') MISC-FILL, Brown C-F SAND & GRAVEL, little BRICKS, little CONCRETE, trace SILT
5							
6					0		(6.00- 8.00') NO RECOVERY
7		0					
8					0		(8.00- 10.00') NO RECOVERY
9		0					
10				15,38,100/6",50/0"	0		(10.00- 12.40') MISC-FILL, Brown C-F SAND & GRAVEL, little BRICKS, little CONCRETE, trace SILT
11		14					
12							

THE PORT AUTHORITY OF NY & NJ

Remarks:

Coordinates provided in State Plane NAD83.

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580830.88	**Borehole ID:** PRW-11
Contract No.: P11-955.502	**Y Coordinate:** 658433.36	**Date Start/Finish:** 3/10/2014 / 3/10/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 35' SW of surveyed location	**Total Depth:** 16.4 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-11-WG-201403191041			HAND AUGER			(0.00- 0.50') ASPHALT
1	PRW-11-WG-201403191016			HAND AUGER	0		(0.50- 1.00') CONCRETE
2				HAND AUGER	0		(1.00- 2.00') FILL, Brown M-F SAND, some GRAVEL, little SILT
3							(2.00- 4.00') FILL, Brown M-F SAND, some GRAVEL, little SILT
4				HAND AUGER	0		(4.00- 6.00') FILL, Brown M-F SAND, some GRAVEL, little SILT
5							
6				21,22,22,24	0		(6.00- 8.00') Red Brown clayey SILT, little GRAVEL, trace M-F SAND
7		24					
8				17,25,15,14	0		(8.00- 10.00') Red Brown silty CLAY, little GRAVEL, trace M-F SAND
9		24					
10				6,8,8,12	0		(10.00- 12.00') Red Brown silty CLAY, little GRAVEL, trace M-F SAND
11		24					
12				7,8,8,8	0		(12.00- 14.00') Red Brown silty CLAY, little GRAVEL, trace M-F SAND
13		24					
14				7,8,10,2	0		(14.00- 16.00') Red Brown silty CLAY, little GRAVEL, trace M-F SAND
15		24					
16				8,14,11,12	0		(16.00- 16.40') Red Brown silty CLAY, little GRAVEL, trace M-F SAND

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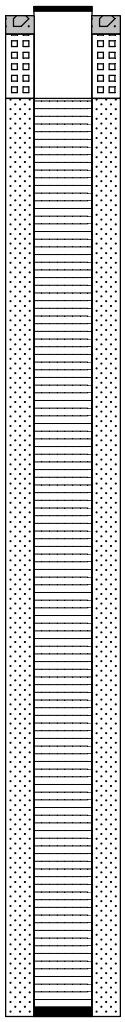
Remarks:

Coordinates provided in State Plane NAD83.

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580889.81	**Borehole ID:** PRW-12
Contract No.: P11-955.502	**Y Coordinate:** 657999.30	**Date Start/Finish:** 3/6/2014 / 3/6/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 15' west of surveyed location	**Total Depth:** 12 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-12-WG-201403191051			HAND AUGER			(0.00- 1.00') ASPHALT
1				HAND AUGER	0		(1.00- 2.00') MISC-FILL, Brown C-F SAND, some GRAVEL, little BRICKS, trace SILT
2			☒	HAND AUGER	0		(2.00- 3.00') MISC-FILL, GRAVEL & BRICKS
3				HAND AUGER	0		(3.00- 4.00') FILL, Brown C-F SAND, some SILT, some GRAVEL
4				HAND AUGER	0		(4.00- 5.50') FILL, Brown C-F SAND, some SILT, some GRAVEL
5				HAND AUGER	0		(5.50- 6.00') Red Brown CLAY & SILT, little GRAVEL, trace M-F SAND
6		24		10,20,25,19	0		(6.00- 8.00') Red Brown CLAY & SILT, little GRAVEL, trace M-F SAND
7							
8		24		13,15,25,21	0		(8.00- 10.00') Red Brown CLAY & SILT, little GRAVEL, trace M-F SAND
9							
10		24		6,6,6,8	0		(10.00- 12.00') Red Brown CLAY & SILT, little GRAVEL, trace M-F SAND
11							
12							

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Remarks:

Coordinates provided in State Plane NAD83.

SL 102
1/06

Engineering Department
Materials Engineering

Well Installation Report

PROJECT:	HHMT Port Ivory Facility Site 2a/2b		**CONTRACT NO.**	426-12-014	
LOCATION:	As Marked		**CONTRACTOR**	Craig	
WELL NO.	PRW-13	**WELL TYPE** A	**DATE:**	4/10/12	
DRILLER:	E. Flawagan	**INSPECTOR:**	B. Patel		

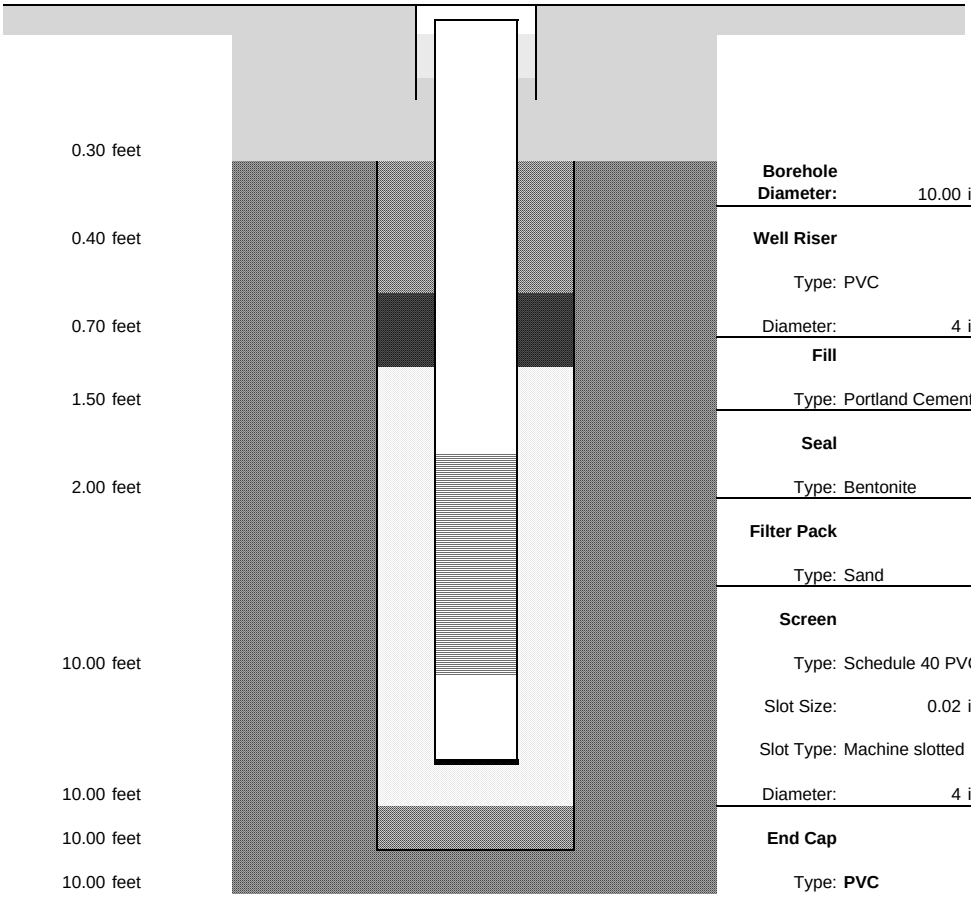
Well Development Report (NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE:	**WATER LEVEL BEFORE:**	**WATER LEVEL AFTER:**
TAKEN	**MINUTES AFTER DEVELOPMENT**	

Protective Cover Type: **Steel**

Top of Protective Cover: 0.00 feet

Well Cap Type: **PVC**



Top of Well Riser: 0.30 feet

Top of Fill: 0.40 feet

Top of Seal: 0.70 feet

Top of Filter: 1.50 feet

Top of Screen: 2.00 feet

Base of Screen: 10.00 feet

Base of Filter: 10.00 feet

Total Depth Well: 10.00 feet

Total Depth Boring: 10.00 feet

Borehole Diameter: 10.00 inches

Well Riser
Type: PVC
Diameter: 4 inches

Fill
Type: Portland Cement

Seal
Type: Bentonite

Filter Pack
Type: Sand

Screen
Type: Schedule 40 PVC Pipe
Slot Size: 0.02 inches
Slot Type: Machine slotted
Diameter: 4 inches

End Cap
Type: **PVC**

SL 100
1/06

THE PORT AUTHORITY OF NY & NJ

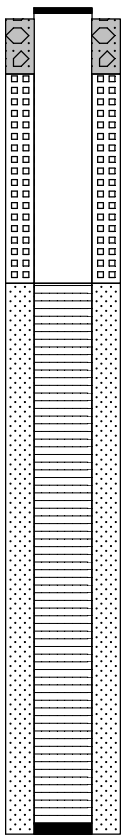
Engineering Department
Materials Engineering

Boring Report

Project	HHMT Port Ivory Facility Site 2A/2B	**Contractor**	Craig	**Boring No.**	PRW-13	**Date**	4/10/12
Location	As Marked	**Contract No.**	426-09-014	**Surface Elev.**			
Spoon	2" O.D. 1.375" I.D.	**Hammer/ Fall (in.)**	140 lbs./30"	**Ground Water Level**			
Hammer Type	Auto	**Hole Type**	1	Date	Time	Depth (ft)	Remarks
Inspector	B. Patel			4/10/12	10:40 AM	4.8	Observed during HA, in S-3
Driller	E. Flawagan			4/11/12	9:00AM	3.7	Top of PVC
site_code							

Sample No.	Start Depth (ft)	End Depth (ft)	Method	Spoon Blows/6"	Re-cov'd	PID Reading	Sample Description and Remarks
01	0.0	2.0	HA	Hand Auger	Full	0.0	Fill: brown c-f Sand, trace Gravel, trace Silt, trace brick
02	2.0	4.0	HA	Hand Auger	Full	0.0	Fill: grey c-f Sand, trace Gravel, trace Silt, trace Clay
03	4.0	6.0	HA	Hand Auger	Full	0.0	Fill: brown-grey c-f Sand, trace Silt, little Clay (wet)
	6.0						Change in Strata
04	6.0	8.0	SS	7-3-3-3	18"	0.0	brown Silty Clay, little fine Sand
05	8.0	9.0	SS	3-1	12"	0.0	Same
	9.0						Change in Strata
06	9.0	10.0	SS	1-1	12"	0.0	grey Organic Silty Clay, some Peat
	10.0						Bottom of Boring
							Installed 4" MW PRW-14 (8' Screen 2' Riser) See Well Report for Well Data.

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580685.88	**Borehole ID:** PRW-14
Contract No.: P11-955.502	**Y Coordinate:** 655826.82	**Date Start/Finish:** 3/4/2014 / 3/4/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 3' north of surveyed location	**Total Depth:** 10 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-14-WG-201403191241		▽	HAND AUGER	0		(0.00- 2.00') FILL, Brown M-F SAND, some GRAVEL, little SILT
1							
2				HAND AUGER	0		(2.00- 4.00') FILL, Red Brown M-F SAND, some SILT, little GRAVEL
3							
4				HAND AUGER	0		(4.00- 5.00') FILL, Red Brown M-F SAND, some SILT, little GRAVEL
5				HAND AUGER	0		(5.00- 6.00') Black organic CLAY & SILT, little C-F SAND, little GRAVEL
6		8		WOH,WOH,1,WOH	0		(6.00- 6.70') Black organic CLAY, trace PEAT FIBERS
7		8		WOH,WOH,1,WOH	0		(6.70- 7.40') Brown M-F SAND, little SILT
		8		WOH,WOH,1,WOH	0		(7.40- 8.00') Brown PEAT
8		0		1,1,WOH,WOH	0		(8.00- 10.00') NO RECOVERY
9							
10							

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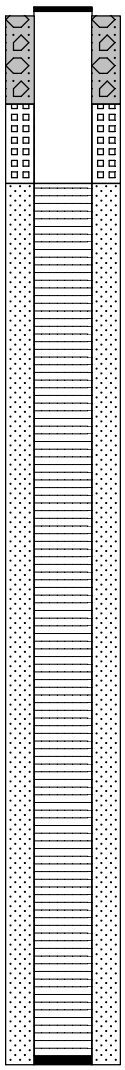
Remarks:

Coordinates provided in State Plane NAD83.

Project: SITE12_SMP_SO_2014	**X Coordinate:** 580752.37	**Borehole ID:** PRW-15
Contract No.: P11-955.502	**Y Coordinate:** 655991.06	**Date Start/Finish:** 3/5/2014 / 3/5/2014
Subfacility: VCP Site 2	**Borehole Diameter:** 8 IN	**Drilling Company:** CRAIG DRILLING
Location: 25' south of surveyed location	**Total Depth:** 12.5 FT	**Driller's Name:** C. COHEN
Hole Type: MONITOR WELL	**Spoon:** SPLIT SPOON	**Drilling Method:** HOLLOW STEM AUGER
Hammer Type: AUTO	**Hammer Wt (lbs):** 130	**Contractor:** TECTONIC
Surface Completion: FLUSH MOUNT	**Hammer Fall (in):** 30	**Inspector:** K. LOTT

Depth (feet)	Sample ID	Recovery Length (in)	Open Borehole WL	Blow Counts / 6"	PID Readings/6" (ppm)	Well Construction	Sample Description and Remarks
0	PRW-15-WG-201403191256			HAND AUGER	0		(0.00- 1.50') FILL, Brown GRAVEL, some M-F SAND, little SILT
1							(1.50- 2.00') MISC-FILL, Brown clayey SILT & GRAVEL, little M-F SAND, trace BRICKS, trace CONCRETE, trace GLASS
				HAND AUGER	0		
2				HAND AUGER	0		(2.00- 4.00') MISC-FILL, Brown clayey SILT & GRAVEL, little M-F SAND, trace BRICKS, trace CONCRETE, trace GLASS
3							
4				HAND AUGER	0		(4.00- 5.50') MISC-FILL, Brown clayey SILT & GRAVEL, little M-F SAND, trace BRICKS, trace CONCRETE, trace GLASS
5							(5.50- 6.00') FILL, Black silty CLAY. some C-F SAND, little GRAVEL, petroleum odor
				HAND AUGER	4.0		
6		12		2,3,3,4	0		(6.00- 7.00') Black organic CLAY
7		12		2,3,3,4	0		(7.00- 8.00') Dark Grey FINE SAND, trace SILT
8		6		3,3,2,2	0		(8.00- 8.50') Black organic CLAY
				3,3,2,2	0		(8.50- 10.00') Dark Grey M-F SAND, trace SILT
9		18					
10				2,3,3,3	0		(10.00- 12.50') Brown M-F SAND, trace SILT
11		24					
12							

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Remarks:

Coordinates provided in State Plane NAD83.

ATTACHMENT C

GROUNDWATER SAMPLING LOGS

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 13:50	Sheet 1 of 8
	Well Identification:	PRW-08		
	Personnel:	Karl Jensen (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground) NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	10.3
Depth to Water (ft):	2.52
Height of water column (ft.):	7.78
Volume of Water in Well (gal):	5.06
Total Gallons Purged:	1.6

[Vol. = $r^2h(0.163)$]

Reference Point:
- X top of riser
- top of casing
- _____

- historical
- measured:
- notch
- X north side
- high pt
- pen mark

- .16 gal/ft (2 in.)
- X .65 gal/ft (4 in.)
- ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	13:50	13:55	14:00	14:05	14:10	14:15			
Temp. (C.)	8.73	8.84	8.70	8.81	8.70	8.68			
Conduct.(umhos/com)	912	887	879	867	866	860			
DO (mg/L)	0.72	0.71	0.7	0.68	0.70	0.69			
pH (Std.Units)	8.61	8.7	8.74	8.82	8.83	8.83			
ORP (millivolts)	-15.9	-15.4	-15.6	-15.7	-15.7	-15.7			
Turb. (NTU)	31.6	24.8	23.21	20.23	19.81	19.65			
Flow (ml/min)-approx.	250	250	250	250	250	250			
Depth to water (ft)	2.52	2.52	2.52	2.52	2.52	2.52			
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	14:16	PRW-08-WG-201403191416

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 14:45	Sheet 2 of 8
	Well Identification:	PRW-09		
	Personnel:	Mark Pasquarello (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground) NA

WELL DIAMETER: [ ] 2 inch [X] 4 inch [ ] 6 inch

WELL MATERIAL: [X] PVC [ ] SS [ ] ___

Well Depth (ft.):	12
Depth to Water (ft):	2.26
Height of water column (ft.):	9.74
Volume of Water in Well (gal):	6.33
Total Gallons Purged:	2.4

[Vol. = $r^2h(0.163)$]

Reference Point:
- [X] top of riser
- [ ] top of casing
- [ ] _____

- [ ] historical
- [ ] measured:
- [ ] notch
- [X] north side
- [ ] high pt
- [ ] pen mark

- [ ] .16 gal/ft (2 in.)
- [X] .65 gal/ft (4 in.)
- [ ] ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	14:45	14:50	14:55	15:00	15:05	15:10	15:15		
Temp. (C.)	8.44	8.48	8.45	8.48	8.40	8.39	8.37		
Conduct.(umhos/com)	1160	1207	1259	1310	1330	1340	1355		
DO (mg/L)	1.05	0.94	0.93	0.87	0.84	0.83	0.81		
pH (Std.Units)	7.78	8.47	9.01	8.74	8.79	8.85	8.87		
ORP (millivolts)	-86.9	-130	-100.1	-77.4	-67.8	-62.9	-60.7		
Turb. (NTU)	14.1	13.7	12.6	12.8	11.3	11.6	11.3		
Flow (ml/min)-approx.	300	300	300	300	300	300	300		
Depth to water (ft)	2.26	2.26	2.26	2.26	2.26	2.26	2.26		
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	15:16	PRW-09-WG-201403191516

REMARKS:

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 15:20	Sheet 3 of 8
	Well Identification:	PRW-10		
	Personnel:	Karl Jensen (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground) NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	12.3
Depth to Water (ft):	5.54
Height of water column (ft.):	6.76
Volume of Water in Well (gal):	4.394
Total Gallons Purged:	1.7

[Vol. = $r^2h(0.163)$]

Reference Point:
- X top of riser
- top of casing
- _____

- historical
- measured:
- notch
- X north side
- high pt
- pen mark

- .16 gal/ft (2 in.)
- X .65 gal/ft (4 in.)
- ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	15:20	15:25	15:30	15:35	15:40	15:45			
Temp. (C.)	8.10	7.29	9.23	9.24	9.09	9.06			
Conduct.(umhos/com)	1255	1249	1267	1264	1259	1258			
DO (mg/L)	1.47	1.07	0.82	0.79	0.74	0.74			
pH (Std.Units)	7.97	7.83	7.82	7.83	7.83	7.83			
ORP (millivolts)	-32.4	-33.3	-35.1	-36.8	-34.2	-34.7			
Turb. (NTU)	40.21	28.3	24.93	23.79	23.41	22.7			
Flow (ml/min)-approx.	250	250	250	250	250	250			
Depth to water (ft)	5.54	5.54	5.54	5.54	5.54	5.54			
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	15:46	PRW-10-WG-201403191546

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 9:55	Sheet 4 of 8
	Well Identification:	PRW-11		
	Personnel:	Karl Jensen (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: _____ ft. (from Ground)

WELL DIAMETER: 2 inch [ ] 4 inch [X] 6 inch [ ]

WELL MATERIAL: PVC [X] SS [ ] ___ [ ]

Well Depth (ft.):	16.3
Depth to Water (ft):	13.84
Height of water column (ft.):	2.46
Volume of Water in Well (gal):	1.6
Total Gallons Purged:	1.3

[Vol. = $r^2h(0.163)$]

Reference Point: [X] top of riser [ ] top of casing [ ] _____

[ ] historical measured: [ ] notch [X] north side [ ] high pt [ ] pen mark

[ ] .16 gal/ft (2 in.) [X] .65 gal/ft (4 in.) [ ] ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	9:55	10:00	10:05	10:10	10:15				
Temp. (C.)	12.19	13.03	13.22	13.16	13.10				
Conduct.(umhos/com)	1422	1399	1363	1354	1342				
DO (mg/L)	2.31	1.99	1.89	1.92	1.94				
pH (Std.Units)	6.9	6.88	6.85	6.84	6.84				
ORP (millivolts)	-7.8	-2.4	0.5	1.1	1.3				
Turb. (NTU)	20.6	14.8	16.6	15.4	15.2				
Flow (ml/min)-approx.	250	250	250	250	250				
Depth to water (ft)	13.84	13.84	13.84	13.84	13.84				
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	10:16	PRW-11-WG-201403191016

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 10:20	Sheet 5 of 8
	Well Identification:	PRW-12		
	Personnel:	Mark Pasquarello (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground): NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	11.3
Depth to Water (ft):	2.15
Height of water column (ft.):	9.15
Volume of Water in Well (gal):	5.95
Total Gallons Purged:	2.4

[Vol. = $r^2h(0.163)$]

Reference Point: X top of riser; top of casing; _____

historical; measured: notch; X north side; high pt; pen mark

.16 gal/ft (2 in.); X .65 gal/ft (4 in.); ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	10:20	10:25	10:30	10:35	10:40	10:45	10:50		
Temp. (C.)	9.39	9.13	9.12	9.13	9.10	9.06	9.06		
Conduct.(umhos/com)	2545	2637	2739	2780	2808	2817	2859		
DO (mg/L)	3.78	3.5	3.2	3.13	3.05	2.82	2.8		
pH (Std.Units)	11.74	11.72	11.73	11.75	11.76	11.81	11.81		
ORP (millivolts)	201.6	203.6	192.2	180.7	175	161.3	155.7		
Turb. (NTU)	6.46	6.06	5.88	5.76	5.6	5.49	5.4		
Flow (ml/min)-approx.	300	300	300	300	300	300	300		
Depth to water (ft)	2.15	2.15	2.15	2.15	2.15	2.15	2.15		
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	10:51	PRW-12-WG-201403191051

REMARKS:

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 13:25	Sheet 6 of 8
	Well Identification:	PRW-13		
	Personnel:	Mark Pasquarello (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground): NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	10
Depth to Water (ft):	2.86
Height of water column (ft.):	7.14
Volume of Water in Well (gal):	4.64
Total Gallons Purged:	1.1

[Vol. = $r^2h(0.163)$]

Reference Point: X top of riser; top of casing; _____

historical; measured:; notch; X north side; high pt; pen mark

.16 gal/ft (2 in.); X .65 gal/ft (4 in.); ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	13:25	13:30	13:35	13:40	13:45				
Temp. (C.)	6.52	6.52	6.55	6.52	6.50				
Conduct.(umhos/com)	2314	2286	2235	2200	2196				
DO (mg/L)	0.80	0.74	0.72	0.7	0.68				
pH (Std.Units)	6.12	6.12	6.14	6.16	6.17				
ORP (millivolts)	-22	-22.5	-25.2	-26.4	-27.5				
Turb. (NTU)	10.01	8.37	8.2	8.14	8.06				
Flow (ml/min)-approx.	200	200	200	200	200				
Depth to water (ft)	2.86	2.86	2.86	2.86	2.86				
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	13:46	PRW-13-WG-201403191346

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 12:05	Sheet 7 of 8
	Well Identification:	PRW-14		
	Personnel:	Mark Pasquarello (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground): NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	7.8
Depth to Water (ft):	4.7
Height of water column (ft.):	3.1
Volume of Water in Well (gal):	2.02
Total Gallons Purged:	2.3

[Vol. = $r^2h(0.163)$]

Reference Point:
- X top of riser
- top of casing
- _____

- historical
- measured:
- notch
- X north side
- high pt
- pen mark

- .16 gal/ft (2 in.)
- X .65 gal/ft (4 in.)
- ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	
Temp. (C.)	7.96	7.89	7.91	7.98	8.04	8.02	8.02	8.00	
Conduct.(umhos/com)	1900	1904	1880	1876	1869	1861	1853	1845	
DO (mg/L)	1.80	1.89	1.76	1.35	1.09	0.94	0.91	0.88	
pH (Std.Units)	6.47	6.46	6.42	6.43	6.44	6.45	6.47	6.47	
ORP (millivolts)	43.7	40.8	26.8	22.1	18	14.7	9.4	6.9	
Turb. (NTU)	54.4	39.8	27.6	22.1	21.9	19.8	18.9	18.1	
Flow (ml/min)-approx.	250	250	250	250	250	250	250	250	
Depth to water (ft)	4.6	4.63	4.66	4.70	4.70	4.7	4.7	4.7	
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	12:41	PRW-14-WG-201403191241

REMARKS: _____

Groundwater Sampling Data Record Form	Project: HHMT Port Ivory - Site 2	Project Number: 208889.1000.0000	Date/Time: 3/19/14 12:25	Sheet 8 of 8
	Well Identification:	PRW-15		
	Personnel:	Karl Jensen (EST Associates)		

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact		
Well Cap Present	X	
Security Lock Present		X

Protective Casing Stick-up: (from Ground) NA

WELL DIAMETER: 2 inch; X 4 inch; 6 inch

WELL MATERIAL: X PVC; SS; ___

Well Depth (ft.):	12.3
Depth to Water (ft):	4.68
Height of water column (ft.):	7.62
Volume of Water in Well (gal):	4.95
Total Gallons Purged:	2.0

[Vol. = $r^2h(0.163)$]

Reference Point: X top of riser; top of casing; _____

historical; measured: notch; X north side; high pt; pen mark

.16 gal/ft (2 in.); X .65 gal/ft (4 in.); ____ gal/ft (__in.)

Depth to NAPL (ft.):	NA
Thickness of NAPL (ft.):	NA

FIELD WATER QUALITY MEASUREMENTS

Time	12:25	12:30	12:35	12:40	12:45	12:50	12:55		
Temp. (C.)	9.20	9.68	9.90	9.95	9.69	9.96	9.94		
Conduct.(umhos/com)	1460	1448	1447	1445	1441	1430	1430		
DO (mg/L)	3.77	1.4	1.07	0.95	0.80	0.74	0.73		
pH (Std.Units)	7.1	7.19	7.2	7.22	7.23	7.23	7.23		
ORP (millivolts)	-23.1	-28.6	-29.3	-35.1	-37.8	-39.1	-44.8		
Turb. (NTU)	81.7	62.6	40.83	32.66	30.21	29.86	28.64		
Flow (ml/min)-approx.	250	250	250	250	250	250	250		
Depth to water (ft)	4.68	4.68	4.68	4.68	4.68	4.68	4.68		
Comments									

Analytical Parameters	Time Collected	Sample ID
VOCs, SVOCs, metals (filtered and unfiltered), PCBs, pesticides, cyanide	12:56	PRW-15-WG-201403191256

REMARKS: _____

ATTACHMENT D

LABORATORY ANALYTICAL DATA REPORTS

ANALYTICAL REPORT

Lab Number:	L1405912
Client:	Port Authority of New York/New Jersey Materials Engineering-Chemical/Env Lab 241 Erie Street-Room 210 Jersey City, NJ 07310
ATTN:	Angelos Zafirelis
Phone:	(201) 216-2960
Project Name:	HHMT PORT IVORY
Project Number:	SITE2_SMP_2014
Report Date:	04/23/14

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1405912-01	PRW-11-WG-201403191016	HOWLAND HOOK MARINE TERMINAL	03/19/14 10:16
L1405912-02	PRW-15-WG-201403191256	HOWLAND HOOK MARINE TERMINAL	03/19/14 12:56
L1405912-03	PRW-08-WG-201403191416	HOWLAND HOOK MARINE TERMINAL	03/19/14 14:16
L1405912-04	PRW-10-WG-201403191546	HOWLAND HOOK MARINE TERMINAL	03/19/14 15:46
L1405912-05	PRW-12-WG-201403191051	HOWLAND HOOK MARINE TERMINAL	03/19/14 10:51
L1405912-06	PRW-14-WG-201403191241	HOWLAND HOOK MARINE TERMINAL	03/19/14 12:41
L1405912-07	PRW-13-WG-201403191346	HOWLAND HOOK MARINE TERMINAL	03/19/14 13:46
L1405912-08	PRW-09-WG-201403191516	HOWLAND HOOK MARINE TERMINAL	03/19/14 15:16
L1405912-09	SW-4-WS-201403191705	HOWLAND HOOK MARINE TERMINAL	03/19/14 17:05
L1405912-10	SW-3-WS-201403191725	HOWLAND HOOK MARINE TERMINAL	03/19/14 17:25
L1405912-11	SW-2-WS-201403191745	HOWLAND HOOK MARINE TERMINAL	03/19/14 17:45
L1405912-12	SW-1-WS-201403191815	HOWLAND HOOK MARINE TERMINAL	03/19/14 18:15
L1405912-13	WQ-201403190930-FB-1	HOWLAND HOOK MARINE TERMINAL	03/19/14 09:30
L1405912-14	WG-201403190000-FD-1	HOWLAND HOOK MARINE TERMINAL	03/19/14 00:00
L1405912-15	WQ-201403190000-TB-1	HOWLAND HOOK MARINE TERMINAL	03/19/14 00:00

Project Name: HHMT PORT IVORY **Lab Number:** L1405912
Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: HHMT PORT IVORY **Lab Number:** L1405912
Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Case Narrative (continued)

Report Submission

This report replaces the report issued March 27, 2014. AT the client's request, the Pesticide compound list has been amended to include endrin aldehyde and methoxychlor.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L1405912-01 through -14 were field filtered for Dissolved Metals.

Semivolatile Organics

All samples and the associated Method Blank were evaluated for the presence of 2,3,7,8-TCDD as a TIC and were determined to be non-detect.

Semivolatile Organics by SIM

L1405912-01, -05, -07, and -09 through -12 have elevated detection limits due to the dilutions required by the sample matrices.

Total and Dissolved Metals

L1405912-09 and -10 have elevated detection limits for all elements, with the exception of mercury, due to the dilutions required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 04/23/14

ORGANICS

VOLATILES

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 13:03		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	1.3	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	0.26	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	0.30	J	ug/l	0.75	0.16	1
Ethylbenzene	0.23	J	ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.74		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	0.19	J	ug/l	2.5	0.18	1
1,3-Dichlorobenzene	0.20	J	ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.22	J	ug/l	2.5	0.19	1
p/m-Xylene	0.56	J	ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	0.44	J	ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	100		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 13:32		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.32	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.71	J	ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 14:00		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	0.24	J	ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	0.18	J	ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.22	J	ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 14:29		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	0.18	J	ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.20	J	ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 14:58		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	1.4	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	0.40	J	ug/l	0.50	0.16	1
Toluene	3.5		ug/l	0.75	0.16	1
Ethylbenzene	0.22	J	ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.20	J	ug/l	2.5	0.19	1
p/m-Xylene	0.60	J	ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	0.57	J	ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 15:27		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.59	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	0.20	J	ug/l	2.5	0.19	1
p/m-Xylene	0.42	J	ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	0.37	J	ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 15:55		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.94	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	0.34	J	ug/l	0.50	0.16	1
Toluene	0.34	J	ug/l	0.75	0.16	1
Ethylbenzene	0.19	J	ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	0.52	J	ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	0.38	J	ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 16:24		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.98	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 16:53		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	102		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 17:22		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	103		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 17:51		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 18:19		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 18:48		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.42	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	103		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 19:17		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	0.98	J	ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-15	Date Collected:	03/19/14 00:00
Client ID:	WQ-201403190000-TB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	None
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	03/25/14 19:46		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.15	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.40	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.14	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.17	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
p/m-Xylene	ND		ug/l	1.0	0.33	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-15	Date Collected:	03/19/14 00:00
Client ID:	WQ-201403190000-TB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
o-Xylene	ND		ug/l	1.0	0.33	1
Acrolein	ND		ug/l	5.0	0.63	1
Acrylonitrile	ND		ug/l	5.0	0.43	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	105		70-130

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/25/14 11:36
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG677851-3					
Methylene chloride	ND		ug/l	3.0	0.29
1,1-Dichloroethane	ND		ug/l	0.75	0.15
Chloroform	ND		ug/l	0.75	0.16
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.8	0.13
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14
2-Chloroethylvinyl ether	ND		ug/l	10	0.40
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	0.22	J	ug/l	0.50	0.18
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14
Benzene	ND		ug/l	0.50	0.16
Toluene	0.18	J	ug/l	0.75	0.16
Ethylbenzene	0.17	J	ug/l	0.50	0.17
Chloromethane	ND		ug/l	2.5	0.18
Bromomethane	ND		ug/l	1.0	0.26
Vinyl chloride	ND		ug/l	1.0	0.14
Chloroethane	ND		ug/l	1.0	0.13
1,1-Dichloroethene	ND		ug/l	0.50	0.14
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16
Trichloroethene	ND		ug/l	0.50	0.17
1,2-Dichlorobenzene	0.23	J	ug/l	2.5	0.18
1,3-Dichlorobenzene	0.24	J	ug/l	2.5	0.19
1,4-Dichlorobenzene	0.28	J	ug/l	2.5	0.19
p/m-Xylene	ND		ug/l	1.0	0.33

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/25/14 11:36
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG677851-3					
o-Xylene	ND		ug/l	1.0	0.33
Acrolein	ND		ug/l	5.0	0.63
Acrylonitrile	ND		ug/l	5.0	0.43

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
Methylene chloride	99		98		70-130	1		20
1,1-Dichloroethane	107		107		70-130	0		20
Chloroform	105		105		70-130	0		20
Carbon tetrachloride	108		108		63-132	0		20
1,2-Dichloropropane	106		106		70-130	0		20
Dibromochloromethane	107		109		63-130	2		20
1,1,2-Trichloroethane	105		107		70-130	2		20
2-Chloroethylvinyl ether	108		111		70-130	3		20
Tetrachloroethene	105		106		70-130	1		20
Chlorobenzene	100		101		75-130	1		25
Trichlorofluoromethane	106		104		62-150	2		20
1,2-Dichloroethane	105		105		70-130	0		20
1,1,1-Trichloroethane	108		107		67-130	1		20
Bromodichloromethane	107		107		67-130	0		20
trans-1,3-Dichloropropene	109		111		70-130	2		20
cis-1,3-Dichloropropene	109		110		70-130	1		20
1,1-Dichloropropene	110		109		70-130	1		20
Bromoform	108		110		54-136	2		20
1,1,2,2-Tetrachloroethane	104		107		67-130	3		20
Benzene	106		106		70-130	0		25
Toluene	102		104		70-130	2		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
Ethylbenzene	103		105		70-130	2		20
Chloromethane	106		104		64-130	2		20
Bromomethane	93		104		39-139	11		20
Vinyl chloride	108		107		55-140	1		20
Chloroethane	110		106		55-138	4		20
1,1-Dichloroethene	107		105		61-145	2		25
trans-1,2-Dichloroethene	107		106		70-130	1		20
Trichloroethene	107		106		70-130	1		25
1,2-Dichlorobenzene	102		103		70-130	1		20
1,3-Dichlorobenzene	102		103		70-130	1		20
1,4-Dichlorobenzene	101		102		70-130	1		20
Methyl tert butyl ether	109		111		63-130	2		20
p/m-Xylene	105		107		70-130	2		20
o-Xylene	105		106		70-130	1		20
cis-1,2-Dichloroethene	106		106		70-130	0		20
Dibromomethane	104		105		70-130	1		20
1,4-Dichlorobutane	103		105		70-130	2		20
Iodomethane	85		98		70-130	14		20
1,2,3-Trichloropropane	104		108		64-130	4		20
Styrene	105		106		70-130	1		20
Dichlorodifluoromethane	110		107		36-147	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
Acetone	98		99		58-148	1		20
Carbon disulfide	104		103		51-130	1		20
2-Butanone	98		102		63-138	4		20
Vinyl acetate	113		113		70-130	0		20
4-Methyl-2-pentanone	116		120		59-130	3		20
2-Hexanone	113		120		57-130	6		20
Ethyl methacrylate	114		117		70-130	3		20
Acrolein	100		97		70-130	3		20
Acrylonitrile	110		113		70-130	3		20
Bromochloromethane	103		103		70-130	0		20
Tetrahydrofuran	109		112		58-130	3		20
2,2-Dichloropropane	115		113		63-133	2		20
1,2-Dibromoethane	105		108		70-130	3		20
1,3-Dichloropropane	106		108		70-130	2		20
1,1,1,2-Tetrachloroethane	104		106		64-130	2		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	108		116		53-136	7		20
sec-Butylbenzene	108		113		70-130	5		20
tert-Butylbenzene	107		111		70-130	4		20
o-Chlorotoluene	105		105		70-130	0		20
p-Chlorotoluene	104		106		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
1,2-Dibromo-3-chloropropane	104		108		41-144	4		20
Hexachlorobutadiene	95		109		63-130	14		20
Isopropylbenzene	107		109		70-130	2		20
p-Isopropyltoluene	109		114		70-130	4		20
Naphthalene	104		118		70-130	13		20
n-Propylbenzene	106		109		69-130	3		20
1,2,3-Trichlorobenzene	103		112		70-130	8		20
1,2,4-Trichlorobenzene	104		112		70-130	7		20
1,3,5-Trimethylbenzene	106		109		64-130	3		20
1,3,5-Trichlorobenzene	104		107		70-130	3		20
1,2,4-Trimethylbenzene	108		109		70-130	1		20
trans-1,4-Dichloro-2-butene	109		111		70-130	2		20
Halothane	107		107		70-130	0		20
Ethyl ether	106		106		59-134	0		20
Methyl Acetate	107		108		70-130	1		20
Ethyl Acetate	106		108		70-130	2		20
Isopropyl Ether	108		107		70-130	1		20
Cyclohexane	112		110		70-130	2		20
tert-Butyl Alcohol	105		116		70-130	10		20
Ethyl-Tert-Butyl-Ether	109		110		70-130	1		20
Tertiary-Amyl Methyl Ether	110		112		66-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG677851-1 WG677851-2								
1,4-Dioxane	95		107		56-162	12		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	109		107		70-130	2		20
Methyl cyclohexane	112		111		70-130	1		20
1,4-Diethylbenzene	109		114		70-130	4		20
4-Ethyltoluene	108		110		70-130	2		20
1,2,4,5-Tetramethylbenzene	106		115		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103		103		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	102		103		70-130

SEMIVOLATILES

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 17:58		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	19		10-120
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	68		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	81		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01 D	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 22:33		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	ND		ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	ND		ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	ND		ug/l	0.40	0.14	2
Benzo(b)fluoranthene	ND		ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	ND		ug/l	0.40	0.14	2
Fluorene	0.62		ug/l	0.40	0.11	2
Phenanthrene	0.27	J	ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	ND		ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.40	0.16	2
Pyrene	ND		ug/l	0.40	0.11	2
2-Methylnaphthalene	0.17	J	ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	88		15-120
2,4,6-Tribromophenol	105		10-120
4-Terphenyl-d14	90		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 18:25		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	34		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	77		15-120
2,4,6-Tribromophenol	108		10-120
4-Terphenyl-d14	98		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 17:01		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	0.08	J	ug/l	0.20	0.06	1
Benzo(ghi)perylene	ND		ug/l	0.20	0.07	1
Fluorene	0.06	J	ug/l	0.20	0.06	1
Phenanthrene	0.09	J	ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	67		15-120
2,4,6-Tribromophenol	85		10-120
4-Terphenyl-d14	68		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 18:52		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	95		10-120
4-Terphenyl-d14	85		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 17:25		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.38		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	0.10	J	ug/l	0.20	0.07	1
Benzo(b)fluoranthene	0.10	J	ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	ND		ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.11	J	ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	0.14	J	ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	73		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 19:19		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	85		15-120
2,4,6-Tribromophenol	106		10-120
4-Terphenyl-d14	95		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 17:50		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	0.07	J	ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.11	J	ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	0.06	J	ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	86		15-120
2,4,6-Tribromophenol	96		10-120
4-Terphenyl-d14	85		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 19:46		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	10		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	93		15-120
2,4,6-Tribromophenol	113		10-120
4-Terphenyl-d14	99		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05 D	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 22:57		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.61		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	0.10	J	ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	0.89		ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	ND		ug/l	0.40	0.14	2
Benzo(b)fluoranthene	ND		ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	ND		ug/l	0.40	0.14	2
Fluorene	0.47		ug/l	0.40	0.11	2
Phenanthrene	1.3		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	ND		ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.40	0.16	2
Pyrene	ND		ug/l	0.40	0.11	2
2-Methylnaphthalene	0.70		ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	30		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	79		10-120
4-Terphenyl-d14	68		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 20:13		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	109		10-120
4-Terphenyl-d14	100		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 18:15		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	ND		ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.11	J	ug/l	0.20	0.07	1
Fluorene	0.18	J	ug/l	0.20	0.06	1
Phenanthrene	0.70		ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	0.08	J	ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	70		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 20:41		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	87		15-120
2,4,6-Tribromophenol	104		10-120
4-Terphenyl-d14	76		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07 D	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/25/14 00:11		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.34	J	ug/l	1.0	0.32	5
2-Chloronaphthalene	ND		ug/l	1.0	0.33	5
Fluoranthene	ND		ug/l	1.0	0.22	5
Hexachlorobutadiene	ND		ug/l	2.5	0.36	5
Naphthalene	ND		ug/l	1.0	0.32	5
Benzo(a)anthracene	ND		ug/l	1.0	0.28	5
Benzo(a)pyrene	ND		ug/l	1.0	0.34	5
Benzo(b)fluoranthene	ND		ug/l	1.0	0.36	5
Benzo(k)fluoranthene	ND		ug/l	1.0	0.34	5
Chrysene	ND		ug/l	1.0	0.24	5
Acenaphthylene	0.88	J	ug/l	1.0	0.25	5
Anthracene	ND		ug/l	1.0	0.32	5
Benzo(ghi)perylene	ND		ug/l	1.0	0.35	5
Fluorene	ND		ug/l	1.0	0.28	5
Phenanthrene	ND		ug/l	1.0	0.32	5
Dibenzo(a,h)anthracene	ND		ug/l	1.0	0.36	5
Indeno(1,2,3-cd)Pyrene	ND		ug/l	1.0	0.40	5
Pyrene	ND		ug/l	1.0	0.28	5
2-Methylnaphthalene	ND		ug/l	1.0	0.30	5
Pentachlorophenol	ND		ug/l	4.0	0.94	5
Hexachlorobenzene	ND		ug/l	4.0	0.07	5
Hexachloroethane	ND		ug/l	4.0	0.28	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	102		23-120
2-Fluorobiphenyl	89		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	70		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 21:07		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	100		10-120
4-Terphenyl-d14	87		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 18:40		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	0.07	J	ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.10	J	ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	ND		ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	0.45	J	ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	74		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 21:34		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	80		15-120
2,4,6-Tribromophenol	113		10-120
4-Terphenyl-d14	97		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09 D	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 23:22		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	ND		ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	ND		ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	0.19	J	ug/l	0.40	0.14	2
Benzo(b)fluoranthene	0.21	J	ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	0.22	J	ug/l	0.40	0.14	2
Fluorene	ND		ug/l	0.40	0.11	2
Phenanthrene	ND		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	0.25	J	ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	0.24	J	ug/l	0.40	0.16	2
Pyrene	ND		ug/l	0.40	0.11	2
2-Methylnaphthalene	ND		ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	87		10-120
4-Terphenyl-d14	88		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 22:02		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	33		10-120
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	119		10-120
4-Terphenyl-d14	93		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10 D	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/26/14 10:27		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	0.18	J	ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	0.19	J	ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	ND		ug/l	0.40	0.14	2
Benzo(b)fluoranthene	ND		ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	0.23	J	ug/l	0.40	0.14	2
Fluorene	ND		ug/l	0.40	0.11	2
Phenanthrene	ND		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	0.22	J	ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	0.33	J	ug/l	0.40	0.16	2
Pyrene	0.16	J	ug/l	0.40	0.11	2
2-Methylnaphthalene	0.14	J	ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	27		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	90		10-120
4-Terphenyl-d14	79		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/23/14 22:29		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	35		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	107		10-120
4-Terphenyl-d14	89		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11 D	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 23:46		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	ND		ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	ND		ug/l	0.40	0.13	2
Benzo(a)anthracene	ND		ug/l	0.40	0.11	2
Benzo(a)pyrene	0.18	J	ug/l	0.40	0.14	2
Benzo(b)fluoranthene	0.20	J	ug/l	0.40	0.14	2
Benzo(k)fluoranthene	ND		ug/l	0.40	0.14	2
Chrysene	ND		ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	ND		ug/l	0.40	0.13	2
Benzo(ghi)perylene	0.21	J	ug/l	0.40	0.14	2
Fluorene	ND		ug/l	0.40	0.11	2
Phenanthrene	ND		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	0.25	J	ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	0.24	J	ug/l	0.40	0.16	2
Pyrene	ND		ug/l	0.40	0.11	2
2-Methylnaphthalene	ND		ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	34		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	81		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	90		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/25/14 11:26		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	76		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	96		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12 D	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/26/14 10:57		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.40	0.13	2
2-Chloronaphthalene	ND		ug/l	0.40	0.13	2
Fluoranthene	0.32	J	ug/l	0.40	0.09	2
Hexachlorobutadiene	ND		ug/l	1.0	0.14	2
Naphthalene	ND		ug/l	0.40	0.13	2
Benzo(a)anthracene	0.19	J	ug/l	0.40	0.11	2
Benzo(a)pyrene	0.39	J	ug/l	0.40	0.14	2
Benzo(b)fluoranthene	0.48		ug/l	0.40	0.14	2
Benzo(k)fluoranthene	0.19	J	ug/l	0.40	0.14	2
Chrysene	0.23	J	ug/l	0.40	0.10	2
Acenaphthylene	ND		ug/l	0.40	0.10	2
Anthracene	0.15	J	ug/l	0.40	0.13	2
Benzo(ghi)perylene	0.30	J	ug/l	0.40	0.14	2
Fluorene	ND		ug/l	0.40	0.11	2
Phenanthrene	ND		ug/l	0.40	0.13	2
Dibenzo(a,h)anthracene	0.24	J	ug/l	0.40	0.15	2
Indeno(1,2,3-cd)Pyrene	0.41		ug/l	0.40	0.16	2
Pyrene	0.30	J	ug/l	0.40	0.11	2
2-Methylnaphthalene	ND		ug/l	0.40	0.12	2
Pentachlorophenol	ND		ug/l	1.6	0.37	2
Hexachlorobenzene	ND		ug/l	1.6	0.03	2
Hexachloroethane	ND		ug/l	1.6	0.11	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	24		21-120
Phenol-d6	17		10-120
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	50		15-120
2,4,6-Tribromophenol	77		10-120
4-Terphenyl-d14	66		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/24/14 21:45		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	66		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	83		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 19:04		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	ND		ug/l	0.20	0.06	1
Benzo(ghi)perylene	ND		ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	ND		ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	ND		ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	85		15-120
2,4,6-Tribromophenol	84		10-120
4-Terphenyl-d14	86		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	03/22/14 01:00
Analytical Date:	03/24/14 22:12		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	5.2	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
Azobenzene	ND		ug/l	2.0	0.54	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	3.0		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	32		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	88		41-149

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	03/22/14 00:59
Analytical Date:	03/24/14 19:29		
Analyst:	MW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.06	1
2-Chloronaphthalene	ND		ug/l	0.20	0.07	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.07	1
Naphthalene	ND		ug/l	0.20	0.06	1
Benzo(a)anthracene	ND		ug/l	0.20	0.06	1
Benzo(a)pyrene	ND		ug/l	0.20	0.07	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07	1
Chrysene	ND		ug/l	0.20	0.05	1
Acenaphthylene	ND		ug/l	0.20	0.05	1
Anthracene	0.07	J	ug/l	0.20	0.06	1
Benzo(ghi)perylene	0.11	J	ug/l	0.20	0.07	1
Fluorene	ND		ug/l	0.20	0.06	1
Phenanthrene	ND		ug/l	0.20	0.06	1
Dibenzo(a,h)anthracene	0.13	J	ug/l	0.20	0.07	1
Indeno(1,2,3-cd)Pyrene	0.12	J	ug/l	0.20	0.08	1
Pyrene	ND		ug/l	0.20	0.06	1
2-Methylnaphthalene	ND		ug/l	0.20	0.06	1
Pentachlorophenol	0.49	J	ug/l	0.80	0.19	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	79		15-120
2,4,6-Tribromophenol	92		10-120
4-Terphenyl-d14	81		41-149

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/23/14 12:32
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 01:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG677219-1					
Acenaphthene	ND		ug/l	2.0	0.28
Benzidine	ND		ug/l	20	5.2
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21
Hexachlorobenzene	ND		ug/l	2.0	0.40
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41
2-Chloronaphthalene	ND		ug/l	2.0	0.46
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89
Azobenzene	ND		ug/l	2.0	0.54
Fluoranthene	ND		ug/l	2.0	0.40
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60
Hexachlorobutadiene	ND		ug/l	2.0	0.42
Hexachlorocyclopentadiene	ND		ug/l	20	0.58
Hexachloroethane	ND		ug/l	2.0	0.30
Isophorone	ND		ug/l	5.0	0.79
Naphthalene	ND		ug/l	2.0	0.33
Nitrobenzene	ND		ug/l	2.0	0.40
NDPA/DPA	ND		ug/l	2.0	0.34
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93
Butyl benzyl phthalate	ND		ug/l	5.0	1.1
Di-n-butylphthalate	ND		ug/l	5.0	0.77
Di-n-octylphthalate	ND		ug/l	5.0	1.2
Diethyl phthalate	ND		ug/l	5.0	0.39
Dimethyl phthalate	ND		ug/l	5.0	0.33
Benzo(a)anthracene	ND		ug/l	2.0	0.32
Benzo(a)pyrene	ND		ug/l	2.0	0.66

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/23/14 12:32
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 01:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG677219-1					
Benzo(b)fluoranthene	ND		ug/l	2.0	0.37
Benzo(k)fluoranthene	ND		ug/l	2.0	0.30
Chrysene	ND		ug/l	2.0	0.30
Acenaphthylene	ND		ug/l	2.0	0.37
Anthracene	ND		ug/l	2.0	0.20
Benzo(ghi)perylene	ND		ug/l	2.0	0.57
Fluorene	ND		ug/l	2.0	0.32
Phenanthrene	ND		ug/l	2.0	0.23
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.44
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.43
Pyrene	ND		ug/l	2.0	0.52
n-Nitrosodimethylamine	ND		ug/l	2.0	0.50
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78
p-Chloro-m-cresol	ND		ug/l	2.0	0.54
2-Chlorophenol	ND		ug/l	2.0	0.58
2,4-Dichlorophenol	ND		ug/l	5.0	0.56
2,4-Dimethylphenol	ND		ug/l	5.0	0.58
2-Nitrophenol	ND		ug/l	10	1.0
4-Nitrophenol	ND		ug/l	10	1.1
2,4-Dinitrophenol	ND		ug/l	20	1.4
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4
Pentachlorophenol	ND		ug/l	10	3.2
Phenol	ND		ug/l	5.0	0.27

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/23/14 12:32
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 01:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG677219-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	19		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	61		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	96		41-149

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 03/24/14 15:47
Analyst: MW

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 00:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-14 Batch: WG677220-1					
Acenaphthene	ND		ug/l	0.20	0.06
2-Chloronaphthalene	ND		ug/l	0.20	0.07
Fluoranthene	ND		ug/l	0.20	0.04
Hexachlorobutadiene	ND		ug/l	0.50	0.07
Naphthalene	ND		ug/l	0.20	0.06
Benzo(a)anthracene	ND		ug/l	0.20	0.06
Benzo(a)pyrene	ND		ug/l	0.20	0.07
Benzo(b)fluoranthene	ND		ug/l	0.20	0.07
Benzo(k)fluoranthene	ND		ug/l	0.20	0.07
Chrysene	ND		ug/l	0.20	0.05
Acenaphthylene	ND		ug/l	0.20	0.05
Anthracene	ND		ug/l	0.20	0.06
Benzo(ghi)perylene	ND		ug/l	0.20	0.07
Fluorene	ND		ug/l	0.20	0.06
Phenanthrene	ND		ug/l	0.20	0.06
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.07
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	0.08
Pyrene	ND		ug/l	0.20	0.06
2-Methylnaphthalene	ND		ug/l	0.20	0.06
Pentachlorophenol	ND		ug/l	0.80	0.19
Hexachlorobenzene	ND		ug/l	0.80	0.01
Hexachloroethane	ND		ug/l	0.80	0.06

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 03/24/14 15:47
Analyst: MW

Extraction Method: EPA 3510C
Extraction Date: 03/22/14 00:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-14 Batch: WG677220-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	87		10-120
4-Terphenyl-d14	88		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								
Acenaphthene	73		66		37-111	10		30
Benzidine	24		29		10-75	19		30
1,2,4-Trichlorobenzene	53		45		39-98	16		30
Hexachlorobenzene	97		87		40-140	11		30
Bis(2-chloroethyl)ether	82		57		40-140	**36**	Q	30
2-Chloronaphthalene	71		66		40-140	7		30
1,2-Dichlorobenzene	58		46		40-140	23		30
1,3-Dichlorobenzene	54		42		40-140	25		30
1,4-Dichlorobenzene	55		44		36-97	22		30
3,3'-Dichlorobenzidine	74		66		40-140	11		30
2,4-Dinitrotoluene	**113**	Q	**102**	Q	24-96	10		30
2,6-Dinitrotoluene	112		99		40-140	12		30
Azobenzene	87		78		40-140	11		30
Fluoranthene	98		84		40-140	15		30
4-Chlorophenyl phenyl ether	80		76		40-140	5		30
4-Bromophenyl phenyl ether	94		84		40-140	11		30
Bis(2-chloroisopropyl)ether	79		60		40-140	27		30
Bis(2-chloroethoxy)methane	92		71		40-140	26		30
Hexachlorobutadiene	50		43		40-140	15		30
Hexachlorocyclopentadiene	**28**	Q	**25**	Q	40-140	11		30
Hexachloroethane	52		41		40-140	24		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								
Isophorone	98		75		40-140	27		30
Naphthalene	60		51		40-140	16		30
Nitrobenzene	82		69		40-140	17		30
NDPA/DPA	92		83		40-140	10		30
n-Nitrosodi-n-propylamine	88		69		29-132	24		30
Bis(2-ethylhexyl)phthalate	99		81		40-140	20		30
Butyl benzyl phthalate	110		93		40-140	17		30
Di-n-butylphthalate	101		85		40-140	17		30
Di-n-octylphthalate	105		89		40-140	16		30
Diethyl phthalate	94		82		40-140	14		30
Dimethyl phthalate	93		80		40-140	15		30
Benzo(a)anthracene	92		79		40-140	15		30
Benzo(a)pyrene	92		80		40-140	14		30
Benzo(b)fluoranthene	92		78		40-140	16		30
Benzo(k)fluoranthene	94		80		40-140	16		30
Chrysene	94		79		40-140	17		30
Acenaphthylene	86		79		45-123	8		30
Anthracene	91		79		40-140	14		30
Benzo(ghi)perylene	93		79		40-140	16		30
Fluorene	85		80		40-140	6		30
Phenanthrene	91		79		40-140	14		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								
Dibenzo(a,h)anthracene	91		79		40-140	14		30
Indeno(1,2,3-cd)pyrene	91		77		40-140	17		30
Pyrene	97		84		26-127	14		30
Biphenyl	66		61		40-140	8		30
Aniline	47		**34**	Q	40-140	**32**	Q	30
4-Chloroaniline	51		53		40-140	4		30
1-Methylnaphthalene	63		56		41-103	12		30
2-Nitroaniline	121		102		52-143	17		30
3-Nitroaniline	70		59		25-145	17		30
4-Nitroaniline	95		84		51-143	12		30
Dibenzofuran	80		73		40-140	9		30
2-Methylnaphthalene	66		58		40-140	13		30
1,2,4,5-Tetrachlorobenzene	57		53		2-134	7		30
Acetophenone	89		70		39-129	24		30
n-Nitrosodimethylamine	38		28		22-74	30		30
2,4,6-Trichlorophenol	103		88		30-130	16		30
p-Chloro-m-cresol	96		80		23-97	18		30
2-Chlorophenol	74		55		27-123	29		30
2,4-Dichlorophenol	88		70		30-130	23		30
2,4-Dimethylphenol	95		72		30-130	28		30
2-Nitrophenol	109		87		30-130	22		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								
4-Nitrophenol	50		44		10-80	13		30
2,4-Dinitrophenol	**135**	Q	120		20-130	12		30
4,6-Dinitro-o-cresol	130		122		20-164	6		30
Pentachlorophenol	102		87		9-103	16		30
Phenol	31		23		12-110	30		30
2-Methylphenol	69		50		30-130	**32**	Q	30
3-Methylphenol/4-Methylphenol	64		49		30-130	27		30
2,4,5-Trichlorophenol	111		91		30-130	20		30
Benzoic Acid	48		45		10-164	6		30
Benzyl Alcohol	64		47		26-116	**31**	Q	30
Carbazole	96		81		55-144	17		30
Pyridine	27		20		10-66	30		30
Parathion, ethyl	215		189			13		30
Atrazine	111		91		40-140	20		30
Benzaldehyde	86		64		40-140	29		30
Caprolactam	25		20		10-130	22		30
2,3,4,6-Tetrachlorophenol	104		91		40-140	13		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG677219-2 WG677219-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	41		31		21-120
Phenol-d6	28		22		10-120
Nitrobenzene-d5	101		77		23-120
2-Fluorobiphenyl	82		66		15-120
2,4,6-Tribromophenol	103		88		10-120
4-Terphenyl-d14	96		84		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-14 Batch: WG677220-2 WG677220-3								
Acenaphthene	106		78		37-111	30		40
2-Chloronaphthalene	98		74		40-140	28		40
Fluoranthene	133		98		40-140	30		40
Hexachlorobutadiene	87		63		40-140	32		40
Naphthalene	94		69		40-140	31		40
Benzo(a)anthracene	**142**	Q	105		40-140	30		40
Benzo(a)pyrene	112		86		40-140	26		40
Benzo(b)fluoranthene	126		82		40-140	**42**	Q	40
Benzo(k)fluoranthene	112		102		40-140	9		40
Chrysene	117		87		40-140	29		40
Acenaphthylene	117		85		40-140	32		40
Anthracene	119		93		40-140	25		40
Benzo(ghi)perylene	106		74		40-140	36		40
Fluorene	126		92		40-140	31		40
Phenanthrene	118		84		40-140	34		40
Dibenzo(a,h)anthracene	105		77		40-140	31		40
Indeno(1,2,3-cd)Pyrene	110		79		40-140	33		40
Pyrene	126		92		26-127	31		40
2-Methylnaphthalene	107		77		40-140	33		40
Pentachlorophenol	**104**	Q	85		9-103	20		40
Hexachlorobenzene	112		79		40-140	35		40

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-14 Batch: WG677220-2 WG677220-3								
Hexachloroethane	94		67		40-140	34		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	53		39		21-120
Phenol-d6	38		27		10-120
Nitrobenzene-d5	**125**	Q	91		23-120
2-Fluorobiphenyl	95		68		15-120
2,4,6-Tribromophenol	113		89		10-120
4-Terphenyl-d14	113		82		41-149

PCBS

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 18:15	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	82		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 18:28	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	A
Decachlorobiphenyl	53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	74		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 18:42	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	67		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 18:55	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	95		30-150	B
Decachlorobiphenyl	73		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 19:09	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	79		30-150	A
2,4,5,6-Tetrachloro-m-xylene	103		30-150	B
Decachlorobiphenyl	132		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 19:22	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	87		30-150	B
Decachlorobiphenyl	76		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 19:36	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 19:30
Analytical Date:	03/22/14 19:49	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	60		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		30-150	B
Decachlorobiphenyl	69		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:03	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	94		30-150	A
Decachlorobiphenyl	76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	103		30-150	B
Decachlorobiphenyl	93		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:16	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	72		30-150	A
2,4,5,6-Tetrachloro-m-xylene	94		30-150	B
Decachlorobiphenyl	85		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:30	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	82		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:43	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	52		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	68		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 20:57	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		30-150	A
Decachlorobiphenyl	62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	96		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	03/21/14 21:51
Analytical Date:	03/22/14 21:10	Cleanup Method1:	EPA 3665A
Analyst:	JW	Cleanup Date1:	03/22/14
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	57		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		30-150	B
Decachlorobiphenyl	87		30-150	B

Project Name: HHMT PORT IVORY

Project Number: SITE2_SMP_2014

Lab Number: L1405912

Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 03/22/14 21:24
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 03/21/14 19:30
Cleanup Method1: EPA 3665A
Cleanup Date1: 03/22/14
Cleanup Method2: EPA 3660B
Cleanup Date2: 03/22/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-14 Batch: WG677189-1						
Aroclor 1016	ND		ug/l	0.083	0.055	A
Aroclor 1221	ND		ug/l	0.083	0.053	A
Aroclor 1232	ND		ug/l	0.083	0.031	A
Aroclor 1242	ND		ug/l	0.083	0.060	A
Aroclor 1248	ND		ug/l	0.083	0.051	A
Aroclor 1254	ND		ug/l	0.083	0.034	A
Aroclor 1260	ND		ug/l	0.083	0.032	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	114		30-150	B
Decachlorobiphenyl	74		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-14 Batch: WG677189-2 WG677189-3									
Aroclor 1016	79		83		40-140	5		50	A
Aroclor 1260	96		97		40-140	0		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		82		30-150	A
Decachlorobiphenyl	84		85		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		88		30-150	B
Decachlorobiphenyl	127		132		30-150	B

PESTICIDES

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 08:55	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	49		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 09:09	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	0.020		ug/l	0.020	0.003	1	B
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	63		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 09:22	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	0.012	J	ug/l	0.020	0.003	1	B
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 09:35	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	71		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	73		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 09:48	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	83		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	94		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:01	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	65		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:15	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	55		30-150	B
Decachlorobiphenyl	60		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:28	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	69		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:41	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	A
Decachlorobiphenyl	85		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	80		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 10:54	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-11	Date Collected:	03/19/14 17:45
Client ID:	SW-2-WS-201403191745	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 11:08	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 11:21	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 11:34	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	47		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	44		30-150	B

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	03/21/14 21:52
Analytical Date:	03/25/14 11:47	Cleanup Method1:	EPA 3620B
Analyst:	SH	Cleanup Date1:	03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	69		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	65		30-150	B

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 03/25/14 08:42
Analyst: SH

Extraction Method: EPA 3510C
Extraction Date: 03/21/14 21:52
Cleanup Method1: EPA 3620B
Cleanup Date1: 03/24/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-14 Batch: WG677202-1						
Delta-BHC	ND		ug/l	0.020	0.005	A
Lindane	ND		ug/l	0.020	0.004	A
Alpha-BHC	ND		ug/l	0.020	0.004	A
Beta-BHC	ND		ug/l	0.020	0.006	A
Heptachlor	ND		ug/l	0.020	0.003	A
Aldrin	ND		ug/l	0.020	0.002	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	A
Endrin	ND		ug/l	0.040	0.004	A
Endrin aldehyde	ND		ug/l	0.040	0.008	A
Endrin ketone	ND		ug/l	0.040	0.005	A
Dieldrin	ND		ug/l	0.040	0.004	A
4,4'-DDE	ND		ug/l	0.040	0.004	A
4,4'-DDD	ND		ug/l	0.040	0.005	A
4,4'-DDT	ND		ug/l	0.040	0.004	A
Endosulfan I	ND		ug/l	0.020	0.003	A
Endosulfan II	ND		ug/l	0.040	0.005	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	A
Methoxychlor	ND		ug/l	0.200	0.007	A
Toxaphene	ND		ug/l	0.200	0.063	A
Chlordane	ND		ug/l	0.200	0.046	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	77		30-150	B
Decachlorobiphenyl	76		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-14 Batch: WG677202-2 WG677202-3									
Delta-BHC	82		84		30-150	2		20	A
Lindane	81		80		30-150	1		20	A
Alpha-BHC	84		82		30-150	3		20	A
Beta-BHC	73		72		30-150	1		20	A
Heptachlor	77		75		30-150	2		20	A
Aldrin	86		83		30-150	4		20	A
Heptachlor epoxide	84		82		30-150	2		20	A
Endrin	90		90		30-150	1		20	A
Endrin aldehyde	72		72		30-150	0		20	A
Endrin ketone	83		83		30-150	0		20	A
Dieldrin	90		89		30-150	2		20	A
4,4'-DDE	85		84		30-150	1		20	A
4,4'-DDD	88		88		30-150	0		20	A
4,4'-DDT	88		88		30-150	0		20	A
Endosulfan I	86		84		30-150	2		20	A
Endosulfan II	84		84		30-150	0		20	A
Endosulfan sulfate	78		79		30-150	1		20	A
Methoxychlor	78		78		30-150	0		20	A
cis-Chlordane	91		90		30-150	1		20	A
trans-Chlordane	83		82		30-150	1		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-14 Batch: WG677202-2 WG677202-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		73		30-150	A
Decachlorobiphenyl	82		76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		74		30-150	B
Decachlorobiphenyl	77		77		30-150	B

METALS

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-01	Date Collected:	03/19/14 10:16
Client ID:	PRW-11-WG-201403191016	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	1.020	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Arsenic, Total	1.960		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Cadmium, Total	0.1100	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Chromium, Total	1.400		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Copper, Total	4.130		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Lead, Total	1.500		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:17	EPA 7470A	1,7470A	AK
Nickel, Total	5.520		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Selenium, Total	3.72	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Silver, Total	0.1300	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Thallium, Total	0.0600	J	ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Zinc, Total	9.960	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 21:42	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.7400	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Arsenic, Dissolved	2.110		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Cadmium, Dissolved	0.0600	J	ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Chromium, Dissolved	1.060		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Copper, Dissolved	2.970		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Lead, Dissolved	0.5700	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 12:56	EPA 7470A	1,7470A	AK
Nickel, Dissolved	5.210		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Selenium, Dissolved	4.25	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Thallium, Dissolved	0.0500	J	ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM
Zinc, Dissolved	7.920	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 02:55	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-02	Date Collected:	03/19/14 12:56
Client ID:	PRW-15-WG-201403191256	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.5100	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Arsenic, Total	11.41		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Cadmium, Total	0.1400	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Chromium, Total	1.970		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Copper, Total	6.210		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Lead, Total	5.120		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:19	EPA 7470A	1,7470A	AK
Nickel, Total	5.030		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Selenium, Total	2.75	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Silver, Total	0.1200	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Zinc, Total	23.05		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 21:48	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.2600	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Arsenic, Dissolved	9.270		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Chromium, Dissolved	0.6900	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Copper, Dissolved	1.220		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Lead, Dissolved	0.4000	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 12:58	EPA 7470A	1,7470A	AK
Nickel, Dissolved	4.960		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Selenium, Dissolved	2.98	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM
Zinc, Dissolved	6.610	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:01	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-03	Date Collected:	03/19/14 14:16
Client ID:	PRW-08-WG-201403191416	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.4900	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Arsenic, Total	20.64		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Chromium, Total	1.610		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Copper, Total	2.590		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Lead, Total	1.420		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:21	EPA 7470A	1,7470A	AK
Nickel, Total	2.750		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Selenium, Total	1.86	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Silver, Total	0.1300	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Zinc, Total	9.510	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 21:54	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.3500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Arsenic, Dissolved	21.24		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Chromium, Dissolved	0.5700	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Copper, Dissolved	0.7100	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 12:59	EPA 7470A	1,7470A	AK
Nickel, Dissolved	1.390		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Selenium, Dissolved	1.47	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM
Zinc, Dissolved	3.850	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:08	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-04	Date Collected:	03/19/14 15:46
Client ID:	PRW-10-WG-201403191546	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.6600	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Arsenic, Total	4.290		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Chromium, Total	2.940		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Copper, Total	1.800		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Lead, Total	2.280		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:23	EPA 7470A	1,7470A	AK
Nickel, Total	3.500		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Selenium, Total	1.46	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Silver, Total	0.1300	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Zinc, Total	6.840	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:00	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.6500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Arsenic, Dissolved	3.440		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Chromium, Dissolved	0.5800	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Copper, Dissolved	0.9800	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:01	EPA 7470A	1,7470A	AK
Nickel, Dissolved	3.970		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Selenium, Dissolved	1.34	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM
Zinc, Dissolved	7.930	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:14	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-05	Date Collected:	03/19/14 10:51
Client ID:	PRW-12-WG-201403191051	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.7800	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Arsenic, Total	9.150		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Chromium, Total	1.380		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Copper, Total	5.620		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Lead, Total	0.6100	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:25	EPA 7470A	1,7470A	AK
Nickel, Total	21.44		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Selenium, Total	3.08	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Silver, Total	0.1200	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Zinc, Total	6.610	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:07	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.7500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Arsenic, Dissolved	8.820		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Chromium, Dissolved	1.240		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Copper, Dissolved	5.230		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Lead, Dissolved	0.2100	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:03	EPA 7470A	1,7470A	AK
Nickel, Dissolved	21.34		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Selenium, Dissolved	2.90	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM
Zinc, Dissolved	5.970	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:20	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-06	Date Collected:	03/19/14 12:41
Client ID:	PRW-14-WG-201403191241	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.9100	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Arsenic, Total	6.090		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Cadmium, Total	0.0900	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Chromium, Total	2.100		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Copper, Total	3.710		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Lead, Total	2.140		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:26	EPA 7470A	1,7470A	AK
Nickel, Total	6.710		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Selenium, Total	2.78	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Silver, Total	0.1000	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Zinc, Total	23.02		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:13	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.6500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Arsenic, Dissolved	5.380		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Chromium, Dissolved	1.830		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Copper, Dissolved	1.350		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:05	EPA 7470A	1,7470A	AK
Nickel, Dissolved	7.730		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Selenium, Dissolved	2.54	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM
Zinc, Dissolved	11.52		ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:27	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-07	Date Collected:	03/19/14 13:46
Client ID:	PRW-13-WG-201403191346	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.7200	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Arsenic, Total	30.29		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Cadmium, Total	0.1100	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Chromium, Total	2.730		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Copper, Total	3.020		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Lead, Total	2.580		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:28	EPA 7470A	1,7470A	AK
Nickel, Total	17.24		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Selenium, Total	4.57	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Silver, Total	0.2400	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Zinc, Total	13.23		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:19	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.5600	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Arsenic, Dissolved	27.06		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Cadmium, Dissolved	0.0900	J	ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Chromium, Dissolved	2.780		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Copper, Dissolved	1.890		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Lead, Dissolved	0.5600	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:07	EPA 7470A	1,7470A	AK
Nickel, Dissolved	12.86		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Selenium, Dissolved	4.60	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM
Zinc, Dissolved	8.010	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:45	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-08	Date Collected:	03/19/14 15:16
Client ID:	PRW-09-WG-201403191516	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.3000	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Arsenic, Total	155.4		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Beryllium, Total	0.1300	J	ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Chromium, Total	2.960		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Copper, Total	19.15		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Lead, Total	3.080		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:30	EPA 7470A	1,7470A	AK
Nickel, Total	2.520		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Selenium, Total	1.01	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Silver, Total	0.1800	J	ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Thallium, Total	0.0300	J	ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Zinc, Total	9.100	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 22:44	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.3100	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Arsenic, Dissolved	158.4		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Chromium, Dissolved	0.7300	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Copper, Dissolved	1.230		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:08	EPA 7470A	1,7470A	AK
Nickel, Dissolved	1.420		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Selenium, Dissolved	1.07	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM
Zinc, Dissolved	3.940	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 03:52	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-09	Date Collected:	03/19/14 17:05
Client ID:	SW-4-WS-201403191705	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		ug/l	40.00	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Arsenic, Total	19.11		ug/l	10.00	4.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	10.00	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	4.000	1.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Chromium, Total	ND		ug/l	20.00	4.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Copper, Total	9.270	J	ug/l	20.00	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Lead, Total	ND		ug/l	20.00	4.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:32	EPA 7470A	1,7470A	AK
Nickel, Total	6.810	J	ug/l	10.00	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Selenium, Total	51.3	J	ug/l	100.	6.00	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	8.000	2.000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	10.00	0.6000	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Zinc, Total	51.48	J	ug/l	200.0	24.00	20	03/25/14 09:28	03/25/14 22:50	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	ND		ug/l	40.00	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Arsenic, Dissolved	16.06		ug/l	10.00	4.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	10.00	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	4.000	1.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Chromium, Dissolved	ND		ug/l	20.00	4.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Copper, Dissolved	7.300	J	ug/l	20.00	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	20.00	4.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:10	EPA 7470A	1,7470A	AK
Nickel, Dissolved	8.410	J	ug/l	10.00	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Selenium, Dissolved	60.1	J	ug/l	100.	6.00	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	8.000	2.000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	10.00	0.6000	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM
Zinc, Dissolved	26.20	J	ug/l	200.0	24.00	20	03/25/14 14:27	03/26/14 03:58	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-10	Date Collected:	03/19/14 17:25
Client ID:	SW-3-WS-201403191725	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		ug/l	40.00	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Arsenic, Total	13.07		ug/l	10.00	4.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	10.00	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	4.000	1.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Chromium, Total	4.560	J	ug/l	20.00	4.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Copper, Total	16.07	J	ug/l	20.00	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Lead, Total	10.48	J	ug/l	20.00	4.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:34	EPA 7470A	1,7470A	AK
Nickel, Total	8.370	J	ug/l	10.00	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Selenium, Total	55.9	J	ug/l	100.	6.00	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	8.000	2.000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	10.00	0.6000	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Zinc, Total	100.0	J	ug/l	200.0	24.00	20	03/25/14 09:28	03/25/14 22:57	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	ND		ug/l	40.00	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Arsenic, Dissolved	11.58		ug/l	10.00	4.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	10.00	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	4.000	1.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Chromium, Dissolved	ND		ug/l	20.00	4.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Copper, Dissolved	8.020	J	ug/l	20.00	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	20.00	4.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:16	EPA 7470A	1,7470A	AK
Nickel, Dissolved	9.730	J	ug/l	10.00	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Selenium, Dissolved	54.8	J	ug/l	100.	6.00	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	8.000	2.000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	10.00	0.6000	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM
Zinc, Dissolved	26.50	J	ug/l	200.0	24.00	20	03/25/14 14:27	03/26/14 04:04	NA	1,6020A	BM

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-11 Date Collected: 03/19/14 17:45

Client ID: SW-2-WS-201403191745 Date Received: 03/20/14

Sample Location: HOWLAND HOOK MARINE TERMINAL Field Prep: See Narrative

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	1.040	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Arsenic, Total	1.480		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Chromium, Total	0.5300	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Copper, Total	2.560		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Lead, Total	0.5700	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:39	EPA 7470A	1,7470A	AK
Nickel, Total	2.660		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Selenium, Total	2.41	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Zinc, Total	19.19		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 21:04	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.6300	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Arsenic, Dissolved	1.540		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Chromium, Dissolved	0.6800	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Copper, Dissolved	2.710		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:18	EPA 7470A	1,7470A	AK
Nickel, Dissolved	4.970		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Selenium, Dissolved	3.39	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM
Zinc, Dissolved	18.07		ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 04:11	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-12	Date Collected:	03/19/14 18:15
Client ID:	SW-1-WS-201403191815	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	1.030	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Arsenic, Total	11.98		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Cadmium, Total	0.2900		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Chromium, Total	3.760		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Copper, Total	26.53		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Lead, Total	36.61		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:41	EPA 7470A	1,7470A	AK
Nickel, Total	8.850		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Selenium, Total	2.09	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Thallium, Total	0.0300	J	ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Zinc, Total	111.0		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 23:03	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.7500	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Arsenic, Dissolved	5.930		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Cadmium, Dissolved	0.1100	J	ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Chromium, Dissolved	1.590		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Copper, Dissolved	8.090		ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Lead, Dissolved	9.220		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:19	EPA 7470A	1,7470A	AK
Nickel, Dissolved	4.590		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Selenium, Dissolved	1.75	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM
Zinc, Dissolved	38.07		ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 04:17	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-13	Date Collected:	03/19/14 09:30
Client ID:	WQ-201403190930-FB-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.1500	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Arsenic, Total	ND		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Chromium, Total	0.3600	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Copper, Total	0.2100	J	ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Lead, Total	ND		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:43	EPA 7470A	1,7470A	AK
Nickel, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Selenium, Total	0.310	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Zinc, Total	1.860	J	ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 20:52	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.1300	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Arsenic, Dissolved	ND		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Chromium, Dissolved	0.4400	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Copper, Dissolved	0.1400	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:21	EPA 7470A	1,7470A	AK
Nickel, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Selenium, Dissolved	ND		ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM
Zinc, Dissolved	1.520	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 00:19	NA	1,6020A	BM

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

SAMPLE RESULTS

Lab ID:	L1405912-14	Date Collected:	03/19/14 00:00
Client ID:	WG-201403190000-FD-1	Date Received:	03/20/14
Sample Location:	HOWLAND HOOK MARINE TERMINAL	Field Prep:	See Narrative
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.3300	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Arsenic, Total	142.5		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Beryllium, Total	0.1800	J	ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Cadmium, Total	0.0600	J	ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Chromium, Total	3.220		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Copper, Total	22.94		ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Lead, Total	3.820		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 14:45	EPA 7470A	1,7470A	AK
Nickel, Total	2.830		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Selenium, Total	1.27	J	ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Zinc, Total	12.14		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 23:09	EPA 3005A	1,6020A	BM
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.2800	J	ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Arsenic, Dissolved	156.1		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Chromium, Dissolved	0.6000	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Copper, Dissolved	0.9800	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 13:23	EPA 7470A	1,7470A	AK
Nickel, Dissolved	1.460		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Selenium, Dissolved	0.960	J	ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM
Zinc, Dissolved	4.220	J	ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 04:23	NA	1,6020A	BM

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01-14 Batch: WG677669-1										
Mercury, Total	ND		ug/l	0.2000	0.0660	1	03/25/14 08:53	03/25/14 13:56	1,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01-14 Batch: WG677711-1										
Antimony, Total	0.1300	J	ug/l	2.000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Arsenic, Total	ND		ug/l	0.5000	0.2000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Beryllium, Total	ND		ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Cadmium, Total	ND		ug/l	0.2000	0.0500	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Chromium, Total	0.3200	J	ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Copper, Total	0.2300	J	ug/l	1.000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Lead, Total	ND		ug/l	1.000	0.2000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Nickel, Total	0.1700	J	ug/l	0.5000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Selenium, Total	ND		ug/l	5.00	0.300	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Silver, Total	ND		ug/l	0.4000	0.1000	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Thallium, Total	ND		ug/l	0.5000	0.0300	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM
Zinc, Total	ND		ug/l	10.00	1.200	1	03/25/14 09:28	03/25/14 20:39	1,6020A	BM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Westborough Lab for sample(s): 01-14 Batch: WG677818-1										
Antimony, Dissolved	ND		ug/l	2.000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Arsenic, Dissolved	ND		ug/l	0.5000	0.2000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Beryllium, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Cadmium, Dissolved	ND		ug/l	0.2000	0.0500	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Chromium, Dissolved	0.3200	J	ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Copper, Dissolved	0.1200	J	ug/l	1.000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Lead, Dissolved	ND		ug/l	1.000	0.2000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Nickel, Dissolved	ND		ug/l	0.5000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Selenium, Dissolved	ND		ug/l	5.00	0.300	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Silver, Dissolved	ND		ug/l	0.4000	0.1000	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Thallium, Dissolved	ND		ug/l	0.5000	0.0300	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM
Zinc, Dissolved	ND		ug/l	10.00	1.200	1	03/25/14 14:27	03/26/14 00:06	1,6020A	BM

Prep Information

Digestion Method: NA

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Westborough Lab for sample(s): 01-14 Batch: WG678011-1										
Mercury, Dissolved	ND		ug/l	0.2000	0.0660	1	03/26/14 10:14	03/26/14 12:36	1,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-14 Batch: WG677669-2								
Mercury, Total	97		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01-14 Batch: WG677711-2								
Antimony, Total	96		-		80-120	-		
Arsenic, Total	101		-		80-120	-		
Beryllium, Total	95		-		80-120	-		
Cadmium, Total	106		-		80-120	-		
Chromium, Total	95		-		80-120	-		
Copper, Total	101		-		80-120	-		
Lead, Total	99		-		80-120	-		
Nickel, Total	101		-		80-120	-		
Selenium, Total	102		-		80-120	-		
Silver, Total	95		-		80-120	-		
Thallium, Total	95		-		80-120	-		
Zinc, Total	98		-		80-120	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 Batch: WG677818-2					
Antimony, Dissolved	82	-	80-120	-	
Arsenic, Dissolved	96	-	80-120	-	
Beryllium, Dissolved	93	-	80-120	-	
Cadmium, Dissolved	100	-	80-120	-	
Chromium, Dissolved	89	-	80-120	-	
Copper, Dissolved	96	-	80-120	-	
Lead, Dissolved	95	-	80-120	-	
Nickel, Dissolved	96	-	80-120	-	
Selenium, Dissolved	98	-	80-120	-	
Silver, Dissolved	89	-	80-120	-	
Thallium, Dissolved	92	-	80-120	-	
Zinc, Dissolved	93	-	80-120	-	
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 Batch: WG678011-2					
Mercury, Dissolved	106	-	70-130	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677669-3 WG677669-4 QC Sample: L1405871-02 Client ID: MS Sample												
Mercury, Total	ND	5	2.764	**55**	Q	2.773	**55**	Q	75-125	0		20
Total Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677711-4 QC Sample: L1405912-11 Client ID: SW-2-WS-201403191745												
Antimony, Total	1.040J	500	520.7	104		-	-		75-125	-		20
Arsenic, Total	1.480	120	123.6	102		-	-		75-125	-		20
Beryllium, Total	ND	50	47.78	96		-	-		75-125	-		20
Cadmium, Total	ND	51	54.74	107		-	-		75-125	-		20
Chromium, Total	0.5300J	200	190.8	95		-	-		75-125	-		20
Copper, Total	2.560	250	260.7	103		-	-		75-125	-		20
Lead, Total	0.5700J	510	503.8	99		-	-		75-125	-		20
Nickel, Total	2.660	500	511.3	102		-	-		75-125	-		20
Selenium, Total	2.41J	120	127	106		-	-		75-125	-		20
Silver, Total	ND	50	46.92	94		-	-		75-125	-		20
Thallium, Total	ND	120	113.8	95		-	-		75-125	-		20
Zinc, Total	19.19	500	495.6	95		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677818-4 QC Sample: L1405627-01 Client ID: MS Sample											
Antimony, Dissolved	0.8400J	500	503.5	101		-	-		75-125	-	20
Arsenic, Dissolved	0.9300	120	126.7	105		-	-		75-125	-	20
Beryllium, Dissolved	ND	50	50.04	100		-	-		75-125	-	20
Cadmium, Dissolved	ND	51	54.18	106		-	-		75-125	-	20
Chromium, Dissolved	4.950	200	191.0	93		-	-		75-125	-	20
Copper, Dissolved	1.240	250	249.0	99		-	-		75-125	-	20
Lead, Dissolved	ND	510	518.3	102		-	-		75-125	-	20
Nickel, Dissolved	4.420	500	498.3	99		-	-		75-125	-	20
Selenium, Dissolved	3.84J	120	130	108		-	-		75-125	-	20
Silver, Dissolved	ND	50	46.93	94		-	-		75-125	-	20
Thallium, Dissolved	0.0300J	120	117.5	98		-	-		75-125	-	20
Zinc, Dissolved	2.860J	500	487.6	98		-	-		75-125	-	20
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG678011-3 WG678011-4 QC Sample: L1405871-02 Client ID: MS Sample											
Mercury, Dissolved	ND	5	3.158	**63**	Q	3.164	**63**	Q	75-125	0	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677711-3 QC Sample: L1405912-11 Client ID: SW-2-WS-201403191745						
Antimony, Total	1.040J	0.6600J	ug/l	NC		20
Arsenic, Total	1.480	1.540	ug/l	4		20
Beryllium, Total	ND	ND	ug/l	NC		20
Cadmium, Total	ND	ND	ug/l	NC		20
Chromium, Total	0.5300J	0.5400J	ug/l	NC		20
Copper, Total	2.560	2.590	ug/l	1		20
Lead, Total	0.5700J	0.5000J	ug/l	NC		20
Nickel, Total	2.660	2.690	ug/l	1		20
Selenium, Total	2.41J	2.37J	ug/l	NC		20
Silver, Total	ND	ND	ug/l	NC		20
Thallium, Total	ND	ND	ug/l	NC		20
Zinc, Total	19.19	17.16	ug/l	11		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG677818-3 QC Sample: L1405627-01 Client ID: DUP Sample					
Antimony, Dissolved	0.8400J	0.4000J	ug/l	NC	20
Arsenic, Dissolved	0.9300	0.9600	ug/l	3	20
Beryllium, Dissolved	ND	ND	ug/l	NC	20
Cadmium, Dissolved	ND	ND	ug/l	NC	20
Chromium, Dissolved	4.950	5.060	ug/l	2	20
Copper, Dissolved	1.240	1.170	ug/l	6	20
Lead, Dissolved	ND	ND	ug/l	NC	20
Nickel, Dissolved	4.420	4.400	ug/l	0	20
Selenium, Dissolved	3.84J	3.76J	ug/l	NC	20
Silver, Dissolved	ND	ND	ug/l	NC	20
Thallium, Dissolved	0.0300J	ND	ug/l	NC	20
Zinc, Dissolved	2.860J	2.920J	ug/l	NC	20

INORGANICS
&
MISCELLANEOUS

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-01
Client ID: PRW-11-WG-201403191016
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 10:16
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.48	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:36	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-02
Client ID: PRW-15-WG-201403191256
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 12:56
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	4.42	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:38	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-03
Client ID: PRW-08-WG-201403191416
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 14:16
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:39	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-04
Client ID: PRW-10-WG-201403191546
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 15:46
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	5.94		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:48	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-05
Client ID: PRW-12-WG-201403191051
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 10:51
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	2.06	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:42	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-06
Client ID: PRW-14-WG-201403191241
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 12:41
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	5.41		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:43	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-07
Client ID: PRW-13-WG-201403191346
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 13:46
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	17.4		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:43	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-08
Client ID: PRW-09-WG-201403191516
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 15:16
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.28	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:44	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-09
Client ID: SW-4-WS-201403191705
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 17:05
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	2.01	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:45	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-10
Client ID: SW-3-WS-201403191725
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 17:25
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	7.48		ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:46	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-11
Client ID: SW-2-WS-201403191745
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 17:45
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	5.04		ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:25	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-12
Client ID: SW-1-WS-201403191815
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 18:15
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	11.5		ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:26	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-13
Client ID: WQ-201403190930-FB-1
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 09:30
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.68	J	ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:27	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

SAMPLE RESULTS

Lab ID: L1405912-14
Client ID: WG-201403190000-FD-1
Sample Location: HOWLAND HOOK MARINE TERMINAL
Matrix: Water

Date Collected: 03/19/14 00:00
Date Received: 03/20/14
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.46	J	ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:43	1,9010C/9012B	JO

Project Name: HHMT PORT IVORY **Lab Number:** L1405912

Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-10 Batch: WG677548-1										
Cyanide, Total	2.67	J	ug/l	5.00	1.28	1	03/24/14 17:45	03/25/14 13:33	1,9010C/9012B	JO
General Chemistry - Westborough Lab for sample(s): 11-14 Batch: WG678020-1										
Cyanide, Total	ND		ug/l	5.00	1.28	1	03/25/14 16:00	03/26/14 14:18	1,9010C/9012B	JO

Lab Control Sample Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-10 Batch: WG677548-2 WG677548-3								
Cyanide, Total	98		97		80-120	1		20
General Chemistry - Westborough Lab Associated sample(s): 11-14 Batch: WG678020-2 WG678020-3								
Cyanide, Total	99		99		80-120	0		20

Matrix Spike Analysis
Batch Quality Control

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG677548-4 WG677548-6 QC Sample: L1405912-01 Client ID: PRW-11-WG-201403191016												
Cyanide, Total	1.48J	200	199	100		188	94		80-120	6		20
General Chemistry - Westborough Lab Associated sample(s): 11-14 QC Batch ID: WG678020-4 WG678020-5 QC Sample: L1405912-13 Client ID: WQ-201403190930-FB-1												
Cyanide, Total	1.68J	200	179	90		193	92		80-120	8		20

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Cooler	Custody Seal
A	Absent
D	Absent
B	Absent
C	Absent
E	Absent
H	Absent
F	Absent
G	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-01A	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-01B	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-01C	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-01D	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8270(7),8270TCL(7),NYTCL-8270-SIM(7),8270TCL-SIM(7)
L1405912-01E	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8270(7),8270TCL(7),NYTCL-8270-SIM(7),8270TCL-SIM(7)
L1405912-01F	Amber 500ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8081(7)
L1405912-01G	Amber 500ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8081(7)
L1405912-01H	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-01I	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-01J	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-01K	Plastic 500ml HNO3 preserved	D	<2	2.4	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-01L	Plastic 250ml NaOH preserved	D	>12	2.4	Y	Absent	TCN-9010-PPB(14)
L1405912-02A	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-02B	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-02C	Vial HCl preserved	D	N/A	2.4	Y	Absent	8260(14)
L1405912-02D	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-02E	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-02F	Amber 500ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8081(7)
L1405912-02G	Amber 500ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8081(7)
L1405912-02H	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-02I	Amber 1000ml unpreserved	D	8	2.4	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-02J	Plastic 500ml HNO3 preserved	D	<2	2.4	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-02K	Plastic 500ml HNO3 preserved	D	<2	2.4	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-02L	Plastic 250ml NaOH preserved	D	>12	2.4	Y	Absent	TCN-9010-PPB(14)
L1405912-03A	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-03B	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-03C	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-03D	Amber 1000ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-03E	Amber 1000ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-03F	Amber 500ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8081(7)
L1405912-03G	Amber 500ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8081(7)
L1405912-03H	Amber 1000ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-03I	Amber 1000ml unpreserved	E	9	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-03J	Plastic 500ml HNO3 preserved	D	<2	2.4	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-03K	Plastic 500ml HNO3 preserved	E	<2	2.3	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-03L	Plastic 250ml NaOH preserved	E	>12	2.3	Y	Absent	TCN-9010-PPB(14)
L1405912-04A	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-04B	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-04C	Vial HCl preserved	E	N/A	2.3	Y	Absent	8260(14)
L1405912-04D	Amber 1000ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-04E	Amber 1000ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-04F	Amber 500ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8081(7)
L1405912-04G	Amber 500ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8081(7)
L1405912-04H	Amber 1000ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-04I	Amber 1000ml unpreserved	E	8	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-04J	Plastic 500ml HNO3 preserved	E	<2	2.3	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-04K	Plastic 500ml HNO3 preserved	E	<2	2.3	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-04L	Plastic 250ml NaOH preserved	E	>12	2.3	Y	Absent	TCN-9010-PPB(14)
L1405912-05A	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-05B	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-05C	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-05D	Amber 1000ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-05E	Amber 1000ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-05F	Amber 500ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8081(7)
L1405912-05G	Amber 500ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8081(7)
L1405912-05H	Amber 1000ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-05I	Amber 1000ml unpreserved	F	12	2.5	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-05J	Plastic 500ml HNO3 preserved	F	<2	2.5	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-05K	Plastic 500ml HNO3 preserved	F	<2	2.5	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-05L	Plastic 250ml NaOH preserved	F	>12	2.5	Y	Absent	TCN-9010-PPB(14)
L1405912-06A	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-06B	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-06C	Vial HCl preserved	F	N/A	2.5	Y	Absent	8260(14)
L1405912-06D	Amber 1000ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-06E	Amber 1000ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-06F	Amber 500ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8081(7)
L1405912-06G	Amber 500ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8081(7)
L1405912-06H	Amber 1000ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-06I	Amber 1000ml unpreserved	F	8	2.5	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-06J	Plastic 500ml HNO3 preserved	F	<2	2.5	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-06K	Plastic 500ml HNO3 preserved	F	<2	2.5	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-06L	Plastic 250ml NaOH preserved	F	>12	2.5	Y	Absent	TCN-9010-PPB(14)
L1405912-07A	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-07B	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-07C	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-07D	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-07E	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-07F	Amber 500ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-07G	Amber 500ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-07H	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-07I	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-07J	Plastic 500ml HNO3 preserved	C	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-07K	Plastic 500ml HNO3 preserved	C	<2	2.0	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-07L	Plastic 250ml NaOH preserved	C	>12	2.0	Y	Absent	TCN-9010-PPB(14)
L1405912-08A	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-08B	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-08C	Vial HCl preserved	C	N/A	2.0	Y	Absent	8260(14)
L1405912-08D	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-08E	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-08F	Amber 500ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-08G	Amber 500ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-08H	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-08I	Amber 1000ml unpreserved	C	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-08J	Plastic 500ml HNO3 preserved	C	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-08K	Plastic 500ml HNO3 preserved	C	<2	2.0	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-08L	Plastic 250ml NaOH preserved	C	>12	2.0	Y	Absent	TCN-9010-PPB(14)
L1405912-09A	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-09B	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-09C	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-09D	Amber 1000ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-09E	Amber 1000ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-09F	Amber 500ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8081(7)
L1405912-09G	Amber 500ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8081(7)
L1405912-09H	Amber 1000ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-09I	Amber 1000ml unpreserved	H	8	3.9	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-09J	Plastic 500ml HNO3 preserved	H	<2	3.9	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-09K	Plastic 500ml HNO3 preserved	H	<2	3.9	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-09L	Plastic 250ml NaOH preserved	H	>12	3.9	Y	Absent	TCN-9010-PPB(14)
L1405912-10A	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-10B	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-10C	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-10D	Amber 1000ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-10E	Amber 1000ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-10F	Amber 500ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8081(7)
L1405912-10G	Amber 500ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8081(7)
L1405912-10H	Amber 1000ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-10I	Amber 1000ml unpreserved	H	9	3.9	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-10J	Plastic 500ml HNO3 preserved	H	<2	3.9	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-10K	Plastic 500ml HNO3 preserved	H	<2	3.9	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-10L	Plastic 250ml NaOH preserved	H	>12	3.9	Y	Absent	TCN-9010-PPB(14)
L1405912-11A	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-11B	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-11C	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-11D	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-11E	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-11F	Amber 500ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-11G	Amber 500ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-11H	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-11I	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-11J	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-11K	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-11L	Plastic 250ml NaOH preserved	A	>12	2.0	Y	Absent	TCN-9010-PPB(14)
L1405912-12A	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-12B	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-12C	Vial HCl preserved	A	N/A	2.0	Y	Absent	8260(14)
L1405912-12D	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-12E	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-12F	Amber 500ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-12G	Amber 500ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8081(7)
L1405912-12H	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-12I	Amber 1000ml unpreserved	A	8	2.0	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-12J	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-12K	Plastic 500ml HNO3 preserved	A	<2	2.0	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-12L	Plastic 250ml NaOH preserved	A	>12	2.0	Y	Absent	TCN-9010-PPB(14)
L1405912-13A	Vial HCl preserved	G	N/A	3.3	Y	Absent	8260(14)
L1405912-13B	Vial HCl preserved	G	N/A	3.3	Y	Absent	8260(14)
L1405912-13C	Vial HCl preserved	G	N/A	3.3	Y	Absent	8260(14)
L1405912-13D	Amber 1000ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-13E	Amber 1000ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-13F	Amber 500ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8081(7)
L1405912-13G	Amber 500ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8081(7)
L1405912-13H	Amber 1000ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-13I	Amber 1000ml unpreserved	G	8	3.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-13J	Plastic 500ml HNO3 preserved	G	<2	3.3	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: HHMT PORT IVORY
Project Number: SITE2_SMP_2014

Lab Number: L1405912
Report Date: 04/23/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1405912-13K	Plastic 500ml HNO3 preserved	G	<2	3.3	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-13L	Plastic 250ml NaOH preserved	G	>12	3.3	Y	Absent	TCN-9010-PPB(14)
L1405912-14A	Vial HCl preserved	B	N/A	2.3	Y	Absent	8260(14)
L1405912-14B	Vial HCl preserved	B	N/A	2.3	Y	Absent	8260(14)
L1405912-14C	Vial HCl preserved	B	N/A	2.3	Y	Absent	8260(14)
L1405912-14D	Amber 1000ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-14E	Amber 1000ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1405912-14F	Amber 500ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8081(7)
L1405912-14G	Amber 500ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8081(7)
L1405912-14H	Amber 1000ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-14I	Amber 1000ml unpreserved	B	9	2.3	Y	Absent	NYTCL-8082-1200ML(7)
L1405912-14J	Plastic 500ml HNO3 preserved	B	<2	2.3	Y	Absent	PB-6020S-PPB(180),AG-6020S-PPB(180),BE-6020S-PPB(180),TL-6020S-PPB(180),HG-S-PPB(28),ZN-6020S-PPB(180),CD-6020S-PPB(180),CU-6020S-PPB(180),AS-6020S-PPB(180),CR-6020S-PPB(180),SB-6020S-PPB(180),NI-6020S-PPB(180),SE-6020S-PPB(180)
L1405912-14K	Plastic 500ml HNO3 preserved	B	<2	2.3	Y	Absent	BE-6020T-PPB(180),CD-6020T-PPB(180),CR-6020T-PPB(180),HG-T-PPB(28),SB-6020T-PPB(180),CU-6020T-PPB(180),TL-6020T-PPB(180),AG-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),ZN-6020T-PPB(180),SE-6020T-PPB(180)
L1405912-14L	Plastic 250ml NaOH preserved	H	>12	3.9	Y	Absent	TCN-9010-PPB(14)
L1405912-15A	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)
L1405912-15B	Vial HCl preserved	H	N/A	3.9	Y	Absent	8260(14)

*Values in parentheses indicate holding time in days

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The lower value for the two columns has been reported due to obvious interference.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HHMT PORT IVORY	**Lab Number:**	L1405912
Project Number:	SITE2_SMP_2014	**Report Date:**	04/23/14

Data Qualifiers

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name: HHMT PORT IVORY **Lab Number:** L1405912
Project Number: SITE2_SMP_2014 **Report Date:** 04/23/14

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NJ CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 3/20/14

ALPHA Job #: L1405917

WESTBORO, MA
8 Walkup Drive
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Port Authority NY/NJ

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: HHMT Port Ivory

Project Location:

Project #: Site2 SMP 2014

Project Manager:

ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 3/26/14 Time:

Report Type

☐ Data Summary ☐ NJ Full
☐ NJ Reduced ☐ Other

Regulatory Requirements

☐ SRS-Residential/Non Residential
☐ SRS-Impact To Groundwater
☐ NJ Ground Water Quality Standards

☐ Other

Billing Information

☐ Same as Client info PO #:

Site Information

Is this site impacted by Petroleum?
Yes / No (circle one)
(Please indicate Petroleum Product - See Table 2-1 on reverse side)

Petroleum Product:

Are any samples for waste disposal?
Yes / No (circle one)
(Please indicate which samples below in Sample Specific Comments field)

For EPH you MUST indicate Category 1 or 2. Please check one of the following:

☐ Category 1 ☐ Category 2

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	CL PP40	Diss. Metals	PP VOA	Sample Specific Comments	Total # Bottles
05912-01	PRW-11-wg-20140319 1016	3/19/14	1016	GW	KJ	X	X			
-02	PRW-15-wg-20140319 1256		1256			X	X			
-03	PRW-8-wg-20140319 1416		1416			X	X			
-04	PRW-10-wg-20140319 1546		1546			X	X			
-05	PRW-12-wg-20140319 1051		1051		MP	X	X			
-06	PRW-14-wg-20140319 1241		1241			X	X			
-07	PRW-13-wg-20140319 1346		1346			X	X			
-08	PRW-9-wg-20140319 1516		1516			X	X			
09	SW-4-WS-20140319 1705		1705			X	X			
-10	SW-3-WS-20140319 1725		1725			X	X			

Preservative Code:
A = None
B = HCl
C = HNO3
D = H2SO4
E = NaOH
F = MeOH
G = NaHSO4
H = Other

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type											
Preservative											

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	3/20/14 12:14	[illegible]	3/20/14 12:11
[illegible]	3-20-14 1823	[illegible]	3-20-14 1823
Tom Toler	3-20-14	[illegible]	3/20/14 0[illegible]

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-14 (rev. 30-AUG-10)

NJ CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 3/20/14

ALPHA Job #: L1405912

WESTBORO, MA
8 Walkup Drive
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client:

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name:

Project Location:

Project #:

Project Manager:

ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 3/24/14 Time:

Report Type

☐ Data Summary ☐ NJ Full
☐ NJ Reduced ☐ Other

Regulatory Requirements

☐ SRS-Residential/Non Residential
☐ SRS-Impact To Groundwater
☐ NJ Ground Water Quality Standards

☐ Other

Billing Information

☐ Same as Client info PO #:

Site Information

Is this site impacted by Petroleum?
Yes / No (circle one)
(Please indicate Petroleum Product - See Table 2-1 on reverse side)

Petroleum Product:

Are any samples for waste disposal?
Yes / No (circle one)
(Please indicate which samples below in Sample Specific Comments field)

For EPH you MUST indicate Category 1 or 2. Please check one of the following:

☐ Category 1 ☐ Category 2

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	GL PP40	Diss. Metals	PP VOA									Sample Specific Comments	TOTAL # BOTTLES
05912-11	SW-2-WS-20140319 1745	3/19/14	1745		MP	X	X											
-12	SW-1-WS-20140319 1815	↓	1815		MP	X	X											
-13	WQ-20140319 0930-FB-1	↓	0930	AQ	KJ	X	X											
-14	WQ-20140319 0000-FD-1	↓	—	GW	MP	X	X											
-15	WQ-20140317 0000-TB-1	3/17/14	—	AQ	LAB			X										

Preservative Code:
A = None
B = HCl
C = HNO3
D = H2SO4
E = NaOH
F = MeOH
G = NaHSO4
H = Other

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type												
Preservative												

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	3/20/14 12:14	[illegible]	3/20/14 12:14
[illegible]	3-20-14 1823	Tom Tober	3-20-14 1823
Tom Tober	3-20-14	[illegible]	3/20/14 01:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-14 (rev. 30-AUG-10)

THE PORT AUTHORITY OF NY & NJ

CHAIN-OF-CUSTODY / Analytical Request Document

PORT IVORYHHMT

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

Cooler # ALPHA of

Task:	SITE2_SMP_2014
Total # of Samples: 15	Event Complete?
TAT	SDG

Notes: F= Field Filtered , H= Hold

Project Information:

Facility:	Howland Hook Marine Terminal
Charge code	p11955502
Task Description	Water samples for SMP

Contact Name	Dorian Bailey / Angelos Zafirelis
Contact Phone No.	201-216-2963 / 201-216-2960
Contact Fax No.	201-216-2158
Contact Email	DBailey@panynj.gov / AZafirel@panynj.gov
Destination Laboratory	Alpha

ITEM #	Field Sample No. /Identification	MATRIX CODE	G=GRAB C=COMP	SAMPLE DATE	#OF CONTAINERS	Composite Description	Analysis / Preservative: CL_PP-METALS-13-D	PP+40	PPVOA+15					
1	PRW-08-WG-201403191416	WG	G	03/19/2014 14:16			X	X						
2	PRW-09-WG-201403191516	WG	G	03/19/2014 15:16			X	X						
3	PRW-10-WG-201403191546	WG	G	03/19/2014 15:46			X	X						
4	PRW-11-WG-201403191016	WG	G	03/19/2014 10:16			X	X						
5	PRW-12-WG-201403191051	WG	G	03/19/2014 10:51			X	X						
6	PRW-13-WG-201403191346	WG	G	03/19/2014 13:46			X	X						
7	PRW-14-WG-201403191241	WG	G	03/19/2014 12:41			X	X						
8	PRW-15-WG-201403191256	WG	G	03/19/2014 12:56			X	X						
9	SW-1-WS-201403191815	WS	G	03/19/2014 18:15			X	X						
10	SW-2-WS-201403191745	WS	G	03/19/2014 17:45			X	X						
11	SW-3-WS-201403191725	WS	G	03/19/2014 17:25			X	X						

Additional Comments/Special Instructions:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

Sample Receipt Conditions			
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in 0C	Samples on Ice?	Sample Intact?	Trip Blank?

Deliverables:

NAME OF SAMPLER	Karl Jensen	DATE/TIME:	
SIGNATURE of SAMPLER:			

THE PORT AUTHORITY OF NY & NJ

CHAIN-OF-CUSTODY / Analytical Request Document

PORT IVORYHHMT

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

Cooler # ALPHA of

Task:	SITE2_SMP_2014
Total # of Samples: 15	Event Complete?
TAT	SDG

Notes: F= Field Filtered , H= Hold

Project Information:

Facility:	Howland Hook Marine Terminal
Charge code	p11955502
Task Description	Water samples for SMP

Contact Name	Dorian Bailey / Angelos Zafirelis
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Destination Laboratory	Alpha

ITEM #	Field Sample No. /Identification	MATRIX CODE	G=GRAB C=COMP	SAMPLE DATE	#OF CONTAINERS	Composite Description	Analysis / Preservative: CL_PP-METALS-13-D	PP+40	PPVOA+15					
12	SW-4-WS-201403191705	WS	G	03/19/2014 17:05			X	X						
13	WG-201403190000-FD-1	WG	G	03/19/2014 00:00			X	X						
14	WQ-201403190000-TB-1	WQ	G	03/19/2014 00:00					X					
15	WQ-201403190930-FB-1	WQ	G	03/19/2014 09:30			X	X						

FORMS

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Site Management Periodic Review Report Notice

Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **V00674**

Site Name Port Ivory Site (Former P & G) Site 2

Site Address: 40 Western Avenue Zip Code: 10303
City/Town: Staten Island
County: Richmond
Site Acreage: 28.6

Reporting Period: October 23, 2013 to January 22, 2015

	YES	NO
1. Is the information above correct?	☑	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☑
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☑
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☑	☐
7. Are all ICs/ECs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative _____ Date _____

SITE NO. V00674

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
1338-1 (a portion of)	Port Authority of New York and New Jersey	Ground Water Use Restriction

The IC restricts disturbance of the cover and limits the use of groundwater at the site in perpetuity. To ensure that the EC and IC remain protective of human health and the environment, periodic groundwater and surface water monitoring and periodic inspections of the EC will be conducted. The periodic monitoring and inspections will continue until the NYSDEC notifies the Port Authority in writing that periodic monitoring is no longer required. Additionally, the SMP requires that the Port Authority take certain actions if the EC is disturbed during site improvement activities.

1400-1 (a portion of)	Port Authority of New York and New Jersey	Ground Water Use Restriction

The IC restricts disturbance of the cover and limits the use of groundwater at the site in perpetuity. To ensure that the EC and IC remain protective of human health and the environment, periodic groundwater and surface water monitoring and periodic inspections of the EC will be conducted. The periodic monitoring and inspections will continue until the NYSDEC notifies the Port Authority in writing that periodic monitoring is no longer required. Additionally, the SMP requires that the Port Authority take certain actions if the EC is disturbed during site improvement activities. .

Box 4

Description of Engineering Controls

Parcel	Engineering Control
1338-1 (a portion of)	Cover System

The environmental cap consists of concrete pavement, asphalt pavement, existing buildings, or one foot of crushed stone. Concrete pavement, asphalt pavement, or one foot of crushed stone were placed throughout Area 2A, except in landscaped/vegetated areas situated within the secure, fenced, and gated HHMT-Port Ivory Facility or in areas containing existing buildings. Asphalt pavement or one foot of crushed stone was also placed throughout Area 2B, except in landscaped/vegetated areas which are tidal wetlands buffer zones.

1400-1 (a portion of)	Cover System

The environmental cap consists of concrete pavement, asphalt pavement, existing buildings, or one foot of crushed stone. Concrete pavement, asphalt pavement, or one foot of crushed stone were placed throughout Area 2A, except in landscaped/vegetated areas situated within the secure, fenced, and gated HHMT-Port Ivory Facility or in areas containing existing buildings. Asphalt pavement or one foot of crushed stone was also placed throughout Area 2B, except in landscaped/vegetated areas which are tidal wetlands buffer zones.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. V00674

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Robert P. Pruno at 4 World Trade Center, 150 Greenwich ST, NY 10006
print name print business address

am certifying as Owner Representative (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

3/2/15
Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I David S. Glass at 1430 Broadway, 10th fl, New York, NY
print name print business address

am certifying as a Qualified Environmental Professional for the Owner
(Owner or Remedial Party)

STATE OF NEW YORK
DAVID SAMUEL GLASS
068884-1
LICENSED PROFESSIONAL ENGINEER

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

3/6/2015
Date