

## **Phase II Assessment Report**

**West Waterfront Redevelopment Project  
92 and 100 East Maple Street  
Sturgeon Bay, Wisconsin**

**Prepared for:**

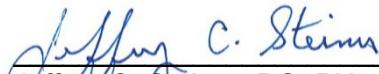
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**August 2013**

## **Phase II Assessment Report**

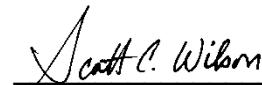
**West Waterfront Redevelopment  
92 and 100 East Maple Street  
Sturgeon Bay, WI 54235**

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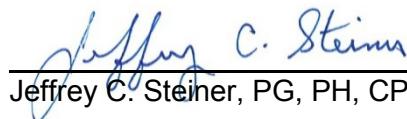
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**NR 712.09 SUBMITTAL CERTIFICATION**

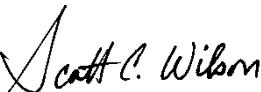
"I, Jeffrey Steiner, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to NR 726, Wis. Adm. Code."

  
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Jeffrey C. Steiner, PG, PH, CPG

8/7/2013

Date

"I, Scott C. Wilson, hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to NR 726, Wis. Adm. Code."

  
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Scott C. Wilson, PSS, Vice President – Environmental Services

8/7/2013

Date

## Contents

	<u>Page No.</u>
Executive Summary .....	i
Acknowledgement .....	ii
Introduction .....	2
Background .....	3
Site Location and Description .....	3
Site History and Background.....	3
Recognized Environmental Concerns .....	4
Regional Geology and Hydrogeology.....	4
Geology .....	4
Hydrogeology.....	5
Site Geology and Hydrogeology .....	6
Site Stratigraphy .....	6
Groundwater Flow Conditions.....	6
Groundwater Levels .....	6
Groundwater Flow.....	6
Groundwater Flow Velocity .....	7
Soil Quality Assessment.....	8
Field Observations and Screening Results .....	8
Results of Soil Sample Laboratory Analysis.....	8
Volatile Organic Compound Analysis (VOCs).....	8
Polycyclic Aromatic Hydrocarbon Analysis (PAH) .....	8
Inorganic Analysis.....	9
Groundwater Quality Assessment .....	10
Volatile Organic Compound Analysis (VOCs) .....	10
Polycyclic Aromatic Hydrocarbon Analysis (PAH).....	10
Inorganic Analysis.....	10
Summary of Findings.....	12
Geology and Hydrogeology .....	12
Soil Assessment .....	12
Volatile Organic Compound Analysis (VOCs).....	12
Polycyclic Aromatic Hydrocarbon Analysis (PAH) .....	12
Inorganic Analysis .....	12
Groundwater Assessment.....	12

	<u>Page No.</u>
Volatile Organic Compound Analysis (VOCs).....	13
Polycyclic Aromatic Hydrocarbon Analysis (PAH) .....	13
Inorganic Analysis .....	13
Conclusions and Recommendations .....	15

### **List of Figures**

- Figure 1 – Site Location Map
- Figure 2 – Parcel Map
- Figure 3 – Site Map
- Figure 4 – Geologic Cross Sections
- Figure 5 – Water Table Contour Map
- Figure 6 – Summary of Analyte Exceedences in Soil
- Figure 7 – Summary of Analyte Exceedences in Groundwater
- Figure 8 – Summary of Methane Detections

### **List of Table**

- Table 1 – Summary of Groundwater Elevation Data
- Table 2 – Summary of Soil Sample Analytical Laboratory Detections
- Table 3 – Summary of Groundwater Sample Analytical Laboratory Detections
- Table 4 – Summary of Soil Vapor (Methane) Monitoring Results

### **List of Appendices**

- Appendix A - Geologic Logs & Monitoring Well Construction/Well Development/Borehole Abandonment Forms
- Appendix B - Laboratory Analytical Reports for Soil Samples
- Appendix C - Laboratory Analytical Reports for Groundwater Samples

## **Executive Summary**

A Community Development Block Grant and Wisconsin Economic Development Corporation Site Assessment Grant were awarded to the City in December 2012 and February 2013, respectively. The City of Sturgeon Bay retained Ayres Associates to perform environmental assessment activities and assist the City in implementing the requirements of the grant. A Phase II Site Assessment was conducted at the former Door County Cooperative property and the adjacent City-owned property in May 2013. The primary objectives of the assessment were to characterize the hydrogeologic and environmental conditions at the site, characterize the nature of potential environmental impacts, and evaluate the need to implement remedial action at the site.

Unconsolidated sediments at the site consist of general fill material overlying lacustrine (lake) deposits, to the depth of exploration at 15 feet. The lacustrine, or lake deposits, consists of discontinuous layers of poorly graded sand and gravel, silty sand and gravel, silt, and high plasticity clay of variable thickness. The lacustrine deposits are covered by up to 11 feet of fill material which is differentiated from the underlying till by the presence of bricks, cinders, concrete, and wood debris.

Water level data collected in May and August 2013 indicate that depth to water ranged from 3.85 feet to 5.07 feet below ground surface. Groundwater flow is generally northeast toward the Sturgeon Bay Canal at an average horizontal hydraulic gradient of 0.001 ft/ft. The average horizontal groundwater flow velocity in the water table aquifer is estimated to be 0.05 feet/day, or 17 feet/year.

Laboratory results for soil samples collected at the site indicate that trace concentrations of PVOCs and PAHs were detected in soil samples collected from the site. Lead concentrations exceeded the NR 720 non-industrial RCL of 50 mg/Kg in 2 of the 10 soil samples analyzed.

Laboratory results show trace concentrations of VOC and PAH constituents in groundwater samples collected from monitoring wells at the site. Benzene and vinyl chloride were the only parameters detected above NR 140 enforcement standards.

Methane concentrations were detected in the subsurface soil but do not appear to be accumulating in the on-site buildings.

Based on the nature of the fill material at the site, and limited degree of impacts to soil and groundwater, Ayres Associates believes that no additional investigation is warranted at this site. Limited soil impacts, which appear to primarily be related to the fill material at the site, should be addressed during site redevelopment.

## **Acknowledgement**

On behalf of the City of Sturgeon Bay, Ayres Associates would like to extend its sincere appreciation to the Wisconsin Department of Administration (WDOA) and the Wisconsin Economic Development Corporation (WEDC) for their funding support and technical assistance. The WDOA and WDEC not only graciously awarded the City of Sturgeon Bay grant funds to assist in funding the environmental activities outlined in this report, but have continued to support the City's efforts as they move toward redevelopment. Without this funding support, this Brownfield site may have laid idle indefinitely. We are indebted to these agencies for making financial assistance available for this important redevelopment project.

## Introduction

The City of Sturgeon Bay has been actively pursuing revitalization in the waterfront area for years. The Sturgeon Bay Downtown Waterfront Subarea Development Plan, completed in 2003, established a vision for Downtown that was developed through significant public involvement before adoption by the Sturgeon Bay Waterfront Redevelopment Authority. The vision includes promoting a diversity of uses; opening up the waterfront to the public, extending a waterfront walkway, and promoting waterfront activities, amenities, and commerce; maintaining and enhancing view corridors; and promoting rehab and reuse of existing structures and new construction. This West Waterfront Area Redevelopment Plan develops an actionable land use plan and strategies to further facilitate the proposed development and redevelopment.

The West Waterfront area today is a working waterfront with views of the Bay Shipbuilding Company Shipyard; USCG operations; working tugboats; Harbor Club Marina; boat tours and rentals; transient docking; a public boat launch; the Door County Maritime Museum; restored boats on display; and other related nearby businesses and amenities. These uses are an extension of the historic uses of the area, which included USCG operations and industry including a granary and lumberyards.

The character envisioned for the West Waterfront is to remain a working waterfront closely tied to water uses, connected to the activity and employment of nearby Bay Shipbuilding; and providing a mix of services and activities that serve local residents. In fulfilling these roles, the area will naturally function as an appealing attraction for visitors and passersby as well and present a positive image of the community. The heart of Downtown, with many civic uses, attractions, businesses, tourist lodging and other amenities, will remain on the eastern side of the Bay. The West Waterfront Area will complement the Downtown, offering additional services and amenities. Existing uses remain key elements of the future vision for the area, including the USCG (relocated immediately south, within the West Waterfront Area); Door County Maritime Museum; Harbor Club Marina; boat tours, rentals, docking, and launching.

The City of Sturgeon Bay applied for and received a Community Development Block Grant (CDBG) and a Wisconsin Economic Development Corporation Site Assessment Grant (SAG) in December 2012 and February 2013, respectively. The purpose of the grants is to perform assessment activities at specific sites in the project corridor where environmental assessment is incomplete, or has not been performed. The grants will also be used to demolish existing structures on the former Door County Cooperative site.

The City of Sturgeon Bay retained Ayres Associates to perform environmental assessment activities and assist the City in implementing the requirements of the grants. A Phase II Site Assessment was conducted at the site in May 2013. The primary objectives of the assessment were to:

- Characterize the hydrogeologic and environmental conditions at the site
- Characterize the nature of potential impacts to soil and groundwater at the site
- Evaluate the threat, if any, to human health and the environment
- Evaluate the need to implement remedial action at the site in regards to site development

Environmental assessment and remediation planning activities related to site development are the subjects of this report.

# **Background**

## **Site Location and Description**

The project site is located in the northeast  $\frac{1}{4}$  of the northeast  $\frac{1}{4}$  of Section 7, Township 27 North, Range 26 East (NE  $\frac{1}{4}$ , NE  $\frac{1}{4}$ , Section 7, T27N, R26E), Door County, Wisconsin, (Figure 1). The site (herein referred to as site or property) includes two parcels (Door County Parcel Numbers 2811210080101 and 2812415090101) located at 92 and 100 East Maple Street on the West side of Sturgeon Bay (Figure 1). A parcel map obtained from the Door County Land Information Office is presented as Figure 2.

The combined properties consist of approximately 3.5 acres and are developed as industrial/municipal property. The 100 East Maple property is currently used by the United States Coast Guard as a parking area and storage area (two small structures adjacent to the southern property boundary); the remaining buildings on the 92 East Maple Street are utilized for storage (former coop facility). Improvements to the Subject Property include six single story (partial basement is located within the former coop structure) concrete and sheet metal structures and paved parking and driveway areas.

The project site is located adjacent to the west shore of the Sturgeon Bay Ship Canal. The adjacent Sturgeon Bay River is approximately 10 feet lower than the north portion of the subject property and can be accessed from East Maple Street located along the south side of the property. Ground cover consists primarily of asphalt and gravel parking and driveway areas.

The site is zoned Central Business District (C-2); the area surrounding the site is primarily mixed residential, retail, and commercial properties.

## **Site History and Background**

The history of the site was substantially obtained from a *Phase I Environmental Assessment Report* (January 2013), prepared by AECOM under contract to the City of Sturgeon Bay.

Historically, the Subject Property was developed as industrial/municipal property since at least 1885 and has remained developed in that manner to the present day. Initially, Subject Property development was identified on the western side of the Subject Property. Filling activities later expanded the Subject Property to the east into Sturgeon Bay. During the late 1800's, several small storage structures and a railroad spur were identified on the Subject Property. During the early 1900's, industrial and municipal development dominated the land use of the Subject Property as several businesses related to agriculture (seed storage and grain elevator), construction (concrete storage), paint storage, and lumber as well as a "fire engine house", and fire department structure were identified on the Subject Property.

At the time of the site reconnaissance, the Subject Property was developed with a one story industrial structure with offices situated on a concrete slab on-grade foundation, a partial concrete basement foundation, and wooden timbers and footings; a wood and metal constructed warehouse structure situated on a slab on-grade foundation; a metal constructed warehouse situated on a concrete slab on-grade foundation and partially earthen foundation; a single story cinder block constructed building situated on a concrete slab-on grade foundation; a metal constructed storage shed situated on a concrete slab-on- grade foundation; and a greenhouse type structure situated on the paved surface of the Subject Property. The former coop property

has been vacant since before 2007 when the property was sold to a developer. In 2009, Freedom Bank foreclosed on the property.

The remaining areas of the Subject Property not occupied by a structure are either paved drive or parking areas or decoratively landscaped. The Subject Property is developed as an industrial/municipal property and is currently occupied by six structures (one is vacant) that are primarily utilized as storage facilities by the United States Coast Guard (southernmost structure and greenhouse structure), a salvage company (storing supplies in the easternmost structure), and a small engine equipment company (storing motorcycles, scooters, snow blower equipment, and lawn tractors throughout the former coop building}, and private individuals (boats, snowmobiles, and various personal items in the southern storage building).

The building on the property is primarily of cinder block construction. The southern portion of the building used for automotive repair is approximately 6,500 square feet. The storage room attached to the north side of the building is approximately 4,000 square feet. The building consists of three car repair bays, a reception and office area, and two storage rooms with two bathrooms on the main floor. Beneath and behind the building is a large basement and storage areas. The cinder block storage room on the north side of the main building appears to be of newer vintage than the main building. The building is heated with liquid propane gas by a furnace located a utility room in the basement of the structure. Electricity is provided to the Subject Property by Alliant Energy.

The City of Sturgeon Bay supplies drinking water to the Subject Property from the municipal distribution system. Sanitary discharges on the subject site are discharged into the municipal sanitary sewer system. The subject site area is serviced by the City of Sturgeon Bay.

## **Recognized Environmental Concerns**

Environmental concerns regarding the subject parcels are primarily related to the historical operation of an agricultural cooperative at the site and the former presence of aboveground and underground storage tanks. Results from the previous Phase I and Phase II assessments indicate the presence or potential presence of polycyclic aromatic hydrocarbons (PAH), volatile organic compounds (VOCs), and heavy metals in soil and groundwater. Additional concerns include the presence of general fill material across the site in an area that was historically occupied by water (Sturgeon Bay).

## **Regional Geology and Hydrogeology**

### **Geology**

This preliminary evaluation of the site geology is based on existing published regional information<sup>1</sup>, and site-specific data collected from borings advanced in the project area by others. Subsurface information collected by others indicates that the unconsolidated sediments consist primarily of loose to medium dense, fine-grained silty sand and poorly graded gravel and

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<sup>1</sup> Skinner, E., L. and R. G. Borman. 1973. "Water Resources of Wisconsin – Lake Michigan Basin, Hydrologic Atlas HA-42." United States Department of the Interior Geological Survey, University Extension – The University of Wisconsin Geological and Natural History Survey.

firm, low plasticity silt and clay. Some non-native fill materials, consisting of brick, cinders, and wood were encountered in some of the borings advanced at the site.

Regional information indicates that surficial unconsolidated deposits around Sturgeon Bay consist primarily of lake deposits (organic materials and stratified clay, silt, and sand) and ground moraine deposits (glacial till). Based on available well logs and regional maps, the unconsolidated deposits in the Sturgeon Bay area are less than fifty feet thick.

Underlying the glacial deposits are dolomites of Silurian age. The Silurian age dolomites are underlain by shale, dolomite, and sandstone of Ordovician age. Depth to bedrock is estimated to be approximately 50 to 100 feet.

### **Hydrogeology**

Groundwater is the source for domestic, municipal, and industrial water supplies in the Sturgeon Bay area. The City of Sturgeon Bay relies entirely on groundwater pumped from municipal wells finished in the dolomite (Niagaran) aquifer. Since the turn of the century, the city has installed 12 municipal wells within the city limits. Currently (2013) the city operates 5 wells, ranging in depth from 305 feet to 477 feet deep.

Depth to groundwater below the site reportedly ranges from approximately 3 to 6 feet below ground surface. Shallow groundwater flow is generally northeast toward the Sturgeon Bay River, based on water elevation data obtained from previous assessments performed at the project site.

# **Site Geology and Hydrogeology**

## **Site Stratigraphy**

Subsurface conditions were evaluated based on information collected from ten soil probes and borings, and ten vapor probes advanced at the site during this assessment. Soil borings were advanced to a maximum depth of 15 feet below ground surface (bgs). Additional information was obtained from borings previously advanced at the site by others.

Five of the soil borings advanced during this assessment were used for installation of monitoring wells (WMW-1 through WMW-5). Locations of the borings, monitoring wells, and vapor probes are shown on Figure 3. Geologic cross sections A-A' and B-B' are shown on Figure 4. Geologic boring and well construction logs are presented in Appendix A.

Subsurface information collected during this assessment indicates that the unconsolidated sediments at the site consist of general fill material overlying lacustrine (lake) deposits, to the depth of exploration at 15 feet. The lacustrine, or lake deposits, consists of discontinuous layers of poorly graded sand and gravel, silty sand and gravel, silt, and high plasticity clay of variable thickness. The lacustrine deposits are covered by up to 11 feet of fill material which is differentiated from the underlying till by the presence of bricks, cinders, concrete, and wood debris. Historical documents indicate the site area was formerly part of Sturgeon Bay and covered by water prior to filling.

Bedrock was not encountered in any of the soil borings advanced at the site during this assessment. Geologic logs for borings advanced for the Maple Street bridge approach, located approximately 100 feet south of the site, indicate that bedrock was not encountered to the depth of exploration of 53.5 feet below ground surface.

## **Groundwater Flow Conditions**

### **Groundwater Levels**

Groundwater level and elevation data obtained from the monitoring wells on May 23 and August 6, 2013, were used to estimate groundwater flow direction and gradient (Table 1). Water level data collected in May 2013 indicate that depth to water ranged from 3.85 feet to 4.99 feet below ground surface; readings in August 2013 ranged from 4.22 to 5.07 feet below ground surface.

### **Groundwater Flow**

Water level data obtained from the water table observation wells on August 6, 2013, were used to construct a water table contour map. Groundwater flow is generally northeast toward the Sturgeon Bay Canal at a very low average horizontal hydraulic gradient of 0.001 ft/ft, as illustrated in Figure 5. However, water elevations in well WMW-5, located near the canal, were slightly higher than those at the center of the site during both monitoring events. This may be due to the wells proximity to the bulkhead, which slightly restricts discharge to the canal or water level fluctuations near the canal due to seiche effect, or the effect of the wind on the water surface in the channel combined with the relatively porous nature of the fill material at the site that allows rapid water exchange between the lake and the fill.

## **Groundwater Flow Velocity**

Groundwater flow velocity was calculated for the water table aquifer at this site using the formula:

$$V = ki/n_e$$

Where:

V = horizontal groundwater flow velocity

k = hydraulic conductivity

i = hydraulic gradient

$n_e$  = effective porosity

An average hydraulic conductivity value of  $5.0 \times 10^{-3}$  cm/sec was used in calculating groundwater flow velocity in the water table aquifer. This estimated value was based on literature values and experience with slug test data from sites with similar stratigraphy.

The hydraulic gradient (i) used to calculate horizontal groundwater flow velocity is based on water levels measured on August 8, 2013. An average horizontal gradient of 0.001 ft/ft was used to calculate groundwater flow in the upper unconsolidated aquifer.

The velocity of groundwater is also influenced by the porosity of the aquifer material. The effective porosity ( $n_e$ ) is a measure of the amount of interconnecting pore space that is available in a given volume of material through which water can move. The average effective porosity of the unconsolidated material is assumed to be 30 percent.

Based on the values stated above, the average horizontal groundwater flow velocity in the unconsolidated aquifer across the subject site is approximately 0.05 feet/day or 17 feet/year.

## **Soil Quality Assessment**

Soil samples were collected from the borings and borings advanced during the investigation and submitted to CT Laboratories in Sturgeon Bay, Wisconsin, for analysis. Selected samples were analyzed for volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), and RCRA metals. The samples selected for analysis and type of analysis performed was based on field screening results, visual and olfactory observations during drilling, and the type of activity formerly performed in the area where the boring was advanced.

### **Field Observations and Screening Results**

Headspace analysis was performed on each of the soil samples obtained from the borings. Headspace analysis is a screening tool used to qualitatively assess the degree of potential impacts to soil from volatile organic compounds. The headspace analysis was performed using an organic vapor meter (OVM) equipped with an 11.7 eV lamp in accordance with Ayres Associates standard operating procedure #210. Headspace analysis results are shown on the boring logs in Appendix A.

Results of the headspace analysis indicated the potential presence of elevated levels of volatile organic constituents in soil samples collected from one of the soil borings advanced during this assessment. Slightly elevated PID readings were recorded for soil samples collected from boring WMW-1, located near the former USTs, at depths ranging between 3.5 and 10 feet below ground surface. The headspace analysis indicates that detectable levels of VOC constituents maybe found at or near the water table in this area of the site.

### **Results of Soil Sample Laboratory Analysis**

Eighteen (18) soil samples collected from the soil borings advanced during this assessment were submitted for analysis. Samples collected were analyzed for one or more of the following parameters: VOCs, PAHs, and RCRA metals. VOCs and PAHs were analyzed using EPA SW-846 Method 8260B and Method 8270C, respectively. Metals were analyzed using Methods 6010B, 7060A, and 7470A. A summary of analyte detections in soil is presented in Table 2. Laboratory data reports for soil samples are presented in Appendix B. A summary of analyte exceedences in soil is presented in Figure 6.

#### **Volatile Organic Compound Analysis (VOCs)**

Ten (10) of the 18 soil samples collected during this assessment were analyzed for VOCs. Laboratory results for soil samples collected at the site indicate that trace concentrations of VOCs were detected in 4 of the 10 samples that were analyzed for these compounds; including trimethylbenzene and naphthalene. Concentrations of VOC detected in these four samples exceeded the EPA regional screening levels (RSLs) for protection of groundwater; however, none of the detections exceeded NR 720 Wisconsin Administrative Code residual contaminant levels (RCLs).

#### **Polycyclic Aromatic Hydrocarbon Analysis (PAH)**

Ten (10) of the 18 soil samples collected were analyzed for PAHs. Trace concentrations of polycyclic aromatic hydrocarbon compounds (PAH) were detected in each of the 10 soil samples submitted for PAH analysis. PAH concentrations exceeded suggested generic residual contaminant levels for direct contact (residential) in 9 of the 10 soil samples in which they were detected. The distribution of PAH constituents in soil across the site indicate the impacts are

related to fill materials used at the site or general site operations rather than a concentrated source area.

## **Inorganic Analysis**

### Metals

Low levels of arsenic were detected in each of the ten samples submitted for analysis at concentrations exceeding NR 720 Wisconsin Administrative Code non-industrial residual contaminant levels. Arsenic concentrations in these samples ranged from 2.2 mg/Kg to 4.7 mg/Kg, well within the range for naturally occurring background concentrations in soil throughout Wisconsin. (Note: Naturally occurring background concentrations of arsenic are often greater than the NR 720 Wisconsin Administrative Code RCL.)

Naturally occurring lead concentrations were detected in each of the ten samples submitted for analysis; ranging from 6.9 mg/Kg to 178 mg/kg. Lead concentrations exceeded the NR 720 non-industrial RCL of 50 mg/Kg in two of the ten soil samples analyzed; including WGP-1 2'-2.5' (178 mg/Kg) and WMW-2 0'-2.5' (51.3 mg/Kg).

### Nitrogen

Many different chemical and physical forms of nitrogen fertilizer exist. Ammonia ( $\text{NH}_3$ ) analysis was selected to assess the presence and concentration of nitrogen in soil from fertilizer handling at the former co-op. Bacteria in the upper soil layers convert ammonia to ammonium; ammonium is oxidized to nitrite, which is subsequently oxidized to nitrate. Nitrate is very soluble and easy leaches to groundwater.

Five of the soil samples collected were analyzed for ammonia nitrogen. Concentrations of ammonia nitrogen ranged from 15.9 mg/Kg to 54.7 mg/Kg. These concentrations are well below the Department of Agriculture, Trade, and Consumer Protection (DATCP) Suggested RCL for combined Ammonia Nitrogen and Nitrate-Nitrite Nitrogen of 100 mg/Kg.

## **Groundwater Quality Assessment**

Groundwater samples were collected from NR 141 Wisconsin Administrative Code monitoring wells and temporary wells installed at the project site. The purpose of this sampling is to characterize the nature and extent of potential contamination at the site by determining the type, distribution, and concentration of chemical constituents present in the groundwater. The analytical data were used in conjunction with site-specific geologic and hydrogeologic data and information on other environmental conditions to determine the potential for contaminant migration.

Ayres Associates collected one round of groundwater samples from five water table observation wells (WMW-1, WMW-2, WMW-3, WMW-4, and WMW-5). Samples were collected from the wells on May 23, 2013, and submitted to Pace Laboratories in Green Bay, Wisconsin, for analysis. Groundwater samples were analyzed for VOCs, PAHs, and dissolved RCRA metals. VOCs and PAHs were analyzed using EPA SW-846 Method 8260B and Method 8310, respectively. Dissolved metals were analyzed using Methods 6010B, 7060A, and 7470A. A summary of analyte detections in groundwater samples is presented in Table 3. Laboratory data sheets are presented in Appendix C. A summary of analyte exceedences in groundwater is presented in Figure 7.

### **Volatile Organic Compound Analysis (VOCs)**

Laboratory results indicate that detectable concentrations of VOC constituents were found in groundwater samples collected from two of the five monitoring wells sampled (WMW-1 and WMW-3). Only one of the parameters detected (benzene) in the sample collected from well WMW-1 exceeded NR 140 Wisconsin Administrative Code groundwater enforcement standards (ES), while naphthalene and trimethylenzene exceeded the preventive action limit (PAL). The elevated petroleum hydrocarbons detected in groundwater appear to be related to release from leaking underground storage tanks formerly located below the south side of the property.

Vinyl chloride was the only parameter found above detection limits in the sample collected from well WMW-3. Vinyl chloride was detected at a concentration of 0.53J µg/L, slightly above the NR 140 ES of 0.2 µg/L.

### **Polycyclic Aromatic Hydrocarbon Analysis (PAH)**

Detectable concentrations of PAH constituents were found in two of the five groundwater samples analyzed. However, only three of the PAH constituents (benzo(a)pyrene, benzo(b)fluoranthene, and chrysene) were detected at concentrations exceeding NR 140 Wisconsin Administrative Code PALs. None of the PAH concentrations exceeded NR 140 enforcement standards.

### **Inorganic Analysis**

Concentrations of naturally occurring dissolved metals were detected in each of the groundwater samples analyzed. None of the metals detected exceeded NR 140 Wisconsin Administrative Code enforcement standards.

Five of the soil samples collected were analyzed for ammonia nitrogen. Concentrations of ammonia nitrogen ranged from 15.9 mg/Kg to 54.7 mg/Kg. These concentrations are well below

## Vapor Assessment

Elevated levels of methane were detected during the previous assessment performed at the former Door County Cooperative site (92 E. Maple Street) by others; however, no methane readings were obtained inside the existing buildings. Therefore, a limited methane gas assessment was performed at the site to verify the presence of methane in the subsurface and to evaluate potential methane migration and accumulation in the buildings. The primary objectives of the gas survey were to determine the level of methane production and migration within the subsurface and buildings and to evaluate appropriate engineering controls required, if any, during demolition activities.

Ayres Associates installed four (4) sub-slab Vapor Pins™ beneath the concrete floors in the existing buildings. An additional five (5) shallow vapor implants were installed in the subsurface to a depth of 3 feet across the remainder of the project site. Each sample probe was screened for Methane (% methane and % LEL) using a Landtec 2000 gas meter.

Methane is a colorless, odorless, non-toxic gas which is lighter than air and, in certain concentrations, is flammable. It is a natural by-product of the decomposition of organic material by bacteria in the absence of oxygen. As a result, methane production may occur wherever there is decaying organic matter. Because methane is lighter than air, it typically migrates upward and disperses into the atmosphere. However, in enclosed spaces with little or no air exchange, methane may accumulate. When the concentration of methane reaches approximately 50,000 parts per million (ppm) in air (or 5% methane by volume), it forms a potentially explosive mixture. This concentration of 50,000 ppm (5% methane) is referred to as the lower explosive limit (LEL). Because methane is non-toxic, the primary risk associated with it is explosion, should it accumulate to concentrations above the LEL. Therefore, measured concentrations of methane are commonly reported as a percentage of the lower explosive limit (% LEL). A summary of the soil vapor monitoring results for methane is included in Table 4; the location and concentration of methane detections is shown on Figure 8.

Methane concentrations in the five vapor implants installed in the shallow, unsaturated zone, ranged from 0.4 percent methane (8% LEL) in vapor implant WVP-9 to 15.3 percent methane (>100% LEL) in vapor implant WVP-8. Methane concentrations exceeded the LEL in two of the nine vapor sampling points (WVP-7 and WVP-8), and concentrations of methane were measured at 98% of the LEL at sample point WVP-6. None of the readings obtained from the Vapor Pins™ installed beneath the concrete floors of the buildings registered on the meter for the presence of methane. In addition, the presence of methane was not detected in the ambient air inside the buildings. These data indicate that methane is being generated in the subsurface through the decomposition of organic matter; however, methane does not appear to be accumulating in the buildings, and should not present a significant risk during building demolition.

## **Summary of Findings**

### **Geology and Hydrogeology**

- Unconsolidated sediments at the site consist of general fill material overlying lacustrine (lake) deposits, to the depth of exploration at 15 feet. The lacustrine, or lake deposits, consists of discontinuous layers of poorly graded sand and gravel, silty sand and gravel, silt, and high plasticity clay of variable thickness. The lacustrine deposits are covered by up to 11 feet of fill material which is differentiated from the underlying till by the presence of bricks, cinders, concrete, and wood debris.
- Bedrock was not encountered in any of the soil borings advanced at the site during this assessment. Geologic logs for borings advanced for the Maple Street bridge approach, located approximately 100 feet south of the site, indicate that bedrock was not encountered to the depth of exploration of 53.5 feet below ground surface.
- Water level data collected in May and August 2013 indicate that depth to water ranged from 3.85 feet to 5.07 feet below ground surface. Groundwater flow is generally northeast toward the Sturgeon Bay Canal at an average horizontal hydraulic gradient of 0.001 ft/ft. The average horizontal groundwater flow velocity in the water table aquifer is estimated to be 0.05 feet/day, or 17 feet/year.

### **Soil Assessment**

#### **Volatile Organic Compound Analysis (VOCs)**

- Ten (10) of the 18 soil samples collected during this assessment were analyzed for VOCs. Laboratory results for soil samples collected at the site indicate that trace concentrations of VOCs were detected in four of the ten samples that were analyzed for these compounds; including trimethylbenzene and naphthalene. Concentrations of VOC detected in these four samples exceeded the EPA regional screening levels (RSLs) for protection of groundwater; however, none of the detections exceeded NR 720 Wisconsin Administrative Code residual contaminant levels (RCLs).

#### **Polycyclic Aromatic Hydrocarbon Analysis (PAH)**

- Ten (10) of the 18 soil samples collected were analyzed for PAHs. Trace concentrations of polycyclic aromatic hydrocarbon compounds (PAH) were detected in each of the ten soil samples submitted for PAH analysis. PAH concentrations exceeded suggested generic residual contaminant levels in nine of the ten soil samples in which they were detected. The distribution of PAH constituents in soil across the site indicate the impacts are related to fill materials used at the site or general site operations rather than a concentrated source area.

#### **Inorganic Analysis**

- Low levels of arsenic were detected in each of the ten samples submitted for analysis at concentrations exceeding NR 720 Wisconsin Administrative Code non-industrial residual contaminant levels. Arsenic concentrations in these samples ranged from 2.2 mg/Kg to 4.7 mg/Kg, well within the range for naturally occurring background concentrations in soil throughout Wisconsin. (Note: Naturally occurring background concentrations of arsenic are often greater than the NR 720 Wisconsin Administrative Code RCL.)

- Naturally occurring lead concentrations were detected in each of the ten samples submitted for analysis; ranging from 6.9 mg/Kg to 178 mg/kg. Lead concentrations exceeded the NR 720 non-industrial RCL of 50 mg/Kg in two of the ten soil samples analyzed; including WGP-1 2'-2.5' (178 mg/Kg) and WMW-2 0'-2.5' (51.3 mg/Kg).
- Five of the soil samples collected were analyzed for ammonia nitrogen. Concentrations of ammonia nitrogen ranged from 15.9 mg/Kg to 54.7 mg/Kg. These concentrations are well below the Department of Agriculture, Trade, and Consumer Protection (DATCP) suggested RCL for combined ammonia nitrogen and nitrate-nitrite nitrogen of 100 mg/Kg.

## **Groundwater Assessment**

### **Volatile Organic Compound Analysis (VOCs)**

- Laboratory results indicate that detectable concentrations of VOC constituents were found in groundwater samples collected from two of the five monitoring wells sampled (WMW-1 and WMW-3). Only one of the parameters detected (benzene) in the sample collected from well WMW-1 exceeded NR 140 Wisconsin Administrative Code groundwater enforcement standards (ES), while naphthalene and trimethylenzene exceeded the preventive action limit (PAL). The elevated petroleum hydrocarbons detected in groundwater appear to be related to release from leaking underground storage tanks formerly located below the south side of the property.

Vinyl chloride was the only parameter found above detection limits in the sample collected from well WMW-3. Vinyl chloride was detected at a concentration of 0.53J µg/L, slightly above the NR 140 ES of 0.2 µg/L.

### **Polycyclic Aromatic Hydrocarbon Analysis (PAH)**

- Detectable concentrations of PAH constituents were found in two of the five groundwater samples analyzed. However, only three of the PAH constituents (benzo(a)pyrene, benzo(b)fluoranthene, and chrysene) were detected at concentrations exceeding NR 140 Wisconsin Administrative Code PALs. None of the PAH concentrations exceeded NR 140 enforcement standards.

## **Inorganic Analysis**

- Concentrations of naturally occurring dissolved metals were detected in each of the groundwater samples analyzed. None of the metals detected exceeded NR 140 Wisconsin Administrative Code enforcement standards.

Five of the soil samples collected were analyzed for ammonia nitrogen. Concentrations of ammonia nitrogen ranged from 15.9 mg/Kg to 54.7 mg/Kg.

## **Vapor Assessment**

- Methane concentrations in the five vapor implants installed in the shallow, unsaturated zone, ranged from 0.4 percent methane (8% LEL) in vapor implant WVP-9 to 15.3 percent methane (>100% LEL) in vapor implant WVP-8. Methane concentrations exceeded the LEL in two of the nine vapor sampling points (WVP-7 and WVP-8), and concentrations of methane were measured at 98% of the LEL at sample point WVP-6. None of the readings obtained from the Vapor Pins™ installed beneath the concrete floors of the buildings

registered on the meter for the presence of methane. In addition, the presence of methane was not detected in the ambient air inside the buildings. These data indicate that methane is being generated in the subsurface through the decomposition of organic matter; however, methane does not appear to be accumulating in the buildings, and should not present a significant risk during building demolition.

## **Conclusions and Recommendations**

The following conclusions and recommendations are provided based on information collected during the site assessment:

- Based on the nature of the fill material at the site, and limited degree of impacts to soil and groundwater, Ayres Associates believes that no additional investigation is warranted at this site. Limited soil impacts, which appear to primarily be related to the fill material at the site, should be addressed during site redevelopment.
- Prepare a Materials Management Plan (MMP) to address soil and groundwater impacts, and methane concentrations in the subsurface, that are consistent with site redevelopment plans. The remediation options selected will be contingent on the plans for redevelopment.
- Submit this Phase II Site Assessment Report to the Wisconsin Department of Natural Resources.
- Proceed with case closure through the Voluntary Party Liability Exemption Program (VPLE).

## **Figures**

Draft



## PROJECT LOCATION

NOTE: THIS DRAWING WAS PREPARED  
IN COLOR. REPRODUCTION BY  
MEANS OTHER THAN EQUIVALENT  
COLOR COPYING MAY CAUSE  
SOME DATA TO BE LOST OR  
MISREPRESENTED.

DR.BY T. SHUPERT	WEST WATERFROND REDEVELOPMENT PROJECT CITY OF STURGEON BAY STURGEON BAY, WISCONSIN	AYRES ASSOCIATES	PROJECT LOCATION	FIGURE NO. 1
CHK.BY J. STEINER				
DATE JULY 2013				

# Parcel Map 92 and 100 E. Maple Street

Printed 08/07/2013 courtesy of Door County Land Information Office

From the Web Map of ...  
( //www.co.door.wi.gov )



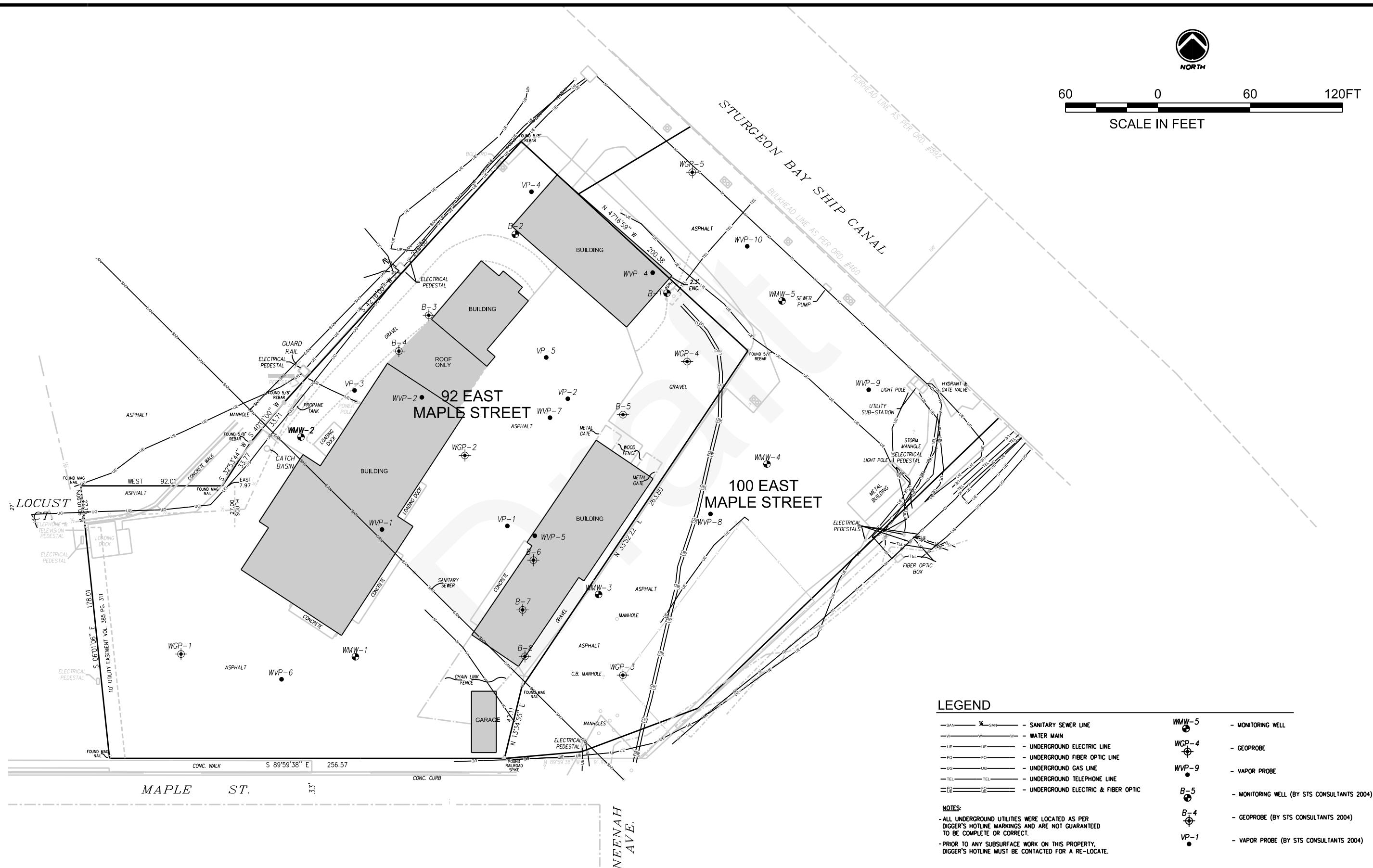
Door County, Wisconsin  
... for all seasons!

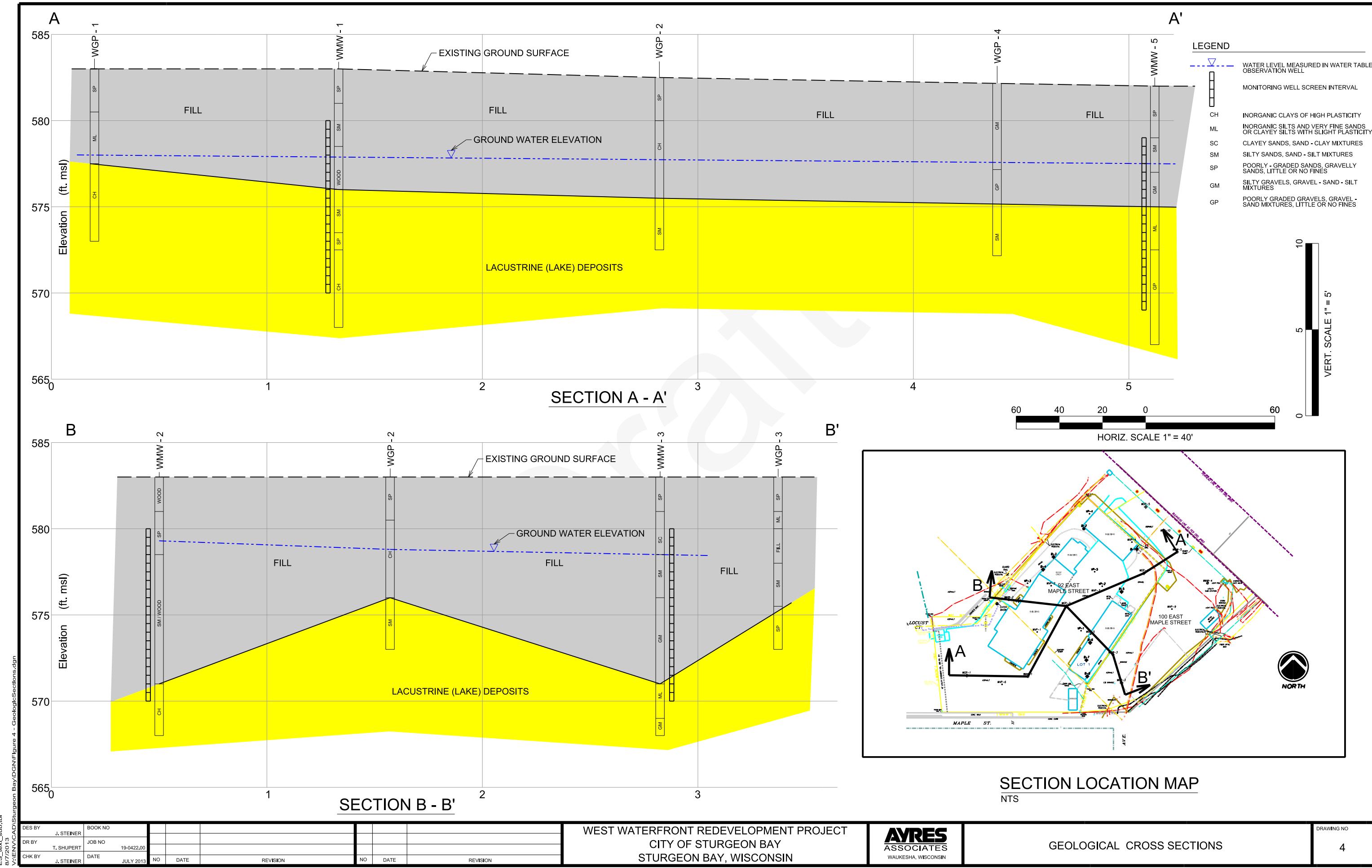


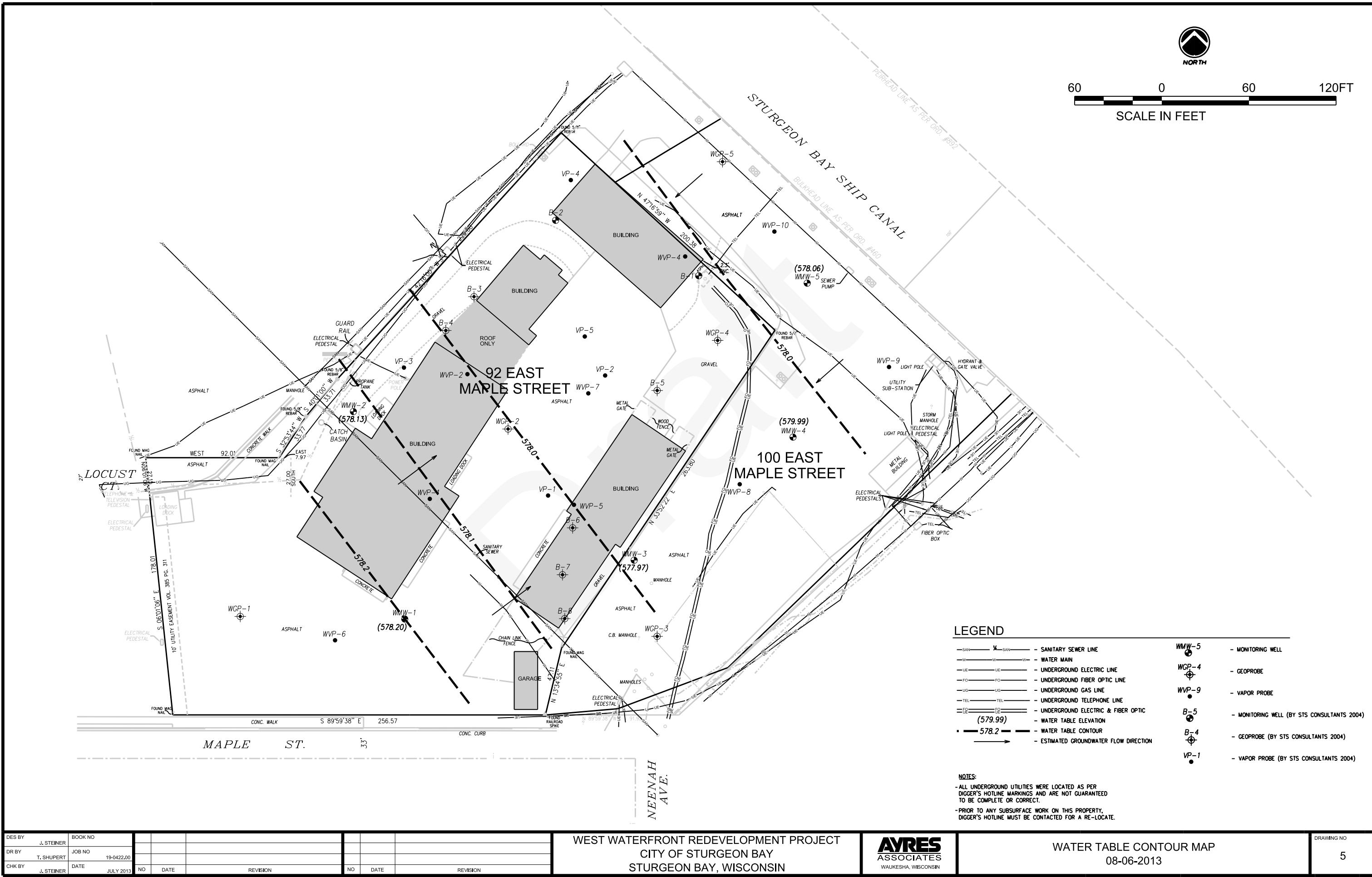
Door County can not and does not make any representation regarding the accuracy or completeness, nor the error-free nature, of information depicted on this map. This information is provided to users "as is". The user of this information assumes any and all risks associated with this information. Door County makes no warranty or representation, either express or implied, as to the accuracy, completeness, or fitness for a particular purpose of this information. The Web Map is only a compilation of information and is NOT to be considered a legally recorded map or a legal land survey to be relied upon.



NORTH







PLTDRVSS  
\$PENTBLSS  
\$DATE\$

DES BY J. STEINER	BOOK NO						
DR BY T. SHUPERT	JOB NO 19-0422.00						
CHK BY J. STEINER	DATE JULY 2013	NO	DATE	REVISION	NO	DATE	REVISION

**WEST WATERFRONT REDEVELOPMENT PROJECT  
CITY OF STURGEON BAY  
STURGEON BAY, WISCONSIN**

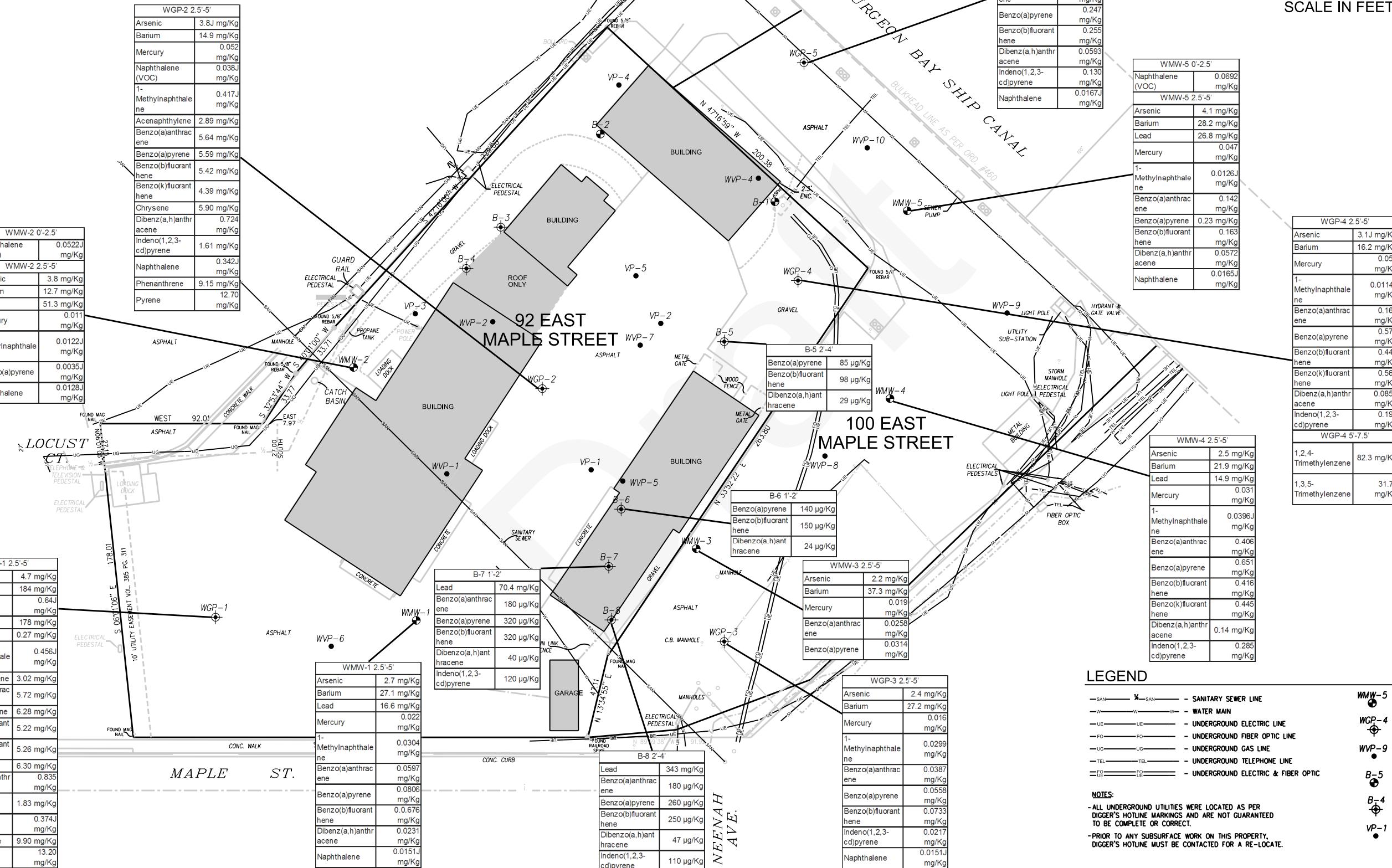
**AYRE**  
ASSOCIAT  
WAUKESHA, WISCO

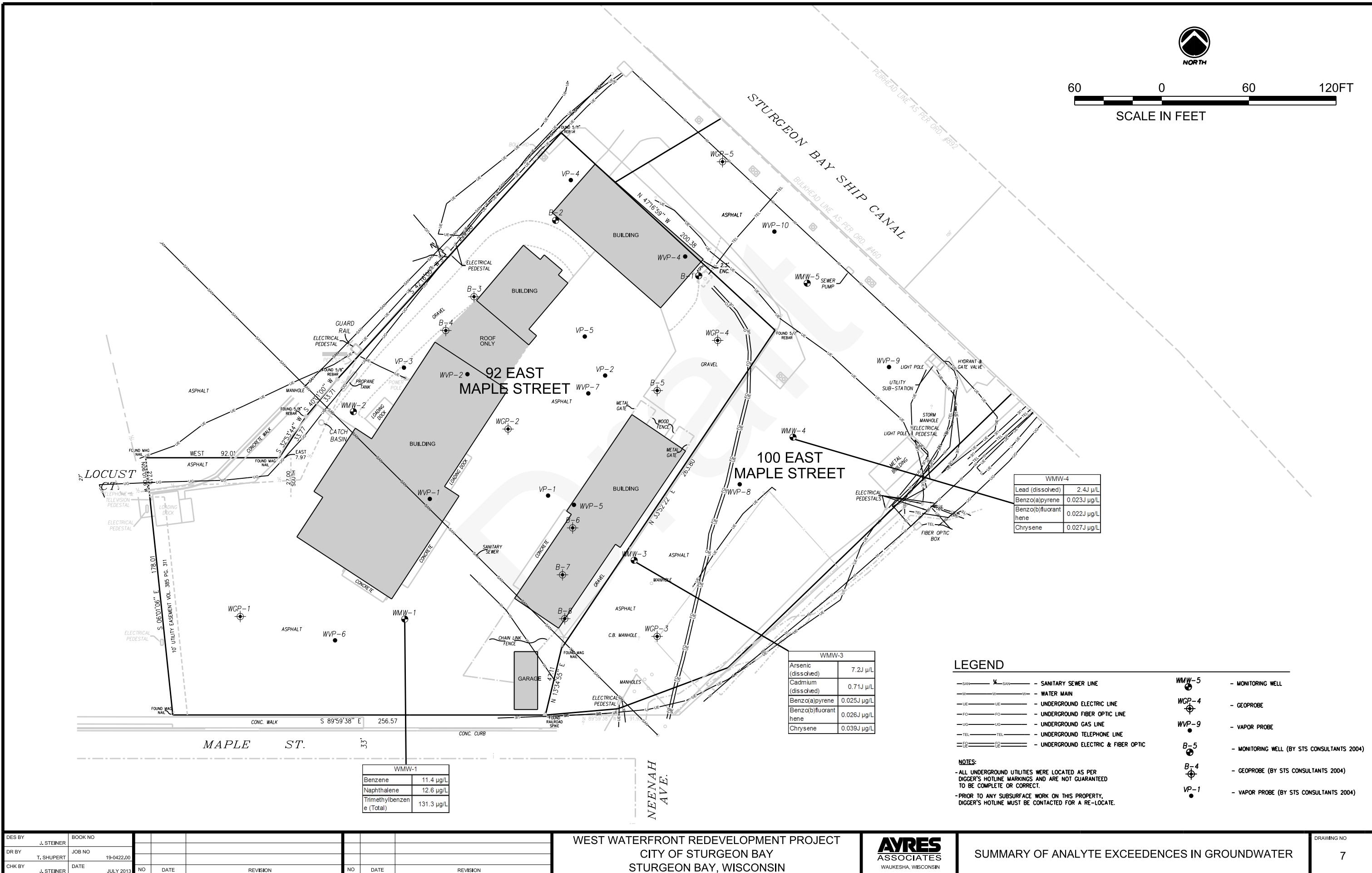
WATER TABLE CONTOUR MAP  
08-06-2013

DRAWING NO  
5



60 0 60 120FT  
SCALE IN FEET





SPLTDRVSS  
SPENTBLSS  
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DES BY	J. STEINER	BOOK NO
DR BY	T. SHUPERT	JOB NO 19-04
CHK BY	J. STEINER	DATE JULY

00			
13	NO	DATE	REVISION

NO	DATE	REVISION	

**WEST WATERFRONT REDEVELOPMENT PROJECT  
CITY OF STURGEON BAY  
STURGEON BAY, WISCONSIN**

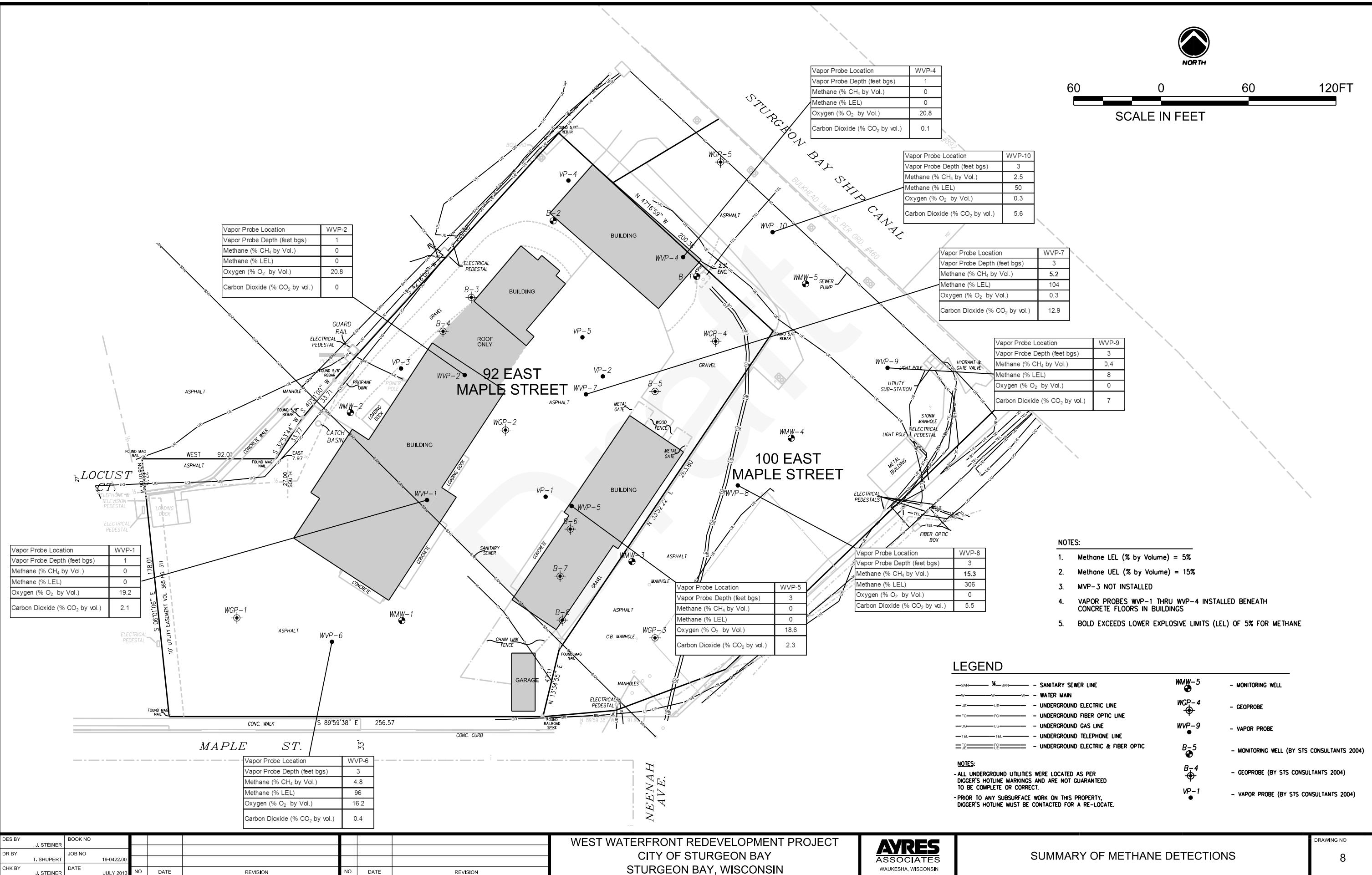
**AYRE**  
ASSOCIATES  
WAUKESHA, WISCONSIN

## SUMMARY OF ANALYTE EXCEEDENCES IN GROUNDWATER

DRAWING NO



60 0 60 120FT  
SCALE IN FEET



## **Tables**

Draft

**Appendix A**

**Geologic Logs & Monitoring Well Construction/Well  
Development/Borehole Abandonment Forms**

Draft

**Appendix B**

**Laboratory Analytical Reports for Soil Samples**

Draft

June 10, 2013

Jeff Steiner  
AYRES & ASSOCIATES, INC.  
1802 Pankratz Street  
Madison, WI 537044069

RE: Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078553

Dear Jeff Steiner:

Enclosed are the analytical results for sample(s) received by the laboratory on May 24, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Containers for moisture analysis were not provided for those samples requesting VOC only. Dry weight calculations for these samples were made using moisture data from other samples within the same boring.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Brian Basten for  
Dan Milewsky  
dan.milewsky@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078553

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### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334

New York Certification #: 11888  
North Dakota Certification #: R-150  
South Carolina Certification #: 83006001  
US Dept of Agriculture #: S-76505  
Wisconsin Certification #: 405132750

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4078553001	WGP-1 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553002	WGP-2 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553003	WGP-3 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553004	WGP-4 0-2.5	Solid	05/23/13 00:00	05/24/13 15:10
4078553005	WGP-4 5-7.5	Solid	05/23/13 00:00	05/24/13 15:10
4078553006	WGP-4 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553007	WGP-5 0-2.5	Solid	05/23/13 00:00	05/24/13 15:10
4078553008	WGP-5 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553009	WMW-1 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553010	WMW-2 0-2.5	Solid	05/23/13 00:00	05/24/13 15:10
4078553011	WMW-2 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553012	WMW-3 0-2.5	Solid	05/23/13 00:00	05/24/13 15:10
4078553013	WMW-3 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553014	WMW-4 0-2.5	Solid	05/23/13 00:00	05/24/13 15:10
4078553015	WMW-4 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553016	WMW-5 0-2.5	Solid	05/23/13 00:00	05/24/13 15:10
4078553017	WMW-5 2.5-5	Solid	05/23/13 00:00	05/24/13 15:10
4078553018	MEOH BLANK	Solid	05/23/13 00:00	05/24/13 15:10

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## SAMPLE ANALYTE COUNT

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078553

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4078553001	WGP-1 2.5-5	EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		EPA 8260	SMT	64	PASI-G
		ASTM D2974-87	MAV	1	PASI-G
4078553002	WGP-2 2.5-5	EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		EPA 8260	SMT	64	PASI-G
		ASTM D2974-87	MAV	1	PASI-G
4078553003	WGP-3 2.5-5	EPA 350.1	HMB	1	PASI-G
		EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		EPA 8260	SMT	64	PASI-G
4078553004	WGP-4 0-2.5	ASTM D2974-87	MAV	1	PASI-G
		EPA 350.1	HMB	1	PASI-G
		EPA 8260	SMT	64	PASI-G
4078553005	WGP-4 5-7.5	ASTM D2974-87	AH	1	PASI-G
		EPA 6010	DLB	7	PASI-G
4078553006	WGP-4 2.5-5	EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	MAV	1	PASI-G
		EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
4078553007	WGP-5 0-2.5	EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	MAV	1	PASI-G
		EPA 350.1	HMB	1	PASI-G
		EPA 8260	SMT	64	PASI-G
4078553008	WGP-5 2.5-5	ASTM D2974-87	AH	1	PASI-G
		EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	MAV	1	PASI-G
4078553009	WMW-1 2.5-5	EPA 350.1	HMB	1	PASI-G
		EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		EPA 8260	SMT	64	PASI-G
4078553010	WMW-2 0-2.5	ASTM D2974-87	MAV	1	PASI-G
		EPA 8260	SMT	64	PASI-G

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078553

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4078553011	WMW-2 2.5-5	ASTM D2974-87	AH	1	PASI-G
		EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
4078553012	WMW-3 0-2.5	ASTM D2974-87	MAV	1	PASI-G
		EPA 8260	SMT	64	PASI-G
4078553013	WMW-3 2.5-5	ASTM D2974-87	AH	1	PASI-G
		EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
4078553014	WMW-4 0-2.5	ASTM D2974-87	MAV	1	PASI-G
		EPA 8260	SMT	64	PASI-G
4078553015	WMW-4 2.5-5	ASTM D2974-87	AH	1	PASI-G
		EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
4078553016	WMW-5 0-2.5	ASTM D2974-87	MAV	1	PASI-G
		EPA 8260	SMT	64	PASI-G
4078553017	WMW-5 2.5-5	ASTM D2974-87	AH	1	PASI-G
		EPA 6010	DLB	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
4078553018	MEOH BLANK	ASTM D2974-87	MAV	1	PASI-G
		EPA 350.1	HMB	1	PASI-G
		EPA 8260	SMT	64	PASI-G

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**HITS ONLY**

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078553001</b>	<b>WGP-1 2.5-5</b>					
EPA 6010	Arsenic	4.7	mg/kg	2.7	05/30/13 15:58	
EPA 6010	Barium	184	mg/kg	0.68	05/30/13 15:58	
EPA 6010	Cadmium	0.64J	mg/kg	0.68	05/30/13 15:58	
EPA 6010	Chromium	20.7	mg/kg	0.68	05/30/13 15:58	
EPA 6010	Lead	178	mg/kg	1.4	05/30/13 15:58	
EPA 7471	Mercury	0.27	mg/kg	0.0063	05/30/13 07:46	
EPA 8270 by SIM	Acenaphthene	1180	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Acenaphthylene	3020	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Anthracene	4560	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Benzo(a)anthracene	5720	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Benzo(a)pyrene	6280	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Benzo(b)fluoranthene	5220	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Benzo(g,h,i)perylene	2080	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Benzo(k)fluoranthene	5260	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Chrysene	6300	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Dibenz(a,h)anthracene	835	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Fluoranthene	11400	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Fluorene	2290	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	1830	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	1-Methylnaphthalene	456J	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Naphthalene	374J	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Phenanthrene	9900	ug/kg	470	06/07/13 10:57	
EPA 8270 by SIM	Pyrene	13200	ug/kg	470	06/07/13 10:57	
ASTM D2974-87	Percent Moisture	29.0	%	0.10	06/06/13 16:05	
<b>4078553002</b>	<b>WGP-2 2.5-5</b>					
EPA 6010	Arsenic	3.8J	mg/kg	4.3	05/31/13 10:26	D3
EPA 6010	Barium	14.9	mg/kg	0.53	05/30/13 16:00	
EPA 6010	Cadmium	0.21J	mg/kg	0.53	05/30/13 16:00	
EPA 6010	Chromium	8.4	mg/kg	0.53	05/30/13 16:00	
EPA 6010	Lead	12.3	mg/kg	1.1	05/30/13 16:00	
EPA 7471	Mercury	0.052	mg/kg	0.0040	05/30/13 07:48	
EPA 8270 by SIM	Acenaphthene	1140	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Acenaphthylene	2890	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Anthracene	3880	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Benzo(a)anthracene	5640	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Benzo(a)pyrene	5590	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Benzo(b)fluoranthene	5420	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Benzo(g,h,i)perylene	1810	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Benzo(k)fluoranthene	4390	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Chrysene	5900	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Dibenz(a,h)anthracene	724	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Fluoranthene	10900	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Fluorene	2360	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	1610	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	1-Methylnaphthalene	417J	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Naphthalene	342J	ug/kg	489	06/07/13 11:49	
EPA 8270 by SIM	Phenanthrene	9150	ug/kg	489	06/07/13 11:49	

**REPORT OF LABORATORY ANALYSIS**

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**HITS ONLY**

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078553002</b>	<b>WGP-2 2.5-5</b>					
EPA 8270 by SIM	Pyrene	12700	ug/kg	489	06/07/13 11:49	
EPA 8260	Naphthalene	38.0J	ug/kg	70.4	05/30/13 10:42	
ASTM D2974-87	Percent Moisture	14.7	%	0.10	06/06/13 16:05	
EPA 350.1	Nitrogen, Ammonia	52.4	mg/kg	12.1	05/28/13 21:15	
<b>4078553003</b>	<b>WGP-3 2.5-5</b>					
EPA 6010	Arsenic	2.4	mg/kg	2.0	05/30/13 16:02	
EPA 6010	Barium	27.2	mg/kg	0.49	05/30/13 16:02	
EPA 6010	Cadmium	0.23J	mg/kg	0.49	05/30/13 16:02	
EPA 6010	Chromium	9.1	mg/kg	0.49	05/30/13 16:02	
EPA 6010	Lead	10.9	mg/kg	0.99	05/30/13 16:02	
EPA 7471	Mercury	0.016	mg/kg	0.0047	05/30/13 07:51	
EPA 8270 by SIM	Acenaphthylene	24.4	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Anthracene	23.7	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Benzo(a)anthracene	38.7	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Benzo(a)pyrene	55.8	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Benzo(b)fluoranthene	73.3	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Benzo(g,h,i)perylene	25.1	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Benzo(k)fluoranthene	42.6	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Chrysene	69.7	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Dibenz(a,h)anthracene	9.4J	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Fluoranthene	75.1	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	21.7	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	1-Methylnaphthalene	29.9	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	2-Methylnaphthalene	24.1	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Naphthalene	15.1J	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Phenanthrene	64.0	ug/kg	18.6	06/07/13 15:38	
EPA 8270 by SIM	Pyrene	71.1	ug/kg	18.6	06/07/13 15:38	
ASTM D2974-87	Percent Moisture	10.6	%	0.10	06/06/13 16:05	
<b>4078553004</b>	<b>WGP-4 0-2.5</b>					
ASTM D2974-87	Percent Moisture	5.8	%	0.10	06/06/13 16:05	
EPA 350.1	Nitrogen, Ammonia	15.9	mg/kg	15.2	05/28/13 21:16	
<b>4078553005</b>	<b>WGP-4 5-7.5</b>					
EPA 8260	1,2,4-Trimethylbenzene	82.3	ug/kg	64.0	05/30/13 04:46	
EPA 8260	1,3,5-Trimethylbenzene	31.7J	ug/kg	64.0	05/30/13 04:46	
ASTM D2974-87	Percent Moisture	6.2	%	0.10	06/06/13 16:06	
<b>4078553006</b>	<b>WGP-4 2.5-5</b>					
EPA 6010	Arsenic	3.1J	mg/kg	4.2	05/31/13 10:28	D3
EPA 6010	Barium	16.2	mg/kg	0.52	05/30/13 16:04	
EPA 6010	Cadmium	0.15J	mg/kg	0.52	05/30/13 16:04	
EPA 6010	Chromium	6.6	mg/kg	0.52	05/30/13 16:04	
EPA 6010	Lead	9.3	mg/kg	1.0	05/30/13 16:04	
EPA 7471	Mercury	0.051	mg/kg	0.0044	05/30/13 07:53	
EPA 8270 by SIM	Acenaphthene	67.8	ug/kg	35.5	06/07/13 09:46	
EPA 8270 by SIM	Acenaphthylene	37.6	ug/kg	35.5	06/07/13 09:46	
EPA 8270 by SIM	Anthracene	107	ug/kg	35.5	06/07/13 09:46	

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Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078553

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078553006</b>	<b>WGP-4 2.5-5</b>					
EPA 8270 by SIM	Benzo(a)anthracene	169 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Benzo(a)pyrene	572 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Benzo(b)fluoranthene	442 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Benzo(g,h,i)perylene	205 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Benzo(k)fluoranthene	564 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Chrysene	340 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Dibenz(a,h)anthracene	85.9 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Fluoranthene	403 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Fluorene	30.4J ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	192 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	1-Methylnaphthalene	11.4J ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Phenanthrene	58.7 ug/kg		35.5	06/07/13 09:46	
EPA 8270 by SIM	Pyrene	865 ug/kg		35.5	06/07/13 09:46	
ASTM D2974-87	Percent Moisture	6.2 %		0.10	06/06/13 16:06	
<b>4078553007</b>	<b>WGP-5 0-2.5</b>					
ASTM D2974-87	Percent Moisture	7.2 %		0.10	06/06/13 16:06	
<b>4078553008</b>	<b>WGP-5 2.5-5</b>					
EPA 6010	Arsenic	4.1 mg/kg		2.1	05/30/13 16:11	
EPA 6010	Barium	35.9 mg/kg		0.52	05/30/13 16:11	
EPA 6010	Cadmium	0.32J mg/kg		0.52	05/30/13 16:11	
EPA 6010	Chromium	9.8 mg/kg		0.52	05/30/13 16:11	
EPA 6010	Lead	44.3 mg/kg		1.0	05/30/13 16:11	
EPA 7471	Mercury	0.040 mg/kg		0.0043	05/30/13 07:55	
EPA 8270 by SIM	Acenaphthene	37.4 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Acenaphthylene	50.9 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Anthracene	119 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Benzo(a)anthracene	196 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Benzo(a)pyrene	247 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Benzo(b)fluoranthene	255 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Benzo(g,h,i)perylene	152 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Benzo(k)fluoranthene	177 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Chrysene	228 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Dibenz(a,h)anthracene	59.3 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Fluoranthene	405 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Fluorene	43.8 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	130 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	1-Methylnaphthalene	15.1J ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	2-Methylnaphthalene	18.4 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Naphthalene	16.7J ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Phenanthrene	298 ug/kg		18.0	06/07/13 09:12	
EPA 8270 by SIM	Pyrene	350 ug/kg		18.0	06/07/13 09:12	
ASTM D2974-87	Percent Moisture	7.2 %		0.10	06/06/13 16:06	
EPA 350.1	Nitrogen, Ammonia	38.0 mg/kg		14.7	05/28/13 21:17	
<b>4078553009</b>	<b>WMW-1 2.5-5</b>					
EPA 6010	Arsenic	2.7 mg/kg		1.9	05/30/13 16:13	
EPA 6010	Barium	27.1 mg/kg		0.48	05/30/13 16:13	

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Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078553009</b>	<b>WMW-1 2.5-5</b>					
EPA 6010	Cadmium	0.22J	mg/kg	0.48	05/30/13 16:13	
EPA 6010	Chromium	10.1	mg/kg	0.48	05/30/13 16:13	
EPA 6010	Lead	16.6	mg/kg	0.97	05/30/13 16:13	
EPA 7471	Mercury	0.022	mg/kg	0.0045	05/30/13 08:01	
EPA 8270 by SIM	Acenaphthylene	28.8	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Anthracene	23.0	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Benzo(a)anthracene	59.7	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Benzo(a)pyrene	80.6	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Benzo(b)fluoranthene	67.6	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Benzo(g,h,i)perylene	77.3	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Benzo(k)fluoranthene	75.6	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Chrysene	79.8	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Dibenz(a,h)anthracene	23.1	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Fluoranthene	88.1	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	54.4	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	1-Methylnaphthalene	30.4	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	2-Methylnaphthalene	20.7	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Naphthalene	15.1J	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Phenanthrene	33.0	ug/kg	18.4	06/07/13 08:20	
EPA 8270 by SIM	Pyrene	87.4	ug/kg	18.4	06/07/13 08:20	
ASTM D2974-87	Percent Moisture	9.5	%	0.10	06/06/13 16:06	
<b>4078553010</b>	<b>WMW-2 0-2.5</b>					
EPA 8260	Naphthalene	52.2J	ug/kg	68.2	05/30/13 08:47	
ASTM D2974-87	Percent Moisture	12.0	%	0.10	06/06/13 16:06	
<b>4078553011</b>	<b>WMW-2 2.5-5</b>					
EPA 6010	Arsenic	3.8	mg/kg	2.1	05/30/13 16:15	
EPA 6010	Barium	12.7	mg/kg	0.53	05/30/13 16:15	
EPA 6010	Cadmium	0.21J	mg/kg	0.53	05/30/13 16:15	
EPA 6010	Chromium	6.4	mg/kg	0.53	05/30/13 16:15	
EPA 6010	Lead	51.3	mg/kg	1.1	05/30/13 16:15	
EPA 7471	Mercury	0.011	mg/kg	0.0045	05/30/13 08:03	
EPA 8270 by SIM	Benzo(a)pyrene	3.5J	ug/kg	18.9	06/05/13 18:13	
EPA 8270 by SIM	Benzo(k)fluoranthene	3.4J	ug/kg	18.9	06/05/13 18:13	
EPA 8270 by SIM	1-Methylnaphthalene	12.2J	ug/kg	18.9	06/05/13 18:13	
EPA 8270 by SIM	2-Methylnaphthalene	13.0J	ug/kg	18.9	06/05/13 18:13	
EPA 8270 by SIM	Naphthalene	12.8J	ug/kg	18.9	06/05/13 18:13	
ASTM D2974-87	Percent Moisture	12.0	%	0.10	06/06/13 16:06	
<b>4078553012</b>	<b>WMW-3 0-2.5</b>					
ASTM D2974-87	Percent Moisture	12.1	%	0.10	06/06/13 16:06	
<b>4078553013</b>	<b>WMW-3 2.5-5</b>					
EPA 6010	Arsenic	2.2	mg/kg	2.0	05/30/13 16:17	
EPA 6010	Barium	37.3	mg/kg	0.51	05/30/13 16:17	
EPA 6010	Cadmium	0.24J	mg/kg	0.51	05/30/13 16:17	
EPA 6010	Chromium	11.5	mg/kg	0.51	05/30/13 16:17	
EPA 6010	Lead	6.9	mg/kg	1.0	05/30/13 16:17	

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Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078553013</b>	<b>WMW-3 2.5-5</b>					
EPA 7471	Mercury	0.019	mg/kg	0.0050	05/30/13 08:05	
EPA 8270 by SIM	Anthracene	15.0	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Benzo(a)anthracene	25.8	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Benzo(a)pyrene	31.4	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Benzo(b)fluoranthene	24.0	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Benzo(g,h,i)perylene	42.2	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Benzo(k)fluoranthene	23.4	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Chrysene	31.9	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Dibenz(a,h)anthracene	10.4	J ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Fluoranthene	47.8	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	17.6	J ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	1-Methylnaphthalene	3.5	J ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Phenanthrene	25.7	ug/kg	19.0	06/07/13 08:37	
EPA 8270 by SIM	Pyrene	42.9	ug/kg	19.0	06/07/13 08:37	
ASTM D2974-87	Percent Moisture	12.1	%	0.10	06/06/13 16:06	
<b>4078553014</b>	<b>WMW-4 0-2.5</b>					
ASTM D2974-87	Percent Moisture	7.4	%	0.10	06/06/13 16:06	
<b>4078553015</b>	<b>WMW-4 2.5-5</b>					
EPA 6010	Arsenic	2.5	mg/kg	2.0	05/30/13 16:20	
EPA 6010	Barium	21.9	mg/kg	0.50	05/30/13 16:20	
EPA 6010	Cadmium	0.21	J mg/kg	0.50	05/30/13 16:20	
EPA 6010	Chromium	8.1	mg/kg	0.50	05/30/13 16:20	
EPA 6010	Lead	14.9	mg/kg	0.99	05/30/13 16:20	
EPA 7471	Mercury	0.031	mg/kg	0.0043	05/30/13 08:07	
EPA 8270 by SIM	Acenaphthylene	231	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Anthracene	203	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Benzo(a)anthracene	406	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Benzo(a)pyrene	651	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Benzo(b)fluoranthene	416	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Benzo(g,h,i)perylene	438	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Benzo(k)fluoranthene	445	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Chrysene	563	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Dibenz(a,h)anthracene	140	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Fluoranthene	618	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Fluorene	53.7	J ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	285	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	1-Methylnaphthalene	39.6	J ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Phenanthrene	323	ug/kg	72.0	06/07/13 09:29	
EPA 8270 by SIM	Pyrene	1280	ug/kg	72.0	06/07/13 09:29	
ASTM D2974-87	Percent Moisture	7.4	%	0.10	06/06/13 16:06	
EPA 350.1	Nitrogen, Ammonia	54.7	mg/kg	13.5	05/28/13 21:21	
<b>4078553016</b>	<b>WMW-5 0-2.5</b>					
EPA 8260	Naphthalene	69.2	ug/kg	67.2	05/30/13 09:56	
ASTM D2974-87	Percent Moisture	10.7	%	0.10	06/06/13 16:06	

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Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078553017</b>	<b>WMW-5 2.5-5</b>					
EPA 6010	Arsenic	4.1	mg/kg	1.9	05/30/13 16:22	
EPA 6010	Barium	28.2	mg/kg	0.48	05/30/13 16:22	
EPA 6010	Cadmium	0.29J	mg/kg	0.48	05/30/13 16:22	
EPA 6010	Chromium	10.6	mg/kg	0.48	05/30/13 16:22	
EPA 6010	Lead	26.8	mg/kg	0.97	05/30/13 16:22	
EPA 7471	Mercury	0.047	mg/kg	0.0040	05/30/13 08:09	
EPA 8270 by SIM	Acenaphthylene	71.8	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Anthracene	55.2	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Benzo(a)anthracene	142	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Benzo(a)pyrene	230	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Benzo(b)fluoranthene	163	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Benzo(g,h,i)perylene	185	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Benzo(k)fluoranthene	178	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Chrysene	185	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Dibenz(a,h)anthracene	57.2	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Fluoranthene	208	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Fluorene	17.9J	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	123	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	1-Methylnaphthalene	12.6J	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	2-Methylnaphthalene	15.9J	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Naphthalene	16.5J	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Phenanthrene	87.6	ug/kg	18.7	06/07/13 08:54	
EPA 8270 by SIM	Pyrene	293	ug/kg	18.7	06/07/13 08:54	
ASTM D2974-87	Percent Moisture	10.7	%	0.10	06/06/13 16:06	
EPA 350.1	Nitrogen, Ammonia	51.3	mg/kg	16.8	05/28/13 21:21	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WGP-1 2.5-5 Lab ID: 4078553001 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	4.7 mg/kg		2.7	0.74	1	05/30/13 09:20	05/30/13 15:58	7440-38-2	
Barium	184 mg/kg		0.68	0.12	1	05/30/13 09:20	05/30/13 15:58	7440-39-3	
Cadmium	0.64J mg/kg		0.68	0.069	1	05/30/13 09:20	05/30/13 15:58	7440-43-9	
Chromium	20.7 mg/kg		0.68	0.17	1	05/30/13 09:20	05/30/13 15:58	7440-47-3	
Lead	178 mg/kg		1.4	0.40	1	05/30/13 09:20	05/30/13 15:58	7439-92-1	
Selenium	<0.81 mg/kg		2.7	0.81	1	05/30/13 09:20	05/30/13 15:58	7782-49-2	
Silver	<0.29 mg/kg		1.4	0.29	1	05/30/13 09:20	05/30/13 15:58	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.27 mg/kg		0.0063	0.0031	1	05/29/13 15:45	05/30/13 07:46	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	1180 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	83-32-9	
Acenaphthylene	3020 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	208-96-8	
Anthracene	4560 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	120-12-7	
Benzo(a)anthracene	5720 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	56-55-3	
Benzo(a)pyrene	6280 ug/kg		470	83.7	20	06/05/13 07:38	06/07/13 10:57	50-32-8	
Benzo(b)fluoranthene	5220 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	205-99-2	
Benzo(g,h,i)perylene	2080 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	191-24-2	
Benzo(k)fluoranthene	5260 ug/kg		470	82.8	20	06/05/13 07:38	06/07/13 10:57	207-08-9	
Chrysene	6300 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	218-01-9	
Dibenz(a,h)anthracene	835 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	53-70-3	
Fluoranthene	11400 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	206-44-0	
Fluorene	2290 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	86-73-7	
Indeno(1,2,3-cd)pyrene	1830 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	193-39-5	
1-Methylnaphthalene	456J ug/kg		470	83.1	20	06/05/13 07:38	06/07/13 10:57	90-12-0	
2-Methylnaphthalene	<235 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	91-57-6	
Naphthalene	374J ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	91-20-3	
Phenanthrene	9900 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	85-01-8	
Pyrene	13200 ug/kg		470	235	20	06/05/13 07:38	06/07/13 10:57	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	0 %		40-130		20	06/05/13 07:38	06/07/13 10:57	321-60-8	S4
Terphenyl-d14 (S)	0 %		40-130		20	06/05/13 07:38	06/07/13 10:57	1718-51-0	S4
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	71-43-2	W
Bromobenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	108-86-1	W
Bromochloromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	74-97-5	W
Bromodichloromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-27-4	W
Bromoform	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-25-2	W
Bromomethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	74-83-9	W
n-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	104-51-8	W
sec-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	135-98-8	W
tert-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	98-06-6	W
Carbon tetrachloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	56-23-5	W

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WGP-1 2.5-5 Lab ID: 4078553001 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	108-90-7		W
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-00-3		W
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	67-66-3		W
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	74-87-3		W
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	95-49-8		W
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	106-43-4		W
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 10:19	96-12-8		W
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	124-48-1		W
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	106-93-4		W
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	74-95-3		W
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	95-50-1		W
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	541-73-1		W
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	106-46-7		W
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-71-8		W
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-34-3		W
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	107-06-2		W
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-35-4		W
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	156-59-2		W
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	156-60-5		W
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	78-87-5		W
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	142-28-9		W
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	594-20-7		W
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	563-58-6		W
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	10061-01-5		W
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	10061-02-6		W
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	108-20-3		W
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	100-41-4		W
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	87-68-3		W
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	98-82-8		W
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	99-87-6		W
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-09-2		W
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	1634-04-4		W
Naphthalene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	91-20-3		W
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	103-65-1		W
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	100-42-5		W
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	630-20-6		W
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	79-34-5		W
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	127-18-4		W
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	108-88-3		W
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	87-61-6		W
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	120-82-1		W
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	71-55-6		W
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	79-00-5		W
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	79-01-6		W
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-69-4		W

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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Sample: WGP-1 2.5-5      Lab ID: 4078553001      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,2,3-Trichloropropane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	96-18-4	W
1,2,4-Trimethylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	95-63-6	W
1,3,5-Trimethylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	108-67-8	W
Vinyl chloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	75-01-4	W
m&p-Xylene	<50.0 ug/kg		120	50.0	1	05/29/13 13:56	05/30/13 10:19	179601-23-1	W
o-Xylene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:19	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	123 %		57-130		1	05/29/13 13:56	05/30/13 10:19	1868-53-7	
Toluene-d8 (S)	121 %		54-133		1	05/29/13 13:56	05/30/13 10:19	2037-26-5	
4-Bromofluorobenzene (S)	101 %		49-130		1	05/29/13 13:56	05/30/13 10:19	460-00-4	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	29.0 %		0.10	0.10	1			06/06/13 16:05	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WGP-2 2.5-5 Lab ID: 4078553002 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	3.8J mg/kg		4.3	1.2	2	05/30/13 09:20	05/31/13 10:26	7440-38-2	D3
Barium	14.9 mg/kg		0.53	0.093	1	05/30/13 09:20	05/30/13 16:00	7440-39-3	
Cadmium	0.21J mg/kg		0.53	0.054	1	05/30/13 09:20	05/30/13 16:00	7440-43-9	
Chromium	8.4 mg/kg		0.53	0.13	1	05/30/13 09:20	05/30/13 16:00	7440-47-3	
Lead	12.3 mg/kg		1.1	0.31	1	05/30/13 09:20	05/30/13 16:00	7439-92-1	
Selenium	<0.63 mg/kg		2.1	0.63	1	05/30/13 09:20	05/30/13 16:00	7782-49-2	
Silver	<0.23 mg/kg		1.1	0.23	1	05/30/13 09:20	05/30/13 16:00	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.052 mg/kg		0.0040	0.0020	1	05/29/13 15:45	05/30/13 07:48	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	1140 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	83-32-9	
Acenaphthylene	2890 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	208-96-8	
Anthracene	3880 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	120-12-7	
Benzo(a)anthracene	5640 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	56-55-3	
Benzo(a)pyrene	5590 ug/kg		489	87.1	25	06/05/13 07:38	06/07/13 11:49	50-32-8	
Benzo(b)fluoranthene	5420 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	205-99-2	
Benzo(g,h,i)perylene	1810 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	191-24-2	
Benzo(k)fluoranthene	4390 ug/kg		489	86.1	25	06/05/13 07:38	06/07/13 11:49	207-08-9	
Chrysene	5900 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	218-01-9	
Dibenz(a,h)anthracene	724 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	53-70-3	
Fluoranthene	10900 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	206-44-0	
Fluorene	2360 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	86-73-7	
Indeno(1,2,3-cd)pyrene	1610 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	193-39-5	
1-Methylnaphthalene	417J ug/kg		489	86.4	25	06/05/13 07:38	06/07/13 11:49	90-12-0	
2-Methylnaphthalene	<244 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	91-57-6	
Naphthalene	342J ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	91-20-3	
Phenanthrene	9150 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	85-01-8	
Pyrene	12700 ug/kg		489	244	25	06/05/13 07:38	06/07/13 11:49	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	0 %	40-130		25	06/05/13 07:38	06/07/13 11:49	321-60-8	S4	
Terphenyl-d14 (S)	0 %	40-130		25	06/05/13 07:38	06/07/13 11:49	1718-51-0	S4	
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	71-43-2	W
Bromobenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	108-86-1	W
Bromochloromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	74-97-5	W
Bromodichloromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-27-4	W
Bromoform	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-25-2	W
Bromomethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	74-83-9	W
n-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	104-51-8	W
sec-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	135-98-8	W
tert-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	98-06-6	W
Carbon tetrachloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	56-23-5	W

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: WGP-2 2.5-5      Lab ID: 4078553002      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid**


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*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 10:42	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	1634-04-4	W	
Naphthalene	38.0J ug/kg	70.4	29.3	1	05/29/13 13:56	05/30/13 10:42	91-20-3		
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	100-42-5	W	
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-69-4	W	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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Sample: WGP-2 2.5-5      Lab ID: 4078553002      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,2,3-Trichloropropane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	96-18-4	W
1,2,4-Trimethylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	95-63-6	W
1,3,5-Trimethylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	108-67-8	W
Vinyl chloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	75-01-4	W
m&p-Xylene	<50.0 ug/kg		120	50.0	1	05/29/13 13:56	05/30/13 10:42	179601-23-1	W
o-Xylene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 10:42	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	86 %		57-130		1	05/29/13 13:56	05/30/13 10:42	1868-53-7	
Toluene-d8 (S)	92 %		54-133		1	05/29/13 13:56	05/30/13 10:42	2037-26-5	
4-Bromofluorobenzene (S)	82 %		49-130		1	05/29/13 13:56	05/30/13 10:42	460-00-4	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	14.7 %		0.10	0.10	1			06/06/13 16:05	
<b>350.1 Ammonia</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonia	52.4 mg/kg		12.1	6.1	1	05/28/13 18:06	05/28/13 21:15	7664-41-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WGP-3 2.5-5 Lab ID: 4078553003 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	2.4 mg/kg		2.0	0.53	1	05/30/13 09:20	05/30/13 16:02	7440-38-2	
Barium	27.2 mg/kg		0.49	0.086	1	05/30/13 09:20	05/30/13 16:02	7440-39-3	
Cadmium	0.23J mg/kg		0.49	0.050	1	05/30/13 09:20	05/30/13 16:02	7440-43-9	
Chromium	9.1 mg/kg		0.49	0.12	1	05/30/13 09:20	05/30/13 16:02	7440-47-3	
Lead	10.9 mg/kg		0.99	0.29	1	05/30/13 09:20	05/30/13 16:02	7439-92-1	
Selenium	<0.58 mg/kg		2.0	0.58	1	05/30/13 09:20	05/30/13 16:02	7782-49-2	
Silver	<0.21 mg/kg		0.99	0.21	1	05/30/13 09:20	05/30/13 16:02	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.016 mg/kg		0.0047	0.0023	1	05/29/13 15:45	05/30/13 07:51	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	<9.3 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	83-32-9	
Acenaphthylene	24.4 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	208-96-8	
Anthracene	23.7 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	120-12-7	
Benzo(a)anthracene	38.7 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	56-55-3	
Benzo(a)pyrene	55.8 ug/kg		18.6	3.3	1	06/05/13 07:38	06/07/13 15:38	50-32-8	
Benzo(b)fluoranthene	73.3 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	205-99-2	
Benzo(g,h,i)perylene	25.1 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	191-24-2	
Benzo(k)fluoranthene	42.6 ug/kg		18.6	3.3	1	06/05/13 07:38	06/07/13 15:38	207-08-9	
Chrysene	69.7 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	218-01-9	
Dibenz(a,h)anthracene	9.4J ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	53-70-3	
Fluoranthene	75.1 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	206-44-0	
Fluorene	<9.3 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	86-73-7	
Indeno(1,2,3-cd)pyrene	21.7 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	193-39-5	
1-Methylnaphthalene	29.9 ug/kg		18.6	3.3	1	06/05/13 07:38	06/07/13 15:38	90-12-0	
2-Methylnaphthalene	24.1 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	91-57-6	
Naphthalene	15.1J ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	91-20-3	
Phenanthrene	64.0 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	85-01-8	
Pyrene	71.1 ug/kg		18.6	9.3	1	06/05/13 07:38	06/07/13 15:38	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	87 %		40-130		1	06/05/13 07:38	06/07/13 15:38	321-60-8	
Terphenyl-d14 (S)	96 %		40-130		1	06/05/13 07:38	06/07/13 15:38	1718-51-0	
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	71-43-2	W
Bromobenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	108-86-1	W
Bromochloromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	74-97-5	W
Bromodichloromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-27-4	W
Bromoform	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-25-2	W
Bromomethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	74-83-9	W
n-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	104-51-8	W
sec-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	135-98-8	W
tert-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	98-06-6	W
Carbon tetrachloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	56-23-5	W

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: WGP-3 2.5-5      Lab ID: 4078553003      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid**


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*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 04:23	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	1634-04-4	W	
Naphthalene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	91-20-3	W	
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	100-42-5	W	
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-69-4	W	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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Sample: WGP-3 2.5-5      Lab ID: 4078553003      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,2,3-Trichloropropane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	96-18-4	W
1,2,4-Trimethylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	95-63-6	W
1,3,5-Trimethylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	108-67-8	W
Vinyl chloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	75-01-4	W
m&p-Xylene	<50.0 ug/kg		120	50.0	1	05/29/13 13:56	05/30/13 04:23	179601-23-1	W
o-Xylene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:23	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	104 %		57-130		1	05/29/13 13:56	05/30/13 04:23	1868-53-7	
Toluene-d8 (S)	107 %		54-133		1	05/29/13 13:56	05/30/13 04:23	2037-26-5	
4-Bromofluorobenzene (S)	92 %		49-130		1	05/29/13 13:56	05/30/13 04:23	460-00-4	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	10.6 %		0.10	0.10	1			06/06/13 16:05	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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Sample: WGP-4 0-2.5      Lab ID: 4078553004      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

**Results reported on a "dry-weight" basis**

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	5.8 %		0.10	0.10	1			06/06/13 16:05	
<b>350.1 Ammonia</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonia	15.9 mg/kg		15.2	7.6	1	05/28/13 18:06	05/28/13 21:16	7664-41-7	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WGP-4 5-7.5 Lab ID: 4078553005 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	71-43-2	W	
Bromobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	108-86-1	W	
Bromoform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	74-97-5	W	
Bromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-27-4	W	
Bromodichloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-25-2	W	
Bromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	74-83-9	W	
n-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	104-51-8	W	
sec-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	135-98-8	W	
tert-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	98-06-6	W	
Carbon tetrachloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	56-23-5	W	
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 04:46	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	1634-04-4	W	
Naphthalene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	91-20-3	W	
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	100-42-5	W	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WGP-4 5-7.5 Lab ID: 4078553005 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	79-34-5	W
Tetrachloroethene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	127-18-4	W
Toluene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	108-88-3	W
1,2,3-Trichlorobenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	87-61-6	W
1,2,4-Trichlorobenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	120-82-1	W
1,1,1-Trichloroethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	71-55-6	W
1,1,2-Trichloroethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	79-00-5	W
Trichloroethene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	79-01-6	W
Trichlorofluoromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-69-4	W
1,2,3-Trichloropropane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	96-18-4	W
1,2,4-Trimethylbenzene	82.3 ug/kg		64.0	26.7	1	05/29/13 13:56	05/30/13 04:46	95-63-6	
1,3,5-Trimethylbenzene	31.7J ug/kg		64.0	26.7	1	05/29/13 13:56	05/30/13 04:46	108-67-8	
Vinyl chloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	75-01-4	W
m&p-Xylene	<50.0 ug/kg		120	50.0	1	05/29/13 13:56	05/30/13 04:46	179601-23-1	W
o-Xylene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 04:46	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	96 %		57-130		1	05/29/13 13:56	05/30/13 04:46	1868-53-7	
Toluene-d8 (S)	94 %		54-133		1	05/29/13 13:56	05/30/13 04:46	2037-26-5	
4-Bromofluorobenzene (S)	85 %		49-130		1	05/29/13 13:56	05/30/13 04:46	460-00-4	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	6.2 %		0.10	0.10	1			06/06/13 16:06	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WGP-4 2.5-5 Lab ID: 4078553006 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	3.1J mg/kg		4.2	1.1	2	05/30/13 09:20	05/31/13 10:28	7440-38-2	D3
Barium	16.2 mg/kg		0.52	0.090	1	05/30/13 09:20	05/30/13 16:04	7440-39-3	
Cadmium	0.15J mg/kg		0.52	0.053	1	05/30/13 09:20	05/30/13 16:04	7440-43-9	
Chromium	6.6 mg/kg		0.52	0.13	1	05/30/13 09:20	05/30/13 16:04	7440-47-3	
Lead	9.3 mg/kg		1.0	0.30	1	05/30/13 09:20	05/30/13 16:04	7439-92-1	
Selenium	<0.62 mg/kg		2.1	0.62	1	05/30/13 09:20	05/30/13 16:04	7782-49-2	
Silver	<0.22 mg/kg		1.0	0.22	1	05/30/13 09:20	05/30/13 16:04	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.051 mg/kg		0.0044	0.0022	1	05/29/13 15:45	05/30/13 07:53	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	67.8 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	83-32-9	
Acenaphthylene	37.6 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	208-96-8	
Anthracene	107 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	120-12-7	
Benzo(a)anthracene	169 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	56-55-3	
Benzo(a)pyrene	572 ug/kg		35.5	6.3	1	06/05/13 07:38	06/07/13 09:46	50-32-8	
Benzo(b)fluoranthene	442 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	205-99-2	
Benzo(g,h,i)perylene	205 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	191-24-2	
Benzo(k)fluoranthene	564 ug/kg		35.5	6.3	1	06/05/13 07:38	06/07/13 09:46	207-08-9	
Chrysene	340 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	218-01-9	
Dibenz(a,h)anthracene	85.9 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	53-70-3	
Fluoranthene	403 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	206-44-0	
Fluorene	30.4J ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	86-73-7	
Indeno(1,2,3-cd)pyrene	192 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	193-39-5	
1-Methylnaphthalene	11.4J ug/kg		35.5	6.3	1	06/05/13 07:38	06/07/13 09:46	90-12-0	
2-Methylnaphthalene	<17.8 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	91-57-6	
Naphthalene	<17.8 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	91-20-3	
Phenanthrene	58.7 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	85-01-8	
Pyrene	865 ug/kg		35.5	17.8	1	06/05/13 07:38	06/07/13 09:46	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	55 %		40-130		1	06/05/13 07:38	06/07/13 09:46	321-60-8	
Terphenyl-d14 (S)	60 %		40-130		1	06/05/13 07:38	06/07/13 09:46	1718-51-0	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	6.2 %		0.10	0.10	1			06/06/13 16:06	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: WGP-5 0-2.5**      **Lab ID: 4078553007**      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	71-43-2	W	
Bromobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	108-86-1	W	
Bromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	74-97-5	W	
Bromodichloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-27-4	W	
Bromoform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-25-2	W	
Bromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	74-83-9	W	
n-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	104-51-8	W	
sec-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	135-98-8	W	
tert-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	98-06-6	W	
Carbon tetrachloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	56-23-5	W	
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 05:09	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	1634-04-4	W	
Naphthalene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	91-20-3	W	
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	100-42-5	W	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: WGP-5 0-2.5**      Lab ID: **4078553007**      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-69-4	W	
1,2,3-Trichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	96-18-4	W	
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	95-63-6	W	
1,3,5-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	108-67-8	W	
Vinyl chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	75-01-4	W	
m&p-Xylene	<50.0 ug/kg	120	50.0	1	05/29/13 13:56	05/30/13 05:09	179601-23-1	W	
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:09	95-47-6	W	
<b>Surrogates</b>									
Dibromofluoromethane (S)	99 %	57-130		1	05/29/13 13:56	05/30/13 05:09	1868-53-7	1q	
Toluene-d8 (S)	100 %	54-133		1	05/29/13 13:56	05/30/13 05:09	2037-26-5		
4-Bromofluorobenzene (S)	87 %	49-130		1	05/29/13 13:56	05/30/13 05:09	460-00-4		
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	<b>7.2 %</b>	0.10	0.10	1			06/06/13 16:06		

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WGP-5 2.5-5 Lab ID: 4078553008 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	4.1 mg/kg		2.1	0.56	1	05/30/13 09:20	05/30/13 16:11	7440-38-2	
Barium	35.9 mg/kg		0.52	0.090	1	05/30/13 09:20	05/30/13 16:11	7440-39-3	
Cadmium	0.32J mg/kg		0.52	0.053	1	05/30/13 09:20	05/30/13 16:11	7440-43-9	
Chromium	9.8 mg/kg		0.52	0.13	1	05/30/13 09:20	05/30/13 16:11	7440-47-3	
Lead	44.3 mg/kg		1.0	0.30	1	05/30/13 09:20	05/30/13 16:11	7439-92-1	
Selenium	<0.61 mg/kg		2.1	0.61	1	05/30/13 09:20	05/30/13 16:11	7782-49-2	
Silver	<0.22 mg/kg		1.0	0.22	1	05/30/13 09:20	05/30/13 16:11	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.040 mg/kg		0.0043	0.0021	1	05/29/13 15:45	05/30/13 07:55	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	37.4 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	83-32-9	
Acenaphthylene	50.9 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	208-96-8	
Anthracene	119 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	120-12-7	
Benzo(a)anthracene	196 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	56-55-3	
Benzo(a)pyrene	247 ug/kg		18.0	3.2	1	06/05/13 07:38	06/07/13 09:12	50-32-8	
Benzo(b)fluoranthene	255 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	205-99-2	
Benzo(g,h,i)perylene	152 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	191-24-2	
Benzo(k)fluoranthene	177 ug/kg		18.0	3.2	1	06/05/13 07:38	06/07/13 09:12	207-08-9	
Chrysene	228 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	218-01-9	
Dibenz(a,h)anthracene	59.3 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	53-70-3	
Fluoranthene	405 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	206-44-0	
Fluorene	43.8 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	86-73-7	
Indeno(1,2,3-cd)pyrene	130 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	193-39-5	
1-Methylnaphthalene	15.1J ug/kg		18.0	3.2	1	06/05/13 07:38	06/07/13 09:12	90-12-0	
2-Methylnaphthalene	18.4 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	91-57-6	
Naphthalene	16.7J ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	91-20-3	
Phenanthrene	298 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	85-01-8	
Pyrene	350 ug/kg		18.0	9.0	1	06/05/13 07:38	06/07/13 09:12	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	81 %		40-130		1	06/05/13 07:38	06/07/13 09:12	321-60-8	
Terphenyl-d14 (S)	83 %		40-130		1	06/05/13 07:38	06/07/13 09:12	1718-51-0	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	7.2 %		0.10	0.10	1			06/06/13 16:06	
<b>350.1 Ammonia</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonia	38.0 mg/kg		14.7	7.3	1	05/28/13 18:06	05/28/13 21:17	7664-41-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-1 2.5-5 Lab ID: 4078553009 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	2.7 mg/kg		1.9	0.52	1	05/30/13 09:20	05/30/13 16:13	7440-38-2	
Barium	27.1 mg/kg		0.48	0.084	1	05/30/13 09:20	05/30/13 16:13	7440-39-3	
Cadmium	0.22J mg/kg		0.48	0.049	1	05/30/13 09:20	05/30/13 16:13	7440-43-9	
Chromium	10.1 mg/kg		0.48	0.12	1	05/30/13 09:20	05/30/13 16:13	7440-47-3	
Lead	16.6 mg/kg		0.97	0.28	1	05/30/13 09:20	05/30/13 16:13	7439-92-1	
Selenium	<0.57 mg/kg		1.9	0.57	1	05/30/13 09:20	05/30/13 16:13	7782-49-2	
Silver	<0.21 mg/kg		0.97	0.21	1	05/30/13 09:20	05/30/13 16:13	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.022 mg/kg		0.0045	0.0022	1	05/29/13 15:45	05/30/13 08:01	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	<9.2 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	83-32-9	
Acenaphthylene	28.8 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	208-96-8	
Anthracene	23.0 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	120-12-7	
Benzo(a)anthracene	59.7 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	56-55-3	
Benzo(a)pyrene	80.6 ug/kg		18.4	3.3	1	06/05/13 07:41	06/07/13 08:20	50-32-8	
Benzo(b)fluoranthene	67.6 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	205-99-2	
Benzo(g,h,i)perylene	77.3 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	191-24-2	
Benzo(k)fluoranthene	75.6 ug/kg		18.4	3.2	1	06/05/13 07:41	06/07/13 08:20	207-08-9	
Chrysene	79.8 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	218-01-9	
Dibenz(a,h)anthracene	23.1 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	53-70-3	
Fluoranthene	88.1 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	206-44-0	
Fluorene	<9.2 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	86-73-7	
Indeno(1,2,3-cd)pyrene	54.4 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	193-39-5	
1-Methylnaphthalene	30.4 ug/kg		18.4	3.3	1	06/05/13 07:41	06/07/13 08:20	90-12-0	
2-Methylnaphthalene	20.7 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	91-57-6	
Naphthalene	15.1J ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	91-20-3	
Phenanthrene	33.0 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	85-01-8	
Pyrene	87.4 ug/kg		18.4	9.2	1	06/05/13 07:41	06/07/13 08:20	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	85 %		40-130		1	06/05/13 07:41	06/07/13 08:20	321-60-8	
Terphenyl-d14 (S)	83 %		40-130		1	06/05/13 07:41	06/07/13 08:20	1718-51-0	
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	71-43-2	W
Bromobenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	108-86-1	W
Bromochloromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	74-97-5	W
Bromodichloromethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-27-4	W
Bromoform	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-25-2	W
Bromomethane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	74-83-9	W
n-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	104-51-8	W
sec-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	135-98-8	W
tert-Butylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	98-06-6	W
Carbon tetrachloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	56-23-5	W

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-1 2.5-5 Lab ID: 4078553009 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 05:32	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	1634-04-4	W	
Naphthalene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	91-20-3	W	
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	100-42-5	W	
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-69-4	W	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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Sample: WMW-1 2.5-5      Lab ID: 4078553009      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,2,3-Trichloropropane	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	96-18-4	W
1,2,4-Trimethylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	95-63-6	W
1,3,5-Trimethylbenzene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	108-67-8	W
Vinyl chloride	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	75-01-4	W
m&p-Xylene	<50.0 ug/kg		120	50.0	1	05/29/13 13:56	05/30/13 05:32	179601-23-1	W
o-Xylene	<25.0 ug/kg		60.0	25.0	1	05/29/13 13:56	05/30/13 05:32	95-47-6	W
<b>Surrogates</b>									
Dibromofluoromethane (S)	98 %		57-130		1	05/29/13 13:56	05/30/13 05:32	1868-53-7	
Toluene-d8 (S)	106 %		54-133		1	05/29/13 13:56	05/30/13 05:32	2037-26-5	
4-Bromofluorobenzene (S)	93 %		49-130		1	05/29/13 13:56	05/30/13 05:32	460-00-4	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	9.5 %		0.10	0.10	1			06/06/13 16:06	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-2 0-2.5 Lab ID: 4078553010 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	71-43-2	W	
Bromobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	108-86-1	W	
Bromoform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	74-97-5	W	
Bromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-27-4	W	
Bromodichloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-25-2	W	
Bromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	74-83-9	W	
n-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	104-51-8	W	
sec-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	135-98-8	W	
tert-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	98-06-6	W	
Carbon tetrachloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	56-23-5	W	
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 08:47	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	1634-04-4	W	
Naphthalene	52.2J ug/kg	68.2	28.4	1	05/29/13 13:56	05/30/13 08:47	91-20-3		
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	100-42-5	W	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: WMW-2 0-2.5**      **Lab ID: 4078553010**      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-69-4	W	
1,2,3-Trichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	96-18-4	W	
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	95-63-6	W	
1,3,5-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	108-67-8	W	
Vinyl chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	75-01-4	W	
m&p-Xylene	<50.0 ug/kg	120	50.0	1	05/29/13 13:56	05/30/13 08:47	179601-23-1	W	
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 08:47	95-47-6	W	
<b>Surrogates</b>									
Dibromofluoromethane (S)	95 %	57-130		1	05/29/13 13:56	05/30/13 08:47	1868-53-7		
Toluene-d8 (S)	96 %	54-133		1	05/29/13 13:56	05/30/13 08:47	2037-26-5		
4-Bromofluorobenzene (S)	81 %	49-130		1	05/29/13 13:56	05/30/13 08:47	460-00-4		
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	<b>12.0 %</b>	0.10	0.10	1			06/06/13 16:06		

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-2 2.5-5 Lab ID: 4078553011 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	3.8 mg/kg		2.1	0.57	1	05/30/13 09:20	05/30/13 16:15	7440-38-2	
Barium	12.7 mg/kg		0.53	0.092	1	05/30/13 09:20	05/30/13 16:15	7440-39-3	
Cadmium	0.21J mg/kg		0.53	0.054	1	05/30/13 09:20	05/30/13 16:15	7440-43-9	
Chromium	6.4 mg/kg		0.53	0.13	1	05/30/13 09:20	05/30/13 16:15	7440-47-3	
Lead	51.3 mg/kg		1.1	0.31	1	05/30/13 09:20	05/30/13 16:15	7439-92-1	
Selenium	<0.63 mg/kg		2.1	0.63	1	05/30/13 09:20	05/30/13 16:15	7782-49-2	
Silver	<0.23 mg/kg		1.1	0.23	1	05/30/13 09:20	05/30/13 16:15	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.011 mg/kg		0.0045	0.0022	1	05/29/13 15:45	05/30/13 08:03	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	83-32-9	
Acenaphthylene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	208-96-8	
Anthracene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	120-12-7	
Benzo(a)anthracene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	56-55-3	
Benzo(a)pyrene	3.5J ug/kg		18.9	3.4	1	06/05/13 07:41	06/05/13 18:13	50-32-8	
Benzo(b)fluoranthene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	205-99-2	
Benzo(g,h,i)perylene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	191-24-2	
Benzo(k)fluoranthene	3.4J ug/kg		18.9	3.3	1	06/05/13 07:41	06/05/13 18:13	207-08-9	
Chrysene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	218-01-9	
Dibenz(a,h)anthracene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	53-70-3	
Fluoranthene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	206-44-0	
Fluorene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	86-73-7	
Indeno(1,2,3-cd)pyrene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	193-39-5	
1-Methylnaphthalene	12.2J ug/kg		18.9	3.4	1	06/05/13 07:41	06/05/13 18:13	90-12-0	
2-Methylnaphthalene	13.0J ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	91-57-6	
Naphthalene	12.8J ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	91-20-3	
Phenanthrene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	85-01-8	
Pyrene	<9.5 ug/kg		18.9	9.5	1	06/05/13 07:41	06/05/13 18:13	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	92 %		40-130		1	06/05/13 07:41	06/05/13 18:13	321-60-8	
Terphenyl-d14 (S)	100 %		40-130		1	06/05/13 07:41	06/05/13 18:13	1718-51-0	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	12.0 %		0.10	0.10	1			06/06/13 16:06	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-3 0-2.5 Lab ID: 4078553012 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	71-43-2	W	
Bromobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	108-86-1	W	
Bromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	74-97-5	W	
Bromodichloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-27-4	W	
Bromoform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-25-2	W	
Bromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	74-83-9	W	
n-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	104-51-8	W	
sec-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	135-98-8	W	
tert-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	98-06-6	W	
Carbon tetrachloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	56-23-5	W	
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 09:10	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	1634-04-4	W	
Naphthalene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	91-20-3	W	
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	100-42-5	W	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: WMW-3 0-2.5**      **Lab ID: 4078553012**      Collected: 05/23/13 00:00    Received: 05/24/13 15:10    Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-69-4	W	
1,2,3-Trichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	96-18-4	W	
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	95-63-6	W	
1,3,5-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	108-67-8	W	
Vinyl chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	75-01-4	W	
m&p-Xylene	<50.0 ug/kg	120	50.0	1	05/29/13 13:56	05/30/13 09:10	179601-23-1	W	
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:10	95-47-6	W	
<b>Surrogates</b>									
Dibromofluoromethane (S)	93 %	57-130		1	05/29/13 13:56	05/30/13 09:10	1868-53-7		
Toluene-d8 (S)	93 %	54-133		1	05/29/13 13:56	05/30/13 09:10	2037-26-5		
4-Bromofluorobenzene (S)	79 %	49-130		1	05/29/13 13:56	05/30/13 09:10	460-00-4		
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	<b>12.1</b> %	0.10	0.10	1			06/06/13 16:06		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-3 2.5-5 Lab ID: 4078553013 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	2.2 mg/kg		2.0	0.55	1	05/30/13 09:20	05/30/13 16:17	7440-38-2	
Barium	37.3 mg/kg		0.51	0.088	1	05/30/13 09:20	05/30/13 16:17	7440-39-3	
Cadmium	0.24J mg/kg		0.51	0.051	1	05/30/13 09:20	05/30/13 16:17	7440-43-9	
Chromium	11.5 mg/kg		0.51	0.13	1	05/30/13 09:20	05/30/13 16:17	7440-47-3	
Lead	6.9 mg/kg		1.0	0.30	1	05/30/13 09:20	05/30/13 16:17	7439-92-1	
Selenium	<0.60 mg/kg		2.0	0.60	1	05/30/13 09:20	05/30/13 16:17	7782-49-2	
Silver	<0.22 mg/kg		1.0	0.22	1	05/30/13 09:20	05/30/13 16:17	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.019 mg/kg		0.0050	0.0025	1	05/29/13 15:45	05/30/13 08:05	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	<9.5 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	83-32-9	
Acenaphthylene	<9.5 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	208-96-8	
Anthracene	15.0J ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	120-12-7	
Benzo(a)anthracene	25.8 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	56-55-3	
Benzo(a)pyrene	31.4 ug/kg		19.0	3.4	1	06/05/13 07:41	06/07/13 08:37	50-32-8	
Benzo(b)fluoranthene	24.0 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	205-99-2	
Benzo(g,h,i)perylene	42.2 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	191-24-2	
Benzo(k)fluoranthene	23.4 ug/kg		19.0	3.3	1	06/05/13 07:41	06/07/13 08:37	207-08-9	
Chrysene	31.9 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	218-01-9	
Dibenz(a,h)anthracene	10.4J ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	53-70-3	
Fluoranthene	47.8 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	206-44-0	
Fluorene	<9.5 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	86-73-7	
Indeno(1,2,3-cd)pyrene	17.6J ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	193-39-5	
1-Methylnaphthalene	3.5J ug/kg		19.0	3.4	1	06/05/13 07:41	06/07/13 08:37	90-12-0	
2-Methylnaphthalene	<9.5 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	91-57-6	
Naphthalene	<9.5 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	91-20-3	
Phenanthrene	25.7 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	85-01-8	
Pyrene	42.9 ug/kg		19.0	9.5	1	06/05/13 07:41	06/07/13 08:37	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	69 %		40-130		1	06/05/13 07:41	06/07/13 08:37	321-60-8	
Terphenyl-d14 (S)	78 %		40-130		1	06/05/13 07:41	06/07/13 08:37	1718-51-0	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	12.1 %		0.10	0.10	1			06/06/13 16:06	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-4 0-2.5 Lab ID: 4078553014 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	71-43-2	W	
Bromobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	108-86-1	W	
Bromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	74-97-5	W	
Bromodichloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-27-4	W	
Bromoform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-25-2	W	
Bromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	74-83-9	W	
n-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	104-51-8	W	
sec-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	135-98-8	W	
tert-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	98-06-6	W	
Carbon tetrachloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	56-23-5	W	
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 09:33	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	1634-04-4	W	
Naphthalene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	91-20-3	W	
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	100-42-5	W	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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Sample: WMW-4 0-2.5      Lab ID: 4078553014      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-69-4	W	
1,2,3-Trichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	96-18-4	W	
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	95-63-6	W	
1,3,5-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	108-67-8	W	
Vinyl chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	75-01-4	W	
m&p-Xylene	<50.0 ug/kg	120	50.0	1	05/29/13 13:56	05/30/13 09:33	179601-23-1	W	
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:33	95-47-6	W	
<b>Surrogates</b>									
Dibromofluoromethane (S)	100 %	57-130		1	05/29/13 13:56	05/30/13 09:33	1868-53-7		
Toluene-d8 (S)	99 %	54-133		1	05/29/13 13:56	05/30/13 09:33	2037-26-5		
4-Bromofluorobenzene (S)	87 %	49-130		1	05/29/13 13:56	05/30/13 09:33	460-00-4		
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	7.4 %	0.10	0.10	1			06/06/13 16:06		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-4 2.5-5 Lab ID: 4078553015 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	2.5 mg/kg		2.0	0.54	1	05/30/13 09:20	05/30/13 16:20	7440-38-2	
Barium	21.9 mg/kg		0.50	0.086	1	05/30/13 09:20	05/30/13 16:20	7440-39-3	
Cadmium	0.21J mg/kg		0.50	0.051	1	05/30/13 09:20	05/30/13 16:20	7440-43-9	
Chromium	8.1 mg/kg		0.50	0.12	1	05/30/13 09:20	05/30/13 16:20	7440-47-3	
Lead	14.9 mg/kg		0.99	0.29	1	05/30/13 09:20	05/30/13 16:20	7439-92-1	
Selenium	<0.59 mg/kg		2.0	0.59	1	05/30/13 09:20	05/30/13 16:20	7782-49-2	
Silver	<0.21 mg/kg		0.99	0.21	1	05/30/13 09:20	05/30/13 16:20	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.031 mg/kg		0.0043	0.0021	1	05/29/13 15:45	05/30/13 08:07	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	<36.0 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	83-32-9	
Acenaphthylene	231 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	208-96-8	
Anthracene	203 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	120-12-7	
Benzo(a)anthracene	406 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	56-55-3	
Benzo(a)pyrene	651 ug/kg		72.0	12.8	2	06/05/13 07:41	06/07/13 09:29	50-32-8	
Benzo(b)fluoranthene	416 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	205-99-2	
Benzo(g,h,i)perylene	438 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	191-24-2	
Benzo(k)fluoranthene	445 ug/kg		72.0	12.7	2	06/05/13 07:41	06/07/13 09:29	207-08-9	
Chrysene	563 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	218-01-9	
Dibenz(a,h)anthracene	140 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	53-70-3	
Fluoranthene	618 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	206-44-0	
Fluorene	53.7J ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	86-73-7	
Indeno(1,2,3-cd)pyrene	285 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	193-39-5	
1-Methylnaphthalene	39.6J ug/kg		72.0	12.7	2	06/05/13 07:41	06/07/13 09:29	90-12-0	
2-Methylnaphthalene	<36.0 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	91-57-6	
Naphthalene	<36.0 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	91-20-3	
Phenanthrene	323 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	85-01-8	
Pyrene	1280 ug/kg		72.0	36.0	2	06/05/13 07:41	06/07/13 09:29	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	68 %		40-130		2	06/05/13 07:41	06/07/13 09:29	321-60-8	
Terphenyl-d14 (S)	78 %		40-130		2	06/05/13 07:41	06/07/13 09:29	1718-51-0	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	7.4 %		0.10	0.10	1			06/06/13 16:06	
<b>350.1 Ammonia</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonia	54.7 mg/kg		13.5	6.7	1	05/28/13 18:06	05/28/13 21:21	7664-41-7	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-5 0-2.5 Lab ID: 4078553016 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	71-43-2	W	
Bromobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	108-86-1	W	
Bromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	74-97-5	W	
Bromodichloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-27-4	W	
Bromoform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-25-2	W	
Bromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	74-83-9	W	
n-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	104-51-8	W	
sec-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	135-98-8	W	
tert-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	98-06-6	W	
Carbon tetrachloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	56-23-5	W	
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 09:56	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	1634-04-4	W	
Naphthalene	69.2 ug/kg	67.2	28.0	1	05/29/13 13:56	05/30/13 09:56	91-20-3		
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	100-42-5	W	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: WMW-5 0-2.5      Lab ID: 4078553016      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid**


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*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-69-4	W	
1,2,3-Trichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	96-18-4	W	
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	95-63-6	W	
1,3,5-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	108-67-8	W	
Vinyl chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	75-01-4	W	
m&p-Xylene	<50.0 ug/kg	120	50.0	1	05/29/13 13:56	05/30/13 09:56	179601-23-1	W	
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 09:56	95-47-6	W	
<b>Surrogates</b>									
Dibromofluoromethane (S)	101 %	57-130		1	05/29/13 13:56	05/30/13 09:56	1868-53-7		
Toluene-d8 (S)	105 %	54-133		1	05/29/13 13:56	05/30/13 09:56	2037-26-5		
4-Bromofluorobenzene (S)	89 %	49-130		1	05/29/13 13:56	05/30/13 09:56	460-00-4		
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	<b>10.7 %</b>	0.10	0.10	1			06/06/13 16:06		

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

Sample: WMW-5 2.5-5 Lab ID: 4078553017 Collected: 05/23/13 00:00 Received: 05/24/13 15:10 Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	4.1 mg/kg		1.9	0.52	1	05/30/13 09:20	05/30/13 16:22	7440-38-2	
Barium	28.2 mg/kg		0.48	0.084	1	05/30/13 09:20	05/30/13 16:22	7440-39-3	
Cadmium	0.29J mg/kg		0.48	0.049	1	05/30/13 09:20	05/30/13 16:22	7440-43-9	
Chromium	10.6 mg/kg		0.48	0.12	1	05/30/13 09:20	05/30/13 16:22	7440-47-3	
Lead	26.8 mg/kg		0.97	0.28	1	05/30/13 09:20	05/30/13 16:22	7439-92-1	
Selenium	<0.57 mg/kg		1.9	0.57	1	05/30/13 09:20	05/30/13 16:22	7782-49-2	
Silver	<0.21 mg/kg		0.97	0.21	1	05/30/13 09:20	05/30/13 16:22	7440-22-4	
<b>7471 Mercury</b>	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	0.047 mg/kg		0.0040	0.0020	1	05/29/13 15:45	05/30/13 08:09	7439-97-6	
<b>8270 MSSV PAH by SIM</b>	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	<9.3 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	83-32-9	
Acenaphthylene	71.8 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	208-96-8	
Anthracene	55.2 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	120-12-7	
Benzo(a)anthracene	142 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	56-55-3	
Benzo(a)pyrene	230 ug/kg		18.7	3.3	1	06/05/13 07:41	06/07/13 08:54	50-32-8	
Benzo(b)fluoranthene	163 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	205-99-2	
Benzo(g,h,i)perylene	185 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	191-24-2	
Benzo(k)fluoranthene	178 ug/kg		18.7	3.3	1	06/05/13 07:41	06/07/13 08:54	207-08-9	
Chrysene	185 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	218-01-9	
Dibenz(a,h)anthracene	57.2 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	53-70-3	
Fluoranthene	208 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	206-44-0	
Fluorene	17.9J ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	86-73-7	
Indeno(1,2,3-cd)pyrene	123 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	193-39-5	
1-Methylnaphthalene	12.6J ug/kg		18.7	3.3	1	06/05/13 07:41	06/07/13 08:54	90-12-0	
2-Methylnaphthalene	15.9J ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	91-57-6	
Naphthalene	16.5J ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	91-20-3	
Phenanthrene	87.6 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	85-01-8	
Pyrene	293 ug/kg		18.7	9.3	1	06/05/13 07:41	06/07/13 08:54	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	71 %		40-130		1	06/05/13 07:41	06/07/13 08:54	321-60-8	
Terphenyl-d14 (S)	72 %		40-130		1	06/05/13 07:41	06/07/13 08:54	1718-51-0	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	10.7 %		0.10	0.10	1			06/06/13 16:06	
<b>350.1 Ammonia</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonia	51.3 mg/kg		16.8	8.4	1	05/28/13 18:06	05/28/13 21:21	7664-41-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: MEOH BLANK**      Lab ID: **4078553018**      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

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*Results reported on a "wet-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	71-43-2	W	
Bromobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	108-86-1	W	
Bromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	74-97-5	W	
Bromodichloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-27-4	W	
Bromoform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-25-2	W	
Bromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	74-83-9	W	
n-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	104-51-8	W	
sec-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	135-98-8	W	
tert-Butylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	98-06-6	W	
Carbon tetrachloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	56-23-5	W	
Chlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	108-90-7	W	
Chloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-00-3	W	
Chloroform	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	67-66-3	W	
Chloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	74-87-3	W	
2-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	95-49-8	W	
4-Chlorotoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	106-43-4	W	
1,2-Dibromo-3-chloropropane	<49.8 ug/kg	250	49.8	1	05/29/13 13:56	05/30/13 00:13	96-12-8	W	
Dibromochloromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	124-48-1	W	
1,2-Dibromoethane (EDB)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	106-93-4	W	
Dibromomethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	74-95-3	W	
1,2-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	95-50-1	W	
1,3-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	541-73-1	W	
1,4-Dichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	106-46-7	W	
Dichlorodifluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-71-8	W	
1,1-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-34-3	W	
1,2-Dichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	107-06-2	W	
1,1-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-35-4	W	
cis-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	156-59-2	W	
trans-1,2-Dichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	156-60-5	W	
1,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	78-87-5	W	
1,3-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	142-28-9	W	
2,2-Dichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	594-20-7	W	
1,1-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	563-58-6	W	
cis-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	10061-01-5	W	
trans-1,3-Dichloropropene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	10061-02-6	W	
Diisopropyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	108-20-3	W	
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	100-41-4	W	
Hexachloro-1,3-butadiene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	87-68-3	W	
Isopropylbenzene (Cumene)	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	98-82-8	W	
p-Isopropyltoluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	99-87-6	W	
Methylene Chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-09-2	W	
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	1634-04-4	W	
Naphthalene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	91-20-3	W	
n-Propylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	103-65-1	W	
Styrene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	100-42-5	W	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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**Sample: MEOH BLANK**      Lab ID: **4078553018**      Collected: 05/23/13 00:00      Received: 05/24/13 15:10      Matrix: Solid

*Results reported on a "wet-weight" basis*

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Med Level Normal List</b>		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	630-20-6	W	
1,1,2,2-Tetrachloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	79-34-5	W	
Tetrachloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	127-18-4	W	
Toluene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	108-88-3	W	
1,2,3-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	87-61-6	W	
1,2,4-Trichlorobenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	120-82-1	W	
1,1,1-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	71-55-6	W	
1,1,2-Trichloroethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	79-00-5	W	
Trichloroethene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	79-01-6	W	
Trichlorofluoromethane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-69-4	W	
1,2,3-Trichloropropane	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	96-18-4	W	
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	95-63-6	W	
1,3,5-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	108-67-8	W	
Vinyl chloride	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	75-01-4	W	
m-&p-Xylene	<50.0 ug/kg	120	50.0	1	05/29/13 13:56	05/30/13 00:13	179601-23-1	W	
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/29/13 13:56	05/30/13 00:13	95-47-6	W	
<b>Surrogates</b>									
Dibromofluoromethane (S)	97 %	57-130		1	05/29/13 13:56	05/30/13 00:13	1868-53-7		
Toluene-d8 (S)	98 %	54-133		1	05/29/13 13:56	05/30/13 00:13	2037-26-5		
4-Bromofluorobenzene (S)	87 %	49-130		1	05/29/13 13:56	05/30/13 00:13	460-00-4		

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

QC Batch:	MERP/3674	Analysis Method:	EPA 7471
QC Batch Method:	EPA 7471	Analysis Description:	7471 Mercury
Associated Lab Samples:	4078553001, 4078553002, 4078553003, 4078553006, 4078553008, 4078553009, 4078553011, 4078553013, 4078553015, 4078553017		

METHOD BLANK:	798611	Matrix:	Solid
Associated Lab Samples:	4078553001, 4078553002, 4078553003, 4078553006, 4078553008, 4078553009, 4078553011, 4078553013, 4078553015, 4078553017		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0022	0.0045	05/30/13 07:20	

LABORATORY CONTROL SAMPLE: 798612

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.17	0.16	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 798613 798614

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Mercury	mg/kg	0.011	.18	.18	0.17	0.17	91	90	85-115	0	20

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

QC Batch:	MPRP/8552	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3050	Analysis Description:	6010 MET
Associated Lab Samples: 4078553001, 4078553002, 4078553003, 4078553006, 4078553008, 4078553009, 4078553011, 4078553013, 4078553015, 4078553017			

METHOD BLANK:	799054	Matrix:	Solid
Associated Lab Samples: 4078553001, 4078553002, 4078553003, 4078553006, 4078553008, 4078553009, 4078553011, 4078553013, 4078553015, 4078553017			

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Arsenic	mg/kg	<0.54	2.0	05/31/13 10:11	
Barium	mg/kg	<0.087	0.50	05/31/13 10:11	
Cadmium	mg/kg	<0.051	0.50	05/31/13 10:11	
Chromium	mg/kg	0.19J	0.50	05/31/13 10:11	
Lead	mg/kg	<0.29	1.0	05/31/13 10:11	
Selenium	mg/kg	<0.59	2.0	05/31/13 10:11	
Silver	mg/kg	<0.21	1.0	05/31/13 10:11	

LABORATORY CONTROL SAMPLE: 799055

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Arsenic	mg/kg	50	47.8	96	80-120	
Barium	mg/kg	50	48.4	97	80-120	
Cadmium	mg/kg	50	47.4	95	80-120	
Chromium	mg/kg	50	48.2	96	80-120	
Lead	mg/kg	50	48.0	96	80-120	
Selenium	mg/kg	50	46.6	93	80-120	
Silver	mg/kg	25	23.4	94	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 799056 799057

Parameter	Units	MS	MSD	MS	MSD	% Rec	MSD % Rec	% Rec	Limits	Max	Qual
		4078520001	Spike	Conc.	Conc.	Result	Result	RPD	RPD	RPD	
Arsenic	mg/kg	2.0J	55.3	55.2	53.9	53.5	94	93	75-125	1	20
Barium	mg/kg	10.9	55.3	55.2	65.1	67.1	98	102	75-125	3	20
Cadmium	mg/kg	0.12J	55.3	55.2	52.7	53.0	95	96	75-125	1	20
Chromium	mg/kg	7.5	55.3	55.2	57.6	58.2	91	92	75-125	1	20
Lead	mg/kg	29.3	55.3	55.2	59.3	56.7	54	50	75-125	5	20 M0
Selenium	mg/kg	<0.65	55.3	55.2	50.5	50.7	91	92	75-125	0	20
Silver	mg/kg	<0.23	27.7	27.6	26.4	26.7	95	96	75-125	1	20

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

QC Batch:	MSV/19841	Analysis Method:	EPA 8260
QC Batch Method:	EPA 5035/5030B	Analysis Description:	8260 MSV Med Level Normal List
Associated Lab Samples:	4078553001, 4078553002, 4078553003, 4078553005, 4078553007, 4078553009, 4078553010, 4078553012, 4078553014, 4078553016, 4078553018		

METHOD BLANK: 798615                    Matrix: Solid

Associated Lab Samples: 4078553001, 4078553002, 4078553003, 4078553005, 4078553007, 4078553009, 4078553010, 4078553012, 4078553014, 4078553016, 4078553018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,1,1-Trichloroethane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,1,2,2-Tetrachloroethane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,1,2-Trichloroethane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,1-Dichloroethane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,1-Dichloroethene	ug/kg	<25.0	60.0	05/29/13 19:16	
1,1-Dichloropropene	ug/kg	<25.0	60.0	05/29/13 19:16	
1,2,3-Trichlorobenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
1,2,3-Trichloropropane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,2,4-Trichlorobenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
1,2,4-Trimethylbenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
1,2-Dibromo-3-chloropropane	ug/kg	<49.8	250	05/29/13 19:16	
1,2-Dibromoethane (EDB)	ug/kg	<25.0	60.0	05/29/13 19:16	
1,2-Dichlorobenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
1,2-Dichloroethane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,2-Dichloropropane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,3,5-Trimethylbenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
1,3-Dichlorobenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
1,3-Dichloropropane	ug/kg	<25.0	60.0	05/29/13 19:16	
1,4-Dichlorobenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
2,2-Dichloropropane	ug/kg	<25.0	60.0	05/29/13 19:16	
2-Chlorotoluene	ug/kg	<25.0	60.0	05/29/13 19:16	
4-Chlorotoluene	ug/kg	<25.0	60.0	05/29/13 19:16	
Benzene	ug/kg	<25.0	60.0	05/29/13 19:16	
Bromobenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
Bromochloromethane	ug/kg	<25.0	60.0	05/29/13 19:16	
Bromodichloromethane	ug/kg	<25.0	60.0	05/29/13 19:16	
Bromoform	ug/kg	<25.0	60.0	05/29/13 19:16	
Bromomethane	ug/kg	<25.0	60.0	05/29/13 19:16	
Carbon tetrachloride	ug/kg	<25.0	60.0	05/29/13 19:16	
Chlorobenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
Chloroethane	ug/kg	<25.0	60.0	05/29/13 19:16	
Chloroform	ug/kg	<25.0	60.0	05/29/13 19:16	
Chloromethane	ug/kg	<25.0	60.0	05/29/13 19:16	
cis-1,2-Dichloroethene	ug/kg	<25.0	60.0	05/29/13 19:16	
cis-1,3-Dichloropropene	ug/kg	<25.0	60.0	05/29/13 19:16	
Dibromochloromethane	ug/kg	<25.0	60.0	05/29/13 19:16	
Dibromomethane	ug/kg	<25.0	60.0	05/29/13 19:16	
Dichlorodifluoromethane	ug/kg	<25.0	60.0	05/29/13 19:16	
Diisopropyl ether	ug/kg	<25.0	60.0	05/29/13 19:16	
Ethylbenzene	ug/kg	<25.0	60.0	05/29/13 19:16	

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

METHOD BLANK: 798615

Matrix: Solid

Associated Lab Samples: 4078553001, 4078553002, 4078553003, 4078553005, 4078553007, 4078553009, 4078553010, 4078553012,  
4078553014, 4078553016, 4078553018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	<25.0	60.0	05/29/13 19:16	
Isopropylbenzene (Cumene)	ug/kg	<25.0	60.0	05/29/13 19:16	
m&p-Xylene	ug/kg	<50.0	120	05/29/13 19:16	
Methyl-tert-butyl ether	ug/kg	<25.0	60.0	05/29/13 19:16	
Methylene Chloride	ug/kg	<25.0	60.0	05/29/13 19:16	
n-Butylbenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
n-Propylbenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
Naphthalene	ug/kg	<25.0	60.0	05/29/13 19:16	
o-Xylene	ug/kg	<25.0	60.0	05/29/13 19:16	
p-Isopropyltoluene	ug/kg	<25.0	60.0	05/29/13 19:16	
sec-Butylbenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
Styrene	ug/kg	<25.0	60.0	05/29/13 19:16	
tert-Butylbenzene	ug/kg	<25.0	60.0	05/29/13 19:16	
Tetrachloroethene	ug/kg	<25.0	60.0	05/29/13 19:16	
Toluene	ug/kg	<25.0	60.0	05/29/13 19:16	
trans-1,2-Dichloroethene	ug/kg	<25.0	60.0	05/29/13 19:16	
trans-1,3-Dichloropropene	ug/kg	<25.0	60.0	05/29/13 19:16	
Trichloroethene	ug/kg	<25.0	60.0	05/29/13 19:16	
Trichlorofluoromethane	ug/kg	<25.0	60.0	05/29/13 19:16	
Vinyl chloride	ug/kg	<25.0	60.0	05/29/13 19:16	
4-Bromofluorobenzene (S)	%	86	49-130	05/29/13 19:16	
Dibromofluoromethane (S)	%	93	57-130	05/29/13 19:16	
Toluene-d8 (S)	%	97	54-133	05/29/13 19:16	

LABORATORY CONTROL SAMPLE &amp; LCSD: 798616

798617

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2360	2410	95	96	70-130	2	20	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2680	2920	107	117	70-130	8	20	
1,1,2-Trichloroethane	ug/kg	2500	2490	2600	100	104	70-130	4	20	
1,1-Dichloroethane	ug/kg	2500	2040	2070	82	83	70-130	1	20	
1,1-Dichloroethene	ug/kg	2500	2100	2040	84	82	64-130	2	20	
1,2,4-Trichlorobenzene	ug/kg	2500	2560	2750	103	110	68-130	7	20	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2570	2620	103	105	50-150	2	20	
1,2-Dibromoethane (EDB)	ug/kg	2500	2480	2560	99	102	70-130	3	20	
1,2-Dichlorobenzene	ug/kg	2500	2590	2730	104	109	70-130	5	20	
1,2-Dichloroethane	ug/kg	2500	2580	2700	103	108	70-130	4	20	
1,2-Dichloropropane	ug/kg	2500	2410	2450	96	98	70-130	2	20	
1,3-Dichlorobenzene	ug/kg	2500	2480	2640	99	106	70-130	6	20	
1,4-Dichlorobenzene	ug/kg	2500	2440	2590	98	104	70-130	6	20	
Benzene	ug/kg	2500	2540	2560	101	102	70-130	1	20	
Bromodichloromethane	ug/kg	2500	2400	2520	96	101	70-130	5	20	
Bromoform	ug/kg	2500	2100	2240	84	90	63-130	6	20	
Bromomethane	ug/kg	2500	1590	1570	64	63	41-142	1	20	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

LABORATORY CONTROL SAMPLE & LCSD:		798617								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/kg	2500	2310	2400	92	96	70-130	4	20	
Chlorobenzene	ug/kg	2500	2460	2530	98	101	70-130	3	20	
Chloroethane	ug/kg	2500	1890	1940	76	78	57-130	3	20	
Chloroform	ug/kg	2500	2780	2500	111	100	70-130	11	20	
Chloromethane	ug/kg	2500	2840	2860	113	115	57-130	1	20	
cis-1,2-Dichloroethene	ug/kg	2500	2940	3170	118	127	70-130	7	20	
cis-1,3-Dichloropropene	ug/kg	2500	2200	2320	88	93	70-130	5	20	
Dibromochloromethane	ug/kg	2500	2290	2430	92	97	70-130	6	20	
Dichlorodifluoromethane	ug/kg	2500	2760	2730	111	109	31-150	1	20	
Ethylbenzene	ug/kg	2500	2520	2620	101	105	65-137	4	20	
Isopropylbenzene (Cumene)	ug/kg	2500	2410	2480	96	99	70-130	3	20	
m&p-Xylene	ug/kg	5000	4860	5100	97	102	64-139	5	20	
Methyl-tert-butyl ether	ug/kg	2500	2050	2150	82	86	69-130	5	20	
Methylene Chloride	ug/kg	2500	2070	2140	83	85	70-130	3	20	
o-Xylene	ug/kg	2500	2480	2560	99	102	63-135	3	20	
Styrene	ug/kg	2500	2190	2310	88	93	69-130	5	20	
Tetrachloroethene	ug/kg	2500	2220	2410	89	96	70-130	8	20	
Toluene	ug/kg	2500	2500	2600	100	104	70-130	4	20	
trans-1,2-Dichloroethene	ug/kg	2500	1990	2000	79	80	70-130	1	20	
trans-1,3-Dichloropropene	ug/kg	2500	2380	2530	95	101	70-130	6	20	
Trichloroethene	ug/kg	2500	2350	2420	94	97	70-130	3	20	
Trichlorofluoromethane	ug/kg	2500	2030	2090	81	83	50-150	3	20	
Vinyl chloride	ug/kg	2500	2670	2640	107	106	57-130	1	20	
4-Bromofluorobenzene (S)	%				90	97	49-130			
Dibromofluoromethane (S)	%				94	99	57-130			
Toluene-d8 (S)	%				97	99	54-133			

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

QC Batch:	OEXT/18463	Analysis Method:	EPA 8270 by SIM
QC Batch Method:	EPA 3546	Analysis Description:	8270/3546 MSSV PAH by SIM
Associated Lab Samples:	4078553001, 4078553002, 4078553003, 4078553006, 4078553008		

METHOD BLANK: 802356   Matrix: Solid

Associated Lab Samples: 4078553001, 4078553002, 4078553003, 4078553006, 4078553008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	<2.9	16.7	06/05/13 09:50	
2-Methylnaphthalene	ug/kg	<8.3	16.7	06/05/13 09:50	
Acenaphthene	ug/kg	<8.3	16.7	06/05/13 09:50	
Acenaphthylene	ug/kg	<8.3	16.7	06/05/13 09:50	
Anthracene	ug/kg	<8.3	16.7	06/05/13 09:50	
Benzo(a)anthracene	ug/kg	<8.3	16.7	06/05/13 09:50	
Benzo(a)pyrene	ug/kg	<3.0	16.7	06/05/13 09:50	
Benzo(b)fluoranthene	ug/kg	<8.3	16.7	06/05/13 09:50	
Benzo(g,h,i)perylene	ug/kg	<8.3	16.7	06/05/13 09:50	
Benzo(k)fluoranthene	ug/kg	<2.9	16.7	06/05/13 09:50	
Chrysene	ug/kg	<8.3	16.7	06/05/13 09:50	
Dibenz(a,h)anthracene	ug/kg	<8.3	16.7	06/05/13 09:50	
Fluoranthene	ug/kg	<8.3	16.7	06/05/13 09:50	
Fluorene	ug/kg	<8.3	16.7	06/05/13 09:50	
Indeno(1,2,3-cd)pyrene	ug/kg	<8.3	16.7	06/05/13 09:50	
Naphthalene	ug/kg	<8.3	16.7	06/05/13 09:50	
Phenanthrene	ug/kg	<8.3	16.7	06/05/13 09:50	
Pyrene	ug/kg	<8.3	16.7	06/05/13 09:50	
2-Fluorobiphenyl (S)	%	77	40-130	06/05/13 09:50	
Terphenyl-d14 (S)	%	86	40-130	06/05/13 09:50	

LABORATORY CONTROL SAMPLE: 802357

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	333	270	81	47-130	
2-Methylnaphthalene	ug/kg	333	263	79	48-130	
Acenaphthene	ug/kg	333	290	87	55-130	
Acenaphthylene	ug/kg	333	290	87	55-130	
Anthracene	ug/kg	333	288	86	66-130	
Benzo(a)anthracene	ug/kg	333	246	74	55-130	
Benzo(a)pyrene	ug/kg	333	290	87	56-130	
Benzo(b)fluoranthene	ug/kg	333	292	88	53-130	
Benzo(g,h,i)perylene	ug/kg	333	290	87	51-130	
Benzo(k)fluoranthene	ug/kg	333	263	79	52-130	
Chrysene	ug/kg	333	298	90	58-130	
Dibenz(a,h)anthracene	ug/kg	333	297	89	55-130	
Fluoranthene	ug/kg	333	251	75	62-130	
Fluorene	ug/kg	333	287	86	58-130	
Indeno(1,2,3-cd)pyrene	ug/kg	333	291	87	54-130	
Naphthalene	ug/kg	333	259	78	41-130	
Phenanthrene	ug/kg	333	245	73	60-130	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

LABORATORY CONTROL SAMPLE: 802357

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Pyrene	ug/kg	333	254	76	51-130	
2-Fluorobiphenyl (S)	%			86	40-130	
Terphenyl-d14 (S)	%			93	40-130	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 802358 802359

Parameter	Units	4078930003		MSD		MS Result	MS % Rec	MSD % Rec	% Rec Limits	Max	
		MS Spike Conc.	Spke Conc.	MS Result	MSD Result					RPD	RPD
1-Methylnaphthalene	ug/kg	<3.7	423	423	332	293	78	69	42-130	13	32
2-Methylnaphthalene	ug/kg	<10.6	423	423	317	283	75	67	34-130	11	35
Acenaphthene	ug/kg	<10.6	423	423	329	311	78	73	31-130	6	35
Acenaphthylene	ug/kg	<10.6	423	423	328	312	77	74	32-130	5	25
Anthracene	ug/kg	<10.6	423	423	323	318	76	75	39-131	1	38
Benz(a)anthracene	ug/kg	<10.6	423	423	265	265	63	62	29-130	0	30
Benz(a)pyrene	ug/kg	<3.8	423	423	317	318	74	75	35-130	0	33
Benz(b)fluoranthene	ug/kg	<10.6	423	423	330	327	78	77	21-142	1	44
Benz(g,h,i)perylene	ug/kg	<10.6	423	423	317	310	74	73	12-134	2	33
Benz(k)fluoranthene	ug/kg	<3.7	423	423	286	281	67	66	35-130	2	37
Chrysene	ug/kg	<10.6	423	423	321	313	75	73	37-130	3	38
Dibenz(a,h)anthracene	ug/kg	<10.6	423	423	325	320	77	75	23-130	2	27
Fluoranthene	ug/kg	<10.6	423	423	280	280	66	66	29-137	0	50
Fluorene	ug/kg	<10.6	423	423	320	310	76	73	32-130	3	32
Indeno(1,2,3-cd)pyrene	ug/kg	<10.6	423	423	314	308	74	73	17-134	2	28
Naphthalene	ug/kg	<10.6	423	423	309	273	73	64	24-130	12	40
Phenanthrene	ug/kg	<10.6	423	423	279	277	65	65	27-135	1	46
Pyrene	ug/kg	<10.6	423	423	284	278	66	65	24-130	2	49
2-Fluorobiphenyl (S)	%						79	78	40-130		
Terphenyl-d14 (S)	%						82	84	40-130		

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

QC Batch:	OEXT/18464	Analysis Method:	EPA 8270 by SIM
QC Batch Method:	EPA 3546	Analysis Description:	8270/3546 MSSV PAH by SIM
Associated Lab Samples:	4078553009, 4078553011, 4078553013, 4078553015, 4078553017		

METHOD BLANK: 802360   Matrix: Solid

Associated Lab Samples: 4078553009, 4078553011, 4078553013, 4078553015, 4078553017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	<2.9	16.7	06/05/13 11:17	
2-Methylnaphthalene	ug/kg	<8.3	16.7	06/05/13 11:17	
Acenaphthene	ug/kg	<8.3	16.7	06/05/13 11:17	
Acenaphthylene	ug/kg	<8.3	16.7	06/05/13 11:17	
Anthracene	ug/kg	<8.3	16.7	06/05/13 11:17	
Benzo(a)anthracene	ug/kg	<8.3	16.7	06/05/13 11:17	
Benzo(a)pyrene	ug/kg	<3.0	16.7	06/05/13 11:17	
Benzo(b)fluoranthene	ug/kg	<8.3	16.7	06/05/13 11:17	
Benzo(g,h,i)perylene	ug/kg	<8.3	16.7	06/05/13 11:17	
Benzo(k)fluoranthene	ug/kg	<2.9	16.7	06/05/13 11:17	
Chrysene	ug/kg	<8.3	16.7	06/05/13 11:17	
Dibenz(a,h)anthracene	ug/kg	<8.3	16.7	06/05/13 11:17	
Fluoranthene	ug/kg	<8.3	16.7	06/05/13 11:17	
Fluorene	ug/kg	<8.3	16.7	06/05/13 11:17	
Indeno(1,2,3-cd)pyrene	ug/kg	<8.3	16.7	06/05/13 11:17	
Naphthalene	ug/kg	<8.3	16.7	06/05/13 11:17	
Phenanthrene	ug/kg	<8.3	16.7	06/05/13 11:17	
Pyrene	ug/kg	<8.3	16.7	06/05/13 11:17	
2-Fluorobiphenyl (S)	%	96	40-130	06/05/13 11:17	
Terphenyl-d14 (S)	%	95	40-130	06/05/13 11:17	

LABORATORY CONTROL SAMPLE: 802361

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	333	277	83	47-130	
2-Methylnaphthalene	ug/kg	333	277	83	48-130	
Acenaphthene	ug/kg	333	309	93	55-130	
Acenaphthylene	ug/kg	333	300	90	55-130	
Anthracene	ug/kg	333	292	87	66-130	
Benzo(a)anthracene	ug/kg	333	236	71	55-130	
Benzo(a)pyrene	ug/kg	333	288	87	56-130	
Benzo(b)fluoranthene	ug/kg	333	235	70	53-130	
Benzo(g,h,i)perylene	ug/kg	333	286	86	51-130	
Benzo(k)fluoranthene	ug/kg	333	303	91	52-130	
Chrysene	ug/kg	333	294	88	58-130	
Dibenz(a,h)anthracene	ug/kg	333	289	87	55-130	
Fluoranthene	ug/kg	333	253	76	62-130	
Fluorene	ug/kg	333	258	77	58-130	
Indeno(1,2,3-cd)pyrene	ug/kg	333	283	85	54-130	
Naphthalene	ug/kg	333	261	78	41-130	
Phenanthrene	ug/kg	333	245	74	60-130	

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

LABORATORY CONTROL SAMPLE: 802361

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Pyrene	ug/kg	333	247	74	51-130	
2-Fluorobiphenyl (S)	%			91	40-130	
Terphenyl-d14 (S)	%			93	40-130	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 802362 802363

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max	
		4078553011	Spike Conc.	Spike Conc.	Result				RPD	RPD
1-Methylnaphthalene	ug/kg	12.2J	379	379	304	357	77	91	42-130	16 32
2-Methylnaphthalene	ug/kg	13.0J	379	379	295	346	74	88	34-130	16 35
Acenaphthene	ug/kg	<9.5	379	379	303	333	80	88	31-130	10 35
Acenaphthylene	ug/kg	<9.5	379	379	299	330	78	86	32-130	10 25
Anthracene	ug/kg	<9.5	379	379	297	329	77	86	39-131	10 38
Benz(a)anthracene	ug/kg	<9.5	379	379	269	275	71	72	29-130	2 30
Benz(a)pyrene	ug/kg	3.5J	379	379	327	339	85	89	35-130	4 33
Benz(b)fluoranthene	ug/kg	<9.5	379	379	297	307	77	80	21-142	4 44
Benz(g,h,i)perylene	ug/kg	<9.5	379	379	243	247	62	63	12-134	2 33
Benz(k)fluoranthene	ug/kg	3.4J	379	379	377	395	99	103	35-130	5 37
Chrysene	ug/kg	<9.5	379	379	310	333	81	87	37-130	7 38
Dibenz(a,h)anthracene	ug/kg	<9.5	379	379	276	288	72	76	23-130	4 27
Fluoranthene	ug/kg	<9.5	379	379	292	311	76	81	29-137	6 50
Fluorene	ug/kg	<9.5	379	379	299	332	79	88	32-130	10 32
Indeno(1,2,3-cd)pyrene	ug/kg	<9.5	379	379	262	267	69	70	17-134	2 28
Naphthalene	ug/kg	12.8J	379	379	250	302	63	76	24-130	19 40
Phenanthrene	ug/kg	<9.5	379	379	297	315	77	82	27-135	6 46
Pyrene	ug/kg	<9.5	379	379	290	305	75	79	24-130	5 49
2-Fluorobiphenyl (S)	%						81	90	40-130	
Terphenyl-d14 (S)	%						91	96	40-130	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

QC Batch:	PMST/8537	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	4078553001, 4078553002, 4078553003, 4078553004, 4078553006, 4078553008, 4078553009, 4078553011, 4078553013, 4078553015, 4078553017		

SAMPLE DUPLICATE: 803743

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4079150002	14.5	14.5	0	10

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

QC Batch:	WETA/17780	Analysis Method:	EPA 350.1
QC Batch Method:	EPA 350.1	Analysis Description:	350.1 Ammonia
Associated Lab Samples:	4078553002, 4078553004, 4078553008, 4078553015, 4078553017		

METHOD BLANK: 798052 Matrix: Solid

Associated Lab Samples: 4078553002, 4078553004, 4078553008, 4078553015, 4078553017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/kg	<7.5	15.0	05/28/13 21:08	

LABORATORY CONTROL SAMPLE: 798053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/kg	300	290	97	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 798054 798055

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Nitrogen, Ammonia	mg/kg	65.3	300	300	383	390	106	108	80-120	2	20	

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078553

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

### BATCH QUALIFIERS

Batch: MSV/19842

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSSV/5719

[IP] Benzo(b)fluoranthene and benzo(k)fluoranthene were in the check standard but did not meet the resolution criteria in SW846 Method 8270C. Whereas sample results included are reported as individual isomers, the lab and the customer must recognize them as an isomeric pair.

Batch: MSSV/5720

[IP] Benzo(b)fluoranthene and benzo(k)fluoranthene were in the check standard but did not meet the resolution criteria in SW846 Method 8270C. Whereas sample results included are reported as individual isomers, the lab and the customer must recognize them as an isomeric pair.

### ANALYTE QUALIFIERS

- 1q Sample was received with vial septa reversed, preventing an airtight seal. Analytical results should be considered minimum values.
- D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
- M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- S4 Surrogate recovery not evaluated against control limits due to sample dilution.
- W Non-detect results are reported on a wet weight basis.

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078553

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4078553001	WGP-1 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553002	WGP-2 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553003	WGP-3 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553006	WGP-4 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553008	WGP-5 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553009	WMW-1 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553011	WMW-2 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553013	WMW-3 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553015	WMW-4 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553017	WMW-5 2.5-5	EPA 3050	MPRP/8552	EPA 6010	ICP/7602
4078553001	WGP-1 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553002	WGP-2 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553003	WGP-3 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553006	WGP-4 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553008	WGP-5 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553009	WMW-1 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553011	WMW-2 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553013	WMW-3 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553015	WMW-4 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553017	WMW-5 2.5-5	EPA 7471	MERP/3674	EPA 7471	MERC/4572
4078553001	WGP-1 2.5-5	EPA 3546	OEXT/18463	EPA 8270 by SIM	MSSV/5719
4078553002	WGP-2 2.5-5	EPA 3546	OEXT/18463	EPA 8270 by SIM	MSSV/5719
4078553003	WGP-3 2.5-5	EPA 3546	OEXT/18463	EPA 8270 by SIM	MSSV/5719
4078553006	WGP-4 2.5-5	EPA 3546	OEXT/18463	EPA 8270 by SIM	MSSV/5719
4078553008	WGP-5 2.5-5	EPA 3546	OEXT/18463	EPA 8270 by SIM	MSSV/5719
4078553009	WMW-1 2.5-5	EPA 3546	OEXT/18464	EPA 8270 by SIM	MSSV/5720
4078553011	WMW-2 2.5-5	EPA 3546	OEXT/18464	EPA 8270 by SIM	MSSV/5720
4078553013	WMW-3 2.5-5	EPA 3546	OEXT/18464	EPA 8270 by SIM	MSSV/5720
4078553015	WMW-4 2.5-5	EPA 3546	OEXT/18464	EPA 8270 by SIM	MSSV/5720
4078553017	WMW-5 2.5-5	EPA 3546	OEXT/18464	EPA 8270 by SIM	MSSV/5720
4078553001	WGP-1 2.5-5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553002	WGP-2 2.5-5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553003	WGP-3 2.5-5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553005	WGP-4 5-7.5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553007	WGP-5 0-2.5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553009	WMW-1 2.5-5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553010	WMW-2 0-2.5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553012	WMW-3 0-2.5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553014	WMW-4 0-2.5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553016	WMW-5 0-2.5	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553018	MEOH BLANK	EPA 5035/5030B	MSV/19841	EPA 8260	MSV/19842
4078553001	WGP-1 2.5-5	ASTM D2974-87	PMST/8537		
4078553002	WGP-2 2.5-5	ASTM D2974-87	PMST/8537		
4078553003	WGP-3 2.5-5	ASTM D2974-87	PMST/8537		
4078553004	WGP-4 0-2.5	ASTM D2974-87	PMST/8537		
4078553005	WGP-4 5-7.5	ASTM D2974-87	PMST/		

**REPORT OF LABORATORY ANALYSIS**

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078553

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4078553006	WGP-4 2.5-5	ASTM D2974-87	PMST/8537		
4078553007	WGP-5 0-2.5	ASTM D2974-87	PMST/		
4078553008	WGP-5 2.5-5	ASTM D2974-87	PMST/8537		
4078553009	WMW-1 2.5-5	ASTM D2974-87	PMST/8537		
4078553010	WMW-2 0-2.5	ASTM D2974-87	PMST/		
4078553011	WMW-2 2.5-5	ASTM D2974-87	PMST/8537		
4078553012	WMW-3 0-2.5	ASTM D2974-87	PMST/		
4078553013	WMW-3 2.5-5	ASTM D2974-87	PMST/8537		
4078553014	WMW-4 0-2.5	ASTM D2974-87	PMST/		
4078553015	WMW-4 2.5-5	ASTM D2974-87	PMST/8537		
4078553016	WMW-5 0-2.5	ASTM D2974-87	PMST/		
4078553017	WMW-5 2.5-5	ASTM D2974-87	PMST/8537		
4078553002	WGP-2 2.5-5	EPA 350.1	WETA/17780	EPA 350.1	WETA/17796
4078553004	WGP-4 0-2.5	EPA 350.1	WETA/17780	EPA 350.1	WETA/17796
4078553008	WGP-5 2.5-5	EPA 350.1	WETA/17780	EPA 350.1	WETA/17796
4078553015	WMW-4 2.5-5	EPA 350.1	WETA/17780	EPA 350.1	WETA/17796
4078553017	WMW-5 2.5-5	EPA 350.1	WETA/17780	EPA 350.1	WETA/17796

### REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

UPPER MIDWEST REGION  
MN: 612-607-1700 WI: 920-469-2436

4078553

www.paceanalytical.com



Page 1 of 59 of 62

Company Name:	Ayres Associates
Branch/Location:	West Waterfront
Project Contact:	Jeff Steiner
Phone:	668-443-1259
Project Number:	19-0422-00
Project Name:	West Waterfront
Project State:	WI
Sampled By (Print):	Jeff Steiner
Sampled By (Sign):	
PO #:	19-0422-00
Data Package Options (billable)	<input type="checkbox"/> EPA Level III <input type="checkbox"/> EPA Level IV
MS/MSD	<input type="checkbox"/> On your sample <input type="checkbox"/> NOT needed on your sample
Matrix Codes	A = Air W = Water B = Biota DW = Drinking Water C = Charcoal GW = Ground Water O = Oil SW = Surface Water S = Soil WW = Waste Water WP = Wipe Sludge

Data Package Options (billable)		Preservation Codes	
<input type="checkbox"/> EPA Level III	<input type="checkbox"/> EPA Level IV	H=None I=Sodium Bisulfite Solution J=Sodium Thiosulfate	B=HCl C=H <sub>2</sub> SO <sub>4</sub> D=HNO <sub>3</sub> E=D <sub>2</sub> O Water F=Methanol G=NaOH

Quote #:	Jeff Steiner
Mail To Contact:	Ayres Associates
Mail To Address:	Madison
Invoice To Company:	Ayres Associates
Invoice To Address:	Tom Clancy
Comments:	

PACE LAB #	CLIENT FIELD ID	Analyses Requested		Y/N	PICK LETTER	PROGRAM:
		DATE	TIME			
001	WG-P-1 2.5-5	5-23	5	X	X	
002	WG-P-2 2.5-5			X	X	
003	WG-P-3 2.5-5			X	X	
007	WG-P-4 0-2.5			X	X	
005	WG-P-4 3-7.5			X	X	
006	WG-P-4 2.5-5			X	X	
007	WG-P-5 0-2.5			X	X	
008	WG-P-5 2.5-5			X	X	
009	WG-MW-1 2.5-5			X	X	
010	WG-MW-2 0-2.5			X	X	
011	WG-MW-2 2.5-5			X	X	
012	WG-MW-3 0-2.5			X	X	
013	WG-MW-3 2.5-5			X	X	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)	Date/Time: 5/25/13 15:10	Received By:	PAGE Project No. 4078553
Date Needed:	Date/Time:	Received By:	Received By:
Transmit Prelim Rush Results by (complete what you want):	Date/Time:	Received By:	Date/Time:
Email #1:	Date/Time:	Received By:	Date/Time:
Email #2:	Date/Time:	Received By:	Date/Time:
Telephone:	Date/Time:	Received By:	Date/Time:
Fax:	Date/Time:	Received By:	Date/Time:

Samples on HOLD are subject to special pricing and release of liability	Reinquished By:	Date/Time: 5/25/13 15:10	Received By:	PAGE Project No. 4078553
Transmit Prelim Rush Results by (complete what you want):	Date/Time:	Received By:	Date/Time:	Received By:
Email #1:	Date/Time:	Received By:	Date/Time:	Received By:
Email #2:	Date/Time:	Received By:	Date/Time:	Received By:
Telephone:	Date/Time:	Received By:	Date/Time:	Received By:
Fax:	Date/Time:	Received By:	Date/Time:	Received By:
Reinquished By:	Date/Time:	Received By:	Date/Time:	Received By:

(Please Print Clearly)

Company Name:	Ayres Associates
Branch/Location:	Madison
Project Contact:	Jeff Steiner
Phone:	608-442-1259
Project Number:	19-0422-00
Project Name:	West Waterfront
Project State:	WI
Sampled By (Print):	Jeff Steiner
PO#:	19-0422-00

UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

4678553

60 of 62

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## CHAIN OF CUSTODY

\*Presentation Codes

A=None	B=HCl	C=H2SO4	D=HNO3	E=Dl Water	F=Methanol	G=NaOH
H=Sodium Bisulfate Solution	I=Sodium Thiosulfate	J=Other				

FILTERED? (YES/NO)

PICK LETTER

Y/N

CODE\*

PRESCRIPTION

MAIL TO ADDRESS:

Mail To Company:

Jeff Steiner

Jeff Steiner

Jeff Steiner

Invoice To Address:

Barb Claire

Barb Claire

Barb Claire

Invoice To Phone:

414-967-1402

414-967-1402

414-967-1402

Analyses Requested

VOC RCRA Metals Ammonia PAH 2-Solids

CLIENT COMMENTS

(Lab Use Only)

Profile #

Matrix Codes

Air = Air  
Bio = Biota  
Charcoal = Charcoal  
Oil = Oil  
Soil = Soil  
Sludge = Sludge  
Water = Water  
Ground Water = Ground Water  
Surface Water = Surface Water  
Waste Water = Waste Water  
Wipe = Wipe

MS/MSD

On your sample  
(billable)  
EPA Level III  
EPA Level IV  
NOT needed on  
your sample

Received By:

Date/Time:

Relinquished By:

Date/Time:

Received By:

Date/Time:

Reinforced By:

Date/Time:

Received By:

Date/Time:

Reinforced By:

Date/Time:

Received By:

Date/Time:

Present / Not Present

Intact / Not Intact

COOLER CUSTODY SEAL

SAMPLE RECEIPT PH

OK / ADJUSTED

SPECIMEN HOLD

SPILL KIT

RECEIVED BY:

DATE/TIME:

RELEASER:

DATE/TIME:

REINFORCED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RELEASER:

DATE/TIME:



# BOTTLE ORDER # 27541

5/16/2013 10:01:47 AM

4078553  
**Pace Analytical Services, Inc.**  
 1241 Bellevue Street  
 Suite 9  
 Green Bay, WI 54302  
 (920) 469-2436

Contact: STEINER, JEFF	Ship To:	Return To:
Company: AYRES & ASSOCIATES, INC.	Contact: STEINER, JEFF	Contact:
Address: 1802 PANKRATZ STREET	Company: AYRES & ASSOCIATES, INC.	Lab Name: PACE - GB
City, St, Zip: MADISON , WI , 53704	Address: 1802 PANKRATZ STREET	Address: 1241 Bellevue Street
Phone: (608) 249-0471 Ext.	City, St, Zip: MADISON , WI , 53704	Suite 9
Initiator: Steve Mleczko PM: SM	Phone: (608) 249-0471 Ext.	City, St, Zip: Green Bay , WI , 54302
		Phone: (920) 469-2436 Ext.

Proj. Description: Waters - Sturgeon Bay

Quote Number: \_\_\_\_\_

Profile Number: \_\_\_\_\_

Needs Bottles by: 05/17/2011 - PM

Expected Date Ret: \_\_\_\_\_

Shipping Method: Most Economical

 Return Shipping Labels COC's Bottle Labels Bottles No Shipper # Blank # 2 Blank Boxed Cases With Shipper # Pre-Printed Pre-Printed - With Sample IDs Individually Wrapped Pre-Printed - No Sample IDs Grouped By Sample ID / Matrix**Misc** Sampling Instructions Coolers: Trip Blank Custody Seal Extra Bubble Wrap Short Hold / Rush Stickers Temp. Blanks 10 mL Cut-Off Syringes DI Water 0 Liter(s)

Qty	Total	Matrix	Method	BottleType	LotNumber	Note
5	5	Water	Ammonia / Ammonium	250mL plastic H <sub>2</sub> SO <sub>4</sub>		
5	19	Water	VOC by 8260B	3-40mL glass vial w/ HCl		
5	10	Water	PAH	2-100 ml amber unpreserved		
5	5	Water	Metals - RCRA 8	250mL plastic HNO <sub>3</sub>		Diss
1	2	Water	Trip Blank	2-40mL HCl w/custody seal		

**Notes:****Hazard Shipping Placard In Place :** YES

\*Sample receiving hours are Monday through Friday 8:00 am to 6:00 pm and Saturday from 9:00 am to 12:00 pm unless special arrangements are made with you project manager.

\*Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

\*Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage and disposal.

\*Payment term are net 30 days.

\*Please include the proposal number on the chain of custody to insure proper billing.

**Shipped Date:** 5/16/2013

**Shipped By:** Gary Schulke

**Verified By:**

*Pace Analytical*

Sample Condition Upon Receipt

Client Name: Ayres Assoc Project # 4078553

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Custody Seal on Samples Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used N/A Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 40° Corr: 38° Biological Tissue is Frozen:  yes

Temp Blank Present:  yes  no  no

Temp should be above freezing to 6°C for all sample except Biota.

Frozen Biota Samples should be received ≤ 0°C.

Comments: \_\_\_\_\_

Person examining contents:  
Date: 5-24-13  
Initials: SM

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time: - VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5. Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>No dry weight volume for 005, 007, 010, 012, 014 + 016, 5124/13</u>
Correct Containers Used: -Pace Containers Used: -Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9. <u>007, 010, 012, 014 + 016, 5124/13</u>
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>All samples matched by ID or partial ID. Only + collect Date. No Collect time info 5/24/13</u>
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> ≥ 2; NaOH+ZnAct ≥ 9, NaOH ≥ 12) exceptions: <u>VOA, coliform, TOC, TOX, TOH, O&amp;G, WIDROW, Phenolics,</u> OTHER: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed Lab Std #/ID of preservative Date/Time: _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted:

Date/Time:

Comments/ Resolution:

Client ID WGP 5 0-25 flippd Sept 5/24/13

Project Manager Review:

MAT for DM

Date: 5-24-13

**Appendix C**

**Laboratory Analytical Reports for Groundwater Samples**

Draft

June 07, 2013

Jeff Steiner  
AYRES & ASSOCIATES, INC.  
1802 Pankratz Street  
Madison, WI 537044069

RE: Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Dear Jeff Steiner:

Enclosed are the analytical results for sample(s) received by the laboratory on May 24, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Dan Milewsky

dan.milewsky@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

---

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334

New York Certification #: 11888  
North Dakota Certification #: R-150  
South Carolina Certification #: 83006001  
US Dept of Agriculture #: S-76505  
Wisconsin Certification #: 405132750

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

---

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4078556001	WMW-1	Water	05/23/13 17:35	05/24/13 15:10
4078556002	WMW-2	Water	05/23/13 17:10	05/24/13 15:10
4078556003	WMW-3	Water	05/23/13 18:40	05/24/13 15:10
4078556004	WMW-4	Water	05/23/13 18:20	05/24/13 15:10
4078556005	WMW-5	Water	05/23/13 18:00	05/24/13 15:10
4078556006	TRIP BLANK	Water	05/23/13 00:00	05/24/13 15:10

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## SAMPLE ANALYTE COUNT

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4078556001	WMW-1	EPA 6010	DLB	7	PASI-G
		EPA 7470	CMS	1	PASI-G
		EPA 8270 by HVI	RJN	20	PASI-G
		EPA 8260	HNW	64	PASI-G
		EPA 350.1	HMB	2	PASI-G
4078556002	WMW-2	EPA 6010	DLB	7	PASI-G
		EPA 7470	CMS	1	PASI-G
		EPA 8270 by HVI	RJN	20	PASI-G
		EPA 8260	HNW	64	PASI-G
		EPA 350.1	HMB	2	PASI-G
4078556003	WMW-3	EPA 6010	DLB	7	PASI-G
		EPA 7470	CMS	1	PASI-G
		EPA 8270 by HVI	RJN	20	PASI-G
		EPA 8260	HNW	64	PASI-G
		EPA 350.1	HMB	2	PASI-G
4078556004	WMW-4	EPA 6010	DLB	7	PASI-G
		EPA 7470	CMS	1	PASI-G
		EPA 8270 by HVI	RJN	20	PASI-G
		EPA 8260	HNW	64	PASI-G
		EPA 350.1	HMB	2	PASI-G
4078556005	WMW-5	EPA 6010	DLB	7	PASI-G
		EPA 7470	CMS	1	PASI-G
		EPA 8270 by HVI	RJN	20	PASI-G
		EPA 8260	HNW	64	PASI-G
		EPA 350.1	HMB	2	PASI-G
4078556006	TRIP BLANK	EPA 8260	HNW	64	PASI-G

## REPORT OF LABORATORY ANALYSIS

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**HITS ONLY**

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078556001</b>	<b>WMW-1</b>					
EPA 6010	Barium, Dissolved	172 ug/L		5.0	05/28/13 17:38	
EPA 8270 by HVI	1-Methylnaphthalene	1.8 ug/L		0.93	05/30/13 14:27	
EPA 8270 by HVI	2-Methylnaphthalene	2.6 ug/L		0.93	05/30/13 14:27	
EPA 8270 by HVI	Naphthalene	6.0 ug/L		0.93	05/30/13 14:27	
EPA 8260	Benzene	11.4 ug/L		1.0	06/04/13 22:34	
EPA 8260	n-Butylbenzene	10.4 ug/L		1.0	06/04/13 22:34	
EPA 8260	sec-Butylbenzene	2.8J ug/L		5.0	06/04/13 22:34	
EPA 8260	Ethylbenzene	69.7 ug/L		1.0	06/04/13 22:34	
EPA 8260	Isopropylbenzene (Cumene)	10.9 ug/L		1.0	06/04/13 22:34	
EPA 8260	p-Isopropyltoluene	2.0 ug/L		1.0	06/04/13 22:34	
EPA 8260	Naphthalene	12.6 ug/L		5.0	06/04/13 22:34	
EPA 8260	n-Propylbenzene	35.9 ug/L		1.0	06/04/13 22:34	
EPA 8260	Toluene	3.7 ug/L		1.0	06/04/13 22:34	
EPA 8260	1,2,4-Trimethylbenzene	53.5 ug/L		5.0	06/04/13 22:34	
EPA 8260	1,3,5-Trimethylbenzene	77.8 ug/L		5.0	06/04/13 22:34	
EPA 8260	m&p-Xylene	40.8 ug/L		2.0	06/04/13 22:34	
EPA 8260	o-Xylene	1.7 ug/L		1.0	06/04/13 22:34	
EPA 350.1	Nitrogen, Ammonium	3.6 mg/L		0.53	06/06/13 21:43	
EPA 350.1	Nitrogen, Ammonia	3.4 mg/L		0.50	06/06/13 21:43	
<b>4078556002</b>	<b>WMW-2</b>					
EPA 6010	Barium, Dissolved	167 ug/L		5.0	05/28/13 17:44	
EPA 6010	Lead, Dissolved	1.4J ug/L		7.5	05/28/13 17:44	B
EPA 8270 by HVI	Acenaphthene	0.63 ug/L		0.11	05/30/13 14:45	
EPA 8270 by HVI	Fluorene	0.019J ug/L		0.11	05/30/13 14:45	
EPA 8270 by HVI	1-Methylnaphthalene	0.048J ug/L		0.11	05/30/13 14:45	
EPA 8270 by HVI	2-Methylnaphthalene	0.051J ug/L		0.11	05/30/13 14:45	
EPA 8270 by HVI	Naphthalene	0.070J ug/L		0.11	05/30/13 14:45	
EPA 8270 by HVI	Phenanthrene	0.017J ug/L		0.11	05/30/13 14:45	B
EPA 8260	p-Isopropyltoluene	0.41J ug/L		1.0	06/04/13 22:56	
EPA 8260	Methyl-tert-butyl ether	0.87J ug/L		1.0	06/04/13 22:56	
EPA 350.1	Nitrogen, Ammonium	2.0 mg/L		0.53	06/06/13 21:48	
EPA 350.1	Nitrogen, Ammonia	1.9 mg/L		0.50	06/06/13 21:48	
<b>4078556003</b>	<b>WMW-3</b>					
EPA 6010	Arsenic, Dissolved	7.2J ug/L		20.0	05/28/13 17:47	
EPA 6010	Barium, Dissolved	281 ug/L		5.0	05/28/13 17:47	
EPA 6010	Cadmium, Dissolved	0.71J ug/L		5.0	05/28/13 17:47	
EPA 8270 by HVI	Acenaphthene	0.013J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Acenaphthylene	0.013J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Anthracene	0.014J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Benzo(a)anthracene	0.025J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Benzo(a)pyrene	0.025J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Benzo(b)fluoranthene	0.026J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.017J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Benzo(k)fluoranthene	0.023J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Chrysene	0.039J ug/L		0.052	05/30/13 15:03	
EPA 8270 by HVI	Fluoranthene	0.099 ug/L		0.052	05/30/13 15:03	

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Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078556003</b>	<b>WMW-3</b>					
EPA 8270 by HVI	Fluorene	0.020J	ug/L	0.052	05/30/13 15:03	
EPA 8270 by HVI	Indeno(1,2,3-cd)pyrene	0.013J	ug/L	0.052	05/30/13 15:03	
EPA 8270 by HVI	1-Methylnaphthalene	0.0071J	ug/L	0.052	05/30/13 15:03	
EPA 8270 by HVI	2-Methylnaphthalene	0.011J	ug/L	0.052	05/30/13 15:03	
EPA 8270 by HVI	Naphthalene	0.027J	ug/L	0.052	05/30/13 15:03	
EPA 8270 by HVI	Phenanthrene	0.095	ug/L	0.052	05/30/13 15:03	
EPA 8270 by HVI	Pyrene	0.091	ug/L	0.052	05/30/13 15:03	
EPA 8260	cis-1,2-Dichloroethene	0.52J	ug/L	1.0	06/04/13 23:19	
EPA 8260	Vinyl chloride	0.53J	ug/L	1.0	06/04/13 23:19	
EPA 350.1	Nitrogen, Ammonium	5.9	mg/L	0.53	06/06/13 21:53	
EPA 350.1	Nitrogen, Ammonia	5.6	mg/L	0.50	06/06/13 21:53	
<b>4078556004</b>	<b>WMW-4</b>					
EPA 6010	Barium, Dissolved	342	ug/L	5.0	05/28/13 17:49	
EPA 6010	Cadmium, Dissolved	0.48J	ug/L	5.0	05/28/13 17:49	
EPA 6010	Lead, Dissolved	2.4J	ug/L	7.5	05/28/13 17:49	B
EPA 8270 by HVI	Acenaphthene	0.0097J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Acenaphthylene	0.012J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Anthracene	0.020J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Benzo(a)anthracene	0.019J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Benzo(a)pyrene	0.023J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Benzo(b)fluoranthene	0.022J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.023J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Benzo(k)fluoranthene	0.011J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Chrysene	0.027J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Dibenz(a,h)anthracene	0.0073J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Fluoranthene	0.050	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Fluorene	0.018J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Indeno(1,2,3-cd)pyrene	0.014J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	1-Methylnaphthalene	0.037J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	2-Methylnaphthalene	0.037J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Naphthalene	0.029J	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Phenanthrene	0.061	ug/L	0.046	05/30/13 15:21	
EPA 8270 by HVI	Pyrene	0.081	ug/L	0.046	05/30/13 15:21	
EPA 8260	Methyl-tert-butyl ether	0.83J	ug/L	1.0	06/04/13 23:41	
EPA 350.1	Nitrogen, Ammonium	5.9	mg/L	0.53	06/06/13 21:54	
EPA 350.1	Nitrogen, Ammonia	5.6	mg/L	0.50	06/06/13 21:54	
<b>4078556005</b>	<b>WMW-5</b>					
EPA 6010	Barium, Dissolved	86.4	ug/L	5.0	05/28/13 17:51	
EPA 6010	Lead, Dissolved	1.2J	ug/L	7.5	05/28/13 17:51	B
EPA 8270 by HVI	Acenaphthene	0.025J	ug/L	0.047	05/30/13 15:39	
EPA 8270 by HVI	Anthracene	0.0082J	ug/L	0.047	05/30/13 15:39	
EPA 8270 by HVI	Chrysene	0.0072J	ug/L	0.047	05/30/13 15:39	
EPA 8270 by HVI	Fluoranthene	0.023J	ug/L	0.047	05/30/13 15:39	
EPA 8270 by HVI	Fluorene	0.012J	ug/L	0.047	05/30/13 15:39	
EPA 8270 by HVI	1-Methylnaphthalene	0.020J	ug/L	0.047	05/30/13 15:39	
EPA 8270 by HVI	2-Methylnaphthalene	0.030J	ug/L	0.047	05/30/13 15:39	

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Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>4078556005</b>	<b>WMW-5</b>					
EPA 8270 by HVI	Naphthalene	0.024J	ug/L	0.047	05/30/13 15:39	
EPA 8270 by HVI	Phenanthrene	0.024J	ug/L	0.047	05/30/13 15:39	B
EPA 8270 by HVI	Pyrene	0.022J	ug/L	0.047	05/30/13 15:39	
EPA 350.1	Nitrogen, Ammonium	4.4	mg/L	0.53	06/06/13 21:55	
EPA 350.1	Nitrogen, Ammonia	4.1	mg/L	0.50	06/06/13 21:55	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-1	Lab ID: 4078556001	Collected: 05/23/13 17:35	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP, Dissolved</b>	Analytical Method: EPA 6010								
Arsenic, Dissolved	<4.4 ug/L		20.0	4.4	1		05/28/13 17:38	7440-38-2	
Barium, Dissolved	172 ug/L		5.0	1.1	1		05/28/13 17:38	7440-39-3	
Cadmium, Dissolved	<0.38 ug/L		5.0	0.38	1		05/28/13 17:38	7440-43-9	
Chromium, Dissolved	<1.2 ug/L		5.0	1.2	1		05/28/13 17:38	7440-47-3	
Lead, Dissolved	<1.2 ug/L		7.5	1.2	1		05/28/13 17:38	7439-92-1	
Selenium, Dissolved	<6.6 ug/L		20.0	6.6	1		05/28/13 17:38	7782-49-2	
Silver, Dissolved	<1.4 ug/L		10.0	1.4	1		05/28/13 17:38	7440-22-4	
<b>7470 Mercury, Dissolved</b>	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	<0.10 ug/L		0.20	0.10	1	05/28/13 15:45	05/29/13 13:47	7439-97-6	
<b>8270 MSSV PAH by HVI</b>	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	<0.080 ug/L		0.93	0.080	20	05/29/13 12:00	05/30/13 14:27	83-32-9	
Acenaphthylene	<0.072 ug/L		0.93	0.072	20	05/29/13 12:00	05/30/13 14:27	208-96-8	
Anthracene	<0.10 ug/L		0.93	0.10	20	05/29/13 12:00	05/30/13 14:27	120-12-7	
Benzo(a)anthracene	<0.098 ug/L		0.93	0.098	20	05/29/13 12:00	05/30/13 14:27	56-55-3	
Benzo(a)pyrene	<0.10 ug/L		0.93	0.10	20	05/29/13 12:00	05/30/13 14:27	50-32-8	
Benzo(b)fluoranthene	<0.14 ug/L		0.93	0.14	20	05/29/13 12:00	05/30/13 14:27	205-99-2	
Benzo(g,h,i)perylene	<0.17 ug/L		0.93	0.17	20	05/29/13 12:00	05/30/13 14:27	191-24-2	
Benzo(k)fluoranthene	<0.21 ug/L		0.93	0.21	20	05/29/13 12:00	05/30/13 14:27	207-08-9	
Chrysene	<0.13 ug/L		0.93	0.13	20	05/29/13 12:00	05/30/13 14:27	218-01-9	
Dibenz(a,h)anthracene	<0.11 ug/L		0.93	0.11	20	05/29/13 12:00	05/30/13 14:27	53-70-3	
Fluoranthene	<0.11 ug/L		0.93	0.11	20	05/29/13 12:00	05/30/13 14:27	206-44-0	
Fluorene	<0.080 ug/L		0.93	0.080	20	05/29/13 12:00	05/30/13 14:27	86-73-7	
Indeno(1,2,3-cd)pyrene	<0.12 ug/L		0.93	0.12	20	05/29/13 12:00	05/30/13 14:27	193-39-5	
1-Methylnaphthalene	1.8 ug/L		0.93	0.074	20	05/29/13 12:00	05/30/13 14:27	90-12-0	
2-Methylnaphthalene	2.6 ug/L		0.93	0.13	20	05/29/13 12:00	05/30/13 14:27	91-57-6	
Naphthalene	6.0 ug/L		0.93	0.069	20	05/29/13 12:00	05/30/13 14:27	91-20-3	
Phenanthrene	<0.080 ug/L		0.93	0.080	20	05/29/13 12:00	05/30/13 14:27	85-01-8	
Pyrene	<0.11 ug/L		0.93	0.11	20	05/29/13 12:00	05/30/13 14:27	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	47 %	39-130			20	05/29/13 12:00	05/30/13 14:27	321-60-8	
Terphenyl-d14 (S)	80 %	73-155			20	05/29/13 12:00	05/30/13 14:27	1718-51-0	
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	11.4 ug/L		1.0	0.50	1		06/04/13 22:34	71-43-2	
Bromobenzene	<0.48 ug/L		1.0	0.48	1		06/04/13 22:34	108-86-1	
Bromochloromethane	<0.49 ug/L		1.0	0.49	1		06/04/13 22:34	74-97-5	
Bromodichloromethane	<0.45 ug/L		1.0	0.45	1		06/04/13 22:34	75-27-4	
Bromoform	<0.23 ug/L		20.0	0.23	1		06/04/13 22:34	75-25-2	
Bromomethane	<0.43 ug/L		5.0	0.43	1		06/04/13 22:34	74-83-9	
n-Butylbenzene	10.4 ug/L		1.0	0.40	1		06/04/13 22:34	104-51-8	
sec-Butylbenzene	2.8J ug/L		5.0	0.60	1		06/04/13 22:34	135-98-8	
tert-Butylbenzene	<0.42 ug/L		1.0	0.42	1		06/04/13 22:34	98-06-6	
Carbon tetrachloride	<0.37 ug/L		1.0	0.37	1		06/04/13 22:34	56-23-5	
Chlorobenzene	<0.36 ug/L		1.0	0.36	1		06/04/13 22:34	108-90-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-1	Lab ID: 4078556001	Collected: 05/23/13 17:35	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Chloroethane	<0.44 ug/L		1.0	0.44	1		06/04/13 22:34	75-00-3	
Chloroform	<0.69 ug/L		5.0	0.69	1		06/04/13 22:34	67-66-3	
Chloromethane	<0.39 ug/L		1.0	0.39	1		06/04/13 22:34	74-87-3	
2-Chlorotoluene	<0.48 ug/L		1.0	0.48	1		06/04/13 22:34	95-49-8	
4-Chlorotoluene	<0.48 ug/L		1.0	0.48	1		06/04/13 22:34	106-43-4	
1,2-Dibromo-3-chloropropane	<1.5 ug/L		5.0	1.5	1		06/04/13 22:34	96-12-8	
Dibromochloromethane	<1.9 ug/L		5.0	1.9	1		06/04/13 22:34	124-48-1	
1,2-Dibromoethane (EDB)	<0.38 ug/L		1.0	0.38	1		06/04/13 22:34	106-93-4	
Dibromomethane	<0.48 ug/L		1.0	0.48	1		06/04/13 22:34	74-95-3	
1,2-Dichlorobenzene	<0.44 ug/L		1.0	0.44	1		06/04/13 22:34	95-50-1	
1,3-Dichlorobenzene	<0.45 ug/L		1.0	0.45	1		06/04/13 22:34	541-73-1	
1,4-Dichlorobenzene	<0.43 ug/L		1.0	0.43	1		06/04/13 22:34	106-46-7	
Dichlorodifluoromethane	<0.40 ug/L		1.0	0.40	1		06/04/13 22:34	75-71-8	
1,1-Dichloroethane	<0.28 ug/L		1.0	0.28	1		06/04/13 22:34	75-34-3	
1,2-Dichloroethane	<0.48 ug/L		1.0	0.48	1		06/04/13 22:34	107-06-2	
1,1-Dichloroethene	<0.43 ug/L		1.0	0.43	1		06/04/13 22:34	75-35-4	
cis-1,2-Dichloroethene	<0.42 ug/L		1.0	0.42	1		06/04/13 22:34	156-59-2	
trans-1,2-Dichloroethene	<0.37 ug/L		1.0	0.37	1		06/04/13 22:34	156-60-5	
1,2-Dichloropropane	<0.50 ug/L		1.0	0.50	1		06/04/13 22:34	78-87-5	
1,3-Dichloropropane	<0.46 ug/L		1.0	0.46	1		06/04/13 22:34	142-28-9	
2,2-Dichloropropane	<0.37 ug/L		1.0	0.37	1		06/04/13 22:34	594-20-7	
1,1-Dichloropropene	<0.51 ug/L		1.0	0.51	1		06/04/13 22:34	563-58-6	
cis-1,3-Dichloropropene	<0.29 ug/L		20.0	0.29	1		06/04/13 22:34	10061-01-5	
trans-1,3-Dichloropropene	<0.26 ug/L		20.0	0.26	1		06/04/13 22:34	10061-02-6	
Diisopropyl ether	<0.50 ug/L		1.0	0.50	1		06/04/13 22:34	108-20-3	
Ethylbenzene	69.7 ug/L		1.0	0.50	1		06/04/13 22:34	100-41-4	
Hexachloro-1,3-butadiene	<1.3 ug/L		5.0	1.3	1		06/04/13 22:34	87-68-3	
Isopropylbenzene (Cumene)	10.9 ug/L		1.0	0.34	1		06/04/13 22:34	98-82-8	
p-Isopropyltoluene	2.0 ug/L		1.0	0.40	1		06/04/13 22:34	99-87-6	
Methylene Chloride	<0.36 ug/L		1.0	0.36	1		06/04/13 22:34	75-09-2	
Methyl-tert-butyl ether	<0.49 ug/L		1.0	0.49	1		06/04/13 22:34	1634-04-4	
Naphthalene	12.6 ug/L		5.0	2.5	1		06/04/13 22:34	91-20-3	
n-Propylbenzene	35.9 ug/L		1.0	0.50	1		06/04/13 22:34	103-65-1	
Styrene	<0.35 ug/L		1.0	0.35	1		06/04/13 22:34	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45 ug/L		1.0	0.45	1		06/04/13 22:34	630-20-6	
1,1,2,2-Tetrachloroethane	<0.38 ug/L		1.0	0.38	1		06/04/13 22:34	79-34-5	
Tetrachloroethene	<0.47 ug/L		1.0	0.47	1		06/04/13 22:34	127-18-4	
Toluene	3.7 ug/L		1.0	0.44	1		06/04/13 22:34	108-88-3	
1,2,3-Trichlorobenzene	<0.77 ug/L		5.0	0.77	1		06/04/13 22:34	87-61-6	
1,2,4-Trichlorobenzene	<2.5 ug/L		5.0	2.5	1		06/04/13 22:34	120-82-1	
1,1,1-Trichloroethane	<0.44 ug/L		1.0	0.44	1		06/04/13 22:34	71-55-6	
1,1,2-Trichloroethane	<0.39 ug/L		1.0	0.39	1		06/04/13 22:34	79-00-5	
Trichloroethene	<0.43 ug/L		1.0	0.43	1		06/04/13 22:34	79-01-6	
Trichlorofluoromethane	<0.48 ug/L		1.0	0.48	1		06/04/13 22:34	75-69-4	L3
1,2,3-Trichloropropane	<0.47 ug/L		1.0	0.47	1		06/04/13 22:34	96-18-4	
1,2,4-Trimethylbenzene	53.5 ug/L		5.0	0.57	1		06/04/13 22:34	95-63-6	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Sample: WMW-1	Lab ID: 4078556001	Collected: 05/23/13 17:35	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,3,5-Trimethylbenzene	77.8 ug/L		5.0	2.5	1		06/04/13 22:34	108-67-8	
Vinyl chloride	<0.18 ug/L		1.0	0.18	1		06/04/13 22:34	75-01-4	
m&p-Xylene	40.8 ug/L		2.0	0.82	1		06/04/13 22:34	179601-23-1	
o-Xylene	1.7 ug/L		1.0	0.50	1		06/04/13 22:34	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97 %		43-137		1		06/04/13 22:34	460-00-4	
Dibromofluoromethane (S)	94 %		70-130		1		06/04/13 22:34	1868-53-7	
Toluene-d8 (S)	95 %		55-137		1		06/04/13 22:34	2037-26-5	
<b>350.1 Ammonia, Distilled</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonium	3.6 mg/L		0.53	0.26	1	06/06/13 19:54	06/06/13 21:43		
Nitrogen, Ammonia	3.4 mg/L		0.50	0.25	1	06/06/13 19:54	06/06/13 21:43	7664-41-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-2	Lab ID: 4078556002	Collected: 05/23/13 17:10	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP, Dissolved</b>	Analytical Method: EPA 6010								
Arsenic, Dissolved	<4.4 ug/L		20.0	4.4	1		05/28/13 17:44	7440-38-2	
Barium, Dissolved	167 ug/L		5.0	1.1	1		05/28/13 17:44	7440-39-3	
Cadmium, Dissolved	<0.38 ug/L		5.0	0.38	1		05/28/13 17:44	7440-43-9	
Chromium, Dissolved	<1.2 ug/L		5.0	1.2	1		05/28/13 17:44	7440-47-3	
Lead, Dissolved	1.4J ug/L		7.5	1.2	1		05/28/13 17:44	7439-92-1	B
Selenium, Dissolved	<6.6 ug/L		20.0	6.6	1		05/28/13 17:44	7782-49-2	
Silver, Dissolved	<1.4 ug/L		10.0	1.4	1		05/28/13 17:44	7440-22-4	
<b>7470 Mercury, Dissolved</b>	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	<0.10 ug/L		0.20	0.10	1	05/28/13 15:45	05/29/13 13:49	7439-97-6	
<b>8270 MSSV PAH by HVI</b>	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	0.63 ug/L		0.11	0.0093	2	05/29/13 12:00	05/30/13 14:45	83-32-9	
Acenaphthylene	<0.0085 ug/L		0.11	0.0085	2	05/29/13 12:00	05/30/13 14:45	208-96-8	
Anthracene	<0.012 ug/L		0.11	0.012	2	05/29/13 12:00	05/30/13 14:45	120-12-7	
Benzo(a)anthracene	<0.012 ug/L		0.11	0.012	2	05/29/13 12:00	05/30/13 14:45	56-55-3	
Benzo(a)pyrene	<0.012 ug/L		0.11	0.012	2	05/29/13 12:00	05/30/13 14:45	50-32-8	
Benzo(b)fluoranthene	<0.016 ug/L		0.11	0.016	2	05/29/13 12:00	05/30/13 14:45	205-99-2	
Benzo(g,h,i)perylene	<0.020 ug/L		0.11	0.020	2	05/29/13 12:00	05/30/13 14:45	191-24-2	
Benzo(k)fluoranthene	<0.025 ug/L		0.11	0.025	2	05/29/13 12:00	05/30/13 14:45	207-08-9	
Chrysene	<0.015 ug/L		0.11	0.015	2	05/29/13 12:00	05/30/13 14:45	218-01-9	
Dibenz(a,h)anthracene	<0.013 ug/L		0.11	0.013	2	05/29/13 12:00	05/30/13 14:45	53-70-3	
Fluoranthene	<0.013 ug/L		0.11	0.013	2	05/29/13 12:00	05/30/13 14:45	206-44-0	
Fluorene	0.019J ug/L		0.11	0.0093	2	05/29/13 12:00	05/30/13 14:45	86-73-7	
Indeno(1,2,3-cd)pyrene	<0.014 ug/L		0.11	0.014	2	05/29/13 12:00	05/30/13 14:45	193-39-5	
1-Methylnaphthalene	0.048J ug/L		0.11	0.0087	2	05/29/13 12:00	05/30/13 14:45	90-12-0	
2-Methylnaphthalene	0.051J ug/L		0.11	0.015	2	05/29/13 12:00	05/30/13 14:45	91-57-6	
Naphthalene	0.070J ug/L		0.11	0.0080	2	05/29/13 12:00	05/30/13 14:45	91-20-3	
Phenanthrene	0.017J ug/L		0.11	0.0093	2	05/29/13 12:00	05/30/13 14:45	85-01-8	B
Pyrene	<0.013 ug/L		0.11	0.013	2	05/29/13 12:00	05/30/13 14:45	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	52 %	39-130			2	05/29/13 12:00	05/30/13 14:45	321-60-8	
Terphenyl-d14 (S)	91 %	73-155			2	05/29/13 12:00	05/30/13 14:45	1718-51-0	
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<0.50 ug/L		1.0	0.50	1		06/04/13 22:56	71-43-2	
Bromobenzene	<0.48 ug/L		1.0	0.48	1		06/04/13 22:56	108-86-1	
Bromochloromethane	<0.49 ug/L		1.0	0.49	1		06/04/13 22:56	74-97-5	
Bromodichloromethane	<0.45 ug/L		1.0	0.45	1		06/04/13 22:56	75-27-4	
Bromoform	<0.23 ug/L		20.0	0.23	1		06/04/13 22:56	75-25-2	
Bromomethane	<0.43 ug/L		5.0	0.43	1		06/04/13 22:56	74-83-9	
n-Butylbenzene	<0.40 ug/L		1.0	0.40	1		06/04/13 22:56	104-51-8	
sec-Butylbenzene	<0.60 ug/L		5.0	0.60	1		06/04/13 22:56	135-98-8	
tert-Butylbenzene	<0.42 ug/L		1.0	0.42	1		06/04/13 22:56	98-06-6	
Carbon tetrachloride	<0.37 ug/L		1.0	0.37	1		06/04/13 22:56	56-23-5	
Chlorobenzene	<0.36 ug/L		1.0	0.36	1		06/04/13 22:56	108-90-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-2	Lab ID: 4078556002	Collected: 05/23/13 17:10	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Chloroethane	<0.44 ug/L	1.0	0.44	1			06/04/13 22:56	75-00-3	
Chloroform	<0.69 ug/L	5.0	0.69	1			06/04/13 22:56	67-66-3	
Chloromethane	<0.39 ug/L	1.0	0.39	1			06/04/13 22:56	74-87-3	
2-Chlorotoluene	<0.48 ug/L	1.0	0.48	1			06/04/13 22:56	95-49-8	
4-Chlorotoluene	<0.48 ug/L	1.0	0.48	1			06/04/13 22:56	106-43-4	
1,2-Dibromo-3-chloropropane	<1.5 ug/L	5.0	1.5	1			06/04/13 22:56	96-12-8	
Dibromochloromethane	<1.9 ug/L	5.0	1.9	1			06/04/13 22:56	124-48-1	
1,2-Dibromoethane (EDB)	<0.38 ug/L	1.0	0.38	1			06/04/13 22:56	106-93-4	
Dibromomethane	<0.48 ug/L	1.0	0.48	1			06/04/13 22:56	74-95-3	
1,2-Dichlorobenzene	<0.44 ug/L	1.0	0.44	1			06/04/13 22:56	95-50-1	
1,3-Dichlorobenzene	<0.45 ug/L	1.0	0.45	1			06/04/13 22:56	541-73-1	
1,4-Dichlorobenzene	<0.43 ug/L	1.0	0.43	1			06/04/13 22:56	106-46-7	
Dichlorodifluoromethane	<0.40 ug/L	1.0	0.40	1			06/04/13 22:56	75-71-8	
1,1-Dichloroethane	<0.28 ug/L	1.0	0.28	1			06/04/13 22:56	75-34-3	
1,2-Dichloroethane	<0.48 ug/L	1.0	0.48	1			06/04/13 22:56	107-06-2	
1,1-Dichloroethene	<0.43 ug/L	1.0	0.43	1			06/04/13 22:56	75-35-4	
cis-1,2-Dichloroethene	<0.42 ug/L	1.0	0.42	1			06/04/13 22:56	156-59-2	
trans-1,2-Dichloroethene	<0.37 ug/L	1.0	0.37	1			06/04/13 22:56	156-60-5	
1,2-Dichloropropane	<0.50 ug/L	1.0	0.50	1			06/04/13 22:56	78-87-5	
1,3-Dichloropropane	<0.46 ug/L	1.0	0.46	1			06/04/13 22:56	142-28-9	
2,2-Dichloropropane	<0.37 ug/L	1.0	0.37	1			06/04/13 22:56	594-20-7	
1,1-Dichloropropene	<0.51 ug/L	1.0	0.51	1			06/04/13 22:56	563-58-6	
cis-1,3-Dichloropropene	<0.29 ug/L	20.0	0.29	1			06/04/13 22:56	10061-01-5	
trans-1,3-Dichloropropene	<0.26 ug/L	20.0	0.26	1			06/04/13 22:56	10061-02-6	
Diisopropyl ether	<0.50 ug/L	1.0	0.50	1			06/04/13 22:56	108-20-3	
Ethylbenzene	<0.50 ug/L	1.0	0.50	1			06/04/13 22:56	100-41-4	
Hexachloro-1,3-butadiene	<1.3 ug/L	5.0	1.3	1			06/04/13 22:56	87-68-3	
Isopropylbenzene (Cumene)	<0.34 ug/L	1.0	0.34	1			06/04/13 22:56	98-82-8	
p-Isopropyltoluene	0.41J ug/L	1.0	0.40	1			06/04/13 22:56	99-87-6	
Methylene Chloride	<0.36 ug/L	1.0	0.36	1			06/04/13 22:56	75-09-2	
Methyl-tert-butyl ether	0.87J ug/L	1.0	0.49	1			06/04/13 22:56	1634-04-4	
Naphthalene	<2.5 ug/L	5.0	2.5	1			06/04/13 22:56	91-20-3	
n-Propylbenzene	<0.50 ug/L	1.0	0.50	1			06/04/13 22:56	103-65-1	
Styrene	<0.35 ug/L	1.0	0.35	1			06/04/13 22:56	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45 ug/L	1.0	0.45	1			06/04/13 22:56	630-20-6	
1,1,2,2-Tetrachloroethane	<0.38 ug/L	1.0	0.38	1			06/04/13 22:56	79-34-5	
Tetrachloroethene	<0.47 ug/L	1.0	0.47	1			06/04/13 22:56	127-18-4	
Toluene	<0.44 ug/L	1.0	0.44	1			06/04/13 22:56	108-88-3	
1,2,3-Trichlorobenzene	<0.77 ug/L	5.0	0.77	1			06/04/13 22:56	87-61-6	
1,2,4-Trichlorobenzene	<2.5 ug/L	5.0	2.5	1			06/04/13 22:56	120-82-1	
1,1,1-Trichloroethane	<0.44 ug/L	1.0	0.44	1			06/04/13 22:56	71-55-6	
1,1,2-Trichloroethane	<0.39 ug/L	1.0	0.39	1			06/04/13 22:56	79-00-5	
Trichloroethene	<0.43 ug/L	1.0	0.43	1			06/04/13 22:56	79-01-6	
Trichlorofluoromethane	<0.48 ug/L	1.0	0.48	1			06/04/13 22:56	75-69-4	L3
1,2,3-Trichloropropane	<0.47 ug/L	1.0	0.47	1			06/04/13 22:56	96-18-4	
1,2,4-Trimethylbenzene	<0.57 ug/L	5.0	0.57	1			06/04/13 22:56	95-63-6	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Sample: WMW-2	Lab ID: 4078556002	Collected: 05/23/13 17:10	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,3,5-Trimethylbenzene	<2.5 ug/L		5.0	2.5	1		06/04/13 22:56	108-67-8	
Vinyl chloride	<0.18 ug/L		1.0	0.18	1		06/04/13 22:56	75-01-4	
m&p-Xylene	<0.82 ug/L		2.0	0.82	1		06/04/13 22:56	179601-23-1	
o-Xylene	<0.50 ug/L		1.0	0.50	1		06/04/13 22:56	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	89 %		43-137		1		06/04/13 22:56	460-00-4	
Dibromofluoromethane (S)	97 %		70-130		1		06/04/13 22:56	1868-53-7	
Toluene-d8 (S)	94 %		55-137		1		06/04/13 22:56	2037-26-5	
<b>350.1 Ammonia, Distilled</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonium	2.0 mg/L		0.53	0.26	1	06/06/13 19:56	06/06/13 21:48		
Nitrogen, Ammonia	1.9 mg/L		0.50	0.25	1	06/06/13 19:56	06/06/13 21:48	7664-41-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-3	Lab ID: 4078556003	Collected: 05/23/13 18:40	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP, Dissolved</b>	Analytical Method: EPA 6010								
Arsenic, Dissolved	<b>7.2J</b> ug/L		20.0	4.4	1		05/28/13 17:47	7440-38-2	
Barium, Dissolved	<b>281</b> ug/L		5.0	1.1	1		05/28/13 17:47	7440-39-3	
Cadmium, Dissolved	<b>0.71J</b> ug/L		5.0	0.38	1		05/28/13 17:47	7440-43-9	
Chromium, Dissolved	<b>&lt;1.2</b> ug/L		5.0	1.2	1		05/28/13 17:47	7440-47-3	
Lead, Dissolved	<b>&lt;1.2</b> ug/L		7.5	1.2	1		05/28/13 17:47	7439-92-1	
Selenium, Dissolved	<b>&lt;6.6</b> ug/L		20.0	6.6	1		05/28/13 17:47	7782-49-2	
Silver, Dissolved	<b>&lt;1.4</b> ug/L		10.0	1.4	1		05/28/13 17:47	7440-22-4	
<b>7470 Mercury, Dissolved</b>	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	<b>&lt;0.10</b> ug/L		0.20	0.10	1	05/28/13 15:45	05/29/13 13:51	7439-97-6	
<b>8270 MSSV PAH by HVI</b>	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	<b>0.013J</b> ug/L		0.052	0.0045	1	05/29/13 12:00	05/30/13 15:03	83-32-9	
Acenaphthylene	<b>0.013J</b> ug/L		0.052	0.0041	1	05/29/13 12:00	05/30/13 15:03	208-96-8	
Anthracene	<b>0.014J</b> ug/L		0.052	0.0056	1	05/29/13 12:00	05/30/13 15:03	120-12-7	
Benzo(a)anthracene	<b>0.025J</b> ug/L		0.052	0.0055	1	05/29/13 12:00	05/30/13 15:03	56-55-3	
Benzo(a)pyrene	<b>0.025J</b> ug/L		0.052	0.0057	1	05/29/13 12:00	05/30/13 15:03	50-32-8	
Benzo(b)fluoranthene	<b>0.026J</b> ug/L		0.052	0.0078	1	05/29/13 12:00	05/30/13 15:03	205-99-2	
Benzo(g,h,i)perylene	<b>0.017J</b> ug/L		0.052	0.0094	1	05/29/13 12:00	05/30/13 15:03	191-24-2	
Benzo(k)fluoranthene	<b>0.023J</b> ug/L		0.052	0.012	1	05/29/13 12:00	05/30/13 15:03	207-08-9	
Chrysene	<b>0.039J</b> ug/L		0.052	0.0072	1	05/29/13 12:00	05/30/13 15:03	218-01-9	
Dibenz(a,h)anthracene	<b>&lt;0.0064</b> ug/L		0.052	0.0064	1	05/29/13 12:00	05/30/13 15:03	53-70-3	
Fluoranthene	<b>0.099</b> ug/L		0.052	0.0060	1	05/29/13 12:00	05/30/13 15:03	206-44-0	
Fluorene	<b>0.020J</b> ug/L		0.052	0.0045	1	05/29/13 12:00	05/30/13 15:03	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>0.013J</b> ug/L		0.052	0.0068	1	05/29/13 12:00	05/30/13 15:03	193-39-5	
1-Methylnaphthalene	<b>0.0071J</b> ug/L		0.052	0.0042	1	05/29/13 12:00	05/30/13 15:03	90-12-0	
2-Methylnaphthalene	<b>0.011J</b> ug/L		0.052	0.0071	1	05/29/13 12:00	05/30/13 15:03	91-57-6	
Naphthalene	<b>0.027J</b> ug/L		0.052	0.0039	1	05/29/13 12:00	05/30/13 15:03	91-20-3	
Phenanthrene	<b>0.095</b> ug/L		0.052	0.0045	1	05/29/13 12:00	05/30/13 15:03	85-01-8	
Pyrene	<b>0.091</b> ug/L		0.052	0.0061	1	05/29/13 12:00	05/30/13 15:03	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	59 %	39-130			1	05/29/13 12:00	05/30/13 15:03	321-60-8	
Terphenyl-d14 (S)	86 %	73-155			1	05/29/13 12:00	05/30/13 15:03	1718-51-0	
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<b>&lt;0.50</b> ug/L		1.0	0.50	1		06/04/13 23:19	71-43-2	
Bromobenzene	<b>&lt;0.48</b> ug/L		1.0	0.48	1		06/04/13 23:19	108-86-1	
Bromochloromethane	<b>&lt;0.49</b> ug/L		1.0	0.49	1		06/04/13 23:19	74-97-5	
Bromodichloromethane	<b>&lt;0.45</b> ug/L		1.0	0.45	1		06/04/13 23:19	75-27-4	
Bromoform	<b>&lt;0.23</b> ug/L		20.0	0.23	1		06/04/13 23:19	75-25-2	
Bromomethane	<b>&lt;0.43</b> ug/L		5.0	0.43	1		06/04/13 23:19	74-83-9	
n-Butylbenzene	<b>&lt;0.40</b> ug/L		1.0	0.40	1		06/04/13 23:19	104-51-8	
sec-Butylbenzene	<b>&lt;0.60</b> ug/L		5.0	0.60	1		06/04/13 23:19	135-98-8	
tert-Butylbenzene	<b>&lt;0.42</b> ug/L		1.0	0.42	1		06/04/13 23:19	98-06-6	
Carbon tetrachloride	<b>&lt;0.37</b> ug/L		1.0	0.37	1		06/04/13 23:19	56-23-5	
Chlorobenzene	<b>&lt;0.36</b> ug/L		1.0	0.36	1		06/04/13 23:19	108-90-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-3	Lab ID: 4078556003	Collected: 05/23/13 18:40	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Chloroethane	<0.44 ug/L	1.0	0.44	1			06/04/13 23:19	75-00-3	
Chloroform	<0.69 ug/L	5.0	0.69	1			06/04/13 23:19	67-66-3	
Chloromethane	<0.39 ug/L	1.0	0.39	1			06/04/13 23:19	74-87-3	
2-Chlorotoluene	<0.48 ug/L	1.0	0.48	1			06/04/13 23:19	95-49-8	
4-Chlorotoluene	<0.48 ug/L	1.0	0.48	1			06/04/13 23:19	106-43-4	
1,2-Dibromo-3-chloropropane	<1.5 ug/L	5.0	1.5	1			06/04/13 23:19	96-12-8	
Dibromochloromethane	<1.9 ug/L	5.0	1.9	1			06/04/13 23:19	124-48-1	
1,2-Dibromoethane (EDB)	<0.38 ug/L	1.0	0.38	1			06/04/13 23:19	106-93-4	
Dibromomethane	<0.48 ug/L	1.0	0.48	1			06/04/13 23:19	74-95-3	
1,2-Dichlorobenzene	<0.44 ug/L	1.0	0.44	1			06/04/13 23:19	95-50-1	
1,3-Dichlorobenzene	<0.45 ug/L	1.0	0.45	1			06/04/13 23:19	541-73-1	
1,4-Dichlorobenzene	<0.43 ug/L	1.0	0.43	1			06/04/13 23:19	106-46-7	
Dichlorodifluoromethane	<0.40 ug/L	1.0	0.40	1			06/04/13 23:19	75-71-8	
1,1-Dichloroethane	<0.28 ug/L	1.0	0.28	1			06/04/13 23:19	75-34-3	
1,2-Dichloroethane	<0.48 ug/L	1.0	0.48	1			06/04/13 23:19	107-06-2	
1,1-Dichloroethene	<0.43 ug/L	1.0	0.43	1			06/04/13 23:19	75-35-4	
cis-1,2-Dichloroethene	0.52J ug/L	1.0	0.42	1			06/04/13 23:19	156-59-2	
trans-1,2-Dichloroethene	<0.37 ug/L	1.0	0.37	1			06/04/13 23:19	156-60-5	
1,2-Dichloropropane	<0.50 ug/L	1.0	0.50	1			06/04/13 23:19	78-87-5	
1,3-Dichloropropane	<0.46 ug/L	1.0	0.46	1			06/04/13 23:19	142-28-9	
2,2-Dichloropropane	<0.37 ug/L	1.0	0.37	1			06/04/13 23:19	594-20-7	
1,1-Dichloropropene	<0.51 ug/L	1.0	0.51	1			06/04/13 23:19	563-58-6	
cis-1,3-Dichloropropene	<0.29 ug/L	20.0	0.29	1			06/04/13 23:19	10061-01-5	
trans-1,3-Dichloropropene	<0.26 ug/L	20.0	0.26	1			06/04/13 23:19	10061-02-6	
Diisopropyl ether	<0.50 ug/L	1.0	0.50	1			06/04/13 23:19	108-20-3	
Ethylbenzene	<0.50 ug/L	1.0	0.50	1			06/04/13 23:19	100-41-4	
Hexachloro-1,3-butadiene	<1.3 ug/L	5.0	1.3	1			06/04/13 23:19	87-68-3	
Isopropylbenzene (Cumene)	<0.34 ug/L	1.0	0.34	1			06/04/13 23:19	98-82-8	
p-Isopropyltoluene	<0.40 ug/L	1.0	0.40	1			06/04/13 23:19	99-87-6	
Methylene Chloride	<0.36 ug/L	1.0	0.36	1			06/04/13 23:19	75-09-2	
Methyl-tert-butyl ether	<0.49 ug/L	1.0	0.49	1			06/04/13 23:19	1634-04-4	
Naphthalene	<2.5 ug/L	5.0	2.5	1			06/04/13 23:19	91-20-3	
n-Propylbenzene	<0.50 ug/L	1.0	0.50	1			06/04/13 23:19	103-65-1	
Styrene	<0.35 ug/L	1.0	0.35	1			06/04/13 23:19	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45 ug/L	1.0	0.45	1			06/04/13 23:19	630-20-6	
1,1,2,2-Tetrachloroethane	<0.38 ug/L	1.0	0.38	1			06/04/13 23:19	79-34-5	
Tetrachloroethene	<0.47 ug/L	1.0	0.47	1			06/04/13 23:19	127-18-4	
Toluene	<0.44 ug/L	1.0	0.44	1			06/04/13 23:19	108-88-3	
1,2,3-Trichlorobenzene	<0.77 ug/L	5.0	0.77	1			06/04/13 23:19	87-61-6	
1,2,4-Trichlorobenzene	<2.5 ug/L	5.0	2.5	1			06/04/13 23:19	120-82-1	
1,1,1-Trichloroethane	<0.44 ug/L	1.0	0.44	1			06/04/13 23:19	71-55-6	
1,1,2-Trichloroethane	<0.39 ug/L	1.0	0.39	1			06/04/13 23:19	79-00-5	
Trichloroethene	<0.43 ug/L	1.0	0.43	1			06/04/13 23:19	79-01-6	
Trichlorofluoromethane	<0.48 ug/L	1.0	0.48	1			06/04/13 23:19	75-69-4	L3
1,2,3-Trichloropropane	<0.47 ug/L	1.0	0.47	1			06/04/13 23:19	96-18-4	
1,2,4-Trimethylbenzene	<0.57 ug/L	5.0	0.57	1			06/04/13 23:19	95-63-6	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Sample: WMW-3	Lab ID: 4078556003	Collected: 05/23/13 18:40	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,3,5-Trimethylbenzene	<2.5 ug/L		5.0	2.5	1		06/04/13 23:19	108-67-8	
Vinyl chloride	0.53J ug/L		1.0	0.18	1		06/04/13 23:19	75-01-4	
m&p-Xylene	<0.82 ug/L		2.0	0.82	1		06/04/13 23:19	179601-23-1	
o-Xylene	<0.50 ug/L		1.0	0.50	1		06/04/13 23:19	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	87 %		43-137		1		06/04/13 23:19	460-00-4	
Dibromofluoromethane (S)	99 %		70-130		1		06/04/13 23:19	1868-53-7	
Toluene-d8 (S)	93 %		55-137		1		06/04/13 23:19	2037-26-5	
<b>350.1 Ammonia, Distilled</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonium	5.9 mg/L		0.53	0.26	1	06/06/13 19:56	06/06/13 21:53		
Nitrogen, Ammonia	5.6 mg/L		0.50	0.25	1	06/06/13 19:56	06/06/13 21:53	7664-41-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-4	Lab ID: 4078556004	Collected: 05/23/13 18:20	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP, Dissolved</b>	Analytical Method: EPA 6010								
Arsenic, Dissolved	<4.4 ug/L		20.0	4.4	1		05/28/13 17:49	7440-38-2	
Barium, Dissolved	342 ug/L		5.0	1.1	1		05/28/13 17:49	7440-39-3	
Cadmium, Dissolved	0.48J ug/L		5.0	0.38	1		05/28/13 17:49	7440-43-9	
Chromium, Dissolved	<1.2 ug/L		5.0	1.2	1		05/28/13 17:49	7440-47-3	
Lead, Dissolved	2.4J ug/L		7.5	1.2	1		05/28/13 17:49	7439-92-1	B
Selenium, Dissolved	<6.6 ug/L		20.0	6.6	1		05/28/13 17:49	7782-49-2	
Silver, Dissolved	<1.4 ug/L		10.0	1.4	1		05/28/13 17:49	7440-22-4	
<b>7470 Mercury, Dissolved</b>	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	<0.10 ug/L		0.20	0.10	1	05/28/13 15:45	05/29/13 13:53	7439-97-6	
<b>8270 MSSV PAH by HVI</b>	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	0.0097J ug/L		0.046	0.0039	1	05/29/13 12:00	05/30/13 15:21	83-32-9	
Acenaphthylene	0.012J ug/L		0.046	0.0036	1	05/29/13 12:00	05/30/13 15:21	208-96-8	
Anthracene	0.020J ug/L		0.046	0.0050	1	05/29/13 12:00	05/30/13 15:21	120-12-7	
Benzo(a)anthracene	0.019J ug/L		0.046	0.0049	1	05/29/13 12:00	05/30/13 15:21	56-55-3	
Benzo(a)pyrene	0.023J ug/L		0.046	0.0050	1	05/29/13 12:00	05/30/13 15:21	50-32-8	
Benzo(b)fluoranthene	0.022J ug/L		0.046	0.0069	1	05/29/13 12:00	05/30/13 15:21	205-99-2	
Benzo(g,h,i)perylene	0.023J ug/L		0.046	0.0083	1	05/29/13 12:00	05/30/13 15:21	191-24-2	
Benzo(k)fluoranthene	0.011J ug/L		0.046	0.011	1	05/29/13 12:00	05/30/13 15:21	207-08-9	
Chrysene	0.027J ug/L		0.046	0.0063	1	05/29/13 12:00	05/30/13 15:21	218-01-9	
Dibenz(a,h)anthracene	0.0073J ug/L		0.046	0.0056	1	05/29/13 12:00	05/30/13 15:21	53-70-3	
Fluoranthene	0.050 ug/L		0.046	0.0053	1	05/29/13 12:00	05/30/13 15:21	206-44-0	
Fluorene	0.018J ug/L		0.046	0.0039	1	05/29/13 12:00	05/30/13 15:21	86-73-7	
Indeno(1,2,3-cd)pyrene	0.014J ug/L		0.046	0.0060	1	05/29/13 12:00	05/30/13 15:21	193-39-5	
1-Methylnaphthalene	0.037J ug/L		0.046	0.0037	1	05/29/13 12:00	05/30/13 15:21	90-12-0	
2-Methylnaphthalene	0.037J ug/L		0.046	0.0062	1	05/29/13 12:00	05/30/13 15:21	91-57-6	
Naphthalene	0.029J ug/L		0.046	0.0034	1	05/29/13 12:00	05/30/13 15:21	91-20-3	
Phenanthrene	0.061 ug/L		0.046	0.0039	1	05/29/13 12:00	05/30/13 15:21	85-01-8	
Pyrene	0.081 ug/L		0.046	0.0054	1	05/29/13 12:00	05/30/13 15:21	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	44 %	39-130			1	05/29/13 12:00	05/30/13 15:21	321-60-8	
Terphenyl-d14 (S)	70 %	73-155			1	05/29/13 12:00	05/30/13 15:21	1718-51-0	2q,S0
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<0.50 ug/L		1.0	0.50	1		06/04/13 23:41	71-43-2	
Bromobenzene	<0.48 ug/L		1.0	0.48	1		06/04/13 23:41	108-86-1	
Bromochloromethane	<0.49 ug/L		1.0	0.49	1		06/04/13 23:41	74-97-5	
Bromodichloromethane	<0.45 ug/L		1.0	0.45	1		06/04/13 23:41	75-27-4	
Bromoform	<0.23 ug/L		20.0	0.23	1		06/04/13 23:41	75-25-2	
Bromomethane	<0.43 ug/L		5.0	0.43	1		06/04/13 23:41	74-83-9	
n-Butylbenzene	<0.40 ug/L		1.0	0.40	1		06/04/13 23:41	104-51-8	
sec-Butylbenzene	<0.60 ug/L		5.0	0.60	1		06/04/13 23:41	135-98-8	
tert-Butylbenzene	<0.42 ug/L		1.0	0.42	1		06/04/13 23:41	98-06-6	
Carbon tetrachloride	<0.37 ug/L		1.0	0.37	1		06/04/13 23:41	56-23-5	
Chlorobenzene	<0.36 ug/L		1.0	0.36	1		06/04/13 23:41	108-90-7	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Sample: WMW-4	Lab ID: 4078556004	Collected: 05/23/13 18:20	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Chloroethane	<0.44 ug/L		1.0	0.44	1		06/04/13 23:41	75-00-3	
Chloroform	<0.69 ug/L		5.0	0.69	1		06/04/13 23:41	67-66-3	
Chloromethane	<0.39 ug/L		1.0	0.39	1		06/04/13 23:41	74-87-3	
2-Chlorotoluene	<0.48 ug/L		1.0	0.48	1		06/04/13 23:41	95-49-8	
4-Chlorotoluene	<0.48 ug/L		1.0	0.48	1		06/04/13 23:41	106-43-4	
1,2-Dibromo-3-chloropropane	<1.5 ug/L		5.0	1.5	1		06/04/13 23:41	96-12-8	
Dibromochloromethane	<1.9 ug/L		5.0	1.9	1		06/04/13 23:41	124-48-1	
1,2-Dibromoethane (EDB)	<0.38 ug/L		1.0	0.38	1		06/04/13 23:41	106-93-4	
Dibromomethane	<0.48 ug/L		1.0	0.48	1		06/04/13 23:41	74-95-3	
1,2-Dichlorobenzene	<0.44 ug/L		1.0	0.44	1		06/04/13 23:41	95-50-1	
1,3-Dichlorobenzene	<0.45 ug/L		1.0	0.45	1		06/04/13 23:41	541-73-1	
1,4-Dichlorobenzene	<0.43 ug/L		1.0	0.43	1		06/04/13 23:41	106-46-7	
Dichlorodifluoromethane	<0.40 ug/L		1.0	0.40	1		06/04/13 23:41	75-71-8	
1,1-Dichloroethane	<0.28 ug/L		1.0	0.28	1		06/04/13 23:41	75-34-3	
1,2-Dichloroethane	<0.48 ug/L		1.0	0.48	1		06/04/13 23:41	107-06-2	
1,1-Dichloroethene	<0.43 ug/L		1.0	0.43	1		06/04/13 23:41	75-35-4	
cis-1,2-Dichloroethene	<0.42 ug/L		1.0	0.42	1		06/04/13 23:41	156-59-2	
trans-1,2-Dichloroethene	<0.37 ug/L		1.0	0.37	1		06/04/13 23:41	156-60-5	
1,2-Dichloropropane	<0.50 ug/L		1.0	0.50	1		06/04/13 23:41	78-87-5	
1,3-Dichloropropane	<0.46 ug/L		1.0	0.46	1		06/04/13 23:41	142-28-9	
2,2-Dichloropropane	<0.37 ug/L		1.0	0.37	1		06/04/13 23:41	594-20-7	
1,1-Dichloropropene	<0.51 ug/L		1.0	0.51	1		06/04/13 23:41	563-58-6	
cis-1,3-Dichloropropene	<0.29 ug/L		20.0	0.29	1		06/04/13 23:41	10061-01-5	
trans-1,3-Dichloropropene	<0.26 ug/L		20.0	0.26	1		06/04/13 23:41	10061-02-6	
Diisopropyl ether	<0.50 ug/L		1.0	0.50	1		06/04/13 23:41	108-20-3	
Ethylbenzene	<0.50 ug/L		1.0	0.50	1		06/04/13 23:41	100-41-4	
Hexachloro-1,3-butadiene	<1.3 ug/L		5.0	1.3	1		06/04/13 23:41	87-68-3	
Isopropylbenzene (Cumene)	<0.34 ug/L		1.0	0.34	1		06/04/13 23:41	98-82-8	
p-Isopropyltoluene	<0.40 ug/L		1.0	0.40	1		06/04/13 23:41	99-87-6	
Methylene Chloride	<0.36 ug/L		1.0	0.36	1		06/04/13 23:41	75-09-2	
Methyl-tert-butyl ether	0.83J ug/L		1.0	0.49	1		06/04/13 23:41	1634-04-4	
Naphthalene	<2.5 ug/L		5.0	2.5	1		06/04/13 23:41	91-20-3	
n-Propylbenzene	<0.50 ug/L		1.0	0.50	1		06/04/13 23:41	103-65-1	
Styrene	<0.35 ug/L		1.0	0.35	1		06/04/13 23:41	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45 ug/L		1.0	0.45	1		06/04/13 23:41	630-20-6	
1,1,2,2-Tetrachloroethane	<0.38 ug/L		1.0	0.38	1		06/04/13 23:41	79-34-5	
Tetrachloroethene	<0.47 ug/L		1.0	0.47	1		06/04/13 23:41	127-18-4	
Toluene	<0.44 ug/L		1.0	0.44	1		06/04/13 23:41	108-88-3	
1,2,3-Trichlorobenzene	<0.77 ug/L		5.0	0.77	1		06/04/13 23:41	87-61-6	
1,2,4-Trichlorobenzene	<2.5 ug/L		5.0	2.5	1		06/04/13 23:41	120-82-1	
1,1,1-Trichloroethane	<0.44 ug/L		1.0	0.44	1		06/04/13 23:41	71-55-6	
1,1,2-Trichloroethane	<0.39 ug/L		1.0	0.39	1		06/04/13 23:41	79-00-5	
Trichloroethene	<0.43 ug/L		1.0	0.43	1		06/04/13 23:41	79-01-6	
Trichlorofluoromethane	<0.48 ug/L		1.0	0.48	1		06/04/13 23:41	75-69-4	L3
1,2,3-Trichloropropane	<0.47 ug/L		1.0	0.47	1		06/04/13 23:41	96-18-4	
1,2,4-Trimethylbenzene	<0.57 ug/L		5.0	0.57	1		06/04/13 23:41	95-63-6	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Sample: WMW-4	Lab ID: 4078556004	Collected: 05/23/13 18:20	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,3,5-Trimethylbenzene	<2.5 ug/L		5.0	2.5	1		06/04/13 23:41	108-67-8	
Vinyl chloride	<0.18 ug/L		1.0	0.18	1		06/04/13 23:41	75-01-4	
m&p-Xylene	<0.82 ug/L		2.0	0.82	1		06/04/13 23:41	179601-23-1	
o-Xylene	<0.50 ug/L		1.0	0.50	1		06/04/13 23:41	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	89 %		43-137		1		06/04/13 23:41	460-00-4	
Dibromofluoromethane (S)	99 %		70-130		1		06/04/13 23:41	1868-53-7	
Toluene-d8 (S)	94 %		55-137		1		06/04/13 23:41	2037-26-5	
<b>350.1 Ammonia, Distilled</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonium	5.9 mg/L		0.53	0.26	1	06/06/13 19:56	06/06/13 21:54		
Nitrogen, Ammonia	5.6 mg/L		0.50	0.25	1	06/06/13 19:56	06/06/13 21:54	7664-41-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-5	Lab ID: 4078556005	Collected: 05/23/13 18:00	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP, Dissolved</b>	Analytical Method: EPA 6010								
Arsenic, Dissolved	<4.4 ug/L		20.0	4.4	1		05/28/13 17:51	7440-38-2	
Barium, Dissolved	86.4 ug/L		5.0	1.1	1		05/28/13 17:51	7440-39-3	
Cadmium, Dissolved	<0.38 ug/L		5.0	0.38	1		05/28/13 17:51	7440-43-9	
Chromium, Dissolved	<1.2 ug/L		5.0	1.2	1		05/28/13 17:51	7440-47-3	
Lead, Dissolved	1.2J ug/L		7.5	1.2	1		05/28/13 17:51	7439-92-1	B
Selenium, Dissolved	<6.6 ug/L		20.0	6.6	1		05/28/13 17:51	7782-49-2	
Silver, Dissolved	<1.4 ug/L		10.0	1.4	1		05/28/13 17:51	7440-22-4	
<b>7470 Mercury, Dissolved</b>	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	<0.10 ug/L		0.20	0.10	1	05/28/13 15:45	05/29/13 13:56	7439-97-6	
<b>8270 MSSV PAH by HVI</b>	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	0.025J ug/L		0.047	0.0041	1	05/29/13 12:00	05/30/13 15:39	83-32-9	
Acenaphthylene	<0.0037 ug/L		0.047	0.0037	1	05/29/13 12:00	05/30/13 15:39	208-96-8	
Anthracene	0.0082J ug/L		0.047	0.0051	1	05/29/13 12:00	05/30/13 15:39	120-12-7	
Benzo(a)anthracene	<0.0050 ug/L		0.047	0.0050	1	05/29/13 12:00	05/30/13 15:39	56-55-3	
Benzo(a)pyrene	<0.0052 ug/L		0.047	0.0052	1	05/29/13 12:00	05/30/13 15:39	50-32-8	
Benzo(b)fluoranthene	<0.0071 ug/L		0.047	0.0071	1	05/29/13 12:00	05/30/13 15:39	205-99-2	
Benzo(g,h,i)perylene	<0.0085 ug/L		0.047	0.0085	1	05/29/13 12:00	05/30/13 15:39	191-24-2	
Benzo(k)fluoranthene	<0.011 ug/L		0.047	0.011	1	05/29/13 12:00	05/30/13 15:39	207-08-9	
Chrysene	0.0072J ug/L		0.047	0.0065	1	05/29/13 12:00	05/30/13 15:39	218-01-9	
Dibenz(a,h)anthracene	<0.0058 ug/L		0.047	0.0058	1	05/29/13 12:00	05/30/13 15:39	53-70-3	
Fluoranthene	0.023J ug/L		0.047	0.0055	1	05/29/13 12:00	05/30/13 15:39	206-44-0	
Fluorene	0.012J ug/L		0.047	0.0041	1	05/29/13 12:00	05/30/13 15:39	86-73-7	
Indeno(1,2,3-cd)pyrene	<0.0061 ug/L		0.047	0.0061	1	05/29/13 12:00	05/30/13 15:39	193-39-5	
1-Methylnaphthalene	0.020J ug/L		0.047	0.0038	1	05/29/13 12:00	05/30/13 15:39	90-12-0	
2-Methylnaphthalene	0.030J ug/L		0.047	0.0064	1	05/29/13 12:00	05/30/13 15:39	91-57-6	
Naphthalene	0.024J ug/L		0.047	0.0035	1	05/29/13 12:00	05/30/13 15:39	91-20-3	
Phenanthrene	0.024J ug/L		0.047	0.0041	1	05/29/13 12:00	05/30/13 15:39	85-01-8	B
Pyrene	0.022J ug/L		0.047	0.0056	1	05/29/13 12:00	05/30/13 15:39	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	67 %	39-130			1	05/29/13 12:00	05/30/13 15:39	321-60-8	
Terphenyl-d14 (S)	90 %	73-155			1	05/29/13 12:00	05/30/13 15:39	1718-51-0	
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<0.50 ug/L		1.0	0.50	1		06/05/13 00:04	71-43-2	
Bromobenzene	<0.48 ug/L		1.0	0.48	1		06/05/13 00:04	108-86-1	
Bromochloromethane	<0.49 ug/L		1.0	0.49	1		06/05/13 00:04	74-97-5	
Bromodichloromethane	<0.45 ug/L		1.0	0.45	1		06/05/13 00:04	75-27-4	
Bromoform	<0.23 ug/L		20.0	0.23	1		06/05/13 00:04	75-25-2	
Bromomethane	<0.43 ug/L		5.0	0.43	1		06/05/13 00:04	74-83-9	
n-Butylbenzene	<0.40 ug/L		1.0	0.40	1		06/05/13 00:04	104-51-8	
sec-Butylbenzene	<0.60 ug/L		5.0	0.60	1		06/05/13 00:04	135-98-8	
tert-Butylbenzene	<0.42 ug/L		1.0	0.42	1		06/05/13 00:04	98-06-6	
Carbon tetrachloride	<0.37 ug/L		1.0	0.37	1		06/05/13 00:04	56-23-5	
Chlorobenzene	<0.36 ug/L		1.0	0.36	1		06/05/13 00:04	108-90-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT  
Pace Project No.: 4078556

Sample: WMW-5	Lab ID: 4078556005	Collected: 05/23/13 18:00	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Chloroethane	<0.44 ug/L	1.0	0.44	1			06/05/13 00:04	75-00-3	
Chloroform	<0.69 ug/L	5.0	0.69	1			06/05/13 00:04	67-66-3	
Chloromethane	<0.39 ug/L	1.0	0.39	1			06/05/13 00:04	74-87-3	
2-Chlorotoluene	<0.48 ug/L	1.0	0.48	1			06/05/13 00:04	95-49-8	
4-Chlorotoluene	<0.48 ug/L	1.0	0.48	1			06/05/13 00:04	106-43-4	
1,2-Dibromo-3-chloropropane	<1.5 ug/L	5.0	1.5	1			06/05/13 00:04	96-12-8	
Dibromochloromethane	<1.9 ug/L	5.0	1.9	1			06/05/13 00:04	124-48-1	
1,2-Dibromoethane (EDB)	<0.38 ug/L	1.0	0.38	1			06/05/13 00:04	106-93-4	
Dibromomethane	<0.48 ug/L	1.0	0.48	1			06/05/13 00:04	74-95-3	
1,2-Dichlorobenzene	<0.44 ug/L	1.0	0.44	1			06/05/13 00:04	95-50-1	
1,3-Dichlorobenzene	<0.45 ug/L	1.0	0.45	1			06/05/13 00:04	541-73-1	
1,4-Dichlorobenzene	<0.43 ug/L	1.0	0.43	1			06/05/13 00:04	106-46-7	
Dichlorodifluoromethane	<0.40 ug/L	1.0	0.40	1			06/05/13 00:04	75-71-8	
1,1-Dichloroethane	<0.28 ug/L	1.0	0.28	1			06/05/13 00:04	75-34-3	
1,2-Dichloroethane	<0.48 ug/L	1.0	0.48	1			06/05/13 00:04	107-06-2	
1,1-Dichloroethene	<0.43 ug/L	1.0	0.43	1			06/05/13 00:04	75-35-4	
cis-1,2-Dichloroethene	<0.42 ug/L	1.0	0.42	1			06/05/13 00:04	156-59-2	
trans-1,2-Dichloroethene	<0.37 ug/L	1.0	0.37	1			06/05/13 00:04	156-60-5	
1,2-Dichloropropane	<0.50 ug/L	1.0	0.50	1			06/05/13 00:04	78-87-5	
1,3-Dichloropropane	<0.46 ug/L	1.0	0.46	1			06/05/13 00:04	142-28-9	
2,2-Dichloropropane	<0.37 ug/L	1.0	0.37	1			06/05/13 00:04	594-20-7	
1,1-Dichloropropene	<0.51 ug/L	1.0	0.51	1			06/05/13 00:04	563-58-6	
cis-1,3-Dichloropropene	<0.29 ug/L	20.0	0.29	1			06/05/13 00:04	10061-01-5	
trans-1,3-Dichloropropene	<0.26 ug/L	20.0	0.26	1			06/05/13 00:04	10061-02-6	
Diisopropyl ether	<0.50 ug/L	1.0	0.50	1			06/05/13 00:04	108-20-3	
Ethylbenzene	<0.50 ug/L	1.0	0.50	1			06/05/13 00:04	100-41-4	
Hexachloro-1,3-butadiene	<1.3 ug/L	5.0	1.3	1			06/05/13 00:04	87-68-3	
Isopropylbenzene (Cumene)	<0.34 ug/L	1.0	0.34	1			06/05/13 00:04	98-82-8	
p-Isopropyltoluene	<0.40 ug/L	1.0	0.40	1			06/05/13 00:04	99-87-6	
Methylene Chloride	<0.36 ug/L	1.0	0.36	1			06/05/13 00:04	75-09-2	
Methyl-tert-butyl ether	<0.49 ug/L	1.0	0.49	1			06/05/13 00:04	1634-04-4	
Naphthalene	<2.5 ug/L	5.0	2.5	1			06/05/13 00:04	91-20-3	
n-Propylbenzene	<0.50 ug/L	1.0	0.50	1			06/05/13 00:04	103-65-1	
Styrene	<0.35 ug/L	1.0	0.35	1			06/05/13 00:04	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45 ug/L	1.0	0.45	1			06/05/13 00:04	630-20-6	
1,1,2,2-Tetrachloroethane	<0.38 ug/L	1.0	0.38	1			06/05/13 00:04	79-34-5	
Tetrachloroethene	<0.47 ug/L	1.0	0.47	1			06/05/13 00:04	127-18-4	
Toluene	<0.44 ug/L	1.0	0.44	1			06/05/13 00:04	108-88-3	
1,2,3-Trichlorobenzene	<0.77 ug/L	5.0	0.77	1			06/05/13 00:04	87-61-6	
1,2,4-Trichlorobenzene	<2.5 ug/L	5.0	2.5	1			06/05/13 00:04	120-82-1	
1,1,1-Trichloroethane	<0.44 ug/L	1.0	0.44	1			06/05/13 00:04	71-55-6	
1,1,2-Trichloroethane	<0.39 ug/L	1.0	0.39	1			06/05/13 00:04	79-00-5	
Trichloroethene	<0.43 ug/L	1.0	0.43	1			06/05/13 00:04	79-01-6	
Trichlorofluoromethane	<0.48 ug/L	1.0	0.48	1			06/05/13 00:04	75-69-4	L3
1,2,3-Trichloropropane	<0.47 ug/L	1.0	0.47	1			06/05/13 00:04	96-18-4	
1,2,4-Trimethylbenzene	<0.57 ug/L	5.0	0.57	1			06/05/13 00:04	95-63-6	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Sample: WMW-5	Lab ID: 4078556005	Collected: 05/23/13 18:00	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,3,5-Trimethylbenzene	<2.5 ug/L		5.0	2.5	1		06/05/13 00:04	108-67-8	
Vinyl chloride	<0.18 ug/L		1.0	0.18	1		06/05/13 00:04	75-01-4	
m&p-Xylene	<0.82 ug/L		2.0	0.82	1		06/05/13 00:04	179601-23-1	
o-Xylene	<0.50 ug/L		1.0	0.50	1		06/05/13 00:04	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	88 %		43-137		1		06/05/13 00:04	460-00-4	
Dibromofluoromethane (S)	98 %		70-130		1		06/05/13 00:04	1868-53-7	
Toluene-d8 (S)	93 %		55-137		1		06/05/13 00:04	2037-26-5	
<b>350.1 Ammonia, Distilled</b>	Analytical Method: EPA 350.1 Preparation Method: EPA 350.1								
Nitrogen, Ammonium	4.4 mg/L		0.53	0.26	1	06/06/13 19:56	06/06/13 21:55		
Nitrogen, Ammonia	4.1 mg/L		0.50	0.25	1	06/06/13 19:56	06/06/13 21:55	7664-41-7	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Sample: TRIP BLANK	Lab ID: 4078556006	Collected: 05/23/13 00:00	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<0.50 ug/L		1.0	0.50	1		06/03/13 21:54	71-43-2	
Bromobenzene	<0.48 ug/L		1.0	0.48	1		06/03/13 21:54	108-86-1	
Bromochloromethane	<0.49 ug/L		1.0	0.49	1		06/03/13 21:54	74-97-5	
Bromodichloromethane	<0.45 ug/L		1.0	0.45	1		06/03/13 21:54	75-27-4	
Bromoform	<0.23 ug/L		20.0	0.23	1		06/03/13 21:54	75-25-2	
Bromomethane	<0.43 ug/L		5.0	0.43	1		06/03/13 21:54	74-83-9	
n-Butylbenzene	<0.40 ug/L		1.0	0.40	1		06/03/13 21:54	104-51-8	
sec-Butylbenzene	<0.60 ug/L		5.0	0.60	1		06/03/13 21:54	135-98-8	
tert-Butylbenzene	<0.42 ug/L		1.0	0.42	1		06/03/13 21:54	98-06-6	
Carbon tetrachloride	<0.37 ug/L		1.0	0.37	1		06/03/13 21:54	56-23-5	
Chlorobenzene	<0.36 ug/L		1.0	0.36	1		06/03/13 21:54	108-90-7	
Chloroethane	<0.44 ug/L		1.0	0.44	1		06/03/13 21:54	75-00-3	
Chloroform	<0.69 ug/L		5.0	0.69	1		06/03/13 21:54	67-66-3	
Chloromethane	<0.39 ug/L		1.0	0.39	1		06/03/13 21:54	74-87-3	
2-Chlorotoluene	<0.48 ug/L		1.0	0.48	1		06/03/13 21:54	95-49-8	
4-Chlorotoluene	<0.48 ug/L		1.0	0.48	1		06/03/13 21:54	106-43-4	
1,2-Dibromo-3-chloropropane	<1.5 ug/L		5.0	1.5	1		06/03/13 21:54	96-12-8	
Dibromochloromethane	<1.9 ug/L		5.0	1.9	1		06/03/13 21:54	124-48-1	
1,2-Dibromoethane (EDB)	<0.38 ug/L		1.0	0.38	1		06/03/13 21:54	106-93-4	
Dibromomethane	<0.48 ug/L		1.0	0.48	1		06/03/13 21:54	74-95-3	
1,2-Dichlorobenzene	<0.44 ug/L		1.0	0.44	1		06/03/13 21:54	95-50-1	
1,3-Dichlorobenzene	<0.45 ug/L		1.0	0.45	1		06/03/13 21:54	541-73-1	
1,4-Dichlorobenzene	<0.43 ug/L		1.0	0.43	1		06/03/13 21:54	106-46-7	
Dichlorodifluoromethane	<0.40 ug/L		1.0	0.40	1		06/03/13 21:54	75-71-8	
1,1-Dichloroethane	<0.28 ug/L		1.0	0.28	1		06/03/13 21:54	75-34-3	
1,2-Dichloroethane	<0.48 ug/L		1.0	0.48	1		06/03/13 21:54	107-06-2	
1,1-Dichloroethene	<0.43 ug/L		1.0	0.43	1		06/03/13 21:54	75-35-4	
cis-1,2-Dichloroethene	<0.42 ug/L		1.0	0.42	1		06/03/13 21:54	156-59-2	
trans-1,2-Dichloroethene	<0.37 ug/L		1.0	0.37	1		06/03/13 21:54	156-60-5	
1,2-Dichloropropane	<0.50 ug/L		1.0	0.50	1		06/03/13 21:54	78-87-5	
1,3-Dichloropropane	<0.46 ug/L		1.0	0.46	1		06/03/13 21:54	142-28-9	
2,2-Dichloropropane	<0.37 ug/L		1.0	0.37	1		06/03/13 21:54	594-20-7	
1,1-Dichloropropene	<0.51 ug/L		1.0	0.51	1		06/03/13 21:54	563-58-6	
cis-1,3-Dichloropropene	<0.29 ug/L		20.0	0.29	1		06/03/13 21:54	10061-01-5	
trans-1,3-Dichloropropene	<0.26 ug/L		20.0	0.26	1		06/03/13 21:54	10061-02-6	
Diisopropyl ether	<0.50 ug/L		1.0	0.50	1		06/03/13 21:54	108-20-3	
Ethylbenzene	<0.50 ug/L		1.0	0.50	1		06/03/13 21:54	100-41-4	
Hexachloro-1,3-butadiene	<1.3 ug/L		5.0	1.3	1		06/03/13 21:54	87-68-3	
Isopropylbenzene (Cumene)	<0.34 ug/L		1.0	0.34	1		06/03/13 21:54	98-82-8	
p-Isopropyltoluene	<0.40 ug/L		1.0	0.40	1		06/03/13 21:54	99-87-6	
Methylene Chloride	<0.36 ug/L		1.0	0.36	1		06/03/13 21:54	75-09-2	
Methyl-tert-butyl ether	<0.49 ug/L		1.0	0.49	1		06/03/13 21:54	1634-04-4	
Naphthalene	<2.5 ug/L		5.0	2.5	1		06/03/13 21:54	91-20-3	
n-Propylbenzene	<0.50 ug/L		1.0	0.50	1		06/03/13 21:54	103-65-1	
Styrene	<0.35 ug/L		1.0	0.35	1		06/03/13 21:54	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45 ug/L		1.0	0.45	1		06/03/13 21:54	630-20-6	

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## ANALYTICAL RESULTS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Sample: TRIP BLANK	Lab ID: 4078556006	Collected: 05/23/13 00:00	Received: 05/24/13 15:10	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	<0.38 ug/L		1.0	0.38	1		06/03/13 21:54	79-34-5	
Tetrachloroethene	<0.47 ug/L		1.0	0.47	1		06/03/13 21:54	127-18-4	
Toluene	<0.44 ug/L		1.0	0.44	1		06/03/13 21:54	108-88-3	
1,2,3-Trichlorobenzene	<0.77 ug/L		5.0	0.77	1		06/03/13 21:54	87-61-6	
1,2,4-Trichlorobenzene	<2.5 ug/L		5.0	2.5	1		06/03/13 21:54	120-82-1	
1,1,1-Trichloroethane	<0.44 ug/L		1.0	0.44	1		06/03/13 21:54	71-55-6	
1,1,2-Trichloroethane	<0.39 ug/L		1.0	0.39	1		06/03/13 21:54	79-00-5	
Trichloroethene	<0.43 ug/L		1.0	0.43	1		06/03/13 21:54	79-01-6	
Trichlorofluoromethane	<0.48 ug/L		1.0	0.48	1		06/03/13 21:54	75-69-4	
1,2,3-Trichloropropane	<0.47 ug/L		1.0	0.47	1		06/03/13 21:54	96-18-4	
1,2,4-Trimethylbenzene	<0.57 ug/L		5.0	0.57	1		06/03/13 21:54	95-63-6	
1,3,5-Trimethylbenzene	<2.5 ug/L		5.0	2.5	1		06/03/13 21:54	108-67-8	
Vinyl chloride	<0.18 ug/L		1.0	0.18	1		06/03/13 21:54	75-01-4	
m&p-Xylene	<0.82 ug/L		2.0	0.82	1		06/03/13 21:54	179601-23-1	
o-Xylene	<0.50 ug/L		1.0	0.50	1		06/03/13 21:54	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	89 %		43-137		1		06/03/13 21:54	460-00-4	
Dibromofluoromethane (S)	98 %		70-130		1		06/03/13 21:54	1868-53-7	
Toluene-d8 (S)	93 %		55-137		1		06/03/13 21:54	2037-26-5	

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

QC Batch:	ICP/7584	Analysis Method:	EPA 6010
QC Batch Method:	EPA 6010	Analysis Description:	ICP Metals, Trace, Dissolved
Associated Lab Samples:	4078556001, 4078556002, 4078556003, 4078556004, 4078556005		

METHOD BLANK: 798030 Matrix: Water

Associated Lab Samples: 4078556001, 4078556002, 4078556003, 4078556004, 4078556005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<4.4	20.0	05/28/13 17:25	
Barium, Dissolved	ug/L	<1.1	5.0	05/28/13 17:25	
Cadmium, Dissolved	ug/L	<0.38	5.0	05/28/13 17:25	
Chromium, Dissolved	ug/L	<1.2	5.0	05/28/13 17:25	
Lead, Dissolved	ug/L	1.6J	7.5	05/28/13 17:25	
Selenium, Dissolved	ug/L	<6.6	20.0	05/28/13 17:25	
Silver, Dissolved	ug/L	<1.4	10.0	05/28/13 17:25	

LABORATORY CONTROL SAMPLE: 798031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	515	103	80-120	
Barium, Dissolved	ug/L	500	514	103	80-120	
Cadmium, Dissolved	ug/L	500	516	103	80-120	
Chromium, Dissolved	ug/L	500	527	105	80-120	
Lead, Dissolved	ug/L	500	538	108	80-120	
Selenium, Dissolved	ug/L	500	508	102	80-120	
Silver, Dissolved	ug/L	250	262	105	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 798032 798033

Parameter	Units	MS Spike		MSD Spike		MS Result	MS % Rec	MSD Result	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
		4078539001	Result	Conc.	Conc.								
Arsenic, Dissolved	ug/L	<4.4	500	500	558	552	111	110	75-125	1	20		
Barium, Dissolved	ug/L	110	500	500	649	644	108	107	75-125	1	20		
Cadmium, Dissolved	ug/L	<0.38	500	500	560	546	112	109	75-125	2	20		
Chromium, Dissolved	ug/L	<1.2	500	500	555	546	111	109	75-125	2	20		
Lead, Dissolved	ug/L	<1.2	500	500	553	541	111	108	75-125	2	20		
Selenium, Dissolved	ug/L	<6.6	500	500	482	484	96	96	75-125	0	20		
Silver, Dissolved	ug/L	<1.4	250	250	263	258	105	103	75-125	2	20		

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

QC Batch:	MERP/3672	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury Dissolved
Associated Lab Samples:	4078556001, 4078556002, 4078556003, 4078556004, 4078556005		

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METHOD BLANK: 798305 Matrix: Water

Associated Lab Samples: 4078556001, 4078556002, 4078556003, 4078556004, 4078556005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.10	0.20	05/29/13 13:02	

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METHOD BLANK: 798309 Matrix: Water

Associated Lab Samples: 4078556001, 4078556002, 4078556003, 4078556004, 4078556005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.10	0.20	05/29/13 13:20	1q

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LABORATORY CONTROL SAMPLE: 798306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	99	85-115	

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MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 798307 798308

Parameter	Units	4078317001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Mercury, Dissolved	ug/L	ND	5	5	4.9	4.8	99	96	85-115	3	20	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

QC Batch:	MSV/19793	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples:	4078556001, 4078556002, 4078556003, 4078556004, 4078556005		

METHOD BLANK: 797857 Matrix: Water

Associated Lab Samples: 4078556001, 4078556002, 4078556003, 4078556004, 4078556005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.45	1.0	06/04/13 16:57	
1,1,1-Trichloroethane	ug/L	<0.44	1.0	06/04/13 16:57	
1,1,2,2-Tetrachloroethane	ug/L	<0.38	1.0	06/04/13 16:57	
1,1,2-Trichloroethane	ug/L	<0.39	1.0	06/04/13 16:57	
1,1-Dichloroethane	ug/L	<0.28	1.0	06/04/13 16:57	
1,1-Dichloroethene	ug/L	<0.43	1.0	06/04/13 16:57	
1,1-Dichloropropene	ug/L	<0.51	1.0	06/04/13 16:57	
1,2,3-Trichlorobenzene	ug/L	<0.77	5.0	06/04/13 16:57	
1,2,3-Trichloropropane	ug/L	<0.47	1.0	06/04/13 16:57	
1,2,4-Trichlorobenzene	ug/L	<2.5	5.0	06/04/13 16:57	
1,2,4-Trimethylbenzene	ug/L	<0.57	5.0	06/04/13 16:57	
1,2-Dibromo-3-chloropropane	ug/L	<1.5	5.0	06/04/13 16:57	
1,2-Dibromoethane (EDB)	ug/L	<0.38	1.0	06/04/13 16:57	
1,2-Dichlorobenzene	ug/L	<0.44	1.0	06/04/13 16:57	
1,2-Dichloroethane	ug/L	<0.48	1.0	06/04/13 16:57	
1,2-Dichloropropane	ug/L	<0.50	1.0	06/04/13 16:57	
1,3,5-Trimethylbenzene	ug/L	<2.5	5.0	06/04/13 16:57	
1,3-Dichlorobenzene	ug/L	<0.45	1.0	06/04/13 16:57	
1,3-Dichloropropane	ug/L	<0.46	1.0	06/04/13 16:57	
1,4-Dichlorobenzene	ug/L	<0.43	1.0	06/04/13 16:57	
2,2-Dichloropropane	ug/L	<0.37	1.0	06/04/13 16:57	
2-Chlorotoluene	ug/L	<0.48	1.0	06/04/13 16:57	
4-Chlorotoluene	ug/L	<0.48	1.0	06/04/13 16:57	
Benzene	ug/L	<0.50	1.0	06/04/13 16:57	
Bromobenzene	ug/L	<0.48	1.0	06/04/13 16:57	
Bromochloromethane	ug/L	<0.49	1.0	06/04/13 16:57	
Bromodichloromethane	ug/L	<0.45	1.0	06/04/13 16:57	
Bromoform	ug/L	<0.23	20.0	06/04/13 16:57	
Bromomethane	ug/L	<0.43	5.0	06/04/13 16:57	
Carbon tetrachloride	ug/L	<0.37	1.0	06/04/13 16:57	
Chlorobenzene	ug/L	<0.36	1.0	06/04/13 16:57	
Chloroethane	ug/L	<0.44	1.0	06/04/13 16:57	
Chloroform	ug/L	<0.69	5.0	06/04/13 16:57	
Chloromethane	ug/L	<0.39	1.0	06/04/13 16:57	
cis-1,2-Dichloroethene	ug/L	<0.42	1.0	06/04/13 16:57	
cis-1,3-Dichloropropene	ug/L	<0.29	20.0	06/04/13 16:57	
Dibromochloromethane	ug/L	<1.9	5.0	06/04/13 16:57	
Dibromomethane	ug/L	<0.48	1.0	06/04/13 16:57	
Dichlorodifluoromethane	ug/L	<0.40	1.0	06/04/13 16:57	
Diisopropyl ether	ug/L	<0.50	1.0	06/04/13 16:57	
Ethylbenzene	ug/L	<0.50	1.0	06/04/13 16:57	
Hexachloro-1,3-butadiene	ug/L	<1.3	5.0	06/04/13 16:57	
Isopropylbenzene (Cumene)	ug/L	<0.34	1.0	06/04/13 16:57	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

METHOD BLANK: 797857

Matrix: Water

Associated Lab Samples: 4078556001, 4078556002, 4078556003, 4078556004, 4078556005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
m&p-Xylene	ug/L	<0.82	2.0	06/04/13 16:57	
Methyl-tert-butyl ether	ug/L	<0.49	1.0	06/04/13 16:57	
Methylene Chloride	ug/L	<0.36	1.0	06/04/13 16:57	
n-Butylbenzene	ug/L	<0.40	1.0	06/04/13 16:57	
n-Propylbenzene	ug/L	<0.50	1.0	06/04/13 16:57	
Naphthalene	ug/L	<2.5	5.0	06/04/13 16:57	
o-Xylene	ug/L	<0.50	1.0	06/04/13 16:57	
p-Isopropyltoluene	ug/L	<0.40	1.0	06/04/13 16:57	
sec-Butylbenzene	ug/L	<0.60	5.0	06/04/13 16:57	
Styrene	ug/L	<0.35	1.0	06/04/13 16:57	
tert-Butylbenzene	ug/L	<0.42	1.0	06/04/13 16:57	
Tetrachloroethene	ug/L	<0.47	1.0	06/04/13 16:57	
Toluene	ug/L	<0.44	1.0	06/04/13 16:57	
trans-1,2-Dichloroethene	ug/L	<0.37	1.0	06/04/13 16:57	
trans-1,3-Dichloropropene	ug/L	<0.26	20.0	06/04/13 16:57	
Trichloroethene	ug/L	<0.43	1.0	06/04/13 16:57	
Trichlorofluoromethane	ug/L	<0.48	1.0	06/04/13 16:57	
Vinyl chloride	ug/L	<0.18	1.0	06/04/13 16:57	
4-Bromofluorobenzene (S)	%	90	43-137	06/04/13 16:57	
Dibromofluoromethane (S)	%	99	70-130	06/04/13 16:57	
Toluene-d8 (S)	%	94	55-137	06/04/13 16:57	

LABORATORY CONTROL SAMPLE &amp; LCSD: 797858

797859

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	53.2	56.1	106	112	70-136	5	20	
1,1,2,2-Tetrachloroethane	ug/L	50	41.6	42.4	83	85	70-130	2	20	
1,1,2-Trichloroethane	ug/L	50	46.3	47.8	93	96	70-130	3	20	
1,1-Dichloroethane	ug/L	50	54.0	55.9	108	112	70-146	4	20	
1,1-Dichloroethene	ug/L	50	59.3	63.0	119	126	70-130	6	20	
1,2,4-Trichlorobenzene	ug/L	50	54.9	59.4	110	119	70-130	8	20	
1,2-Dibromo-3-chloropropane	ug/L	50	38.0	40.6	76	81	46-150	7	20	
1,2-Dibromoethane (EDB)	ug/L	50	49.8	52.4	100	105	70-130	5	20	
1,2-Dichlorobenzene	ug/L	50	51.6	53.6	103	107	70-130	4	20	
1,2-Dichloroethane	ug/L	50	53.2	54.1	106	108	70-144	2	20	
1,2-Dichloropropane	ug/L	50	44.7	46.5	89	93	70-136	4	20	
1,3-Dichlorobenzene	ug/L	50	49.0	50.3	98	101	70-130	3	20	
1,4-Dichlorobenzene	ug/L	50	50.6	52.0	101	104	70-130	3	20	
Benzene	ug/L	50	44.8	46.8	90	94	70-137	4	20	
Bromodichloromethane	ug/L	50	58.3	62.0	117	124	70-133	6	20	
Bromoform	ug/L	50	50.1	52.3	100	105	59-130	4	20	
Bromomethane	ug/L	50	64.9	70.9	130	142	41-148	9	20	
Carbon tetrachloride	ug/L	50	65.3	67.3	131	135	70-154	3	20	
Chlorobenzene	ug/L	50	53.1	54.9	106	110	70-130	3	20	
Chloroethane	ug/L	50	56.2	60.6	112	121	70-139	8	20	

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits		RPD	
Chloroform	ug/L	50	49.2	50.7	98	101	70-130	3	20	
Chloromethane	ug/L	50	50.0	54.2	100	108	45-154	8	20	
cis-1,2-Dichloroethene	ug/L	50	55.0	58.5	110	117	70-130	6	20	
cis-1,3-Dichloropropene	ug/L	50	41.4	43.1	83	86	70-136	4	20	
Dibromochloromethane	ug/L	50	55.7	57.7	111	115	70-130	4	20	
Dichlorodifluoromethane	ug/L	50	71.5	76.4	143	153	20-157	7	20	
Ethylbenzene	ug/L	50	55.3	57.7	111	115	70-130	4	20	
Isopropylbenzene (Cumene)	ug/L	50	54.2	56.8	108	114	70-130	5	20	
m&p-Xylene	ug/L	100	116	122	116	122	70-130	5	20	
Methyl-tert-butyl ether	ug/L	50	44.8	47.4	90	95	59-141	6	20	
Methylene Chloride	ug/L	50	53.1	57.3	106	115	70-130	8	20	
o-Xylene	ug/L	50	52.9	55.8	106	112	70-130	5	20	
Styrene	ug/L	50	52.3	54.5	105	109	70-130	4	20	
Tetrachloroethene	ug/L	50	56.5	57.8	113	116	70-130	2	20	
Toluene	ug/L	50	52.9	53.7	106	107	70-130	2	20	
trans-1,2-Dichloroethene	ug/L	50	58.6	61.2	117	122	70-130	4	20	
trans-1,3-Dichloropropene	ug/L	50	44.6	46.0	89	92	55-135	3	20	
Trichloroethene	ug/L	50	56.7	58.9	113	118	70-130	4	20	
Trichlorofluoromethane	ug/L	50	76.1	78.9	152	158	50-150	4	20 L0	
Vinyl chloride	ug/L	50	57.7	62.0	115	124	61-143	7	20	
4-Bromofluorobenzene (S)	%				104	104	43-137			
Dibromofluoromethane (S)	%				97	97	70-130			
Toluene-d8 (S)	%				95	93	55-137			

Parameter	Units	4078515022		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max	Qual
		Result	Spike Conc.	Spike Conc.	Result				RPD	
1,1,1-Trichloroethane	ug/L	<0.44	50	50	55.7	54.6	111	109	70-136	2 20
1,1,2,2-Tetrachloroethane	ug/L	<0.38	50	50	46.5	46.4	93	93	70-130	0 20
1,1,2-Trichloroethane	ug/L	<0.39	50	50	49.4	48.2	99	96	70-130	3 20
1,1-Dichloroethane	ug/L	<0.28	50	50	56.1	54.2	112	108	70-146	3 20
1,1-Dichloroethene	ug/L	<0.43	50	50	61.1	59.2	122	118	70-130	3 20
1,2,4-Trichlorobenzene	ug/L	<2.5	50	50	58.4	58.0	116	115	70-130	1 20
1,2-Dibromo-3-chloropropane	ug/L	<1.5	50	50	42.3	43.1	85	86	46-150	2 20
1,2-Dibromoethane (EDB)	ug/L	<0.38	50	50	54.3	53.1	109	106	70-130	2 20
1,2-Dichlorobenzene	ug/L	<0.44	50	50	53.4	52.8	107	106	70-130	1 20
1,2-Dichloroethane	ug/L	<0.48	50	50	54.6	54.9	109	110	70-146	1 20
1,2-Dichloropropane	ug/L	<0.50	50	50	46.8	46.8	94	94	70-136	0 20
1,3-Dichlorobenzene	ug/L	<0.45	50	50	49.8	50.4	100	101	70-130	1 20
1,4-Dichlorobenzene	ug/L	<0.43	50	50	52.0	51.8	104	104	70-130	0 20
Benzene	ug/L	<0.50	50	50	46.8	45.4	94	91	70-137	3 20
Bromodichloromethane	ug/L	<0.45	50	50	61.5	60.6	123	121	70-133	2 20
Bromoform	ug/L	<0.23	50	50	53.1	52.8	106	106	57-130	0 20
Bromomethane	ug/L	<0.43	50	50	65.3	63.0	131	126	41-148	3 20
Carbon tetrachloride	ug/L	<0.37	50	50	66.4	64.6	133	129	70-154	3 20
Chlorobenzene	ug/L	<0.36	50	50	54.0	54.1	108	108	70-130	0 20

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Parameter	Units	4078515022		MS		MSD		MS Result	% Rec	MSD Result	% Rec	% Rec Limits	Max	
		Result	Conc.	Spike	Conc.	MS	MSD						RPD	RPD
Chloroethane	ug/L	<0.44	50	50	56.1	54.4	112	109	70-140	3	20			
Chloroform	ug/L	0.90J	50	50	52.1	51.1	102	100	70-130	2	20			
Chloromethane	ug/L	<0.39	50	50	45.7	43.8	91	88	45-154	4	20			
cis-1,2-Dichloroethene	ug/L	<0.42	50	50	57.7	57.1	115	114	70-130	1	20			
cis-1,3-Dichloropropene	ug/L	<0.29	50	50	43.5	43.3	87	87	70-136	0	20			
Dibromochloromethane	ug/L	<1.9	50	50	59.2	57.7	118	115	70-130	3	20			
Dichlorodifluoromethane	ug/L	<0.40	50	50	53.6	51.1	107	102	10-157	5	20			
Ethylbenzene	ug/L	<0.50	50	50	55.9	56.1	112	112	70-130	0	20			
Isopropylbenzene (Cumene)	ug/L	<0.34	50	50	54.7	55.0	109	110	70-130	1	20			
m&p-Xylene	ug/L	<0.82	100	100	118	117	118	117	70-130	1	20			
Methyl-tert-butyl ether	ug/L	<0.49	50	50	48.2	47.8	96	96	59-141	1	20			
Methylene Chloride	ug/L	<0.36	50	50	55.4	54.4	111	109	70-130	2	20			
o-Xylene	ug/L	<0.50	50	50	54.1	53.2	108	106	70-130	2	20			
Styrene	ug/L	<0.35	50	50	53.3	52.5	107	105	35-164	2	20			
Tetrachloroethene	ug/L	<0.47	50	50	58.2	57.3	116	114	70-130	2	20			
Toluene	ug/L	<0.44	50	50	53.7	53.0	107	106	70-130	1	20			
trans-1,2-Dichloroethene	ug/L	<0.37	50	50	59.4	59.2	118	118	70-130	0	20			
trans-1,3-Dichloropropene	ug/L	<0.26	50	50	47.5	47.2	95	94	55-137	1	20			
Trichloroethene	ug/L	<0.43	50	50	57.1	57.0	114	114	70-130	0	20			
Trichlorofluoromethane	ug/L	<0.48	50	50	73.5	71.6	147	143	50-150	3	20			
Vinyl chloride	ug/L	<0.18	50	50	54.4	52.9	109	106	59-144	3	20			
4-Bromofluorobenzene (S)	%							102	103	43-137				
Dibromofluoromethane (S)	%								98	98	70-130			
Toluene-d8 (S)	%								95	95	55-137			

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

QC Batch:	MSV/19794	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples:	4078556006		

METHOD BLANK: 797860                                  Matrix: Water

Associated Lab Samples: 4078556006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.45	1.0	06/03/13 16:40	
1,1,1-Trichloroethane	ug/L	<0.44	1.0	06/03/13 16:40	
1,1,2,2-Tetrachloroethane	ug/L	<0.38	1.0	06/03/13 16:40	
1,1,2-Trichloroethane	ug/L	<0.39	1.0	06/03/13 16:40	
1,1-Dichloroethane	ug/L	<0.28	1.0	06/03/13 16:40	
1,1-Dichloroethene	ug/L	<0.43	1.0	06/03/13 16:40	
1,1-Dichloropropene	ug/L	<0.51	1.0	06/03/13 16:40	
1,2,3-Trichlorobenzene	ug/L	<0.77	5.0	06/03/13 16:40	
1,2,3-Trichloropropane	ug/L	<0.47	1.0	06/03/13 16:40	
1,2,4-Trichlorobenzene	ug/L	<2.5	5.0	06/03/13 16:40	
1,2,4-Trimethylbenzene	ug/L	<0.57	5.0	06/03/13 16:40	
1,2-Dibromo-3-chloropropane	ug/L	<1.5	5.0	06/03/13 16:40	
1,2-Dibromoethane (EDB)	ug/L	<0.38	1.0	06/03/13 16:40	
1,2-Dichlorobenzene	ug/L	<0.44	1.0	06/03/13 16:40	
1,2-Dichloroethane	ug/L	<0.48	1.0	06/03/13 16:40	
1,2-Dichloropropane	ug/L	<0.50	1.0	06/03/13 16:40	
1,3,5-Trimethylbenzene	ug/L	<2.5	5.0	06/03/13 16:40	
1,3-Dichlorobenzene	ug/L	<0.45	1.0	06/03/13 16:40	
1,3-Dichloropropane	ug/L	<0.46	1.0	06/03/13 16:40	
1,4-Dichlorobenzene	ug/L	<0.43	1.0	06/03/13 16:40	
2,2-Dichloropropane	ug/L	<0.37	1.0	06/03/13 16:40	
2-Chlorotoluene	ug/L	<0.48	1.0	06/03/13 16:40	
4-Chlorotoluene	ug/L	<0.48	1.0	06/03/13 16:40	
Benzene	ug/L	<0.50	1.0	06/03/13 16:40	
Bromobenzene	ug/L	<0.48	1.0	06/03/13 16:40	
Bromochloromethane	ug/L	<0.49	1.0	06/03/13 16:40	
Bromodichloromethane	ug/L	<0.45	1.0	06/03/13 16:40	
Bromoform	ug/L	<0.23	20.0	06/03/13 16:40	
Bromomethane	ug/L	<0.43	5.0	06/03/13 16:40	
Carbon tetrachloride	ug/L	<0.37	1.0	06/03/13 16:40	
Chlorobenzene	ug/L	<0.36	1.0	06/03/13 16:40	
Chloroethane	ug/L	<0.44	1.0	06/03/13 16:40	
Chloroform	ug/L	<0.69	5.0	06/03/13 16:40	
Chloromethane	ug/L	<0.39	1.0	06/03/13 16:40	
cis-1,2-Dichloroethene	ug/L	<0.42	1.0	06/03/13 16:40	
cis-1,3-Dichloropropene	ug/L	<0.29	20.0	06/03/13 16:40	
Dibromochloromethane	ug/L	<1.9	5.0	06/03/13 16:40	
Dibromomethane	ug/L	<0.48	1.0	06/03/13 16:40	
Dichlorodifluoromethane	ug/L	<0.40	1.0	06/03/13 16:40	
Diisopropyl ether	ug/L	<0.50	1.0	06/03/13 16:40	
Ethylbenzene	ug/L	<0.50	1.0	06/03/13 16:40	
Hexachloro-1,3-butadiene	ug/L	<1.3	5.0	06/03/13 16:40	
Isopropylbenzene (Cumene)	ug/L	<0.34	1.0	06/03/13 16:40	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

METHOD BLANK: 797860

Matrix: Water

Associated Lab Samples: 4078556006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
m&p-Xylene	ug/L	<0.82	2.0	06/03/13 16:40	
Methyl-tert-butyl ether	ug/L	<0.49	1.0	06/03/13 16:40	
Methylene Chloride	ug/L	<0.36	1.0	06/03/13 16:40	
n-Butylbenzene	ug/L	<0.40	1.0	06/03/13 16:40	
n-Propylbenzene	ug/L	<0.50	1.0	06/03/13 16:40	
Naphthalene	ug/L	<2.5	5.0	06/03/13 16:40	
o-Xylene	ug/L	<0.50	1.0	06/03/13 16:40	
p-Isopropyltoluene	ug/L	<0.40	1.0	06/03/13 16:40	
sec-Butylbenzene	ug/L	<0.60	5.0	06/03/13 16:40	
Styrene	ug/L	<0.35	1.0	06/03/13 16:40	
tert-Butylbenzene	ug/L	<0.42	1.0	06/03/13 16:40	
Tetrachloroethene	ug/L	<0.47	1.0	06/03/13 16:40	
Toluene	ug/L	<0.44	1.0	06/03/13 16:40	
trans-1,2-Dichloroethene	ug/L	<0.37	1.0	06/03/13 16:40	
trans-1,3-Dichloropropene	ug/L	<0.26	20.0	06/03/13 16:40	
Trichloroethene	ug/L	<0.43	1.0	06/03/13 16:40	
Trichlorofluoromethane	ug/L	<0.48	1.0	06/03/13 16:40	
Vinyl chloride	ug/L	<0.18	1.0	06/03/13 16:40	
4-Bromofluorobenzene (S)	%	88	43-137	06/03/13 16:40	
Dibromofluoromethane (S)	%	99	70-130	06/03/13 16:40	
Toluene-d8 (S)	%	93	55-137	06/03/13 16:40	

LABORATORY CONTROL SAMPLE &amp; LCSD: 797861

797862

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	55.5	54.8	111	110	70-136	1	20	
1,1,2,2-Tetrachloroethane	ug/L	50	43.0	42.7	86	85	70-130	1	20	
1,1,2-Trichloroethane	ug/L	50	47.8	47.2	96	94	70-130	1	20	
1,1-Dichloroethane	ug/L	50	54.6	54.0	109	108	70-146	1	20	
1,1-Dichloroethene	ug/L	50	58.6	58.3	117	117	70-130	1	20	
1,2,4-Trichlorobenzene	ug/L	50	54.9	56.0	110	112	70-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	50	40.6	41.1	81	82	46-150	1	20	
1,2-Dibromoethane (EDB)	ug/L	50	52.3	51.5	105	103	70-130	2	20	
1,2-Dichlorobenzene	ug/L	50	51.7	51.2	103	102	70-130	1	20	
1,2-Dichloroethane	ug/L	50	52.7	51.7	105	103	70-144	2	20	
1,2-Dichloropropane	ug/L	50	46.7	46.5	93	93	70-136	0	20	
1,3-Dichlorobenzene	ug/L	50	48.3	48.5	97	97	70-130	0	20	
1,4-Dichlorobenzene	ug/L	50	50.2	50.7	100	101	70-130	1	20	
Benzene	ug/L	50	45.4	44.4	91	89	70-137	2	20	
Bromodichloromethane	ug/L	50	60.0	59.3	120	119	70-133	1	20	
Bromoform	ug/L	50	51.0	50.6	102	101	59-130	1	20	
Bromomethane	ug/L	50	58.5	60.7	117	121	41-148	4	20	
Carbon tetrachloride	ug/L	50	65.1	64.8	130	130	70-154	1	20	
Chlorobenzene	ug/L	50	53.5	53.1	107	106	70-130	1	20	
Chloroethane	ug/L	50	53.1	52.6	106	105	70-139	1	20	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits		RPD	
Chloroform	ug/L	50	49.8	48.8	100	98	70-130	2	20	
Chloromethane	ug/L	50	41.1	42.5	82	85	45-154	3	20	
cis-1,2-Dichloroethene	ug/L	50	56.5	55.6	113	111	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	50	41.8	42.1	84	84	70-136	1	20	
Dibromochloromethane	ug/L	50	56.2	56.3	112	113	70-130	0	20	
Dichlorodifluoromethane	ug/L	50	46.8	48.2	94	96	20-157	3	20	
Ethylbenzene	ug/L	50	54.7	54.9	109	110	70-130	0	20	
Isopropylbenzene (Cumene)	ug/L	50	53.9	54.6	108	109	70-130	1	20	
m&p-Xylene	ug/L	100	116	117	116	117	70-130	0	20	
Methyl-tert-butyl ether	ug/L	50	47.1	47.7	94	95	59-141	1	20	
Methylene Chloride	ug/L	50	54.0	53.7	108	107	70-130	1	20	
o-Xylene	ug/L	50	52.6	52.6	105	105	70-130	0	20	
Styrene	ug/L	50	52.3	53.3	105	107	70-130	2	20	
Tetrachloroethene	ug/L	50	56.1	55.7	112	111	70-130	1	20	
Toluene	ug/L	50	52.5	51.8	105	104	70-130	1	20	
trans-1,2-Dichloroethene	ug/L	50	58.0	58.3	116	117	70-130	1	20	
trans-1,3-Dichloropropene	ug/L	50	44.8	45.0	90	90	55-135	0	20	
Trichloroethene	ug/L	50	58.0	56.7	116	113	70-130	2	20	
Trichlorofluoromethane	ug/L	50	72.1	71.2	144	142	50-150	1	20	
Vinyl chloride	ug/L	50	51.4	51.7	103	103	61-143	1	20	
4-Bromofluorobenzene (S)	%				101	105	43-137			
Dibromofluoromethane (S)	%				98	97	70-130			
Toluene-d8 (S)	%				95	95	55-137			

Parameter	Units	4078577017		MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike	Conc.	Result	Result						
1,1,1-Trichloroethane	ug/L	<0.44	50	50	54.3	53.5	109	107	107	70-136	1	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.38	50	50	45.8	45.6	92	91	91	70-130	0	20	
1,1,2-Trichloroethane	ug/L	<0.39	50	50	47.2	46.2	94	92	92	70-130	2	20	
1,1-Dichloroethane	ug/L	<0.28	50	50	53.7	52.7	107	105	105	70-146	2	20	
1,1-Dichloroethene	ug/L	<0.43	50	50	56.9	55.7	114	111	111	70-130	2	20	
1,2,4-Trichlorobenzene	ug/L	<2.5	50	50	56.7	57.6	113	115	115	70-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.5	50	50	45.2	46.1	90	92	92	46-150	2	20	
1,2-Dibromoethane (EDB)	ug/L	<0.38	50	50	51.7	51.2	103	102	102	70-130	1	20	
1,2-Dichlorobenzene	ug/L	<0.44	50	50	51.8	52.2	104	104	104	70-130	1	20	
1,2-Dichloroethane	ug/L	<0.48	50	50	52.5	51.6	105	103	103	70-146	2	20	
1,2-Dichloropropane	ug/L	<0.50	50	50	45.9	45.0	92	90	90	70-136	2	20	
1,3-Dichlorobenzene	ug/L	<0.45	50	50	49.0	49.6	98	99	99	70-130	1	20	
1,4-Dichlorobenzene	ug/L	<0.43	50	50	50.9	50.6	102	101	101	70-130	0	20	
Benzene	ug/L	<0.50	50	50	44.5	43.9	89	88	88	70-137	1	20	
Bromodichloromethane	ug/L	<0.45	50	50	57.9	57.7	116	115	115	70-133	0	20	
Bromoform	ug/L	<0.23	50	50	51.1	51.3	102	103	103	57-130	0	20	
Bromomethane	ug/L	<0.43	50	50	58.3	58.8	117	118	118	41-148	1	20	
Carbon tetrachloride	ug/L	<0.37	50	50	62.9	62.7	126	125	125	70-154	0	20	
Chlorobenzene	ug/L	<0.36	50	50	51.8	52.0	104	104	104	70-130	0	20	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Parameter	Units	4078577017		MS		MSD		MS Result	% Rec	MSD Result	% Rec	% Rec Limits	Max	
		Result	Conc.	Spike	Conc.	MS	MSD						RPD	RPD
Chloroethane	ug/L	<0.44	50	50	51.9	52.8	104	106	70-140	2	20			
Chloroform	ug/L	<0.69	50	50	48.7	47.4	97	95	70-130	3	20			
Chloromethane	ug/L	<0.39	50	50	39.0	40.0	78	80	45-154	3	20			
cis-1,2-Dichloroethene	ug/L	<0.42	50	50	55.5	54.7	111	109	70-130	2	20			
cis-1,3-Dichloropropene	ug/L	<0.29	50	50	42.3	41.4	85	83	70-136	2	20			
Dibromochloromethane	ug/L	<1.9	50	50	56.1	55.5	112	111	70-130	1	20			
Dichlorodifluoromethane	ug/L	<0.40	50	50	41.8	41.5	84	83	10-157	1	20			
Ethylbenzene	ug/L	<0.50	50	50	53.9	54.5	108	109	70-130	1	20			
Isopropylbenzene (Cumene)	ug/L	<0.34	50	50	52.3	53.8	105	108	70-130	3	20			
m&p-Xylene	ug/L	<0.82	100	100	113	115	113	115	70-130	2	20			
Methyl-tert-butyl ether	ug/L	<0.49	50	50	48.0	47.7	96	95	59-141	1	20			
Methylene Chloride	ug/L	<0.36	50	50	52.6	52.9	105	106	70-130	1	20			
o-Xylene	ug/L	<0.50	50	50	51.3	51.8	103	104	70-130	1	20			
Styrene	ug/L	<0.35	50	50	50.2	51.1	100	102	35-164	2	20			
Tetrachloroethene	ug/L	<0.47	50	50	54.9	53.9	110	108	70-130	2	20			
Toluene	ug/L	<0.44	50	50	51.7	50.7	103	101	70-130	2	20			
trans-1,2-Dichloroethene	ug/L	<0.37	50	50	56.9	55.7	114	111	70-130	2	20			
trans-1,3-Dichloropropene	ug/L	<0.26	50	50	45.7	44.7	91	89	55-137	2	20			
Trichloroethene	ug/L	<0.43	50	50	55.4	54.6	111	109	70-130	1	20			
Trichlorofluoromethane	ug/L	<0.48	50	50	69.2	68.1	138	136	50-150	2	20			
Vinyl chloride	ug/L	<0.18	50	50	48.0	49.3	96	99	59-144	3	20			
4-Bromofluorobenzene (S)	%							103	105	43-137				
Dibromofluoromethane (S)	%								98	97	70-130			
Toluene-d8 (S)	%								95	94	55-137			

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

QC Batch:	OEXT/18358	Analysis Method:	EPA 8270 by HVI
QC Batch Method:	EPA 3510	Analysis Description:	8270 Water PAH by HVI
Associated Lab Samples:	4078556001, 4078556002, 4078556003, 4078556004, 4078556005		

METHOD BLANK: 798205   Matrix: Water

Associated Lab Samples: 4078556001, 4078556002, 4078556003, 4078556004, 4078556005

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
1-Methylnaphthalene	ug/L	<0.0040	0.050	05/30/13 10:49	
2-Methylnaphthalene	ug/L	<0.0068	0.050	05/30/13 10:49	
Acenaphthene	ug/L	<0.0043	0.050	05/30/13 10:49	
Acenaphthylene	ug/L	<0.0039	0.050	05/30/13 10:49	
Anthracene	ug/L	<0.0054	0.050	05/30/13 10:49	
Benzo(a)anthracene	ug/L	<0.0053	0.050	05/30/13 10:49	
Benzo(a)pyrene	ug/L	<0.0055	0.050	05/30/13 10:49	
Benzo(b)fluoranthene	ug/L	<0.0075	0.050	05/30/13 10:49	
Benzo(g,h,i)perylene	ug/L	<0.0090	0.050	05/30/13 10:49	
Benzo(k)fluoranthene	ug/L	<0.012	0.050	05/30/13 10:49	
Chrysene	ug/L	<0.0069	0.050	05/30/13 10:49	
Dibenz(a,h)anthracene	ug/L	<0.0061	0.050	05/30/13 10:49	
Fluoranthene	ug/L	<0.0058	0.050	05/30/13 10:49	
Fluorene	ug/L	<0.0043	0.050	05/30/13 10:49	
Indeno(1,2,3-cd)pyrene	ug/L	<0.0065	0.050	05/30/13 10:49	
Naphthalene	ug/L	<0.0037	0.050	05/30/13 10:49	
Phenanthrene	ug/L	0.0050J	0.050	05/30/13 10:49	
Pyrene	ug/L	<0.0059	0.050	05/30/13 10:49	
2-Fluorobiphenyl (S)	%	67	39-130	05/30/13 10:49	
Terphenyl-d14 (S)	%	105	73-155	05/30/13 10:49	

LABORATORY CONTROL SAMPLE &amp; LCSD: 798206   798207

Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max RPD	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits			
1-Methylnaphthalene	ug/L	.2	0.16	0.12	80	59	23-130	31	49	
2-Methylnaphthalene	ug/L	.2	0.15	0.11	77	55	22-130	32	50	
Acenaphthene	ug/L	.2	0.15	0.15	76	74	31-130	3	34	
Acenaphthylene	ug/L	.2	0.15	0.14	75	72	31-130	4	37	
Anthracene	ug/L	.2	0.14	0.13	71	66	26-130	7	35	
Benzo(a)anthracene	ug/L	.2	0.19	0.20	93	99	47-130	7	27	
Benzo(a)pyrene	ug/L	.2	0.16	0.17	81	85	41-130	4	28	
Benzo(b)fluoranthene	ug/L	.2	0.19	0.21	96	103	37-130	6	27	
Benzo(g,h,i)perylene	ug/L	.2	0.17	0.18	83	90	37-130	9	29	
Benzo(k)fluoranthene	ug/L	.2	0.18	0.20	90	98	51-130	8	26	
Chrysene	ug/L	.2	0.19	0.21	96	103	50-130	7	26	
Dibenz(a,h)anthracene	ug/L	.2	0.16	0.18	81	88	34-130	8	30	
Fluoranthene	ug/L	.2	0.18	0.18	89	89	49-130	1	26	
Fluorene	ug/L	.2	0.16	0.15	78	76	30-130	2	34	
Indeno(1,2,3-cd)pyrene	ug/L	.2	0.16	0.18	82	88	36-130	7	29	
Naphthalene	ug/L	.2	0.14	0.12	72	58	24-130	22	40	
Phenanthrene	ug/L	.2	0.17	0.16	85	81	39-130	5	30	

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

LABORATORY CONTROL SAMPLE & LCSD: 798206

798207

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Pyrene	ug/L	.2	0.18	0.18	90	91	47-130	1	25	
2-Fluorobiphenyl (S)	%				64	58	39-130			
Terphenyl-d14 (S)	%				91	97	73-155			

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

QC Batch:	WETA/17960	Analysis Method:	EPA 350.1
QC Batch Method:	EPA 350.1	Analysis Description:	350.1 Ammonia, Distilled
Associated Lab Samples:	4078556001		

METHOD BLANK: 802980 Matrix: Water

Associated Lab Samples: 4078556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	<0.25	0.50	06/06/13 21:16	
Nitrogen, Ammonium	mg/L	<0.26	0.53	06/06/13 21:16	

LABORATORY CONTROL SAMPLE: 802981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	10	9.5	95	90-110	
Nitrogen, Ammonium	mg/L		10.0			

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 802982 802983

Parameter	Units	4078402004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	4.4	10	10	14.8	14.3	104	99	90-110	4	20	
Nitrogen, Ammonium	mg/L	4.7			15.7	15.2				4		

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 802984 802985

Parameter	Units	4078556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	3.4	10	10	14.0	13.9	106	105	90-110	1	20	
Nitrogen, Ammonium	mg/L	3.6			14.8	14.7				1		

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## QUALITY CONTROL DATA

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

QC Batch:	WETA/17961	Analysis Method:	EPA 350.1
QC Batch Method:	EPA 350.1	Analysis Description:	350.1 Ammonia, Distilled
Associated Lab Samples:	4078556002, 4078556003, 4078556004, 4078556005		

METHOD BLANK: 802986 Matrix: Water

Associated Lab Samples: 4078556002, 4078556003, 4078556004, 4078556005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	<0.25	0.50	06/06/13 21:46	
Nitrogen, Ammonium	mg/L	<0.26	0.53	06/06/13 21:46	

LABORATORY CONTROL SAMPLE: 802987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	10	10	100	90-110	
Nitrogen, Ammonium	mg/L		10.6			

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 802988 802989

Parameter	Units	4078556002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	1.9	10	10	11.1	11.6	92	98	90-110	5	20	
Nitrogen, Ammonium	mg/L	2.0			11.8	12.3				5		

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 802990 802991

Parameter	Units	4078913001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	<0.25	10	10	10.1	9.8	98	96	90-110	2	20	
Nitrogen, Ammonium	mg/L	<0.26			10.7	10.4				2		

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## QUALIFIERS

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

### BATCH QUALIFIERS

Batch: MSSV/5702

[IP] Benzo(b)fluoranthene and benzo(k)fluoranthene were in the check standard but did not meet the resolution criteria in SW846 Method 8270C. Whereas sample results included are reported as individual isomers, the lab and the customer must recognize them as an isomeric pair.

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

1q Lab filter blank for workorder 10229856.

2q There was no chance for reextraction within sample hold time.

B Analyte was detected in the associated method blank.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

S0 Surrogate recovery outside laboratory control limits.

## REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: 19-0422.00 WEST WATERFRONT

Pace Project No.: 4078556

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4078556001	WMW-1	EPA 6010	ICP/7584		
4078556002	WMW-2	EPA 6010	ICP/7584		
4078556003	WMW-3	EPA 6010	ICP/7584		
4078556004	WMW-4	EPA 6010	ICP/7584		
4078556005	WMW-5	EPA 6010	ICP/7584		
4078556001	WMW-1	EPA 7470	MERP/3672	EPA 7470	MERC/4569
4078556002	WMW-2	EPA 7470	MERP/3672	EPA 7470	MERC/4569
4078556003	WMW-3	EPA 7470	MERP/3672	EPA 7470	MERC/4569
4078556004	WMW-4	EPA 7470	MERP/3672	EPA 7470	MERC/4569
4078556005	WMW-5	EPA 7470	MERP/3672	EPA 7470	MERC/4569
4078556001	WMW-1	EPA 3510	OEXT/18358	EPA 8270 by HVI	MSSV/5702
4078556002	WMW-2	EPA 3510	OEXT/18358	EPA 8270 by HVI	MSSV/5702
4078556003	WMW-3	EPA 3510	OEXT/18358	EPA 8270 by HVI	MSSV/5702
4078556004	WMW-4	EPA 3510	OEXT/18358	EPA 8270 by HVI	MSSV/5702
4078556005	WMW-5	EPA 3510	OEXT/18358	EPA 8270 by HVI	MSSV/5702
4078556001	WMW-1	EPA 8260	MSV/19793		
4078556002	WMW-2	EPA 8260	MSV/19793		
4078556003	WMW-3	EPA 8260	MSV/19793		
4078556004	WMW-4	EPA 8260	MSV/19793		
4078556005	WMW-5	EPA 8260	MSV/19793		
4078556006	TRIP BLANK	EPA 8260	MSV/19794		
4078556001	WMW-1	EPA 350.1	WETA/17960	EPA 350.1	WETA/17989
4078556002	WMW-2	EPA 350.1	WETA/17961	EPA 350.1	WETA/17990
4078556003	WMW-3	EPA 350.1	WETA/17961	EPA 350.1	WETA/17990
4078556004	WMW-4	EPA 350.1	WETA/17961	EPA 350.1	WETA/17990
4078556005	WMW-5	EPA 350.1	WETA/17961	EPA 350.1	WETA/17990

**REPORT OF LABORATORY ANALYSIS**

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(Please Print Clearly)

Company Name:	Ayres Associates
Branch/Location:	Madison
Project Contact:	Jeff Steinley
Phone:	608-443-1259
Project Number:	19-0422-00
Project Name:	West Waterfront
Project State:	WI
Sampled By (Print):	Jeff Steinley
Sampled By (Sign):	<i>JH Stein</i>
PO#:	19-0422-00
Regulatory Program:	Program:

*Pace Analytical®*  
www.pacelabs.com

UPPER MIDWEST REGION  
MN: 612-607-1700 WI: 920-469-2436

## CHAIN OF CUSTODY

Quote #:	1478556
Mail To Contact:	Jeff Steinley
Mail To Address:	Ayres Assoc. Madison
Invoice To Company:	Ayres Associates
Invoice To Address:	East Clain

Data Package Options		MS/MSD		Matrix Codes		*Presentation Codes					
<input type="checkbox"/> EPA Level III		<input type="checkbox"/> On your sample		A = Air		A=None B=ICL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH					
<input type="checkbox"/> EPA Level IV		<input type="checkbox"/> NOT needed on your sample		B = Biota		H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other					

FILTERED? (YES/NO)	PICK LETTER*	Y/N	N	N	Y	N			
		B	A	D	C				

Analyses Requested		VOC	PAH	RCRA Metals (8)	Ammonium / Ammonium

CLIENT FIELD ID	COLLECTION	MATRIX	DATE	TIME	Y/N		LAB COMMENTS (Lab Use Only)	PROFILE #
001	w mw-1	5/23	5:35	GW	X	X	X	
003	w mw-2		5:10		X	X	X	
003	w mw-3		6:40		X	X	X	
004	w mw-4		6:20		X	X	X	
005	w mw-5		6:00		X	X	X	
006	* Trip Blank							

\* Reversed in shipment added to CDC by lab 5/24/13 SWC

3/25/13 DC, 2/10/13, 3/4/13 SWC  
1/1/13  
2/4/13 SWC

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)	Reinquished By: <i>JH Stein</i>	Date/Time: 5/24/13 15:46	Received By: <i>Shane Kelly</i>	Date/Time: 5/24/13 15:46	PACE Project No. 1478556
Date Needed:	Reinquished By:	Date/Time:	Received By:	Date/Time:	
Transmit Prelim Rush Results by (complete what you want):	Reinquished By:	Date/Time:	Received By:	Date/Time:	
Email #1:	Reinquished By:	Date/Time:	Received By:	Date/Time:	
Email #2:	Reinquished By:	Date/Time:	Received By:	Date/Time:	
Telephone:	Reinquished By:	Date/Time:	Received By:	Date/Time:	
Fax:	Reinquished By:	Date/Time:	Received By:	Date/Time:	
Samples on HOLD are subject to special pricing and release of liability					

*Pace Analytical*

Sample Condition Upon Receipt

Client Name: Ayres Assoc Project # 4078556

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Custody Seal on Samples Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used N/A Type of Ice: Wet Blue Dry None  Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 Corr: 20 Biological Tissue is Frozen:  yes  no

Temp Blank Present:  yes  no  no

Temp should be above freezing to 6°C for all sample except Biota.

Frozen Biota Samples should be received ≤ 0°C.

Comments: \_\_\_\_\_

Person examining contents:  
Date: 5-24-13  
Initials: \_\_\_\_\_

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time: - VOA Samples frozen upon receipt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used: -Pace Containers Used: -Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: <u>W</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO <sub>3</sub> <input checked="" type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. <u>(HNO<sub>3</sub>, H<sub>2</sub>SO<sub>4</sub> ≥ 2; NaOH+ZnAct ≥ 9, NaOH ≥ 12)</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exception: VOA coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed: <u>SLC</u> Lab Std #ID of preservative Date/ Time: _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>305</u>		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_

Off for DM

Date: 5/24/13