



May 22, 2015

Mr. Maurice Moore
New York State Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, NY 14203-2999

Re: 2014 Annual Periodic Review Report
Essex/Hope Inactive Hazardous Waste Site, Jamestown, NY
NYDEC Site ID No. 9-07-015
URS 41570166

Dear Mr. Moore:

Enclosed is the 2014 Periodic Review Report for the above referenced site.
Included are:

- CD-ROM PDF of report

A paper copy of the report can be provided upon your request.

Please contact Mr. Timothy King, The Dow Chemical Company at 304-747-3763 if you have any further questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Mark Dowiak".

Mark Dowiak, P.E.
AECOM (formerly URS Corporation)
Dow Business Unit
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Work: 412 503 4672
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cc: Timothy King, The Dow Chemical Company
Matt Forcucci, NY State Dept.
Lou D'Alessio, CPM Inc.

**2014 Annual Periodic
Review Report**

**Essex/Hope Site
Jamestown, New York**

May, 2015

***Prepared for:
Essex Specialty Products, Inc.
Auburn Hills, Michigan***

URS Project No. 41570166



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site Details		Box 1	
Site No.	907015		
Site Name Essex; Hope Site			
Site Address: 125 Blackstone Avenue		Zip Code: 14701	
City/Town: Jamestown			
County: Chautauqua			
Site Acreage: 4.7			
Reporting Period: December 31, 2013 to March 01, 2015			
		YES	NO
1. Is the information above correct?		☒	☐
If NO, include handwritten above or on a separate sheet.			
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.			
5. Is the site currently undergoing development?		☐	☒

Box 2	
	YES NO
6. Is the current site use consistent with the use(s) listed below? Industrial	☒ ☐
7. Are all ICs/ECs in place and functioning as designed?	☒ ☐
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.	
A Corrective Measures Work Plan must be submitted along with this form to address these issues.	
_____ Signature of Owner, Remedial Party or Designated Representative	_____ Date

SITE NO. 907015

Box 3

Description of Institutional Controls

Parcel

Owner

Institutional Control

303-8-2

Custom Production Mfg. Inc.

O&M Plan

Ground Water Use Restriction

Landuse Restriction

Building Use Restriction

Declaration of Covenants and Restrictions filed with Chautauqua County on March 14, 2014

Prohibition of groundwater use

Industrial use restriction

Adhere to O&M Plan

Box 4

Description of Engineering Controls

Parcel

Engineering Control

303-8-2

Groundwater Treatment System

Vapor Mitigation

Groundwater Containment

Groundwater containment by recovery wells

Activated carbon Treatment

Discharge to POTW

One residential sub-slab mitigation system.

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

☒ ☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

☒ ☐

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

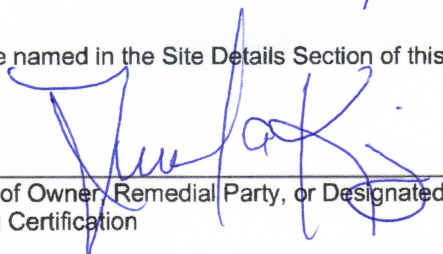
IC CERTIFICATIONS**SITE NO. 907015****Box 6****SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1, 2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Timothy A. King at c/o The Dow Chemical Company
print name 2001 Union Carbide Dr. So. Charleston, WV
print business address

am certifying as Remedial Party (Essex Specialty) (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.


Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification

5/20/15
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

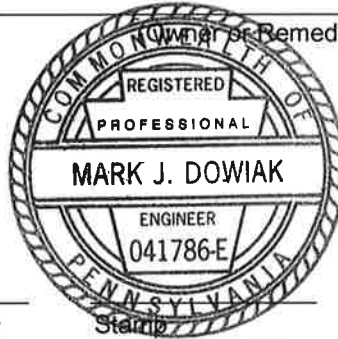
I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I MARK J. DOWIAK at URS (AECOM), FOSTER PLAZA 6, SUITE 400
print name print business address
681 ANDERSEN DR., PITTSBURGH, PA 15220

am certifying as a Professional Engineer for the _____
(Owner or Remedial Party)

Mark J Dowiak

Signature of Professional Engineer, for the Owner or
Remedial Party, Rendering Certification



Stamp
(Required for PE)

5/19/15
Date



2014 ANNUAL PERIODIC REVIEW REPORT

**Essex/Hope Site
Jamestown, New York**

Prepared for:
Essex Specialty Products, Inc.
Auburn Hills, Michigan

Prepared by:

Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

URS Project No. 41570166

May 2015

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I. Site Overview

On behalf of Essex Specialty Products, Inc. (ESP), URS has prepared this Annual Periodic Review Report (PRR), formerly the Annual Performance Monitoring Report for the ongoing remedial actions at the Essex/Hope Site in Jamestown, New York (Site NO.9-07-015) for the period January 1 through December 31, 2014.

An annual report has originally been required by the 1995 New York State Department of Environmental Conservation (NYSDEC) Order on Consent, and has been submitted annually starting with Year 1997. The report format was revised for 2013 in accordance with the new NYSDEC guidance outlined in the August 27, 2013 correspondence to Mr. Timothy King, Dow Chemical Company (ESP). The new report format follows the general guidance for the PRR as outlined in the Enclosure 3 which was included with the NYSDEC letter. An Institutional and Engineering Controls (IC/EC) Certification Form Enclosure 2 is also included in this submittal. The Years 2013 and 2014 PRR submittal dates follow the previous annual report submittal dates of end of first quarter of following year as approved by NYDEC.

The Essex/Hope Site is located on a 4.7 acre parcel of land that is currently owned and occupied by Custom Production Manufacturing, Inc. (CPM) at 125 Blackstone Avenue in the City of Jamestown, NY. The site is located in a highly industrialized area of the city that has seen various degrees of industrial use for the past 75 years. Contamination onsite is the result of historical practices conducted at the facility as discussed in the Remedial Investigation (RI) Report dated October 1992. A site location map is provided as Figure 1.

There are three separate areas that are the focus of remedial action and include the North Parking Lot (NPL) Area, the former Underground Storage Tanks (UST) Area, and the former Aboveground Storage Tank/Underground Storage Tank (AST/UST) Area. These areas and the site monitoring points are illustrated on Figure 2.

The remedial systems at the Essex/Hope Site were designed and constructed to address impacted groundwater and soils by a combination of soil vapor extraction, air sparging, and a groundwater extraction and treatment. The original remedial action design and implementation was based upon the March 1994 Record of Decision (ROD) issued by the NYSDEC and included:

- A groundwater remediation system consisting of an extraction well network of five (5) shallow and two (2) deep recovery wells and activated carbon groundwater treatment with onsite discharge to the local POTW;
- Soil remediation in the AST/UST and UST Areas by soil vapor extraction (SVE) for volatile organic constituents occurring above the shallow water table.
- Soil excavation in the NPL Area, conducted in September and October of 1996, to remove impacted soils in the former sump and surrounding areas.
- Air sparging in the shallow water-bearing zone of the NPL, UST and AST/UST Areas to supplement the treatment of impacted groundwater via enhanced biodegradation and volatilization of organic constituents. A soil vapor extraction system was added to the NPL Area to collect volatile organic constituents (VOCs) volatilized from the shallow groundwater in this area.
- The remedial areas were capped with either asphalt or concrete to enhance surface water runoff and minimize infiltration.
- A network of monitoring wells across the site (as designated in the Performance Monitoring Plan) is used to measure the effectiveness of the groundwater remedial activities.

Supplemental Remedial Activities

Voluntary supplemental remedial activities were initiated in 2000, with the approval of the NYSDEC as follows:

- In July, 2000 a pilot scale zero-valent iron (ZVI) permeable reactive barrier (PRB) was injected around recovery well RW-2D within the lower semi-confined water-bearing zone beneath Building 5. The pilot PRB was designed to evaluate the effectiveness of ZVI technology to reduce and control the migration of dissolved VOC constituents from the site. As part of this evaluation, additional groundwater piezometers were installed for performance monitoring of the pilot PRB. A report entitled Interim Results, PRB Pilot Results for First Four Sample Rounds (URS,

February 2001) and a final pilot test report detailing results through December 2002 were submitted to NYSDEC in July 2003.

- The former underground storage tanks (USTs) in the UST Area were uncovered in August 2000 and evaluated as a potential ongoing source of VOCs in this area. Additional test borings and groundwater piezometers were installed within the upper shallow water-bearing zone in this area to evaluate groundwater and soil chemical conditions, and to refine groundwater flow direction and constituent migration. Results of these activities were reported in the Plant #5 East Area and UST Area Investigations Report (URS, March 2001).
- As part of the UST Area investigation, the area east of Building 5 was evaluated at the request of the NYSDEC to determine the source of vinyl chloride within the lower water-bearing zone at Monitoring Well MW-19D, located on the Site's eastern property line. A network of test borings and deep piezometers were installed within the UST Area and on the offsite property to the east for evaluation of chemical conditions within the soil and groundwater. Results of these activities were reported in the Plant #5 East Area and UST Area Investigations Report (URS, March 2001).
- In year 2001 the former USTs (Tanks 1 through 4) in the UST Area were uncovered and cleaned-out to remove residual liquids. Openings were cut in each tank and the fluid contents removed, and each tank was rinsed with potable water. Following rinsing, the tanks were treated using the Biox[®] chemical oxidation process to remove residual organic constituents in the tanks. Results of the tank cleaning were submitted to the NYSDEC in the Tank Closure Work Plan (URS, September 2001).
- Based upon the results of the Biox solution treatment of the USTs VOCs were not reduced below the "clean closure" standard of 5 µg/L within Tanks T-1, T-3 and T-4 as required by the NYSDEC. Between the period of November 2002 and January 2003 all five (5) of the former USTs in the UST Area, and over 1000 tons of soil were removed and hauled offsite to an approved landfill. Results of this activity have been submitted to the NYSDEC in the UST Removal Interim Report (URS, February 2003).
- A site investigation was completed in October 2003 to further define conditions in the UST Area and the vinyl chloride groundwater plume on the east side of the former Plant No. 5 building. This investigation was completed to provide data to address

potential additional measures for the site cleanup. These potential measures focus on insitu methods especially those that are able to treat both the UST Area contaminants (toluene, ethylbenzene, xylenes) and the vinyl chloride plume. Results of the investigation are reported under separate cover. The new monitoring wells installed as part of these investigations, MW's: 21D, 22D, 23S, 23D and 24S, are shown on Figure 2. Of these wells, MW-21D and MW-22D were added to the Performance Monitoring Plan (PMP) as directed by the NYSDEC. The results of this investigation have been submitted to the NYSDEC in the UST Area and Groundwater Vinyl Chloride Investigations Report (URS, June 2004).

- Supplemental site investigations were performed from November, 2005 through June, 2006 for the UST Area and the offsite groundwater zones. The objectives of the investigations were as follows:
 - *Determine the extent of the residual VOC contamination in the UST Area shallow soils and groundwater.* The most recent investigations (2003) found VOCs in shallow groundwater approximately 30 feet south of the former USTs. Additional investigations were necessary to further delineate the extent of the VOCs to the south and east, and offsite, if necessary.
 - *Determine the extent of the VOC contamination in shallow groundwater in the vicinity of Monitoring Well 14S.* Performance monitoring has indicated that shallow groundwater VOCs have persisted at elevated levels (> 1ppm) in monitoring well 14S, north of the NPL Area and offsite, north of Hopkins Avenue. Previous investigations (June, 2004 report) indicated that MW-14S had a TCE level of 2700 ppb, which was the highest TCE detected in the shallow water-bearing zone.
 - *Determine the extent of the VOCs in deep groundwater in the offsite area northeast and east of CPM Plant No. 5.* The latest offsite groundwater investigations (2003) found VOCs in deep groundwater to the northeast (MW-22D) of the site, approximately 50 ft. beyond the property boundary. This area is in the downgradient groundwater direction (under non-pumping conditions), and the VOCs are expected to be residual

contamination from migration of the historic plume. Additional investigations were necessary to determine the extent of the offsite deep groundwater VOC plume. The results of these investigations were summarized in a separate report submitted to NYDEC in December 2006.

- Phase I of the Supplemental Remedial Actions was initiated in November of 2007. These included a new recovery well in the area northeast of the site, RW-6D and monitoring wells, MW-25S and MW-25D along Hopkins Avenue. Residential vapor sampling was also performed at 159 Hopkins Avenue. Recovery Well RW-6D installation was completed in the second half of 2008 and placed on-line in September 2008. Phase II Supplemental Remedial Activities commenced in November 2008 with the installation of a residential vapor mitigation system at 159 Hopkins Avenue.
- VOCs in the UST Area were evaluated for insitu treatment technologies and a chemical oxidation treatability study was completed in 2010. A Remedial Action Work Plan for insitu chemical oxidation (ISCO) of the UST Area was submitted to NYDEC in August 2011 and continued Phase II remedial actions commenced in the fourth quarter of year 2011. Four (4) shallow monitoring wells (MW-26S, MW-27S, MW-28S, and MW-29S) were installed in the UST Area to better evaluate the extent of VOCs in the area and for monitoring of the subsequent ISCO results.
- ISCO was conducted in November 2011 to treat the shallow groundwater in the UST Area. The area surrounding RW-6D was also treated at this time to address the acetone plume in the deep groundwater zone. Performance monitoring of groundwater and soils was initiated in December 2011 and continued through 2012. Results of these activities were summarized in a separate report submitted to NYDEC in the fourth quarter of 2012.
- From October – December 2013, shallow soil and groundwater investigations were conducted in the UST Area West Building to determine the extent of residual VOCs remaining in the UST Area following the completion of the chemical oxidation. Results of these activities were summarized in a separate report to be submitted to NYDEC in 2015.

- In October, 2014 supplemental groundwater investigations were conducted to evaluate and confirm the distribution of VOCs in the shallow and deep groundwater zones in the offsite areas to the north and northeast. These investigations were performed in conjunction with the planned annual groundwater sampling and included monitoring wells that had not been routinely sampled and direct-push groundwater sampling in offsite areas. Results of these investigations are summarized in this report. See Appendix D for a summary of the sampling plan and the direct-push sampling logs.

Major System Modifications

Major modifications to the original remedial systems configuration since startup in 1997 have included the following:

- Groundwater extraction from Recovery Well RW-1D, screened across the deep water-bearing zone in the NPL Area, was discontinued in June 1999 with the approval of the NYSDEC. As reported in the 1999 Annual Performance Monitoring Report (Radian International, April 1999), a pumping evaluation completed in the first half of 1999 revealed that vertical leakage was occurring from the shallow water-bearing zone to the deep water-bearing zone due to pumping from the deep zone. Based upon this information, and the fact that the majority of the groundwater constituents are recovered from RW-2D, NYSDEC recommended that RW-1D be shut down as documented in the June 17, 1999 correspondence from the NYSDEC to Radian International.
- The air sparging system in the NPL Area was shut down in July 2000, with the approval of the NYSDEC, to prevent the oxidation of the newly installed Pilot Permeable Reactive Barrier (PRB) and zero-valent iron injections in that area. The soil vapor extraction system continued to be operated in this area through 2001 to collect potential gases produced by subsurface reactions associated with the Pilot PRB and zero-valent iron injections in that area.
- Air sparging in the UST Area was discontinued in October 2000 after mechanical failure of the air sparge pump. Since the combined soil vapor extraction/air sparging

system had reached its practical remedial effectiveness, Dow initiated activities to implement supplemental remedial activities to replace the original system, with the approval of the NYSDEC. These supplemental remedial activities include the insitu cleaning of the former USTs completed in December 2001 and February 2003, and the UST removals completed between November 2002 and January 2003.

- The soil vapor extraction system and groundwater recovery system (Recovery Wells RW-4S and RW-5S) in the UST Area were shut down in November 2002 prior to removal of the USTs. Excavation work resulted in complete removal of the electrical system for the UST Area, Recovery Well RW-4S, and underground piping to the soil vapor extraction/air sparging wells and existing Recovery Well RW-5S. These systems were demolished. There are no plans at this time to redesign or reconstruct the UST Area remediation system.
- The AST/UST Area system was shut down since August of 2006 and remains offline pending supplemental remedial action in the AST/UST and UST areas and eventual permanent disconnection. The SVE System in the NPL Area was operated on a voluntary basis as an additional safeguard against potential vapor release. However, the system was shut down in November 2007 following review of air stream sample analyses that indicated vapor phase VOCs are negligible and this area poses no potential hazard associated with vapor release.
- As a result of the findings of the years 2005-2006 UST Area and Offsite Groundwater Investigations one new recovery well (RW-6D) was installed in November 2007 in the deep groundwater zone VOC plume offsite to the north. RW-6D was placed on-line in September, 2008. RW-6D was temporarily shut down in August 2011 due to elevated levels of acetone in excess of permit limits in the treatment system effluent. RW-6D remained offline for most of the 1st half of year 2012 while continued efforts were made to address the acetone hotspot. URS' research determined that acetone is not included on the USEPA list of Total Toxic Organics (TTOs) and therefore, not considered a compound of interest. On June 6, 2012, a letter of notification was sent to the City of Jamestown Board of Public Utilities (BPU) advising that acetone would no longer be reported as a TTO. RW-6D was subsequently restarted on June 11, 2012. Acetone levels in the RW-6D area were monitored and the extent of the

acetone in the deep groundwater zone was delineated. Groundwater monitoring is ongoing.

- URS Corporation (URS) and subcontractor Mitigation Tech installed a residential vapor venting system on November 18, 2008 at 159 Hopkins Avenue. URS performs annual inspections of the system.

Performance Criteria

The criteria to evaluate remediation effectiveness are the Remedial Action Objectives (RAOs) included in the March 1994 Record of Decision (ROD) for the site. Table 1 summarizes the RAOs for the site.

The groundwater treatment system operates under a Jamestown Board of Public Utilities (BPU) Pre-Treatment permit for discharge to the city sewer and POTW. Pre-treatment effluent limitations are contained in the permit and they are described in Section V.

Performance monitoring completed during the 2014 calendar year is discussed in Section V of this report.

II. Remedy Performance, Effectiveness and Protectiveness

Remedy performance, effectiveness and protectiveness were assessed by evaluation of historic monitoring data, including Year 2014 data, in comparison to the project remedial objectives.

Year 2014 monitoring is described in Section V.

The remedial action has historically been broken down by three (3) major site areas: North Parking Lot Area (NPL), AST/UST Area and the UST Area. Since the supplemental investigations conducted in years 2003-2008 the offsite groundwater area to the north and northeast, described as the "North Area", has been included in the site remedial action and performance evaluations. The remedial action performance is summarized in the following tables and figures:

Figures 3 through 6 present the potentiometric surface mapping for the shallow and deep groundwater zones for March 25 and July 21, 2013.

Figure 7 summarizes the shallow groundwater zone annual monitoring results for year 2014.

Figure 8 summarizes the deep groundwater zone annual monitoring results for year 2014.

Figures 9 through 16 present the site-wide shallow groundwater trichloroethylene (TCE), cis-1,2-Dichloroethylene (cDCE) and vinyl chloride (VC) distributions in shallow and deep groundwater zones, and the ratio of TCE/VC in both zones. The TCE/VC ratio provides a general assessment of the degree of TCE degradation in groundwater to by-product VC. The higher value areas represent lesser natural degradation of the TCE.

Figure 17 presents the distribution of acetone in deep groundwater.

Figures 18 and 19 present the distribution of ethylbenzene and total xylenes in shallow groundwater in the UST Area.

Groundwater Potentiometric Surface Elevations and Flow Conditions

Shallow groundwater natural regional flow direction (under non-pumping conditions) is to the northeast to the Chadakoin River. See Figure 1. Groundwater flow is influenced by pumping at recovery wells in the NPL and AST/UST Areas. See Figures 3 and 4. No groundwater recovery wells operate in the UST Area since they were removed with the UST excavation action.

Shallow groundwater is captured in the AST/UST Area and the NPL Areas by recovery wells RW-1S, RW-2S and RW-3S. A local groundwater mound is evident in the UST Area, and varies in size depending on the time of the well measurements. This mound is suspected to be an effect of variable surface infiltration in the area which is enhanced by the drywell drainage systems on the south end of CPM Building No.5. The offsite areas further to the north and northeast of the site are under non-pumping flow regimes since recovery wells are not present in these areas.

Deep groundwater natural regional flow direction (under non-pumping conditions) is to the northeast. Deep groundwater flow is influenced by pumping at recovery wells RW-2D and RW-6D in the NPL Area and the North Area northeast of the site near Hopkins Avenue. Recovery well RW-6D was down during the first quarter of 2014, including during the time of the semi-annual water level measurements.

Deep zone groundwater plume capture is evident by the flow gradients to recovery wells RW-2D and RW-6D. The 2014 data is presented on Figures 5 and 6 for the monitoring dates of March 25 and July 21, 2014 respectively. It is noted that the March data was collected while recovery well RW-6D was shutdown, and recovery well RW-2D was the primary deep recovery well in operation. This well has limited drawdown effects in the area of RW-6D. A flat-gradient area is evident when only RW-2D is in operation; however, the northern migration of the deep groundwater plume in the area of RW-6D was not evident during this period. Typical groundwater drawdown effects during operation of both deep recovery wells is similar to the conditions depicted in the July 21 data, which is supported by the years 2008-2013 operating data.

Vertical hydraulic gradients under pumping conditions are downward, as expected. Vertical gradients beyond the recovery well areas of influence (non-pumping conditions) are also slightly downward.

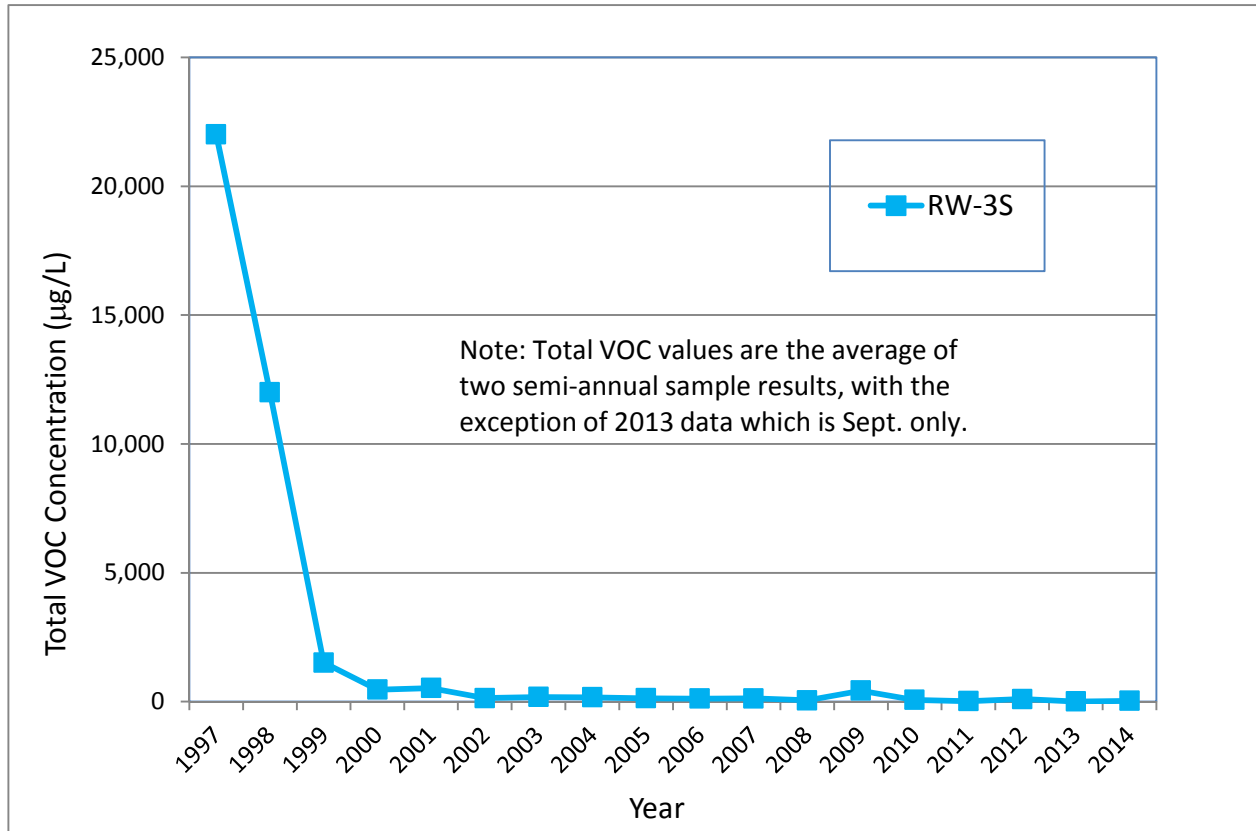
AST/UST Area Groundwater VOCs

The AST/UST Area shallow groundwater is monitored by Recovery Well RW-3S and Monitoring Well MW-2. Deep groundwater VOCs were not present in this area. TCE and by-products 1, 2-DCE and vinyl chloride are at or near 1 ug/l in the AST/UST Area. Vinyl chloride levels were non-detect. Since some of the VOCs are non-detect, the TCE/VC ratios were not calculated. See Figures 7 and 9 through 12

VOCs ethylbenzene and xylenes were detected in RW-3S in November, 2014. These VOCs were not previously detected in this well. The presence of these VOCs is expected to be a result of plume migration from the UST Area West Building hot spot discovered in year 2013. See the UST Area in this section and Figures 18 and 19.

In year 2014 VOCs isopropylbenzene, cis-1,2-DCE and TCE were detected in MW-2, all at levels less than 5 ug/l. Since year 2002 recovery well RW-3S total VOCs have been at or near non-detect level (5 ug/l). Recovery Well RW-3S removed 0.0032 pounds of VOCs in 2014. This was over a 90% decline from 2013 (0.32 pounds). See Section V.

Recovery Well RW-3S



North Parking Lot (NPL) Area

The NPL Area remedial actions address both the shallow and deep groundwater zones.

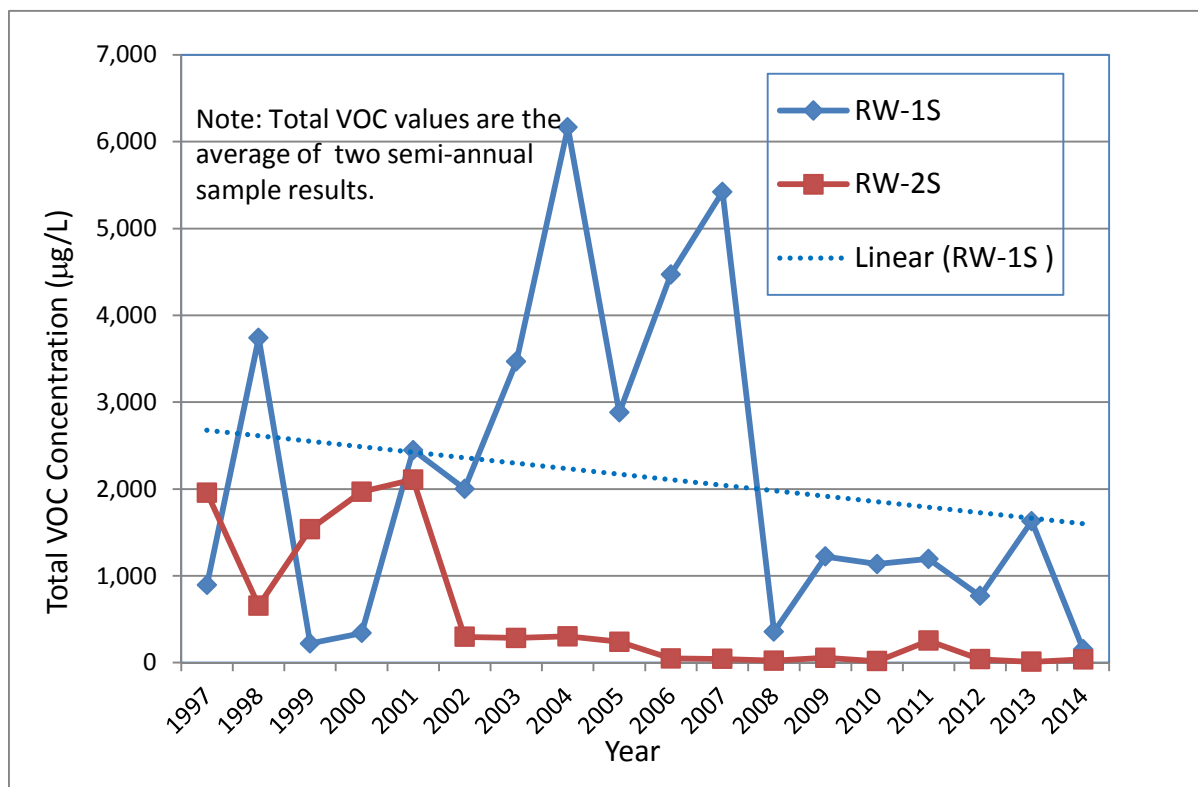
Shallow Groundwater Zone

Maximum shallow groundwater TCE concentration found in this area in 2014 was 58.8 ug/l (RW-1S, June, 2014). This represented a decline of 94% from the maximum concentration of 937 ug/l detected in the NPL Area in year 2013. See Figures 7 and 9 through 12. The TCE/VC ratio ranges from 1-10 in the center of the NPL Area VOC plume, indicative of moderate TCE degradation. The ratios are less than 1.0 on the fringes of the plume. The TCE, cDCE and VC plumes are generally overlain indicating recovery well capture and limited migration.

Recovery Wells RW-1S and RW-2S removed approximately 0.15 pounds of VOCs in year 2014, compared to 0.90 pounds in year 2013. See Section V. Total VOCs have been declining over

time, primarily in RW-2S which is located on the northern end of the NPL Area. Since year 2006 the VOC levels in this well have been at or near non-detect level (5 ug/l). Total VOCs in RW-1S, near the center of the plume, have varied over time, with the values being consistently around the 1,000 ug/l level since year 2008. This is a decline of 75% from the average TCE levels of approximately 4,000 ug/l during the period of years 2004-2007. Year 2014 RW-1S TCE levels were further reduced on average 92% from year 2013. Additional monitoring will be necessary to confirm if this decline is a long-term trend or a short-term variation in the NPL Area.

NPL Area- Shallow Recovery Wells



Deep Groundwater Zone

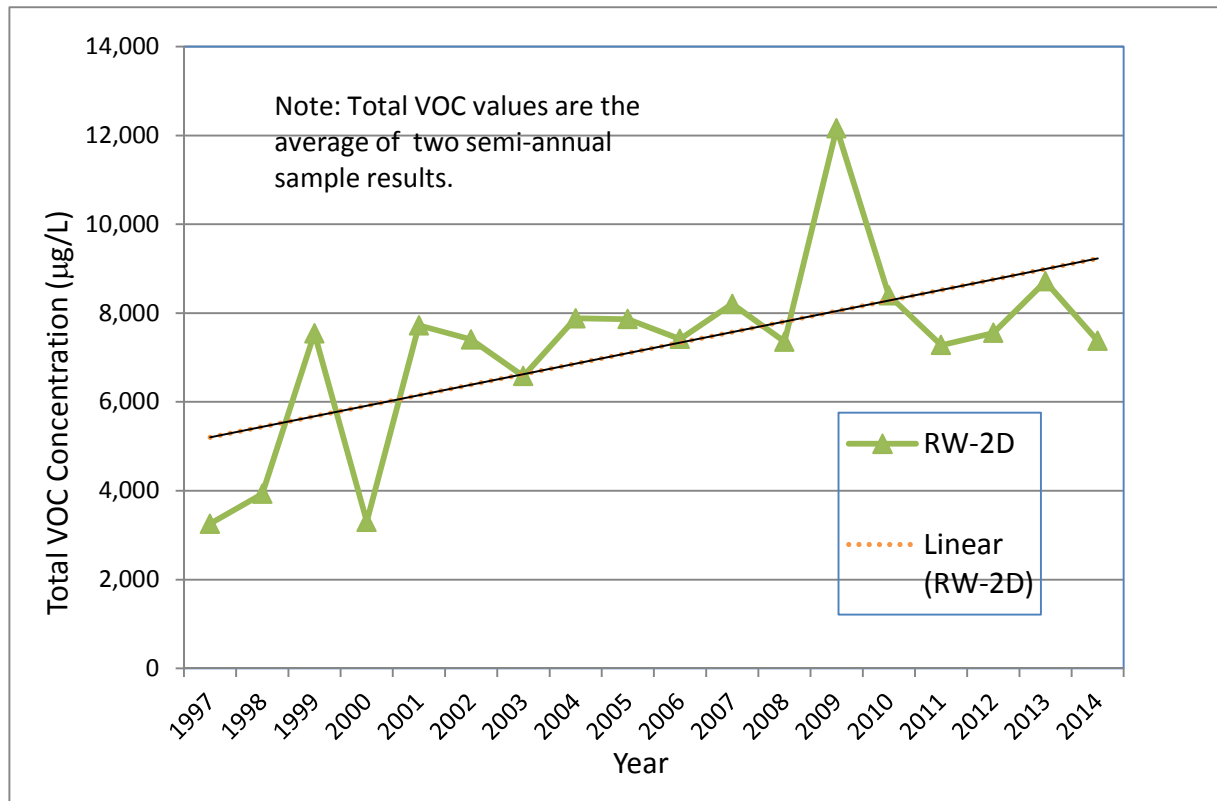
In the NPL Area deep groundwater VOCs have been higher than the shallow zone VOCs in the since year 1999, and since year 2010 they have been consistently approximately 8 times higher as demonstrated by comparison of recovery wells RW-1S and RW-2D. Maximum TCE in the NPL Area deep groundwater zone in year 2014 was 2580 ug/l (RW-2D). Average TCE levels in RW-6D declined slightly in year 2014, however total VOCs were reduced approximately 20% mainly because of reductions in by-products cis 1,2-DCE and vinyl chloride. See Figures 8 and 13 through 16. The TCE/VC ratio ranges from 0.5 -5.0 in the center of the VOC plume, indicative of variable TCE degradation. The deep zone TCE, cDCE and VC plumes in the NPL Area are at relatively low concentrations and represent the upgradient fringe of the primary deep VOC plume to the northeast.

A notable finding in 2014 was the detection of TCE at 2170 ug/l in monitoring well GP-2D, in the southeast corner of CPM Building No. 5. This well was not previously sampled as part of the annual performance monitoring. It was re-developed and sampled as part of the year 2014 supplemental groundwater investigations conducted in October, 2014. (See Appendix D).

Recovery Well RW-2D removed 39.14 pounds of VOCs in year 2014. See Section V. Total VOCs are generally increasing and have varied since year 1997, with the values ranging from 7000 to 9000 ug/l since year 2009.

Capture of the NPL Area deep VOC plume is demonstrated by the potentiometric surface induced by recovery well RW-2D. Delineation of the NPL Area hydraulic capture in the offsite north area is not well-defined since the respective capture zones overlap, however it is evident that the VOC plume has not migrated further from the NPL Area in year 2014 as demonstrated by offsite monitoring well VOCs. See the following section..

NPL Area- Deep Recovery Well RW-2D



Offsite North Area

The Offsite North Area remedial actions address both the shallow and deep groundwater zones.

Shallow Groundwater Zone

Maximum shallow groundwater TCE in year 2014 in the north downgradient area was 221 ug/l (MW-18). Monitoring well MW-25S in this area also had a similar TCE level of 175 ug/l. This is the furthest downgradient monitoring well to the northeast of the site. These values are similar to the historic data and indicate that a low-level TCE plume ranging from 50-200 ug/l has migrated offsite to the northeast. The TCE/VC ratios in this area are over 50, indicative of limited TCE degradation. See Figures 7 and 9 through 12.

The year 2006 offsite investigations assessed the shallow groundwater VOCs in the northeast area between the site and the Chadakoin River. Groundwater samples were taken from direct-push test borings and existing monitoring wells along Hopkins Avenue north of the site property. TCE and cDCE were the dominant compounds detected in the shallow groundwater. Vinyl chloride was not detected in any of the samples. Maximum concentrations detected were TCE at 210 ug/l and cDCE at 81 ug/l at TBN-17, adjacent to a residential building at 159 Hopkins Avenue. The shallow groundwater TCE/cDCE plume was found to be entirely offsite, and extend approximately 500 feet east of the northeast corner of the site property. The plume is a narrow band of low concentration TCE/cDCE that extends to the east along the north side of Hopkins Avenue, to near the river. The northern extent of the plume was approximately 170 feet north of Hopkins Avenue. The surface conditions in the plume area are light industrial with the exception of one residential building located at 159 Hopkins Avenue.

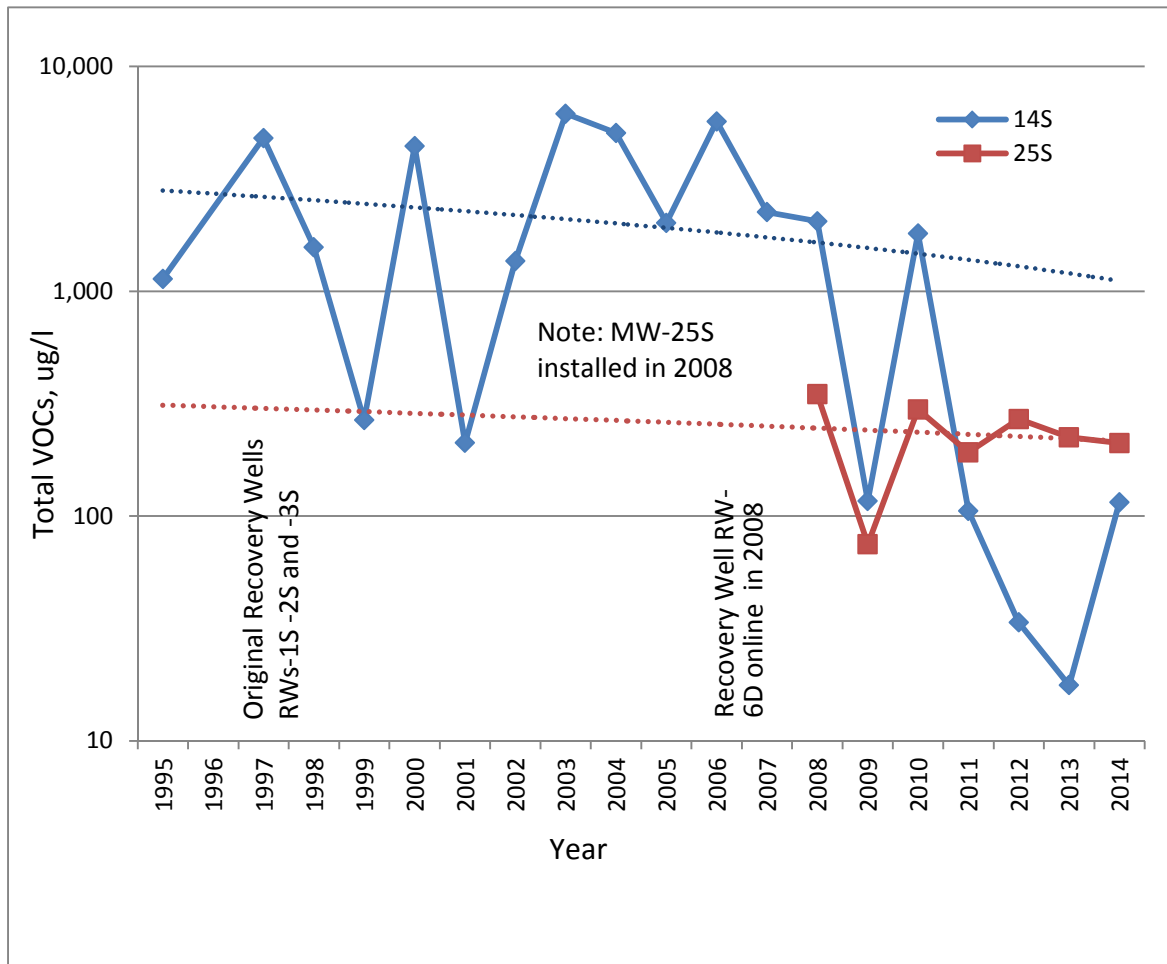
In the year 2006 investigations the eastern limit of the TCE plume was not beyond TBN-20, the furthest east test boring drilled. Groundwater from this test boring was below detection limits for all VOCs. The potential for future shallow groundwater discharge to the Chadakoin River was evaluated in those investigations. The shallow offsite VOC plume was determined to be a historical remnant of site operations and no further remedial actions were evaluated at the time, other than ongoing monitoring.

In year 2007 the residence at 159 Hopkins Avenue was investigated for potential vapor intrusion. Three (3) vapor probes were installed at the north, west and south sides of the residential structure. Generally, all of the vapor probes had detectable levels of VOCs in both rounds of sampling, except for the North-VP sample on the north side of the residence. The samples were also generally consistent by VOC compound with the groundwater VOCs. TCE, cDCE, toluene ethylbenzene and xylenes were found in the vapor samples at all three locations. As a result of the findings URS Corporation (URS) and subcontractor Mitigation Tech installed a residential vapor venting system on November 18, 2008.

In year 2014 the offsite TCE, cDCE and VC plumes in the shallow groundwater zone continue to migrate to the north and northeast under natural attenuation conditions. Monitoring is performed by MWs-14S and -25S to the north and MW-25S to the northeast. Monitoring well total VOCs over time have been declining, primarily in MW-14S over the period 2010 to 2013, however MW-14S total VOCs increased in 2014 to 114.9 ug/l. Year 2013 MW-14S TCE level was 17.7 ug/l, the lowest concentration detected since the beginning of monitoring in 1996. MW-25S total

VOCs have varied over time, with the values consistently around the 200 ug/l level since Year 2008.

Monitoring Wells MW-14S and MW-25S – North Off-Site Area



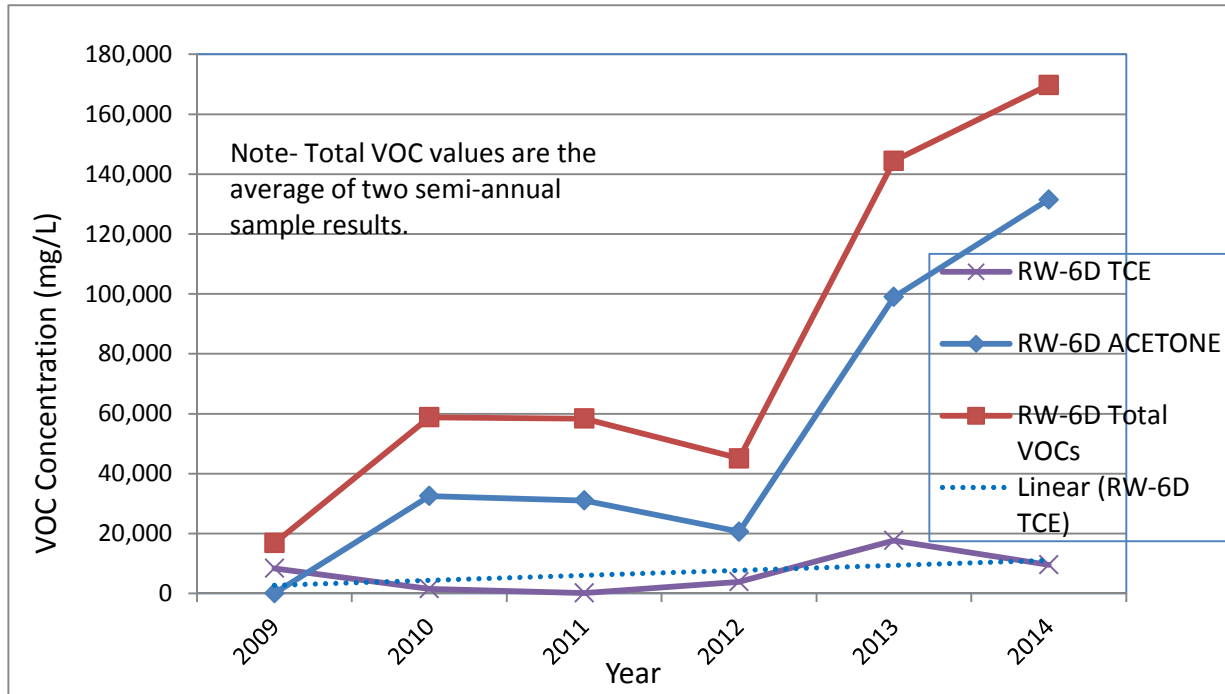
The year 2014 groundwater investigations confirmed the extent of the shallow groundwater VOCs in the offsite areas to the north and northeast between the site and the Chadakoin River. The shallow VOC plume continues to persist in the area of H&H Metals and the private residence at 159 Hopkins Avenue. See Figure 9.

Deep Groundwater Zone

Deep groundwater VOCs in the offsite North Area have been two (2) orders of magnitude higher than the shallow zone VOCs since Year 2006 when new monitoring wells were constructed in the area. No prior data was available in this area. Maximum TCE in the deep groundwater in year 2014 was 22,400 ug/l at MW-15D, on the north side of Hopkins Avenue directly across from CPM Building No. 5. This value was approximately the same as found in year 2013 (24,500 ug/l). See Figures 8 and 13 through 16. The area around MW-15D is the hotspot for the deep groundwater VOC plume. The TCE/VC ratio varies in the VOC plume from less than 10 on the west to greater than 300 to the northeast. Generally, this data suggests that the TCE plume has degraded closer to the original source area compared to the downgradient northeast area. This effect may be a result of ZVI injections in the NPL Area which have not affected the plume that has migrated offsite.

Recovery Well RW-6D has removed 220 pounds of VOCs in 2014. See Section V. Total VOCs have been increasing since the well went on-line in 2008, with a 4x increase from 2012 to 2014. This recent increase correlated with a similar increase in deep groundwater acetone levels. It is noted that on average 78% of the total VOCs in RW-6D in 2014 are comprised of acetone. TCE was initially at 8,360 ug/l in 2009, and was variable with a slight increasing trend until 2013 when it increased about 5x to 23,600 ug/l in 2013 (Sept 2013). TCE decreased about 30% in Year 2014.

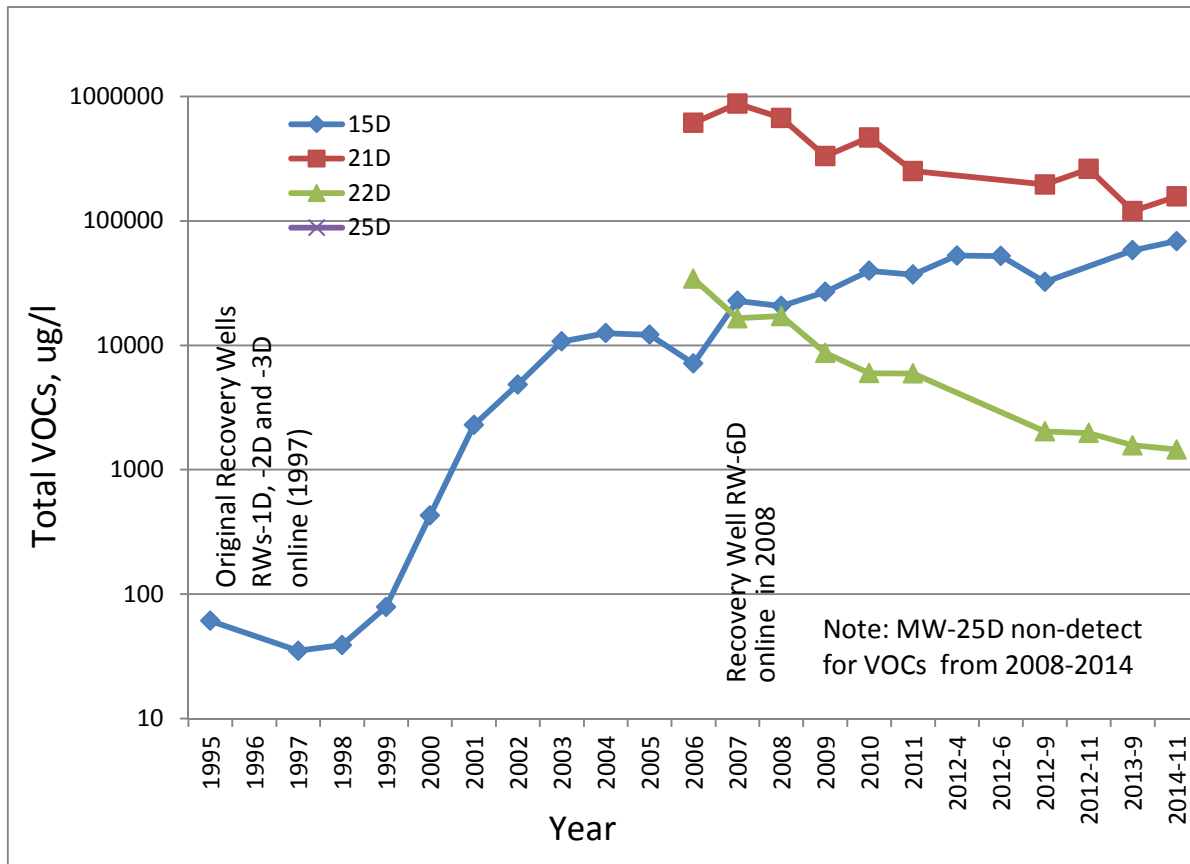
Recovery Well RW-6D – North Site Area



The deep groundwater TCE plume extent in the North Area has remained relatively stable since the start of monitoring. TCE concentrations have been redistributed and are generally declining as a result of groundwater pumping. MW-16D, approximately 100 feet north of Hopkins Avenue and furthest to the north of the site was non-detect for VOCs in year 2014. MW-15D, on the north side of Hopkins Avenue and directly south of MW-16D has had the highest TCE levels detected onsite and is in the center of the VOC north plume. TCE levels in MW-15D have been steadily increasing since the start of monitoring in year 2007. Monitoring well MW-22D, the furthest well to the northeast, near recovery well RW-6D, has had continuously declining TCE levels from 20,643 ug/l in year 2006 when it was constructed to 1,270 ug/l in year 2014. Likewise, TCE levels in MW-21D have declined from 530,000 ug/l in year 2008 to 1270 ug/l in year 2014. This is a result of groundwater recovery at RW-6D.

Monitoring well MW-25D, furthest to the east in the vicinity of Hopkins Avenue, has been non-detect for VOCs since it was installed in year 2008. The northeast limit of the deep VOC plume has been contained by groundwater pumping and it does not extend as far to the northeast as the shallow groundwater VOC plume as previously described. A summary of total VOC levels (less acetone) in the north area monitoring wells is as follows:

Monitoring Wells MW-15D, -21D, -22D and 25D – North Site Area



The extent of the north area offsite deep groundwater VOC plume has been confirmed by the findings of the year 2014 supplemental site investigations. Further, capture of the plume is demonstrated by the potentiometric surface induced by recovery wells RW-2D and RW-6D. Partial shutdown of RW-6D in year 2014 has not shown any significant loss of containment of the deep groundwater plume, mainly because of the ongoing drawdown of recovery well RW-2D. However, temporary shutdown of RW-6D has indicated a reduction of total VOC removal on an annual basis.

Delineation of the North Area plume capture versus the NPL Area in the vicinity of MW-15D is not well-defined since the respective capture zones overlap, however it is evident that the VOC plume has not migrated in a northern or northeast direction offsite. A low gradient area is evident in the vicinity monitoring well MW-15D and groundwater recovery is limited in this area. This is likely a reason that VOC levels have not declined in the area as represented by MW-15D.

Acetone in North Area Deep Groundwater

An average of 70% of the total VOCs detected in MW-21D and RW-6D in year 2014 is comprised of acetone. Acetone has been found as high as 423,000 ug/l in this area (MW-21D, November, 2014). Acetone was originally reported in 2001 to be present in deep soil samples taken in the area southeast of CPM Building #5. Groundwater analyses in this area indicated that acetone in the deep zone at PZ-5D and PZ-6D, on the east side of the building. Concentrations ranged from 1,600 ug/l at PZ-6D to 14,000 µg/l at PZ-5D. PZ-9D in the UST Area had an acetone level of 240 µg/l. These groundwater values generally correlated with the soil acetone values found in this area, with the exception of PZ-9D, which had the highest soil acetone concentration at 240 mg/kg.

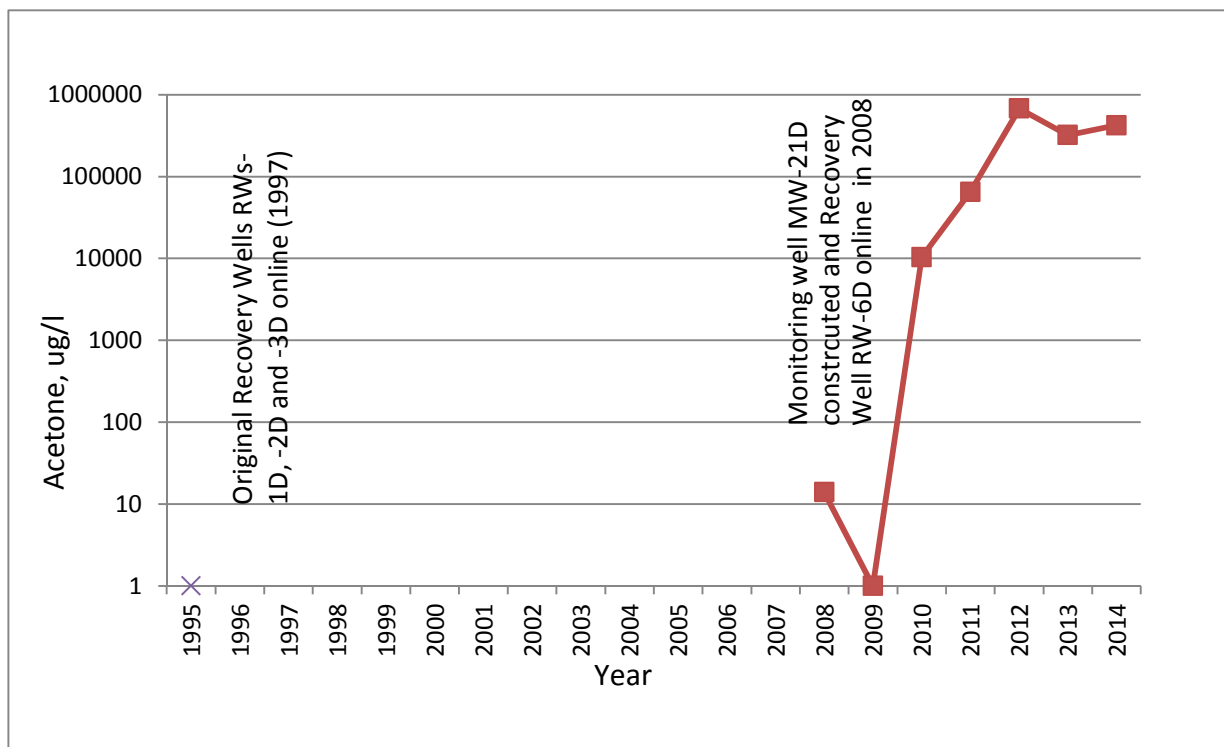
In the year 2004 offsite groundwater investigations, it was reported that acetone was found at the highest levels in site groundwater in monitoring points PZ-5D and PZ-6D, at concentrations of 960 mg/l and 190 mg/l, respectively. These points were also directly east of CPM Building #5 and represented the highest acetone concentrations found onsite to-date. In addition, these levels represent increases of more than one order of magnitude compared to levels found in the same monitoring points from previous (2001) investigations.

In year 2004 the deep zone acetone was found to be concentrated near the southeast corner of CPM Building #5, at the east side of the UST Area. The acetone source appeared to originate in the deep zone at the east end of UST Area near PZ-9D, since acetone was not present in the shallow zone in the UST Area, nor was it detected in any other site area at significant levels. Acetone in deep groundwater was limited to the area southeast of CPM Building #5 as evidenced by the non-detect levels in MW-19D and VP-6D. The acetone presence, being only in the deep groundwater zone, suggested either a historic upgradient source, or a historic onsite release that has migrated to the deep zone, and is not currently present in its original shallow

source area (UST Area). The migration of acetone was expected to be limited by both the current deep zone pumping in the NPL Area and the bioattenuation of acetone in groundwater.

Acetone level in MW-21D in year 2014 was 423,000 ug/l compared to 14 ug/l in year 2008. Acetone in PZ-6D in year 2012 was approximately 400 mg/l. MW-21D is on the north side of CPM Building #5 and presents a four (4) orders of magnitude increase in the previous acetone plume delineation and suggests a recent northern migration since 2008, possibly induced by the pumping at RW-6D.

Monitoring Well 21-D Acetone



The extent of the deep groundwater acetone plume has been confirmed by the findings of the year 2014 supplemental site investigations. The plume continues to persist in the area of the northeast corner of CPM Building No. 5. The center of the plume as represented by the 100 ppm isocontour has shifted north since 2012, likely a result of the influence of recovery well RW-6D and the natural groundwater flow direction.

UST Area

The UST Area shallow groundwater has been investigated since year 2004 as part of the ongoing UST Area remedial actions. Deep groundwater VOCs were not present in this area. The West Building area adjoining the main UST Area was not investigated since it was an active manufacturing operation up to year 2013.

The UST Area shallow groundwater was treated with insitu injection of sodium persulfate in November, 2011. The area was monitored for six months for post-ISCO performance conditions. The results of this monitoring were presented to NYDEC in a report following completion of the first six months of monitoring activities. The UST Area has been added to the site Performance Monitoring Plan commencing in year 2014.

A low-VOC plume remains in the main UST Area following the ISCO treatment. The plume consists primarily of ethylbenzene and xylenes at concentrations of less than 100 ug/l. The plume continues to migrate under natural attenuation conditions. The MW-29S area adjacent to the West Building has shown persistently high VOCs post-ISCO. This area was discovered to be a part of the untreated VOC plume present under the West Building.

Supplemental site investigations were performed in the West Building Area in 2013. Groundwater samples were collected from 13 test borings and one (1) existing monitoring well (HW-6) in the area. In addition, other local monitoring wells were sampled as part of the site performance monitoring plan. Sample intervals were approximately 12-14 feet BGS.

Chemical analyses indicates that the VOC's detected were primarily cumene (isopropylbenzene), toluene, ethylbenzene and xylenes (CTEX). Chlorinated VOCs were not found in the underlying groundwater; however, cis-1, 2-dichloroethylene and vinyl chloride were detected in monitoring well HW-6, and test boring TBUST-203. Both of these locations are at the north end of the West Building, near the existing TCE plume in the NPL Area. Two (2) active recovery wells (RW-1S and RW-2S) are extracting shallow groundwater in this area as part of the ongoing site remedial actions.

Ethylbenzene and xylenes were found at the highest concentrations, up to 30,100 and 142,700 ug/l respectively. By comparison, VOCs ethylbenzene and xylenes were also the predominant compounds detected in the ISCO baseline groundwater sampling in the UST Area. Cumene was found at lower concentrations and toluene was not detected in any of the samples. In all of the baseline samples the total CTEX concentration comprised 100% of the detected VOCs with the exception of MW-20 and MW-29S. Other VOCs were found at lower concentrations and are considered not related to the UST Area.

The year 2013 shallow groundwater investigation in the West Building Area indicates the following:

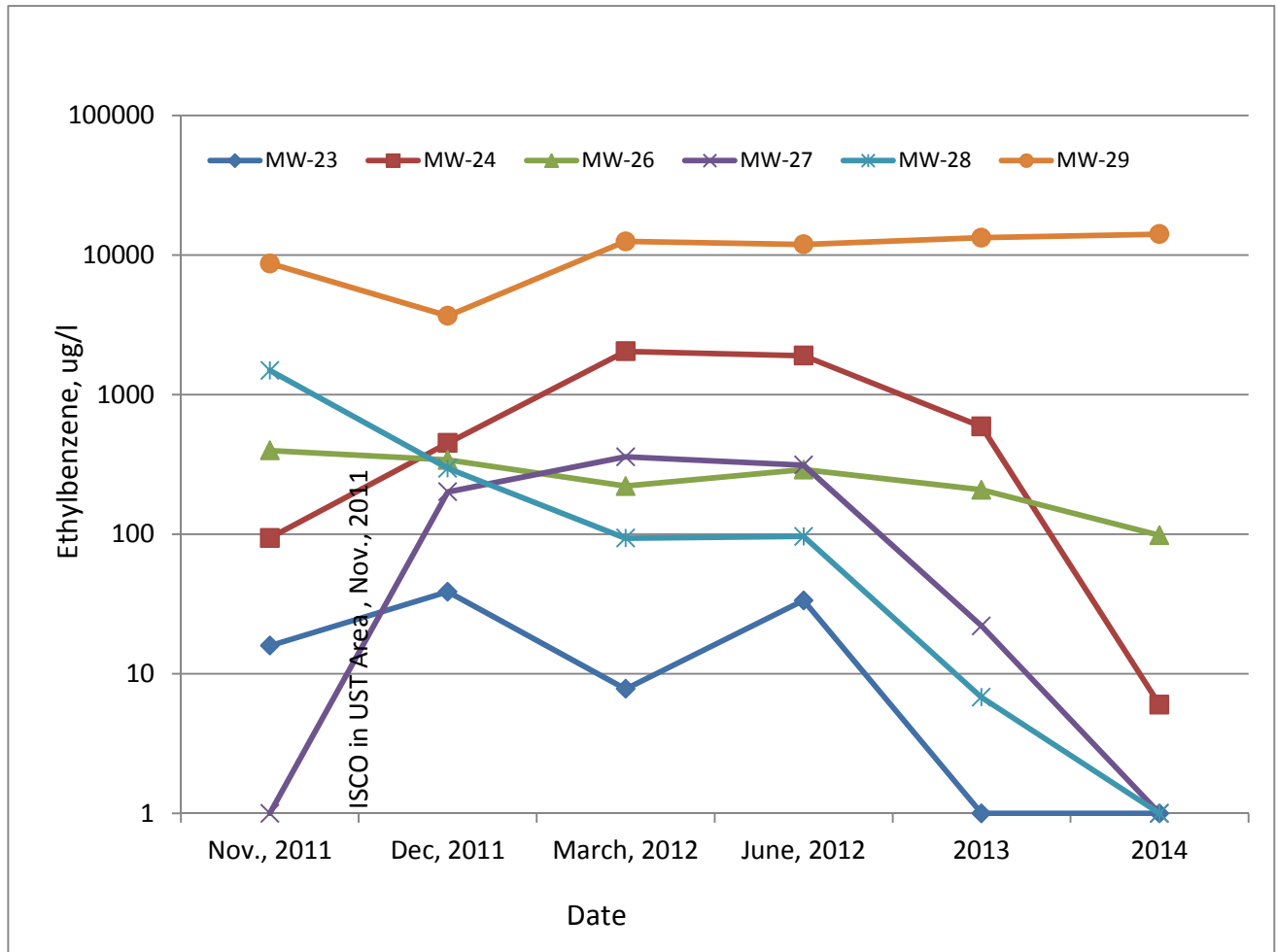
- The ethylbenzene and xylenes detections in shallow groundwater are the same VOC compounds and at similar concentration ranges as found in the UST Area VOC plume outside of the West Building, concentrated at MW-29S. This indicates that the West Building VOC plume is a westward extension of the UST Area plume.
- The West Building VOC plume was concentrated within the eastern end of the building, and outside of the building around MW-29S. The entire VOC plume in the UST Area is approximately 15,000 square feet in area.
- The source of the ethylbenzene/xylenes in groundwater beneath the West Building is not likely from inside of the West Building or the underlying soils. This is based on the low levels of ethylbenzene/xylenes in the building subsoils (<1 ppm), as compared to the historically elevated ethylbenzene/xylenes in soils outside of the building in the UST Area. The UST Area plume source is expected to be in the area of the five (5) former USTs, directly south of CPM Building No.5. The VOCs present beneath the West Building are expected to be a result of historic contaminant migration from the UST Area VOC source area.

Supplemental groundwater investigations were conducted in the UST Area in year 2014 to delineate the extent of the shallow groundwater VOCs, mainly in the remaining western portion of the West Building that was not investigated in year 2013. See Figures 18 and 19.

These investigations indicate that the West Building VOC plume is concentrated at the east side of the building, however shallow groundwater ethylbenzene and xylenes have migrated to the north of the main plume, likely a result of shallow groundwater pumping and natural groundwater flow direction.

In general, ethylbenzene and xylenes levels have been reduced in the main UST Area after ISCO actions in 2011. All shallow monitoring well results in year 2014 are at or below 100 ug/l ethylbenzene. Total xylenes exhibit a similar distribution as ethylbenzene. The exception is monitoring wells MW-29S and -24S on the west side of the UST Area, adjacent to the West Building. This is the area of the remaining VOC plume concentrated beneath the West Building that was not accessible for ISCO in year 2011.

Ethylbenzene in Shallow Groundwater– UST Area



III. IC/EC Plan Compliance Report

Institutional controls and engineering controls (IC/EC) are built into the project remedial action as part of the operations and maintenance manual (O&M), performance monitoring plan (PMP) and recent deed restrictions filed by CPM Inc. to establish permanent notifications in the Chautauqua County office of Recorder of Deeds, Mayville, NY. The Declaration of Covenants and Restrictions and the latest deed filing from 2013 are contained in Appendix A of the 2013 PRR.

Engineering controls have been implemented at the site as part of the NYSDEC Order on Consent which outlined the remedial actions pursuant to the March 1994 Record of Decision issued by the NYSDEC. The site IC/EC Certification Form is included in the front of this PRR.

The remedial systems at the Essex/Hope Site were designed and constructed to address impacted groundwater and soils by a combination of soil vapor extraction, air sparging, and a groundwater extraction and treatment. The original remedial action design and implementation included:

- A groundwater remediation system consisting of an extraction well network of five (5) shallow and two (2) deep recovery wells and activated carbon groundwater treatment with onsite discharge to the local POTW;
- Soil remediation in the AST/UST and UST Areas by soil vapor extraction (SVE) for volatile organic constituents occurring above the shallow water table.
- Soil excavation in the NPL Area, conducted in September and October of 1996, to remove impacted soils in the former sump and surrounding areas.
- Air sparging in the shallow water-bearing zone of the NPL, UST and AST/UST Areas to supplement the treatment of impacted groundwater via enhanced biodegradation and volatilization of organic constituents. A soil vapor extraction system was added to the NPL Area to collect volatile organic constituents (VOCs) volatilized from the shallow groundwater in this area.
- The remedial areas were capped with either asphalt or concrete to enhance surface water runoff and minimize infiltration.

- A network of monitoring wells across the site (as designated in the Performance Monitoring Plan) is used to measure the effectiveness of the groundwater remedial activities.

Voluntary supplemental remedial activities were initiated in year 2000, with the approval of the NYSDEC, to refine the delineation of subsurface constituents and to evaluate potential remedial alternatives to enhance remedial effectiveness. A summary of the additional activities performed at the Site after the initial remedial actions is contained in Section II.

A subs lab depressurization system (SSDS) was installed in year 2008 at the residential building at 159 Hopkins Avenue, northeast of the site area. URS performs annual inspections of the SSDS, before the heating season commences (November 15), typically during the first 2 weeks of November. In 2014 the system was found to be in good working condition. The year 2014 SSDS Inspection Log is contained in Appendix D.

The Routine Maintenance and Monitoring Activities Schedule for the remedial treatment system is contained in Table 2. The facility *Operations and Maintenance Plan, revision 1, September, 2005, URS Corporation* is under separate cover and is not attached to this PRR document.

IV. Monitoring Year 2014

The year 2014 monitoring plan includes remedial performance monitoring and groundwater treatment system discharge monitoring required by the City of Jamestown. Monitoring consists of both chemical and physical measurements. Physical measurements involved water level recordings at site monitoring and recovery wells. Chemical measurements consist of laboratory analyses of recovery wells, selected monitoring wells, and the influent/effluent streams of the groundwater treatment system. Specific details of the performance monitoring methods can be found in the *Performance Monitoring Plan for the Essex/Hope Site, February, 2011, URS Corporation (PMP)*. A revised PMP has been submitted to NYDEC in March, 2014. Treatment system monitoring is outlined in the City of Jamestown Bureau of Public Utilities (BPU) Pre-treatment Discharge Permit for effluent discharge to the city sewer system and publicly-owned treatment works (POTW).

An evaluation of the remedial system performance is contained in Section III.

Performance monitoring completed during the 2014 calendar year consisted of monthly groundwater pre-treatment system influent and effluent analyses, semi-annual recovery well groundwater analyses, and annual groundwater sampling of the monitoring wells selected as performance monitoring points. No performance monitoring soil sampling was completed during 2014.

Soil sampling and additional groundwater monitoring have been conducted as part of the supplemental remedial investigations performed in the UST Area. The results of the investigations are described in the *UST Area West Building Soil and Groundwater Investigations Report, March, 2014, URS Corporation*. In addition, additional groundwater sampling was performed during the annual sampling event to further delineate the offsite groundwater VOCs. This work included sampling of older monitoring wells not routinely sampled as part of the PMP and direct-push sampling. The supplemental groundwater sampling results are presented on Table 9. The scope of this sampling is summarized in Appendix D.

The groundwater treatment system monitoring consists of monthly influent, effluent and intra-carbon vessel effluent sampling. Monitoring reports are submitted to the BPU on a semi-annual frequency.

The monitoring for 2014 is summarized in the following tables and figures:

Table 3 summarizes the recovery well extraction volumes for year 2014.

Table 4 summarizes the semi-annual recovery well analytical data for year 2014.

Table 5 contains the year 2014 annual performance monitoring well data.

Recovery Well groundwater extraction performance data for year 2014 is illustrated in Appendix A. Laboratory Certificates of Analysis are included in Appendix D.

Groundwater Flow Conditions

Groundwater level measurements were collected in March and July of 2014. Both sets of data are during recovery well pumping periods. All recovery wells were down during most of the first quarter because of heating system malfunctions in the treatment building. Recovery well RW-6D was down during an extended period beyond the first quarter of year 2014 because of discharge line freezing. In addition, all of the recovery wells were down periodically during a large part of the second quarter because of carbon vessel failure. Operating data is summarized in Appendix A-2.

First and fourth quarter water level measurements were not collected due to inclement weather and system shutdown. Due to the extent of site historic data and knowledge, this was not deemed an issue since water levels under static and pumping conditions have been demonstrated to be fairly consistent across an annual period during the last 6 years.

Recovery Well Extractions

Recovery well flow rates and total water volumes are recorded continuously for each well and are manually logged on a minimum semi-monthly basis. Total annual groundwater volumes removed in year 2014 for each recovery well and each site area are summarized in Section VI.

Recovery Well and Monitoring Well Sampling

Recovery Wells RW-1S, -2S, -2D, -3S, and -6D were sampled on June 27, 2014 and November 24, 2014. Monitoring Wells were sampled in November, 2014. The monitoring well network consisted of the following:

- NPL Area and Offsite North/East – MW-6, MW-7S, MW-7D, MW-8, MW-14S, MW-14D, MW-15S, MW-15D, MW-16D, MW-19D, MW-21D, MW-22D, MW-25S, MW-25D, PZ-7D, and VP-6D;

- AST/UST Area – MW-2;
- UST Area – MW-20, MW-23S, MW-24S, MW-26S, MW-27S, MW-28S, MW-29S, MW-30 and MW-31

Appendix B contains a summary of year 2014 analytical data.

Groundwater Treatment System

Pursuant to the City of Jamestown Board of Public Utilities (BPU) Industrial Wastewater Discharge Permit Number 26 (Permit), the pre-treatment system is monitored for pH and Total Toxic Organic (TTO) VOCs to ensure compliance with the discharge requirements. Sampling points include the influent, primary carbon effluent and secondary carbon effluent (discharge to POTW). These points are sampled on a monthly basis and reported to the Jamestown BPU on a semi-annual basis. Semi-annual BPU Reports are contained in Appendix C.

A summary of the treatment system year 2014 monitoring data is contained in Section VI.

Acetone Pre-Treatment

In year 2010, groundwater acetone levels have increased significantly in the site North Area which includes recovery well RW-6D. See Section III. These acetone levels resulted in increases in acetone concentrations in treatment system influent. The primary VOC removal process involves activated carbon which has been documented to be inefficient for acetone removal.

On September 14, 2011 URS reported a discharge exceedance to the BPU. The Notice of Non-Compliance for an exceedance of the discharge limitation in August, 2011 was reported as follows:

Parameter	Effluent , mg/l	Permit Limitation, mg/l
:	August 31, 2011	
Acetone	2.42	-
Cis-1, 2 Dichloroethene	0.017	-
Vinyl Chloride	0.016	-
Total Volatile Organics	2.45 mg/l	2.13 mg/l

All other VOCs analyzed by EPA Method 8260 were below detection limits. Verbal notification was provided to the BPU on September 15, 2011.

The groundwater treatment system carbon was changed out in July, 2011 and the first set of monitoring samples with the new carbon was taken on July 29, 2011. On August 10, URS reported a non-compliance of 3.818 mg/l total VOCs for the July, 2011 reporting period, primarily for acetone. The treatment system and the groundwater recovery wells were temporarily shut down from August 10 through August 18, 2011 to stop the acetone discharge and allow evaluation of the treatment system.

Source of Acetone

Since year 2009, recovery well 6D had shown acetone detections at increasing concentrations up to the March, 2011 sample. All of the other recovery wells have shown non-detect acetone levels over this time period. The monitoring well network has confirmed the presence of an isolated acetone hot spot directly east of CPM Building No. 5, near RW-6D.

The RW-6D acetone data over the 2 1/2 year period up to March, 2011 was reported as follows:

Acetone at Recovery Well RW 6D 2009 -2011

Date	Acetone, ug/l
March, 2009	60.8
September, 2009	16,000
June, 2010	21,100
December, 2010	32,500
March, 2011	31,000

The original source of the groundwater acetone was expected to be related to the historical industrial activities at the Essex/Hope Site, although specific releases of acetone have not been documented in the site remedial investigations. Acetone is also suspected to be present, in part, as a result of degradation of other organic compounds present in the groundwater VOC plume.

The treatment system influent has also presented an increasing acetone concentration over this same time period, although at a lower level than RW-6D because of dilution with the other recovery well waters. During this period, the treatment system has been removing the VOCs to below discharge limits, including acetone, up until the reported exceedance in July, 2011.

Corrective Actions

URS had temporarily shut down the treatment system and recovery wells for 8 days in August, 2011 during which the source and treatability of the acetone groundwater was assessed, with the assistance of carbon supplier, Siemens Industry Inc. The preliminary conclusion was that the acetone breakthrough in July, 2011 was a result of both increased acetone influent concentrations and hydraulic short-circuiting of the recently added fresh carbon.

Based on these conclusions, RW-6D was been temporarily take off-line, the carbon vessels were flushed, and the recovery wells and carbon treatment system were re-started on August 18, 2011. The August discharge sample was taken on August 31 as reported above.

Cause of August, 2011 Effluent Exceedance

The August monitoring data showed that the treatment system influent acetone was non-detect, however, the primary carbon effluent and the final effluent had acetone levels of 537 ug/l and 2,420 ug/l, respectively. This data indicates that the source of acetone in the treatment system influent has been eliminated by shutdown of RW-6D however residual acetone present in the carbon vessels had been discharged. These mechanisms are expected to be a combination of sorption zone VOC replacement, also referred to as rollover, and hydraulic inefficiencies. This residual acetone was expected to be flushed from the carbon vessels in the short-term and the treatment system could continue to remove all VOCs to below discharge limitations.

Although the carbon rollover effect was evident in the release of acetone to the system effluent, the long-term monitoring of the North Area indicated that high acetone levels persisted and were increasing. As a result of this issue, URS examined options for acetone management using the existing remedial systems and possible supplemental actions.

As a result of the assessments, in June 7, 2012 a letter was submitted to the City of Jamestown BPU regarding reclassification of acetone for discharge compliance. Essex Specialty Products, Inc. is classified as a Significant Industrial User subject to Categorical Pretreatment Standards. As such, reporting was developed in accordance with the requirements of 40 CFR 403.12(e). Specific requirements of reporting include, but are not limited to, monthly measuring of Total Toxic Organics (TTOs) in the discharge. Based on initial monitoring in 1996-1997 identifying 98% of the influent TTO component as volatile organic compounds (VOCs) and historic site knowledge, the permit required sampling of VOCs to measure the TTO concentration.

As part of URS' ongoing efforts to address the issues of the groundwater acetone hotspot at the site, research of the current United States Environmental Protection Agency (USEPA) guidance was conducted. The USEPA list of TTOs is contained in 40 CFR 401, part 15, Toxic Pollutants. It was found that acetone is not included in the list; therefore, it is not considered to be a compound of interest. In addition, acetone has been documented to not be a toxic compound for biological treatment processes as are present in the Jamestown POTW. In the past, URS has mistakenly reported acetone as a TTO and as a result have temporarily shut down Recovery Well, RW-6D, which operates in the area of the isolated plume of acetone. URS also

performed insitu chemical oxidation injections in the hotspot area around RW-6D in December, 2011 to treat the acetone in place to reduce the loading on the treatment system. Based on this new information, URS no longer reported acetone as a TTO in the BPU Semi-Annual Reports starting in 2012; however acetone levels in the effluent are reported for reference.

Conclusions and Recommendations

It has been concluded that the current monitoring schedule is efficient and will continue as is. Selected groundwater monitoring locations were added to the annual sampling plan (2014 PMP) based on gained site information and supplemental remedial investigations in the UST Area. No additional or significant changes are recommended to the monitoring plans at this time.

V. Operations and Maintenance

Groundwater Treatment System

The site groundwater treatment system consists of a 2,200 gallon equalization tank, transfer pump, sediment filters, and two (2) 900 lb. granular carbon treatment vessels arranged in series. A third carbon treatment vessel is retained as a spare for carbon change-outs. The groundwater pumped from the recovery wells is discharged to the equalization tank, and pumped through the carbon vessels for pre-treatment. In-line filtration is provided between the equalization tank and the primary carbon vessel. Treated groundwater discharge is to the City of Jamestown sanitary sewer on Hopkins Avenue for conveyance to the City of Jamestown Publicly Owned Treatment Works (POTW). Evaluation of the monthly system analytical data determines when the carbon is spent and it is necessary to change out, therefore, avoiding any POTW discharge violation limits. System carbon was changed out in October, 2014.

No violations occurred during this annual reporting period. See Appendix C for the Semi-Annual BPU Reports.

- The groundwater extraction system was operated continuously throughout the year 2014 reporting period with the exception of system shutdowns and routine maintenance as summarized below:
- All recovery wells were offline between January 1, 2014 and March 11, 2014 due to transfer pump repair and inclement weather pending heater repair. RW-6D remained offline pending heat trace repair.
- All recovery wells were offline between April 8, 2014 and June 5, 2014 due to a break in a carbon vessel. RW-6D returned online on June 27, 2014 following replacement of variable speed drive.
- All recovery wells were offline between September 30, 2014 and October 2, 2014 for RW-6D acid treatment activities.
- All recovery wells were offline between October 6, 2014 and October 8, 2014 for carbon change out activities.

- All recovery wells experienced minor periodic shutdowns for mechanical and electrical repairs, equipment replacement, or maintenance.

Total annual groundwater volumes removed in year 2014 for each recovery well and each site area are summarized in Table 3.

Recovery Wells and Treatment System Maintenance

Routine maintenance consists of bi-weekly inspection/check of the system piping, pressure gauges, equalization tank including level probes, carbon vessels, and overall operations. Recovery well and totalizer flow meter readings are collected during bi-weekly inspections. Average flow rates are calculated from this data. Groundwater extraction performance data can be found in Appendix A-3.

Recovery well maintenance consists of well development on an as-needed basis, at a minimum annually, pump/meter disassembly inspection and cleaning and level probe inspection/cleaning. As a result of the aquifer lithology in the area of RW-6D, fine silts build up in this well requiring development by an outside drilling contractor. RW-2D and RW-6D are also cleaned via acid treatment on an annual basis to remove iron oxide accumulation in the well.

The equalization tank transfer pump required repair in year 2014 because of leaks in the motor seals. Through research and discussion with pump distributor, it was determined that the proper pump is being utilized for the site operations. It was further determined that the leaks are potentially being caused by the excess silt generated from RW-6D. A new pump will be procured in year 2015 for back up, thus eliminating future extended down time when pump repairs are required. In year 2012, the Jamestown BPU Water Division conducted a state required analysis of commercial and industrial water connections to the BPU water system and backflow prevention devices. As part of the analysis, a *Backflow Prevention Device Inventory Form* was submitted in September, 2012. By the end of year 2013, the BPU required that the building be inspected by a Licensed Master Plumber to determine if a backflow prevention device should be installed and if so, installed by the end of the calendar year or if classified as non-hazardous and therefore exempt from requiring the device. In September, 2013, an inspection of site operations was performed by a Licensed Plumber and the building was deemed non-hazardous to the public water supply and exempt from installation. A *Form for Backflow Prevention Device Exemption* was submitted to and approved by the BPU Water Division, also in September of 2013.



In year 2014 and annually thereafter, URS (on behalf of the property owner) will submit a *Backflow Prevention Device Exemption Renewal Form* in October of each calendar year. In year 2014 the submittal was made in October 2014. The renewal form serves as assurance that none of the conditions of the building have changed since initial inspection and subsequent approval by the BPU. An updated Approval Number is assigned to the facility each year.

VI. Overall Conclusions and Recommendations

This section is broken down by three subparts per the NYSDEC PRR guidance. A single Site Management Plan (SMP) has not been compiled for the site, although the separate components of the plan, i.e., O&M Plan, PMP and IC/EC are addressed in the individual site plans that have been prepared for the remedial actions. Included in these plans are the Remedial Design drawings and specifications and later revisions which are incorporated into the O&M Plan.

Compliance with the Site Management Plan

- The remedial systems for groundwater extraction and treatment have continued to operate throughout 2014 with some intermittent shutdowns for maintenance/repairs as previously described.
- Air sparge and SVE systems in the AST/UST Area, NPL Area and UST Area have been shut down since year 2000.
- No new remedial components have been added in year 2014.
- The groundwater treatment system has met monthly effluent limitations without any non-compliance discharges in year 2014. Monthly monitoring has been performed in year 2014.
- Annual performance monitoring per the PMP was performed in October, 2014. Data is included in this report.
- Supplemental site investigations have been performed in year 2014 to delineate the extent of VOCs in the UST Area West Building. In October, 2013 soil and groundwater samples were collected in the West Building and the extent of the residual VOCs in the UST Area was determined. A report submittal to NYSDEC is pending. Additional remedial actions for the shallow groundwater VOCs will be evaluated in year 2015.
- Subslab vapor samples were collected in April, 2014 from the CPM Building #5 and West Building to assess potential vapor intrusion. Vapor management measures will be evaluated after review of the investigation data. *The Soil Vapor Intrusion Data Summary Report for the 2013/2014 Heating Season, URS Corporation* was submitted to NYDEC in May, 2015.

Performance and Effectiveness of the Remedy

AST/UST Area-

- Shallow groundwater- TCE and by-products 1, 2-DCE and vinyl chloride are at or near 1 ug/l. Recovery Well RW-3S removed 0.0032 pounds of VOCs in year 2014. This was over a 90% decline from year 2013. See Section V. The only VOC detected above RAOs was isopropylbenzene in MW-2 at 6.1 ug/l, a decrease from year 2012. Recovery well RW-3S total VOCs indicate that since year 2002 the VOC levels have been at or near non-detect level (5 ug/l).
- Compliance soil sampling was not performed. The AST/UST Area soils will be sampled concurrent with the UST Area upon completion of additional remedial actions in the UST Area West Building Area.

UST Area-

- Shallow groundwater- A low VOC plume remains in the main UST Area following the year 2011 ISCO treatment. The plume consists primarily of ethylbenzene and xylenes at concentrations of 100 ug/ and less. The plume continues to migrate under natural attenuation conditions.
- In year 2013, the West Building VOC plume was delineated and is concentrated in the eastern end of the building, and outside of the building around MW-29S. The entire VOC plume in the UST Area is approximately 15,000 square feet in area. The ethylbenzene and xylenes detections in shallow groundwater are the same VOC compounds and at similar concentration ranges as found in the UST Area VOC plume outside of the West Building, concentrated at MW-29S. This indicates that the West Building VOC plume is a westward extension of the UST Area plume and was not treated as part of the year 2011 ISCO actions. Supplemental investigations conducted in the West Building area in year 2014 further delineated the shallow VOCs and indicated that there has been some limited migration to the north, near the NPL Area.
- Additional remedial actions for the West Building VOC plume will be evaluated in year 2015.

- Compliance soil sampling was not performed. The UST Area soils will be sampled upon completion of additional remedial actions in the UST Area West Building Area.

NPL Area-

- Shallow groundwater – In year 2014 the maximum shallow groundwater TCE concentration in the area was 58.8 ug/l (RW-1S). The TCE, cDCE and VC plumes are generally overlain indicating recovery well capture and limited migration. Recovery Wells RW-1S and RW-2S removed 0.15 pounds of VOCs in 2014. This was an approximately 80-% reduction from year 2013. Total VOCs have been declining over time, primarily in RW-2S which is located on the northern end of the NPL Area. Since year 2006 the VOC levels in this well have been at or near non-detect level (5 ug/l). Total VOCs in RW-1S, near the center of the plume, have varied over time, with the values being consistently around the 1000 ug/l level since year 2008. This is a decline of 75% from the average TCE levels of approximately 4000 ug/l during the period of Years 2004-2007.
- Deep groundwater- VOCs have been higher than the shallow zone VOCs in the NPL Area since year 1999, and since year 2010 they have been consistently approximately 8 times higher as demonstrated by comparison of recovery wells RW-1S and RW-2D. Maximum TCE in the deep groundwater zone in year 2014 was 2,580 ug/l (RW-2D). The deep zone TCE, cDCE and VC plumes in the NPL Area are at relatively low concentrations and represent the upgradient fringe of the primary deep VOC plume to the northeast. Recovery Well RW-2D removed 39.14 pounds of VOCs in year 2014. This was similar to the mass removed in year 2013 (52 lbs.). Total VOCs are generally increasing and have varied since year 1997, with the values being around the 8000 ug/l level since year 2009.
- Capture of the NPL Area deep VOC plume is demonstrated by the potentiometric surface induced by recovery well RW-2D. Delineation of the NPL Area capture versus the North Area is not well-defined since the respective capture zones overlap, however it is evident that the VOC plume has not migrated from the general NPL Area.

- Groundwater recovery operations will continue in year 2015 for both the shallow and deep groundwater zones in the NPL Area

North Area- Shallow Groundwater

- Maximum shallow groundwater TCE in the downgradient northeast area in year 2014 was 175 ug/l (MW-25S). This is the furthest downgradient monitoring well to the northeast. The offsite TCE, cDCE and VC plumes in the shallow groundwater zone continue to migrate to the north and northeast under natural attenuation conditions. Monitoring is performed by MWs-14S and -25S to the north and MW-25S to the northeast. Monitoring well total VOCs over time have been declining, primarily in MW-14S over the period years 2010 to 2014. Year 2014 TCE level was 39.6 ug/l, which was slightly higher than the 2013 level of 17.7 ug/l, which was the lowest concentration detected since the beginning of monitoring in year 1996. MW-25S total VOCs have varied over time, with the values consistently around the 200 ug/l level since year 2008.
- The year 2006 offsite investigations determined that the eastern limit of the TCE plume was not beyond TBN-20, the furthest east test boring drilled in the year 2006 investigations. The boring was directly east of the residence at 159 Hopkins Avenue. Groundwater from this test boring was below detection limits for all VOCs. The shallow offsite VOC plume was determined to be a historical remnant of site operations and no further remedial actions were evaluated at the time, other than ongoing monitoring.
- The residence on 159 Hopkins Avenue was investigated for potential vapor intrusion and as a result of the findings URS Corporation (URS) and subcontractor Mitigation Tech installed a residential vapor venting system on November 18, 2008. The system is inspected annually by URS and continued to operate throughout year 2014 in good condition. This property is owned by H&H Metals Specialty.
- Supplemental groundwater investigations conducted in the northeast offsite areas in 2014 indicated that the offsite shallow groundwater VOC plume had not migrated significantly in 2014 and it has continued to be present in the vicinity of the

residence at 159 Hopkins Avenue. The shallow groundwater in this area is not actively recovered and migrates under natural attenuation conditions..

North Area- Deep Groundwater

- Deep groundwater- VOCs in the offsite North Area have been two (2) orders of magnitude higher than the shallow zone VOCs since year 2006 when new monitoring wells were constructed in the area. No prior data was available in this area. Maximum TCE in the deep groundwater was 22,400 ug/l at MW-15D, on the north side of Hopkins Avenue directly across from CPM Building No. 5. The area around MW-15D is the hotspot for the deep groundwater VOC plume.
- Recovery Well RW-6D has removed 220 pounds of VOCs in year 2014, approximately the same amount as in year 2013. Total VOCs have been increasing since the well went on-line in 2008, with a 3x increase from years 2012 to 2013. This recent increase correlated with a similar increase in TCE and acetone levels. TCE was initially at 8,360 ug/l in 2009, and was variable with a slight increasing trend until year 2013 when it increased about 5x to 23,600 ug/l in September 2013.
- The deep groundwater TCE plume in the North Area has remained relatively stable since the start of monitoring. MW-16D, approximately 100 feet north of Hopkins Avenue and furthest to the north of the site was non-detect for VOCs in year 2013. MW-15D, on the north side of Hopkins Avenue and directly south of MW-16D has had the highest TCE levels detected onsite and is in the center of the VOC north plume. Monitoring well MW-22D, the furthest well to the northeast, near recovery well RW-6D, has had continuously declining VOC levels from 20,643 ug/l in year 2006 when it was constructed to 1,360 ug/l in Year 2013. Likewise TCE levels in MW-21D have declined from 530,000 ug/l in year 2008 to 117 ug/l in year 2013. This is a result of groundwater recovery at RW-6D.
- Monitoring well MW-25D, furthest to the east in the vicinity of Hopkins Avenue, has been non-detect for VOCs since it was installed in year 2008. The northeast limit of the deep VOC plume has been contained by groundwater pumping and it does not

extend as far to the northeast as the shallow groundwater VOC plume as previously described.

- Capture of the North Area deep groundwater VOC plume is demonstrated by the potentiometric surface induced by recovery wells RW-2D and RW-6D. Delineation of the North Area capture versus the NPL Area in the vicinity of MW-15D is not well-defined since the respective capture zones overlap, however it is evident that the VOC plume has not migrated in a northern or northeast direction offsite. A low gradient area is evident in the vicinity monitoring well MW-15D and groundwater recovery may be reduced in this area. This is likely a reason that VOC levels have not declined in the area as represented by MW-15D.
- Supplemental groundwater investigations conducted in the north offsite areas in year 2014 indicated that the offsite deep groundwater VOC plume had not migrated further and it has been contained by the site recovery well system.

Future PRR Submittals

Operation, maintenance and monitoring of the remedial systems will continue in year 2015. Additional supplemental remedial actions for the shallow and deep groundwater zones at the site will be assessed in year 2015. These include the UST Area shallow groundwater VOCs in the West Building Area and the deep groundwater zone VOC hotspot near Hopkins Avenue.

At this time the future submittals for site PRRs are recommended to be on an annual basis consistent with the previous project submittals. The year 2015 PRR will be submitted at the end of the first quarter of year 2016.

TABLES

Table 1- Soil and Groundwater Remedial Action Objectives (RAOs)

MEDIA	PARAMETER	RAO
Soil	Total Volatile Organics Compounds (VOCs)	10 ppm
	Each Individual VOC	1 ppm
	Total Semi-Volatile Organic Compounds (SVOCs)	500 ppm
	Each Individual SVOC	50 ppm
	Polychlorinated Biphenyls (PCBs)	10 ppm
Groundwater (1)	cis-1,2-Dichloroethylene	5 ppb
	Trichloroethene (trichloroethylene)	5 ppb
	Vinyl Chloride	5 ppb
	Ethylbenzene	5 ppb
	Toluene	5 ppb
	Xylene	5 ppb
	PCBs	0.1 ppb

(1) = Other compounds, not listed, would have RAOs in compliance with NYSDEC Ambient Groundwater Quality Standards.

ppm = part per million

ppb = part per billion

Table 2
Schedule of Routine Maintenance and Monitoring Activities
Essex Jamestown Remedial Treatment System
Re: Operations and Maintenance Manual, rev.1, URS, September, 2005

SYSTEM	WEEKLY/ BI-WEEKLY		MONTHLY	BI-MONTHLY	QUARTERLY	SEMI-ANNUAL	ANNUAL	AS-REQUIRED
Water Treatment System- Treatment Plant Building	Cartridge filter inspection/replacement (Sec. 5.3)		Obtain monthly samples per Wastewater Discharge Permits (Sec. 6.3, Appx. A)					Backflush carbon vessels (Sec. 5.3)
	Check transfer pump flow-rate (Sec. 5.3)							Replace carbon vessels (Sec. 5.3, Table 5.0)
	Inspect piping/valves (Sec. 5.3)							Clean out storage tank (Sec. 5.3)
	Inspect 1500 GAL storage tank (Sec. 5.3)							
	Record recovery well/system flow-rates (Sec 6.3, 6.4)							
	Record System pressure readings (Sec 6.3)							
Soil Vapor Extraction System		Check blower oil (Sec. 5.1, Appx. B)	Grease drive-end bearings (Appx. B)- every 500 hrs of service	Take analytical air samples (Sec. 6.1)	Change reservoir oil (Appx. B)- every 1500 hrs service			Draeger tube samples (Sec. 6.1)
		Inspect blower V belt (Sec. 5.1, Appx. B)						Carbon inspection (Sec. 5.1)
		Check condensate separator (Sec. 5.1)						Carbon replacement (Sec. 5.1, Table 5.0)
		Inspect piping (Sec. 5.1)						
	Measure system/well air velocity (Sec 6.1)							
	Record system/well vacuum readings (Sec. 6.1)							
	Record system/well inlet/outlet temperature (Sec. 6.1)							
	Measure pre-carb and post-carb total VOCs with PID (Sec. 6.1)							
Air Sparge System		Check blower oil, if applicable (Sec. 5.2, Appx. ?)			Change oil (Sec 5.2, Appx. B)- every 1500 hrs service			Replace defective pressure gauges (Sec. 6.2)
		Inspect blower V belt, if applicable (Sec. 5.2)						Clean dirt from sparge motor

SYSTEM	WEEKLY/ BI-WEEKLY		MONTHLY	BI-MONTHLY	QUARTERLY	SEMI-ANNUAL	ANNUAL	AS-REQUIRED
		Inspect piping (Sec. 5.2)						
	Measure system/well air velocity (Sec. 6.2)							
	Measure system/well air pressure (Sec. 6.2)							
Groundwater Extraction System –Recovery Wells					Obtain analytical samples per PMP (Sec. 6.4)	Recovery well inspection/maintenance (Sec. 5.5)		Flush piping system (Sec. 5.5)
								Clean pumps/level controls (Sec. 5.5)
								Well development (Sec. 5.5)
Monitoring Well System					Measure water levels (Sec. 6.		Obtain analytical samples in accordance with PMP	
					Inspect well integrity (Sec. 5.6)			
Asphalt/Concrete Caps						Cap inspection (Sec.5.4)		Cap maintenance (Sec. 5.4)

Table 3

**2014 Groundwater Extraction Summary
Essex/Hope Site
Jamestown, NY**

Period	Recovery Well				
	RW-1S Gallons Pumped	RW-2S Gallons Pumped	RW-3S Gallons Pumped	RW-2D Gallons Pumped	RW-6D Gallons Pumped
1st Quarter	7,407	60,927	6,739	96,818	0
2nd Quarter	10,102	80,326	3,690	60,610	266
3rd Quarter	16,210	119,006	4,695	262,693	35,586
4th Quarter	7,519	83,312	2,883	284,552	92,565
Total	41,237	343,571	18,006	704,674	128,417

Period	Site Area		
	NPLS Shallow Area Gallons Pumped	AST Area Gallons Pumped	Lower Fine Sand Water Bearing Zone Gallons Pumped
1st Quarter	68,334	6,739	96,818
2nd Quarter	90,428	3,690	60,876
3rd Quarter	135,216	4,695	298,279
4th Quarter	90,831	2,883	377,117
Total	384,808	18,006	833,091

Period	Total Estimated Gallons Pumped - All Areas
1st Quarter	171,891
2nd Quarter	154,994
3rd Quarter	438,189
4th Quarter	470,831
Total	1,235,905

Table 4

**2014 Semi-Annual Recovery Well Analytical Results (µg/L)
Essex/Hope Site
Jamestown, NY**

June 27, 2014

Volatile Organic Compounds (Method 8260A) - µg/L	Site GW RAOs	RW-1S	RW-2S	RW-2D	RW-6D*	RW-3S
Acetone		ND	ND	ND	125,000	ND
Benzene		ND	ND	8.8	26.4	5.4
2-Butanone		ND	ND	ND	824	ND
Carbon Disulfide		ND	ND	ND	ND	ND
Chloromethane		ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)		ND	ND	ND	ND	2.9
1,1-Dichloroethane		ND	ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	21.5	47.1	ND
cis-1,2-Dichloroethene		173	20.0	4,070	21,000	ND
trans-1,2-Dichloroethene	5	ND	ND	89.9	179	ND
Ethylbenzene	5	ND	ND	ND	ND	ND
4-Methyl-2-pentanone		ND	ND	ND	ND	ND
Methylene Chloride		ND	ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND
Trichloroethene	5	58.8	10.8	2,260	1,990	ND
Vinyl Chloride	5	10.1	ND	532	3,940	ND
Xylenes (total)	5	ND	ND	ND	ND	9.9

November 24, 2014

Volatile Organic Compounds (Method 8260A) - µg/L	Site GW RAOs	RW-1S	RW-2S	RW-2D	RW-6D	RW-3S
Acetone		ND	ND	ND	138,000	ND
Benzene		ND	ND	9.8	110	4.2
2-Butanone		ND	ND	ND	634	ND
Carbon Disulfide		ND	ND	ND	ND	ND
Chloroform		ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)		ND	ND	ND	ND	7.9
1,1-Dichloroethane		ND	ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	25.0	110	ND
cis-1,2-Dichloroethene		43.8	31.2	4,400	25,100	ND
trans-1,2-Dichloroethene	5	ND	ND	126	438	ND
Ethylbenzene	5	ND	ND	ND	ND	3.7
4-Methyl-2-pentanone		ND	ND	ND	ND	ND
Methylene Chloride		ND	ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	ND	ND
Toluene	5	ND	ND	1.2	2.3	ND
Trichloroethene	5	18.8	7.3	2,580	17,100	1.2
Vinyl Chloride	5	2.4	2.9	626	5,520	ND
Xylenes (total)	5	ND	ND	ND	ND	11.9

Notes:

Site GW RAOs = Site Groundwater Remedial Action Objectives

µg/l = Micrograms per liter

ND = Not Detected/Below minimum laboratory reporting limit

*Note: RW-6D was sampled on July 21, 2014.

Table 5
2014 Annual PMP Sampling
Shallow Groundwater Zone
November 2014 - Analytical Results (µg/L)
Essex/Hope Site

Volatile Organic Compounds (Method 8260A) - µg/L	MW-2	MW-6	MW-7S	MW-10	MW-11	MW-12	MW-13
Sample Date	11/10/14	11/12/14	11/12/14	11/12/14	11/11/14	11/11/14	11/11/14
Acetone	ND	ND	ND	ND	17.9	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	3.3	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.4	ND	3.7	4.2	5.3	60.9	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3.9	1.0	5.4	4.9	10.2	37.7	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected

Table 5
2014 Annual PMP Sampling
Shallow Groundwater Zone
November 2014 - Analytical Results (µg/L)
Essex/Hope Site

Volatile Organic Compounds (Method 8260A) - µg/L	MW-14S	MW-15S	MW-16S	MW-17	MW-18	MW-19S	MW-20
Sample Date	11/10/14	11/10/14	11/10/14	11/10/14	11/11/14	11/12/14	11/12/14
Acetone	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	66.0	1.9	ND	ND	58.1	7.2	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	39.6	6.4	ND	ND	221	1.1	ND
Vinyl Chloride	9.3	ND	ND	1.9	ND	1.3	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected

Table 5
2014 Annual PMP Sampling
Shallow Groundwater Zone
November 2014 - Analytical Results (µg/L)
Essex/Hope Site

Volatile Organic Compounds (Method 8260A) - µg/L	MW-23S	MW-24S	MW-25S	MW-26S	MW-27S	MW-28S	MW-29S
Sample Date	11/11/14	11/11/14	11/10/14	11/11/14	11/11/14	11/11/14	11/11/14
Acetone	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	36.2
2-Butanone	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	1.3
Chloroform	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ND	12.4	ND	90.7	10.9	ND	312
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	3.0	35.9	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	6.0	ND	98.2	ND	ND	14,100
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	1.2	ND	ND	178
Trichloroethene	ND	2.8	175	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	183	ND	ND	19,410

Notes:

µg/l = Micrograms per liter

ND = Not Detected

Table 5
2014 Annual PMP Sampling
Shallow Groundwater Zone
November 2014 - Analytical Results (µg/L)
Essex/Hope Site

Volatile Organic Compounds (Method 8260A) - µg/L	MW-30S	MW-31S	HW-2	HW-6	HW-8	HW-9	PZ-5S
Sample Date	11/12/14	11/12/14	11/10/14	11/11/14	11/11/14	11/11/14	11/11/14
Acetone	20.5	47.5	ND	ND	ND	ND	ND
Benzene	3.4	163	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	1.6	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	91.0	259	ND	ND	39.0	6.6	8.8
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	1.8	ND	ND	ND
cis-1,2-Dichloroethene	21.5	9.1	ND	602	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	6.0	ND	ND	ND
Ethylbenzene	3,940	14,400	ND	7.6	12.7	ND	4.9
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	10.6	ND	ND	ND	ND	ND
Trichloroethene	ND	1.8	3.3	ND	ND	ND	ND
Vinyl Chloride	7.2	4.7	ND	743	ND	ND	ND
Xylenes (total)	11,920	18,107	ND	16.7	2.3	ND	2.4

Notes:

µg/l = Micrograms per liter

ND = Not Detected

Table 5
2014 Annual PMP Sampling
Deep Groundwater Zone
November 2014 - Analytical Results (µg/L)
Essex/Hope Site

Volatile Organic Compounds (Method 8260A) - µg/L	MW-7D	MW-8	MW-11D	MW-14D	MW-15D	MW-16D
Sample Date	11/12/14	11/12/14	11/11/14	11/10/14	11/10/14	11/10/14
Acetone	ND	ND	ND	ND	ND	ND
Benzene	1.6	ND	ND	ND	2.7	ND
2-Butanone	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	3.5	1.5	ND	ND	210	ND
cis-1,2-Dichloroethene	642	86.6	ND	ND	44,300	ND
trans-1,2-Dichloroethene	5.9	4.3	ND	ND	299	ND
Ethylbenzene	3.6	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Trichloroethene	114	ND	ND	ND	22,400	ND
Vinyl Chloride	213	10.7	7.2	7.9	1,460	ND
Xylenes (total)	5.7	ND	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected

Table 5
2014 Annual PMP Sampling
Deep Groundwater Zone
November 2014 - Analytical Results (µg/L)
Essex/Hope Site

Volatile Organic Compounds (Method 8260A) - µg/L	MW-19D	MW-21D	MW-22D	MW-23D	MW-25D	GP-2D
Sample Date	11/12/14	11/12/14	11/12/14	11/11/14	11/10/14	11/25/14
Acetone	ND	423,000	ND	ND	ND	ND
Benzene	ND	63.0	ND	ND	ND	88.3
2-Butanone	ND	2,820	ND	ND	ND	ND
Carbon Disulfide	ND	6.6	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND
Chloroethane	ND	11.7	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	61.4	ND	ND	ND	16.5
cis-1,2-Dichloroethene	27.8	92,300	174	ND	ND	1,780
trans-1,2-Dichloroethene	ND	620	7.1	ND	ND	127
Ethylbenzene	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ND	13.7	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND
Toluene	ND	3.4	ND	ND	ND	4.6
Trichloroethene	4.1	10.9	1,270	ND	ND	2,170
Vinyl Chloride	41.8	61,200	3.1	4.8	ND	365
Xylenes (total)	ND	ND	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected

Table 5
2014 Annual PMP Sampling
Deep Groundwater Zone
November 2014 - Analytical Results (µg/L)
Essex/Hope Site

Volatile Organic Compounds (Method 8260A) - µg/L	GP-3D	PZ-5D	PZ-7D	VP-6D	VP-7D
Sample Date	11/25/14	11/11/14	11/11/14	11/11/14	11/11/14
Acetone	ND	1,900	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
2-Butanone	ND	57.0	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	3.4	ND	ND
cis-1,2-Dichloroethene	8.8	ND	218	ND	ND
trans-1,2-Dichloroethene	ND	ND	3.4	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Trichloroethene	2.9	ND	871	ND	ND
Vinyl Chloride	78.8	4.9	30.6	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected

Table 6
POTW Monthly Monitoring Summary
2014 System Pre-Carbon
Volatle Organic Compounds (µg/L)

Sample Date	31-Mar-14	27-Jun-14	21-Jul-14	19-Aug-14	18-Sep-14	20-Oct-14	24-Nov-14	22-Dec-14
Acetone	NS	ND	670	9,770	13,500	10,400	37,000	34,000
Benzene	NS	4.2	4.4	5.0	11.9	22.2	25.7	32.9
2-Butanone	NS	ND	ND	29.1	42.2	52.4	175	140
Carbon Disulfide	NS	ND	ND	ND	ND	ND	ND	ND
Chloroform	NS	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NS	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	NS	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	NS	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	NS	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NS	9.0	8.2	6.5	14.7	17.2	31.2	35.8
trans-1,2-Dichloroethene	NS	1,680	2,000	2,130	3,960	5,280	11,500	10,400
Ethylbenzene	NS	15.0	24.9	26.8	60.0	23.8	84.9	353
Methylene Chloride	NS	ND	ND	ND	ND	ND	ND	ND
Toluene	NS	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	NS	1,120	1,000	474	1,850	2,900	3,490	4,450
Vinyl Chloride	NS	292	372	494	536	736	1,380	1,390
Total Xylenes	NS	ND	ND	ND	ND	ND	ND	ND
Pre-Carbon TOTAL VOCs	0	0	4,080	12,935	19,975	19,432	53,687	50,802

Notes:

ND = Not detected/Below minimum laboratory reporting limit

NS = Not sampled

µg/L = micrograms per liter

Pre-Carbon sample results represent system influent.

The system was shut down much of the first half for major O&M activities including transfer pump repairs, water line repairs, plant heating system repairs, and a broken carbon vessel.

The return to normal operations of the system commenced on June 5, 2014 and RW-6D commenced operations on June 27, 2014.

Note: March sample was to be collected in the beginning of April, however, at the time of sampling, the system required a shut down due to a damaged carbon vessel therefore, no sample was collected. System carbon was changed out on October 7, 2014.

Table 7
POTW Monthly Monitoring Summary
2014 System Primary Carbon Effluent
Volatile Organic Compounds (µg/L)

Sample Date	31-Mar-14	27-Jun-14	21-Jul-14	19-Aug-14	18-Sep-14	20-Oct-14	24-Nov-14	22-Dec-14
Acetone	NS	ND	ND	10,600	1,410	20,300	36,200	23,400
Benzene	NS	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NS	ND	ND	16.0	10.9	ND	91.2	74.8
Carbon Disulfide	NS	ND	ND	ND	ND	1.5	ND	ND
Chloroform	NS	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NS	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	NS	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	NS	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	NS	ND	ND	2.3	3.8	ND	ND	ND
cis-1,2-Dichloroethene	NS	471	636	1,320	1,990	7.8	555	1,890
trans-1,2-Dichloroethene	NS	ND	ND	9.7	6.6	ND	ND	12.9
Ethylbenzene	NS	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NS	ND	ND	ND	ND	ND	ND	ND
Toluene	NS	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	NS	ND	ND	18.9	15.8	ND	6.9	8.6
Vinyl Chloride	NS	226	90.3	485	532	104	1,080	1,200
Total Xylenes	NS	ND	ND	ND	ND	ND	ND	ND
Primary-Carbon TOTAL VOCs	0	0	726	12,452	3,969	20,413	37,933	26,586

Notes:

ND = Not detected/Below minimum laboratory reporting limit

NS = Not sampled

µg/L = micrograms per liter

Primary Carbon sample results represent effluent from the first carbon vessel in the two (2) carbon vessel system.

The system was shut down much of the first half for major O&M activities including transfer pump repairs, water line repairs, plant heating system repairs, and a broken carbon vessel.

The return to normal operations of the system commenced on June 5, 2014 and RW-6D commenced operations on June 27, 2014.

Note: March sample was to be collected in the beginning of April, however, at the time of sampling, the system required a shut down due to a damaged carbon vessel therefore, no sample was collected.

System carbon was changed out on October 7, 2014.

Table 8
POTW Monthly Monitoring Summary
2014 System Post Carbon Effluent
Volatile Organic Compounds (ug/L)

Sample Date	31-Mar-14	27-Jun-14	21-Jul-14	19-Aug-14	18-Sep-14	20-Oct-14	24-Nov-14	22-Dec-14
Acetone	NS	ND	ND	4,550	ND	21,500	36,000	14,300
Benzene	NS	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NS	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NS	ND	ND	ND	ND	ND	ND	ND
Chloroform	NS	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NS	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	NS	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	NS	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	NS	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NS	9.0	10.1	15.8	28.0	ND	1.3	1.5
trans-1,2-Dichloroethene	NS	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	NS	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NS	ND	ND	ND	1.4	ND	ND	ND
Toluene	NS	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	NS	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	NS	186	182	394	304	1.5	199	374
Total Xylenes	NS	ND	ND	ND	ND	ND	ND	ND
Post-Carbon TOTAL VOCs	0	0	0	4,960	333	21,502	36,200	14,676
Post-Carbon TOTAL TTOs	0	0	0	410	333	2	200	376

Notes:

ND = Not detected/Below minimum laboratory reporting limit

NS = Not sampled

ug/L = micrograms per liter

POTW Discharge Limit = 2,130 ug/L Total Toxic Organics (TTOs)

Post-Carbon sample results represent system effluent from the secondary carbon vessel (or the third carbon vessel if used) to the POTW.

Post-Carbon sample is a laboratory prepared composite of four (4) grab samples taken at 30-minute intervals.

The system was shut down much of the first half for major O&M activities including transfer pump repairs, water line repairs, plant heating system repairs, and a broken carbon vessel.

The return to normal operations of the system commenced on June 5, 2014 and RW-6D commenced operations on June 27, 2014.

Note: March sample was to be collected in the beginning of April, however, at the time of sampling, the system required a shut down due to a damaged carbon vessel therefore, no sample was collected.

System carbon was changed out on October 7, 2014.

Table 9
Supplemental Groundwater Investigations
Shallow Groundwater Zone Test Borings - Analytical Results
October 2014

Volatile Organic Compounds (Method 8260A) - µg/L	TB-300S 10/01/14	TB-302S 10/02/14	TB-303S 10/02/14	TB-304S 10/03/14	TB-305S 10/02/14	TB-307S 10/01/14	TB-308S 10/01/14	TB-309S 10/01/14	TB-315S 10/06/14
Acetone	ND	10.8	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	68.6	ND	ND	21.1	28.5	ND	ND	12.4
Carbon Disulfide	ND	3.5	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	1.3	ND	ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	22.9	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	9.3	ND	1.1	76.1	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	76.0	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	15.6	ND	42.1	ND	2.2	192	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	472	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected/Below minimum laboratory reporting limit

Table 9
Supplemental Groundwater Investigations
Deep Groundwater Zone Test Borings - Analytical Results
October 2014

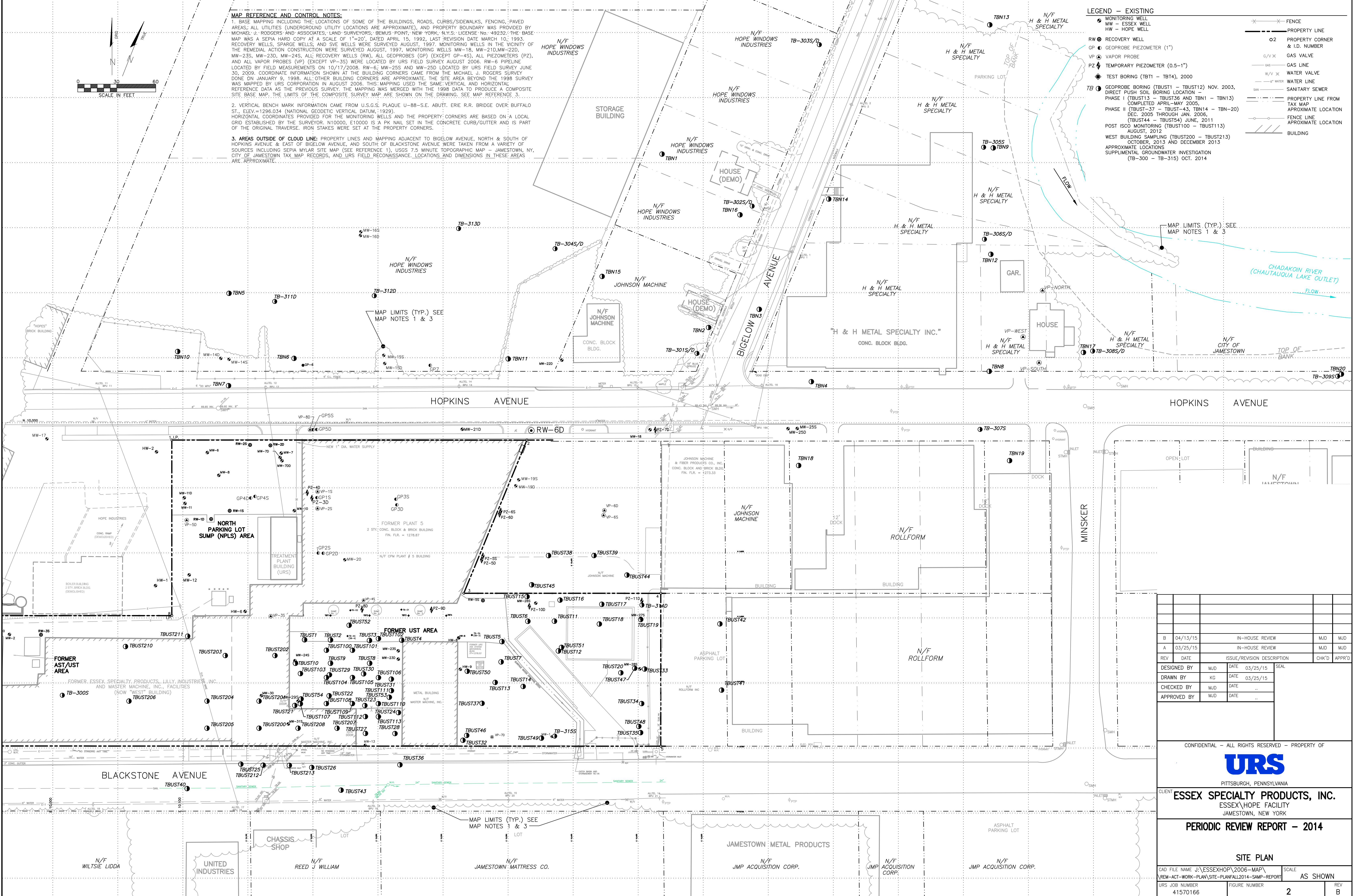
Volatile Organic Compounds (Method 8260A) - µg/L	TB-301D 10/06/14	TB-302D 10/02/14	TB-303D 10/02/14	TB-304D 10/03/14	TB-306D 10/02/14	TB-308D 10/01/14	TB-311D 10/06/14	TB-312D 10/03/14	TB-313D 10/03/14	TB-314D 10/06/14
Acetone	ND	ND	ND	ND	ND	15.8	ND	ND	ND	88.3
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	11.8	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	3.6	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	9.0	9.0	9.7	8.6	9.7	1.1	9.8	ND	9.1	6.9
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	3.2	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	6.4	ND	ND	10.7	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	2.9	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected/Below minimum laboratory reporting limit

FIGURES



MAP REFERENCE AND CONTROL NOTES:

1. BASE MAPPING INCLUDING THE LOCATIONS OF SOME OF THE BUILDINGS, ROADS, CURBS/SIDEWALKS, FENCING, PAVED AREAS, ALL UTILITIES (UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE), AND PROPERTY BOUNDARY WAS PROVIDED BY MICHAEL J. RODGERS AND ASSOCIATES, LAND SURVEYORS, BEMUS POINT, NEW YORK, N.Y.S. LICENSE NO. 49232. THE BASE MAP WAS A SEPIA HARD COPY AT A SCALE OF 1"=20', DATED APRIL 15, 1992, LAST REVISION DATE MARCH 10, 1993. RECOVERY WELLS, SPARGE WELLS, AND SVE WELLS WERE SURVEYED AUGUST, 1997. MONITORING WELLS IN THE VICINITY OF THE REMEDIAL ACTION CONSTRUCTION WERE SURVEYED AUGUST, 1997. MONITORING WELLS MW-18, MW-210, MW-220, MW-235, MW-230, MW-245, ALL RECOVERY WELLS (RW), ALL GEOPROBES (GP) (EXCEPT GP-45), ALL PIEZOMETERS (PZ), AND ALL VAPOR PROBES (VP) (EXCEPT VP-35) WERE LOCATED BY URS FIELD SURVEY AUGUST 2006. RW-6 PIPELINE LOCATED BY FIELD MEASUREMENTS ON 10/17/2008. RW-6, MW-255 AND MW-250 LOCATED BY URS FIELD SURVEY JUNE 30, 2009. COORDINATE INFORMATION SHOWN AT THE BUILDING CORNERS CAME FROM THE MICHAEL J. RODGERS SURVEY DONE ON JANUARY 9, 1998. ALL OTHER BUILDING CORNERS ARE APPROXIMATE. THE SITE AREA BEYOND THE 1998 SURVEY WAS MAPPED BY URS CORPORATION IN AUGUST 2006. THIS MAPPING USED THE SAME VERTICAL AND HORIZONTAL REFERENCE DATA AS THE PREVIOUS SURVEY. THE MAPPING WAS MERGED WITH THE 1998 DATA TO PRODUCE A COMPOSITE SITE BASE MAP. THE LIMITS OF THE COMPOSITE SURVEY MAP ARE SHOWN ON THE DRAWING. SEE MAP REFERENCE 3.
2. VERTICAL BENCH MARK INFORMATION CAME FROM U.S.C.S. PLAQUE U-88-S.E. ABUTT. ERIE R.R. BRIDGE OVER BUFFALO ST., ELEV.=1298.034 (NATIONAL GEODETIC VERTICAL DATUM, 1929). HORIZONTAL COORDINATES PROVIDED FOR THE MONITORING WELLS AND THE PROPERTY CORNERS ARE BASED ON A LOCAL GRID ESTABLISHED BY THE SURVEYOR. N10000, E10000 IS A PK NAIL SET IN THE CONCRETE CURB/GUTTER AND IS PART OF THE ORIGINAL TRAVERSE. IRON STAKES WERE SET AT THE PROPERTY CORNERS.
3. AREAS OUTSIDE OF CLOUD LINE: PROPERTY LINES AND MAPPING ADJACENT TO BIGELOW AVENUE, NORTH & SOUTH OF HOPKINS AVENUE & EAST OF BIGELOW AVENUE, AND SOUTH OF BLACKSTONE AVENUE WERE TAKEN FROM A VARIETY OF SOURCES INCLUDING SEPIA MYLAR SITE MAP (SEE REFERENCE 1), USGS 7.5 MINUTE TOPOGRAPHIC MAP - JAMESTOWN, NY, CITY OF JAMESTOWN TAX MAP RECORDS, AND URS FIELD RECONNAISSANCE. LOCATIONS AND DIMENSIONS IN THESE AREAS ARE APPROXIMATE.

LEGEND - EXISTING

- MONITORING WELL
MW - ESSEX WELL
HW - HOPE WELL
- RECOVERY WELL
- GEOPROBE PIEZOMETER (1")
- VAPOR PROBE
- TEMPORARY PIEZOMETER (0.5-1")
- TEST BORING (TBT1 - TBT4), 2000
- GEOPROBE BORING (TBUST1 - TBUST12) NOV. 2003, DIRECT PUSH SOIL BORING LOCATION - PHASE I (TBUST13 - TBUST36 AND TBN1 - TBN13) COMPLETED APRIL-MAY 2005, PHASE II (TBUST37 - TBUST43, TBN14 - TBN20) DEC. 2005 THROUGH JAN. 2006, (TBUST44 - TBUST54) JUNE, 2011 POST ISCO MONITORING (TBUST100 - TBUST113) AUGUST, 2012 WEST BUILDING SAMPLING (TBUST200 - TBUST213) OCTOBER, 2013 AND DECEMBER 2013 APPROXIMATE LOCATIONS SUPPLEMENTAL GROUNDWATER INVESTIGATION (TB-300 - TB-315) OCT. 2014
- FENCE
- PROPERTY LINE
- PROPERTY CORNER & I.D. NUMBER
- GAS VALVE
- GAS LINE
- WATER VALVE
- WATER LINE
- 6" WATER
- 6" WATER
- SANITARY SEWER
- PROPERTY LINE FROM TAX MAP
- APPROXIMATE LOCATION
- FENCE LINE
- APPROXIMATE LOCATION
- BUILDING

REV	DATE	ISSUE/REVISION DESCRIPTION	CHK'D	APPR'D
B	04/13/15	IN-HOUSE REVIEW	MJD	MJD
A	03/25/15	IN-HOUSE REVIEW	MJD	MJD
DESIGNED BY	MJD	DATE 03/25/15	SEAL	
DRAWN BY	KG	DATE 03/25/15		
CHECKED BY	MJD	DATE		
APPROVED BY	MJD	DATE		

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PITTSBURGH, PENNSYLVANIA

CLIENT **ESSEX SPECIALTY PRODUCTS, INC.**
ESSEX HOPE FACILITY
JAMESTOWN, NEW YORK

PERIODIC REVIEW REPORT - 2014

SITE PLAN

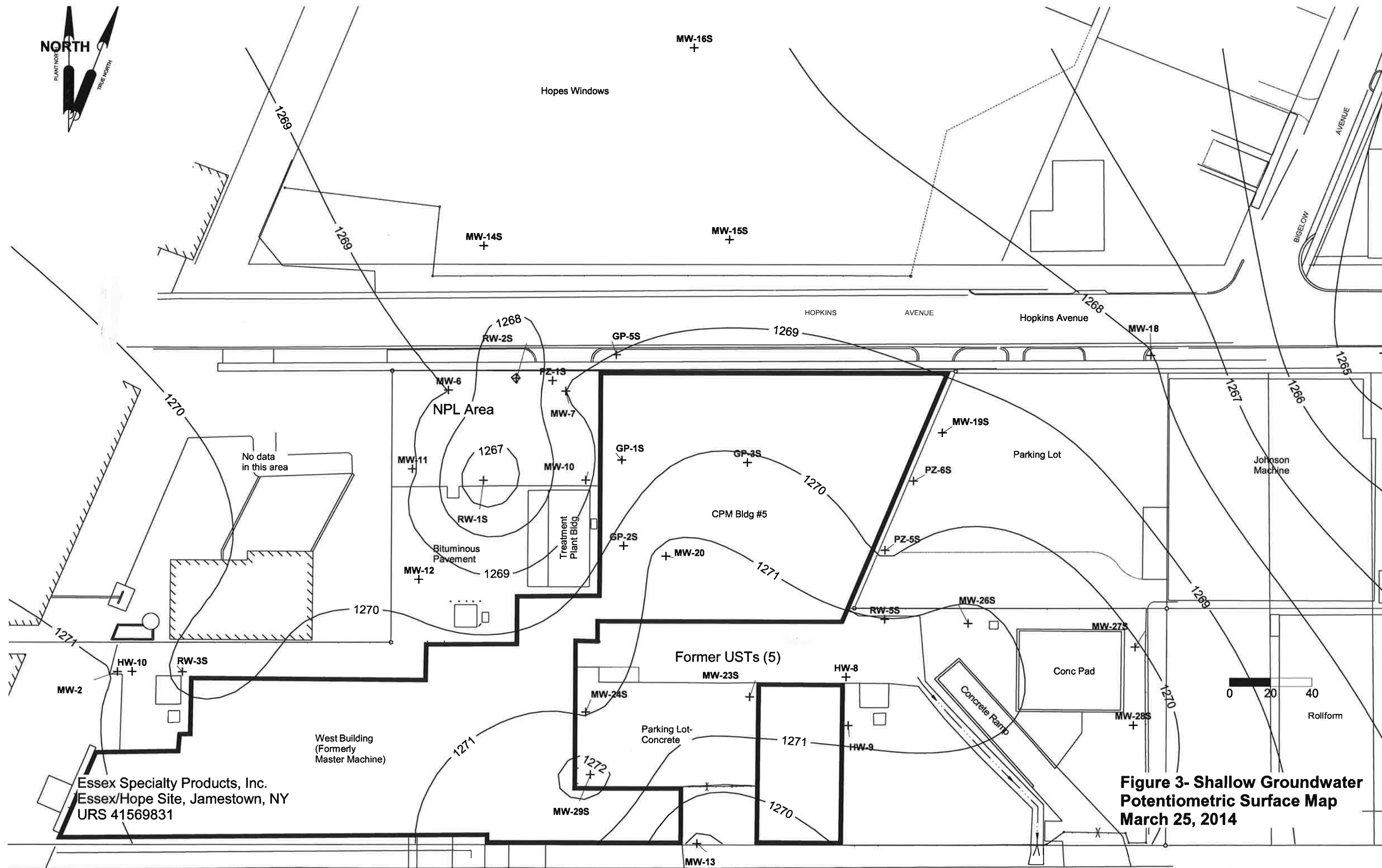
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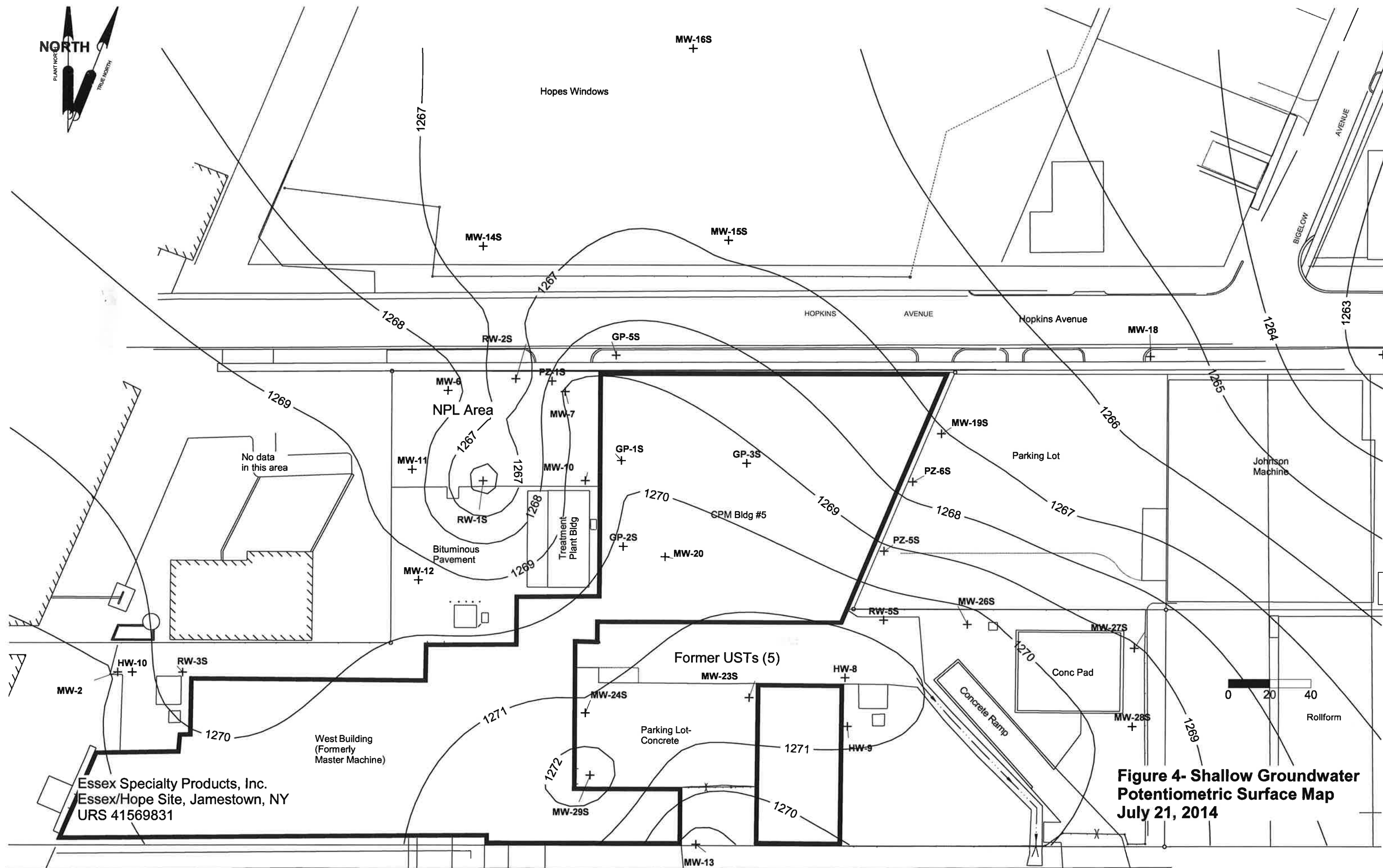
SCALE AS SHOWN

URS JOB NUMBER 41570166

FIGURE NUMBER 2

REV B





This detailed site map of the NPL Area includes the following features:

- Monitoring Wells:** Numerous wells are marked with triangles and labels, including MW-14D, MW-15D, MW-16D, MW-19D, MW-21D, MW-22D, MW-23D, MW-25D, MW-7D, MW-8, MW-10, MW-11D, MW-11, RW-1D, RW-2D, RW-6D, VP-5D, VP-6D, VP-7D, VP-8D, GP-2D, GP-3D, GP-4D, GP-5D, PZ-1D, PZ-3D, PZ-4D, PZ-5D, PZ-6D, PZ-7D, PZ-8D, PZ-9D, PZ-10D, PZ-11D, TB-302D, TB-303D, TB-304D, TB-306D, TB-308D, TB-310D, TB-311D, TB-312D, TB-313D, TB-314D, and TB-315D.
- Contour Lines:** Concentric contour lines are drawn around the center of the site, labeled with values 1255, 1260, 1264, 1265, 1266, 1266.5, and 1267.
- Buildings and Structures:** Labeled structures include the West Building (Formerly Master Machine), Treatment Plant Bldg, CPM BL 5, Former USTs (5), Hut, Johnson Machine, Rollform, and H&H Metals.
- Infrastructure:** Features include a Parking Lot, Conc Pad, Concrete Ramp, and a concrete wall labeled "TOP OF BANK".
- Geographic Context:** The map shows the intersection of Blackstone Avenue and Hopkins Avenue. To the east, the Chadaquin River (Chautauqua Lake Outlet) is shown with flow direction arrows. A scale bar at the bottom right indicates distances from 0 to 80 feet.
- Other Labels:** "NPL Area 1265" is labeled in the lower-left quadrant, and "Hopes Windows" is noted in the upper-left area.

2014 Annual Periodic Review Report
URS (AECOM)

NORTH

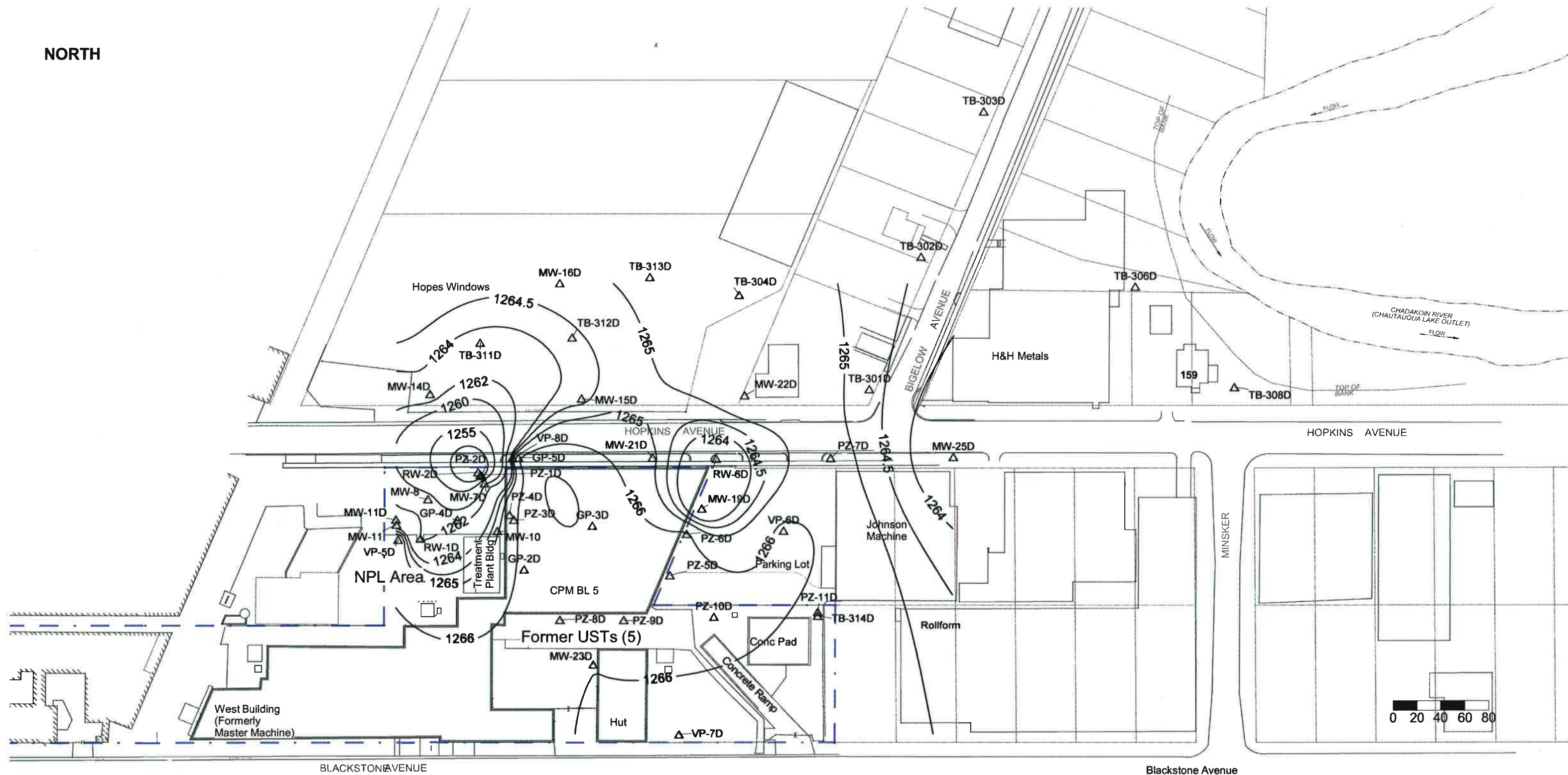
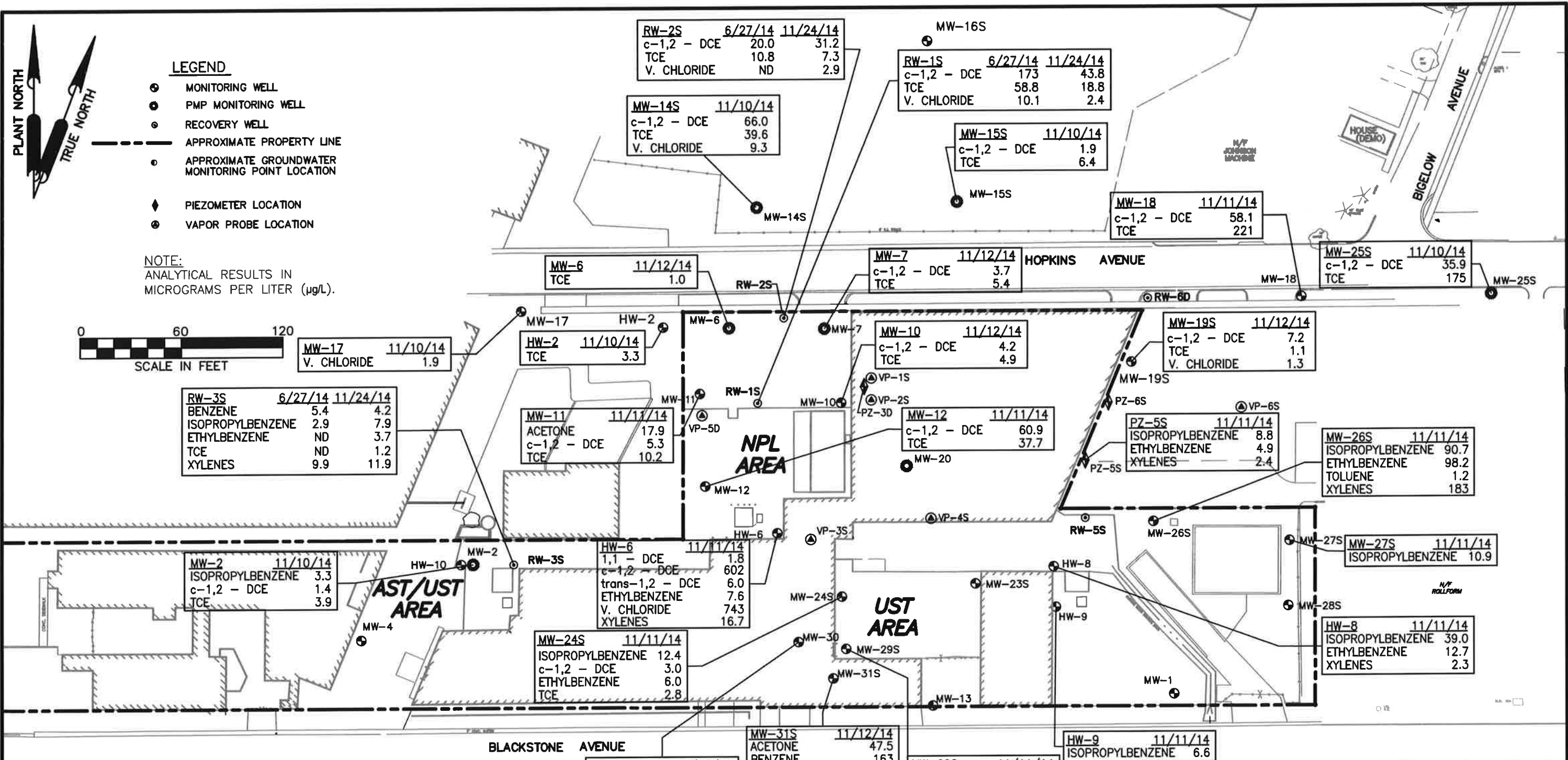


Figure 6- Deep Groundwater Potentiometric Surface Map July 21, 2014

00
33
21
56
55
11
66
66
FILE: \\ESSEX\HOP\2006-MAP\PM-2014-A-JUL-2012-PM-PM-BASE-MAP



MAP REFERENCE AND CONTROL NOTES:

1. BASE MAPPING INCLUDING THE LOCATIONS OF SOME OF THE BUILDINGS, ROADS, CURBS/SIDEWALKS, FENCING, PAVED AREAS, ALL UTILITIES (UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE), AND PROPERTY BOUNDARY WAS PROVIDED BY MICHAEL J. RODGERS AND ASSOCIATES, LAND SURVEYORS, BEMUS POINT, NEW YORK, N.Y.S. LICENSE No. 49232. THE BASE MAP WAS A SEPIA HARD COPY AT A SCALE OF 1"=20', DATED APRIL 15, 1992, LAST REVISION DATE MARCH 10, 1993. RECOVERY WELLS, SPARGE WELLS, AND SVE WELLS WERE SURVEYED AUGUST, 1997. MONITORING WELLS IN THE VICINITY OF THE REMEDIAL ACTION CONSTRUCTION WERE SURVEYED AUGUST, 1997. MONITORING WELLS MW-18, MW-21D, MW-22D, MW-23S, MW-23D, MW-24S, ALL RECOVERY WELLS (RW), ALL GEOPROBES (GP) (EXCEPT GP-4S), ALL PIEZOMETERS (PZ), AND ALL VAPOR PROBES (VP) (EXCEPT VP-3S) WERE LOCATED BY URS FIELD SURVEY AUGUST 2006. RW-6 PIPELINE LOCATED BY FIELD MEASUREMENTS ON 10/17/2008. RW-6, MW-25S AND MW-25D LOCATED BY URS FIELD SURVEY JUNE 30, 2009. COORDINATE INFORMATION SHOWN AT THE BUILDING CORNERS CAME FROM THE MICHAEL J. RODGERS SURVEY DONE ON JANUARY 9, 1998. ALL OTHER BUILDING CORNERS ARE APPROXIMATE. THE SITE AREA BEYOND THE 1998 SURVEY WAS MAPPED BY URS CORPORATION IN AUGUST 2006. THIS MAPPING USED THE SAME VERTICAL AND HORIZONTAL REFERENCE DATA AS THE PREVIOUS SURVEY. THE MAPPING WAS MERGED WITH THE 1998 DATA TO PRODUCE A COMPOSITE SITE BASE MAP. THE LIMITS OF THE COMPOSITE SURVEY MAP ARE SHOWN ON THE DRAWING. SEE MAP REFERENCE 3.

2. VERTICAL BENCH MARK INFORMATION CAME FROM U.S.G.S. PLAQUE U-88-S.E. ABUTT. ERIE R.R. BRIDGE OVER BUFFALO ST., ELEV.=1296.034 (NATIONAL GEODETIC VERTICAL DATUM, 1929). HORIZONTAL COORDINATES PROVIDED FOR THE MONITORING WELLS AND THE PROPERTY CORNERS ARE BASED ON A LOCAL GRID ESTABLISHED BY THE SURVEYOR. N10000, E10000 IS A PK NAIL SET IN THE CONCRETE CURB/GUTTER AND IS PART OF THE ORIGINAL TRAVERSE. IRON STAKES WERE SET AT THE PROPERTY CORNERS.

3. AREAS OUTSIDE OF CLOUD LINE (IF SHOWN): PROPERTY LINES AND MAPPING ADJACENT TO BIGELOW AVENUE, NORTH & SOUTH OF HOPKINS AVENUE & EAST OF BIGELOW AVENUE, AND SOUTH OF BLACKSTONE AVENUE WERE TAKEN FROM A VARIETY OF SOURCES INCLUDING SEPIA MYLAR SITE MAP (SEE REFERENCE 1), USGS 7.5 MINUTE TOPOGRAPHIC MAP - JAMESTOWN, NY, CITY OF JAMESTOWN TAX MAP RECORDS, AND URS FIELD RECONNAISSANCE. LOCATIONS AND DIMENSIONS IN THESE AREAS ARE APPROXIMATE.

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**2014 PERIODIC REVIEW REPORT
SHALLOW GROUNDWATER ANALYTICAL DATA, 2014**

ESSEX/HOPE SITE

JAMESTOWN, NY

CLIENT: ESSEX SPECIALTY PRODUCTS, INC.

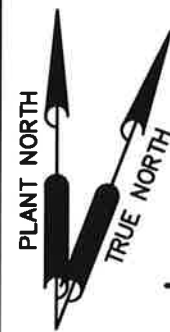
JOB NUMBER: 41570166

SCALE: AS SHOWN

FIGURE
NUMBER

7

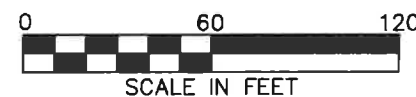
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LEGEND

- MONITORING WELL
- PMP MONITORING WELL
- RECOVERY WELL
- APPROXIMATE PROPERTY LINE
- APPROXIMATE GROUNDWATER MONITORING POINT LOCATION
- ◆ PIEZOMETER LOCATION
- VAPOR PROBE LOCATION

NOTE:
ANALYTICAL RESULTS IN
MICROGRAMS PER LITER (µg/L).



SCALE IN FEET

MW-7D	11/12/14
BENZENE	1.6
1,1 - DCE	3.5
c-1,2 - DCE	642
t-1,2 - DCE	5.9
ETHYLBENZENE	3.6
TCE	114
V. CHLORIDE	213
XYLENES	5.7

RW-2D	6/27/14	11/24/14
BENZENE	8.8	9.8
1,1 - DCE	21.5	25.0
c-1,2 - DCE	4070	4400
t-1,2 - DCE	89.9	126
TOLUENE	ND	1.2
TCE	2260	2580
V. CHLORIDE	532	626

MW-21D	11/12/14
2-Butanone	2820
ACETONE	423000
BENZENE	63.0
CAR. DISULFIDE	6.6
CHLOROETHANE	11.7
1,1 - DCE	61.4
c-1,2 - DCE	92300
t-1,2 - DCE	620
4 METHYL-2-P	13.7
TOLUENE	3.4
TCE	10.9
V. CHLORIDE	61200

RW-6D	6/27/14	11/24/14
ACETONE	125000	138000
BENZENE	26.4	110
2-Butanone	824	634
1,1 - DCE	47.1	110
c-1,2 - DCE	21000	25100
t-1,2 - DCE	179	438
TOLUENE	ND	2.3
TCE	1990	17100
V. CHLORIDE	3940	5520

MW-22D	11/12/14
c-1,2 - DCE	174
t-1,2 - DCE	7.1
TCE	1270
V. CHLORIDE	3.1

MW-15D	11/10/14
BENZENE	2.7
1,1 - DCE	210
c-1,2 - DCE	44300
t-1,2 - DCE	299
TCE	22400
V. CHLORIDE	1460

MW-14D	11/10/14
V. CHLORIDE	7.9

MW-8	11/12/14
1,1 - DCE	1.5
c-1,2 - DCE	86.6
t-1,2 - DCE	4.3
V. CHLORIDE	10.7

MW-11D	11/11/14
V. CHLORIDE	7.2

GP-3D	11/25/14
c-1,2 - DCE	8.8
TCE	2.9
V. CHLORIDE	78.8

MW-19D	11/12/14
c-1,2 - DCE	27.8
TCE	4.1
V. CHLORIDE	41.8

PZ-7D	11/11/14
1,1 - DCE	3.4
c-1,2 - DCE	218
t-1,2 - DCE	3.4
TCE	871
V. CHLORIDE	30.6

PZ-5D	11/11/14
ACETONE	1900
2-Butanone	57.0
V. CHLORIDE	4.9

GP-2D	11/25/14
BENZENE	88.3
1,1 - DCE	16.5
c-1,2 - DCE	1780
t-1,2 - DCE	127
TOLUENE	4.6
TCE	2170
V. CHLORIDE	365

MW-23D	11/11/14
V. CHLORIDE	4.8

MAP REFERENCE AND CONTROL NOTES:

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PITTSBURGH, PENNSYLVANIA

2014 PERIODIC REVIEW REPORT DEEP GROUNDWATER ANALYTICAL DATA, 2014

ESSEX/HOPE SITE

JAMESTOWN, NY

CLIENT: ESSEX SPECIALTY PRODUCTS, INC.

JOB NUMBER: 41570166

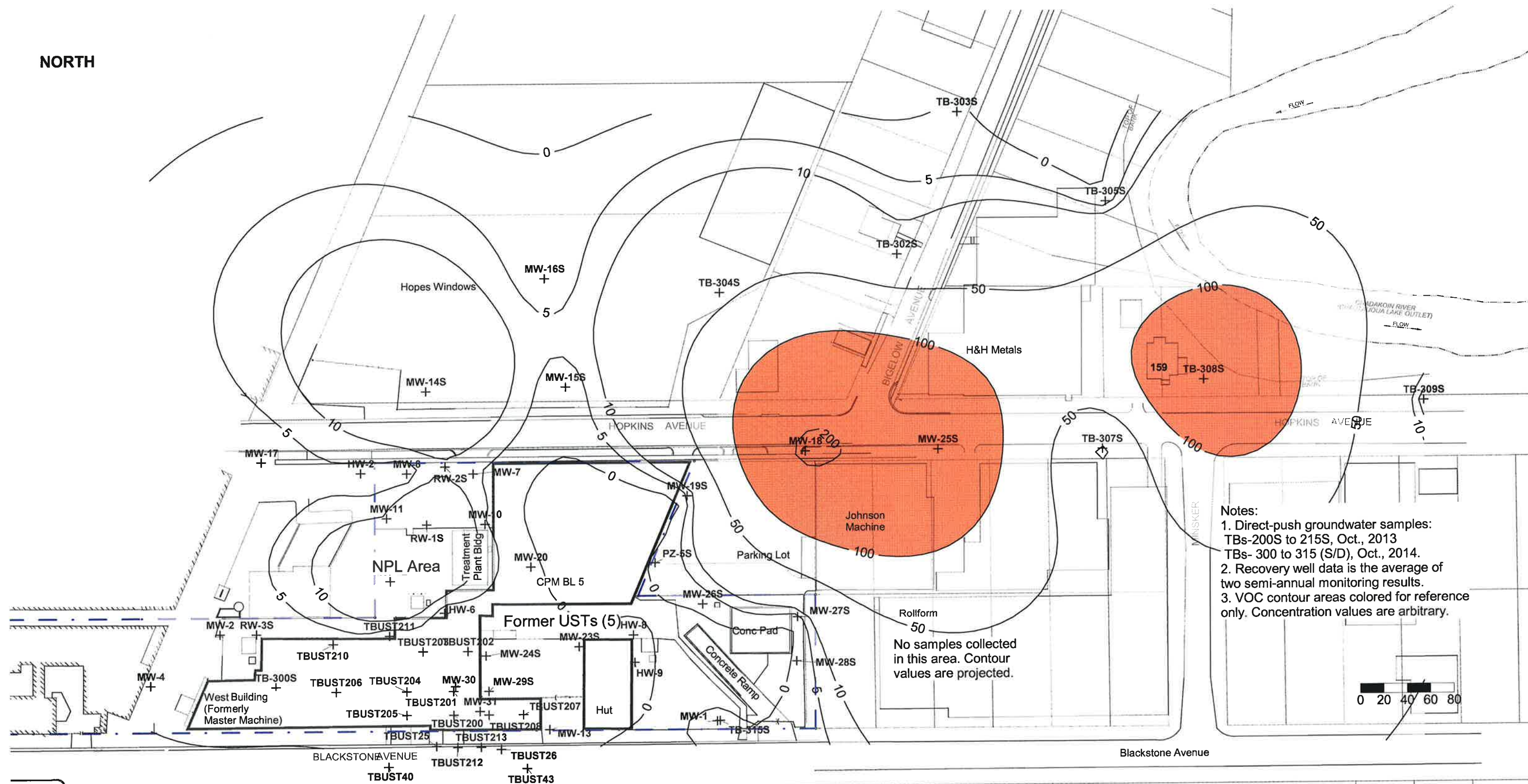
SCALE: AS SHOWN

FIGURE
NUMBER

8

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NORTH



- Notes:
1. Direct-push groundwater samples: TBs-200S to 215S, Oct., 2013
TBs- 300 to 315 (S/D), Oct., 2014.
 2. Recovery well data is the average of two semi-annual monitoring results.
 3. VOC contour areas colored for reference only. Concentration values are arbitrary.

Figure 9
Site-Wide Area-Shallow Groundwater
Trichloroethylene, ug/l
2014 Data

NORTH

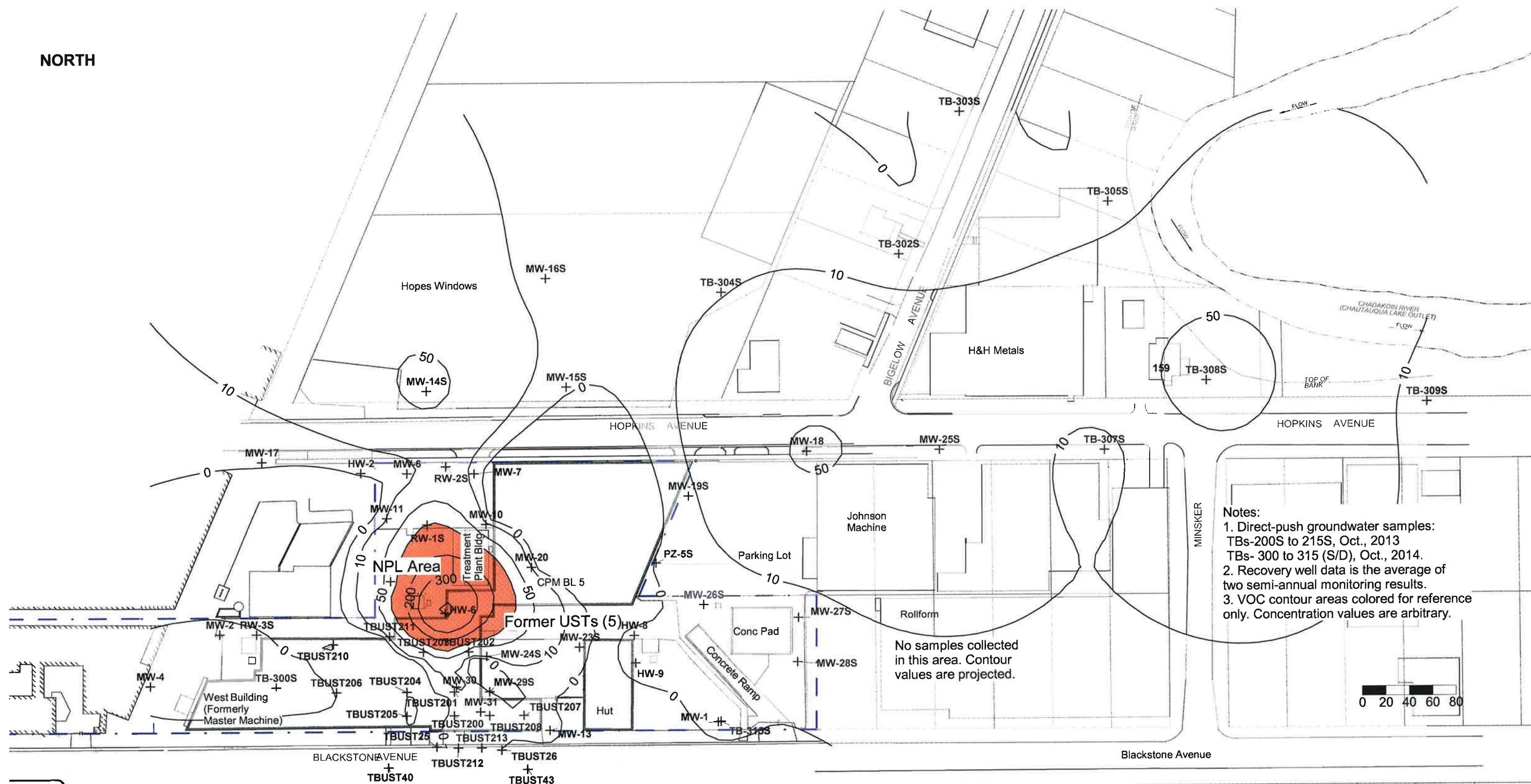


Figure 10
Site-Wide Area-Shallow Groundwater
cis-DCE, ug/l
2014 Data

NORTH

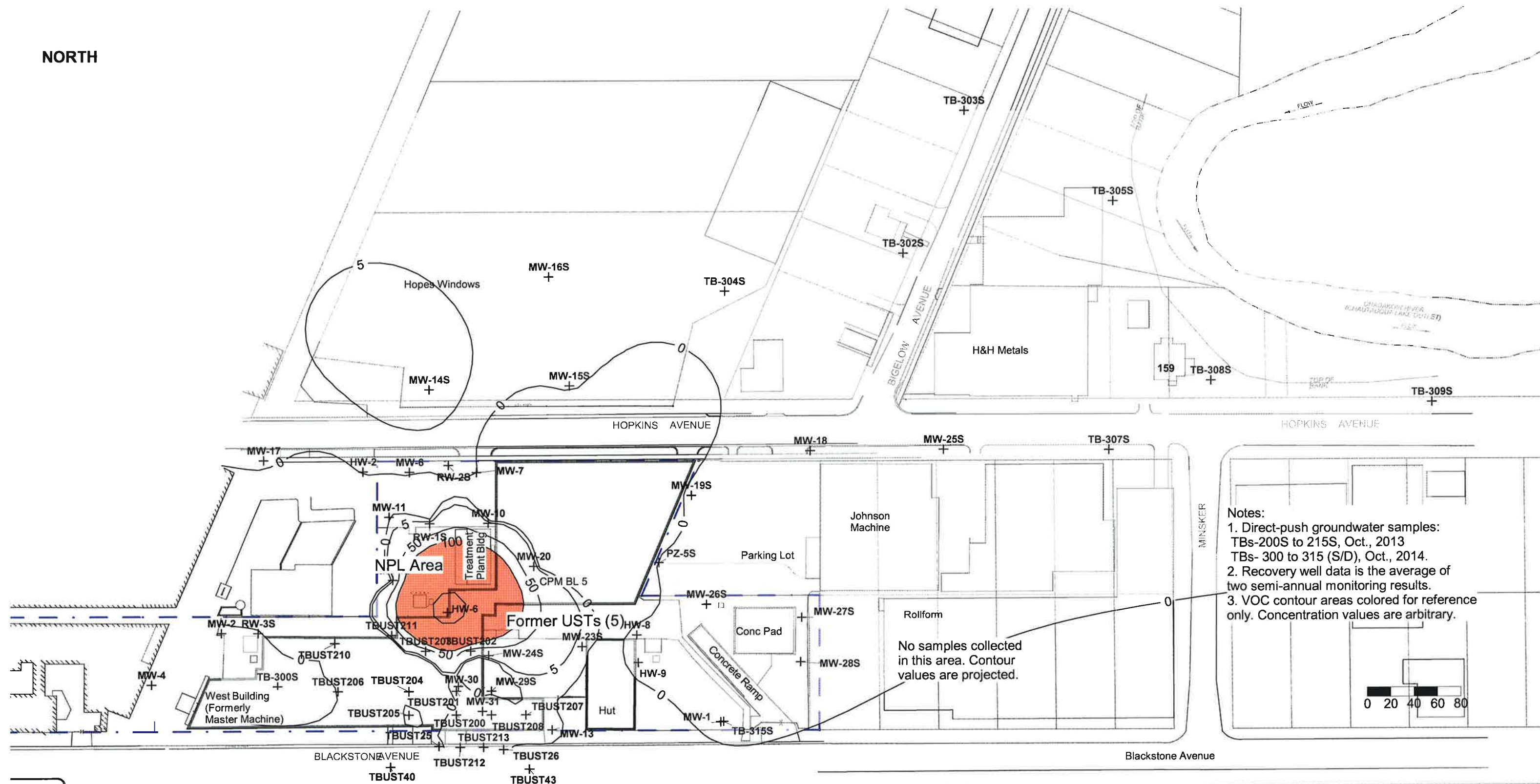


Figure 11
Site-Wide Area-Shallow Groundwater
Vinyl Chloride, ug/l
2014 Data

NORTH

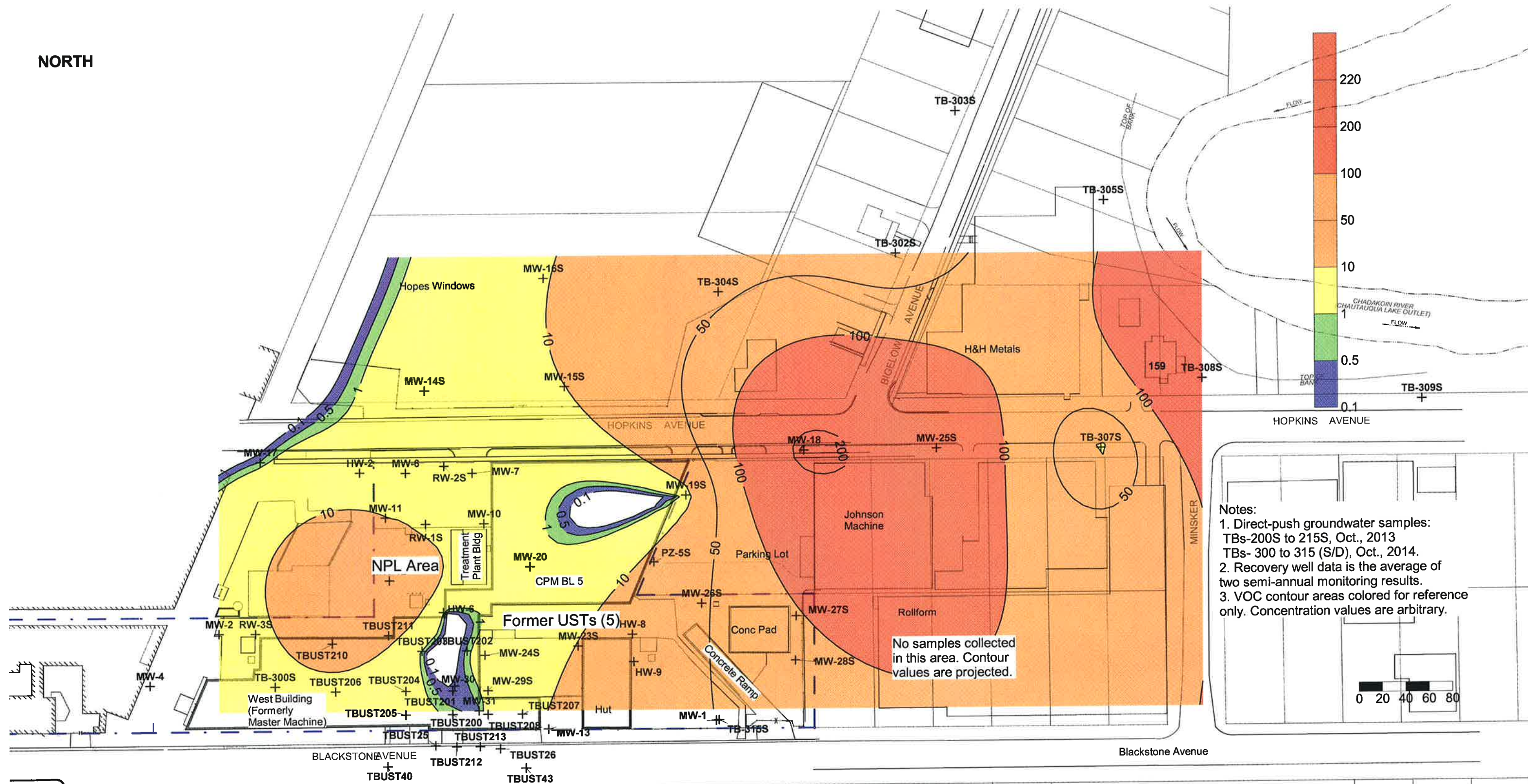


Figure 12
Site-Wide Area-Shallow Groundwater
TCE/Vinyl Chloride Ratio
2014 Data

Essex Specialty Products, Inc.
Essex/Hope Site, Jamestown, NY
URS 41570166

2014 Annual Periodic Review Report
URS (AECOM)

NORTH

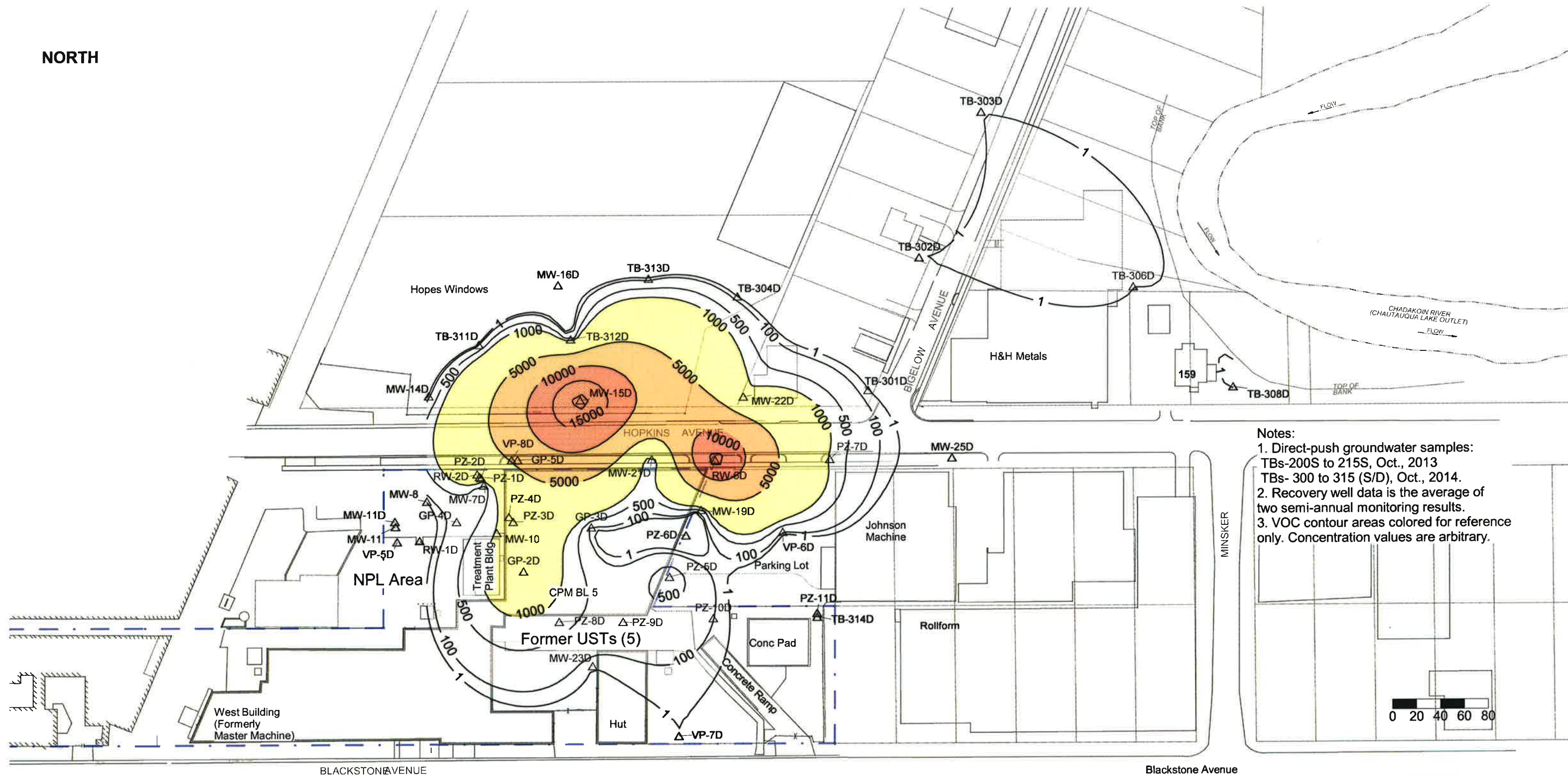


Figure 13
Site-Wide Area-Deep Groundwater
Trichloroethylene, ug/l
2014 Data

NORTH

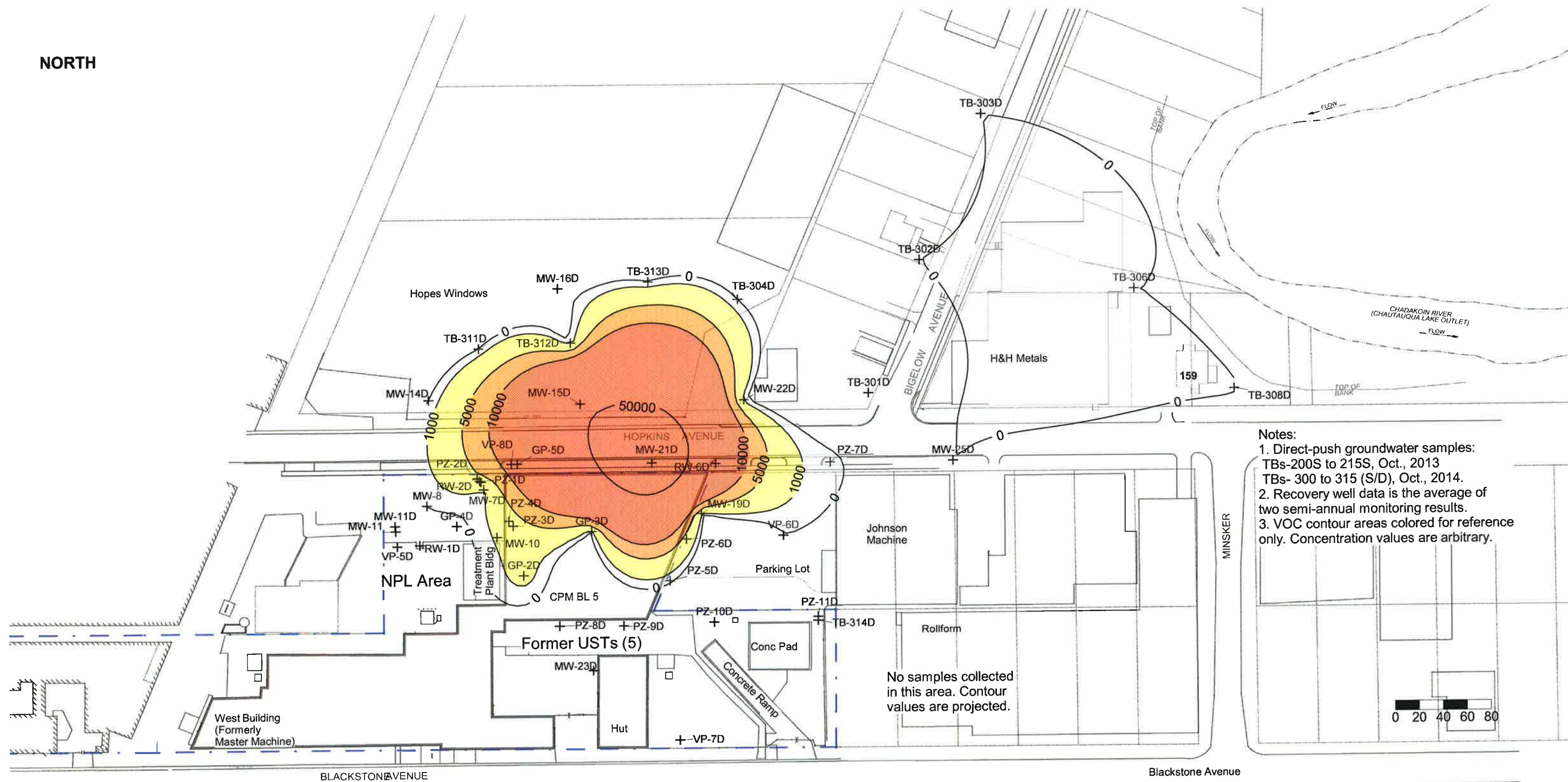


Figure 14
Site-Wide Area-Deep Groundwater
cis- 1,2 Dichloroethylene, ug/l
2014 Data

NORTH

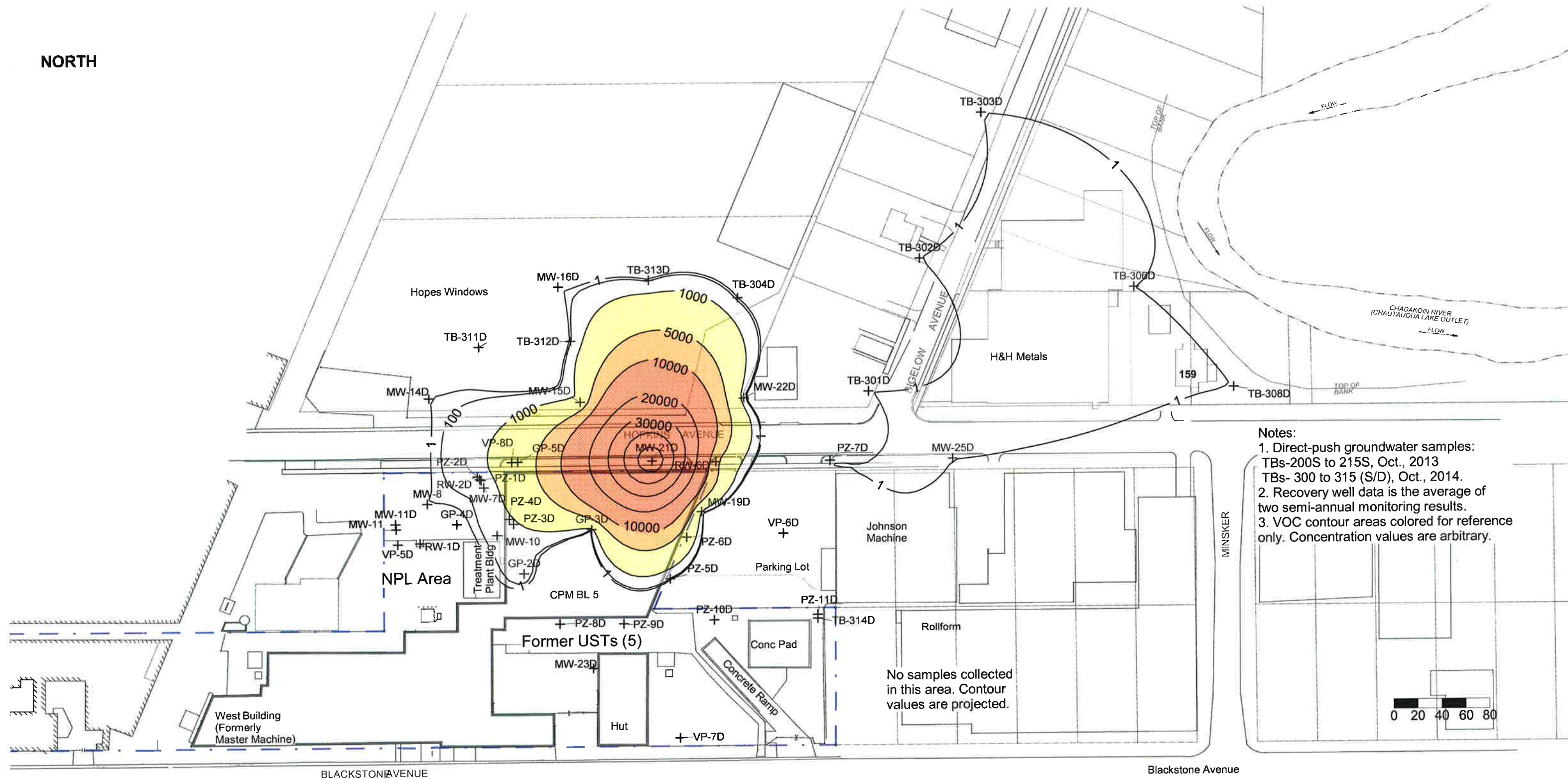


Figure 15
Site-Wide Area-Deep Groundwater
Vinyl Chloride, ug/l
2014 Data

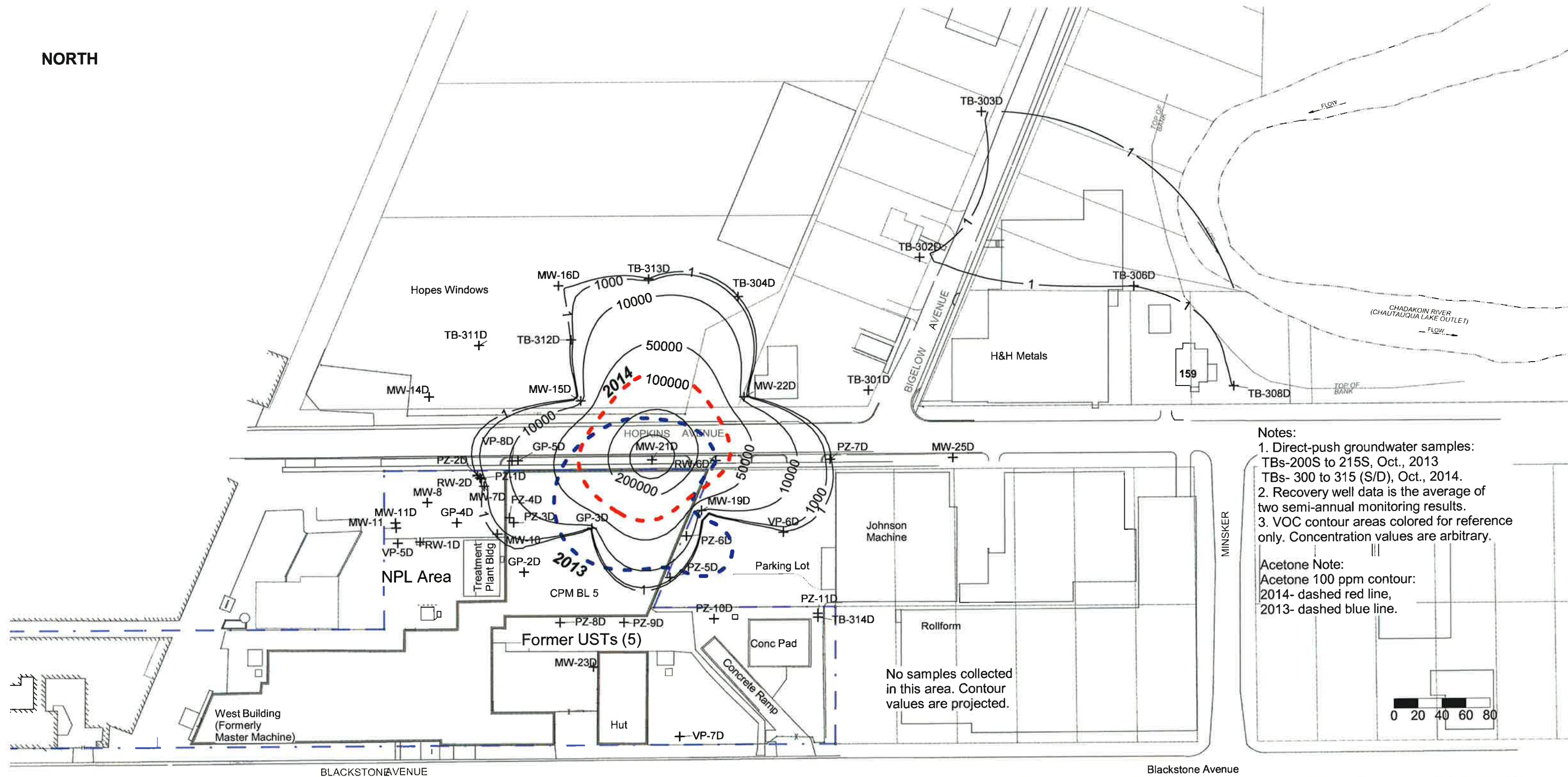
NORTH



Figure 16
Site-Wide Area-Deep Groundwater
TCE/Vinyl Chloride Ratio
2014 Data

2014 Annual Periodic Review Report
 URS (AECOM)

NORTH



- Notes:
1. Direct-push groundwater samples:
TBs-200S to 215S, Oct., 2013
TBs- 300 to 315 (S/D), Oct., 2014.
 2. Recovery well data is the average of two semi-annual monitoring results.
 3. VOC contour areas colored for reference only. Concentration values are arbitrary.

Acetone Note:
Acetone 100 ppm contour:
2014- dashed red line,
2013- dashed blue line.

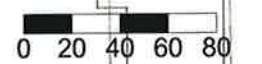


Figure 17
Site-Wide Area-Deep Groundwater
Acetone, ug/l
2014 Data

2014 Annual Periodic Review Report
URS (AECOM)

NORTH

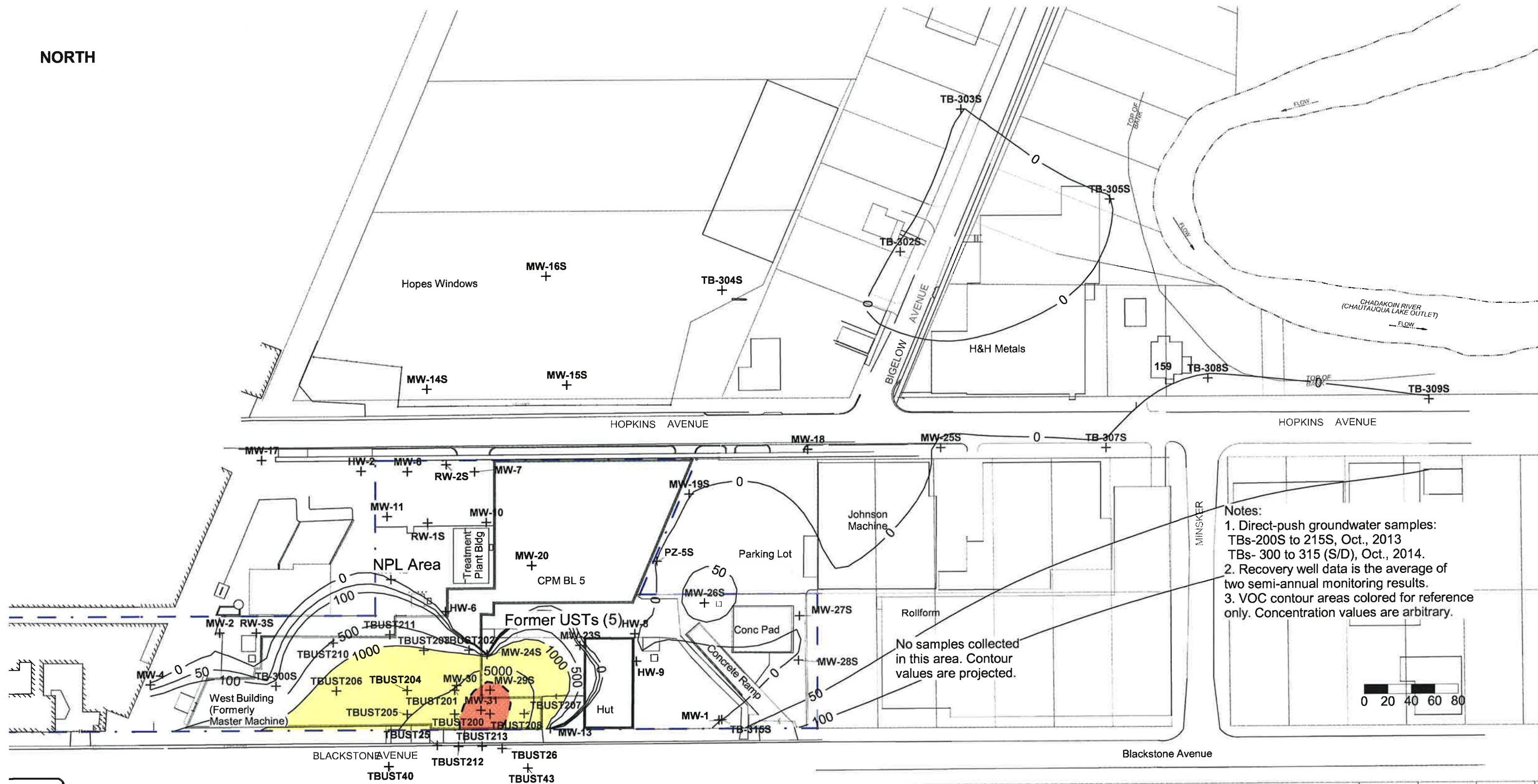


Figure 18
UST Area-Shallow Groundwater
Ethylbenzene, ug/l
2014

NORTH

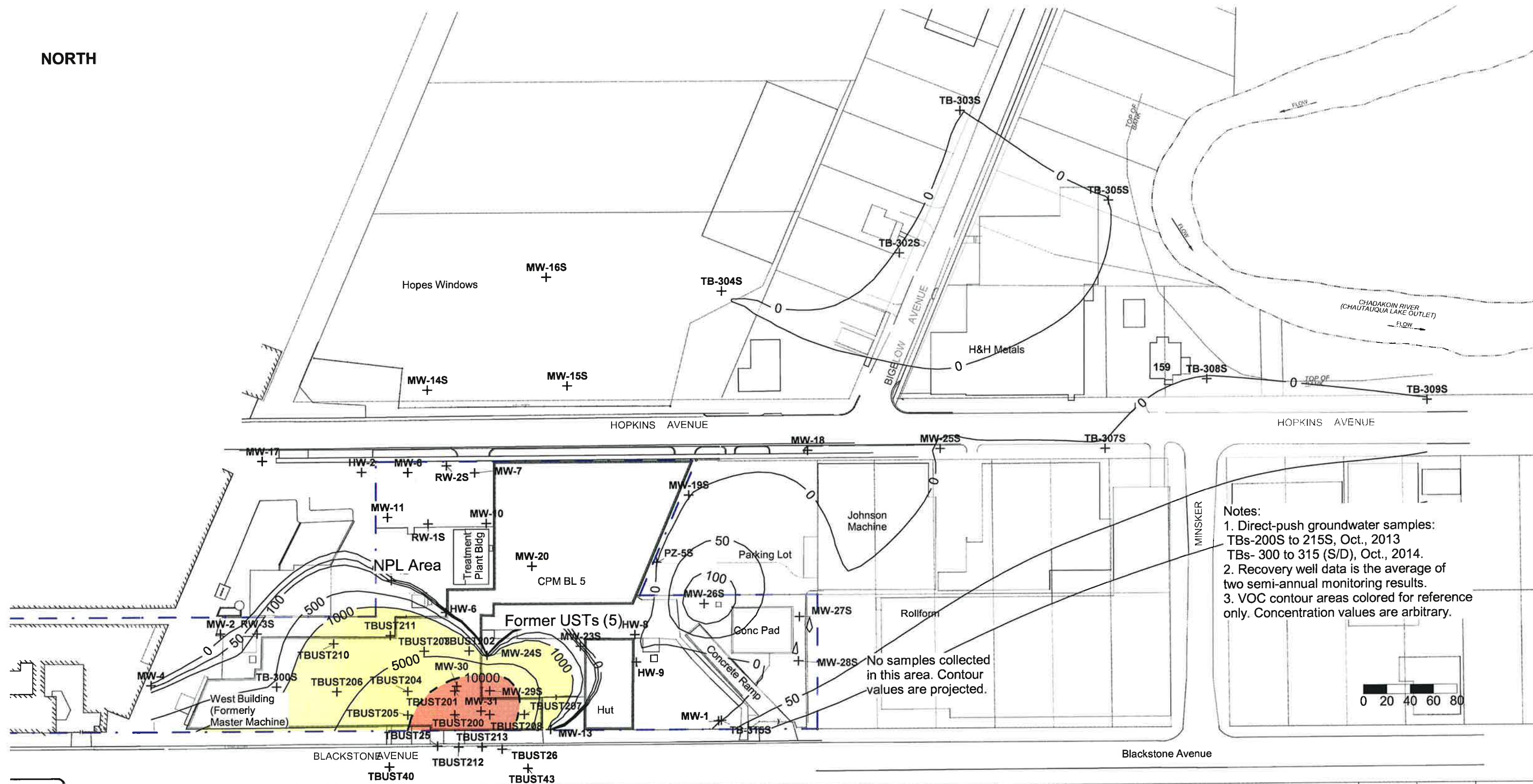


Figure 19
UST Area-Shallow Groundwater
Total Xylenes, ug/l
2014

Essex Specialty Products, Inc.
Essex/Hope Site, Jamestown, NY
URS 41570166

2014 Annual Periodic Review Report
URS (AECOM)

APPENDIX A

GROUNDWATER EXTRACTION MONITORING DATA

APPENDIX A-1

WATER LEVEL DATA

APPENDIX A-1

2014 Water Level Data Essex/Hope Site Jamestown, NY

Monitoring Location	Northing	Easting	Reference Elevation (ft msl)	Depth to Top of Screen	Depth to Bottom of Screen	Screened Zone	March 25, 2014			July 21, 2014		
							Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)	Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)
MW-1	9758.7161	10383.6499	1280.48		20.0	Shallow	NA	NA	NA	NA	NA	NA
MW-2	9837.1531	9959.6857	1279.87		16.0	Shallow	8.87	NA	1271.00	8.85	NA	1271.02
MW-4	9792.3277	9900.7631	1281.02	13.0	18.0	Shallow	9.55	NA	1271.47	9.35	NA	1271.67
MW-5	9789.6222	9631.761	1280.82	9.5	20.0	Shallow	NA	NA	NA	NA	NA	NA
MW-6	9977.1197	10118.8762	1277.98			Shallow	8.96	NA	1269.02	9.31	NA	1268.67
MW-7	9976.6467	10175.6797	1277.73	10.0	20.0	Shallow	8.56	NA	1269.17	8.39	NA	1269.34
MW-7D	9973.2593	10174.8524	1277.8	35.0	45.0	Deep	16.43	NA	1261.37	17.11	NA	1260.69
MW-7DD	9970.8547	10176.2698	1277.74	90.0	100.0	Glacial Till	NA	NA	NA	NA	NA	NA
MW-8	9959.6089	10127.6898	1277.97	39.6	49.6	Deep	15.51	NA	1262.46	16.44	NA	1261.53
MW-10	9932.4702	10185.7078	1277.94	8.5	18.5	Shallow	8.24	NA	1269.70	8.14	NA	1269.80
MW-11	9937.9912	10101.7016	1277.75	5.0	15.0	Shallow	8.54	NA	1269.21	9.17	NA	1268.58
MW-11D	9942.3792	10101.1482	1277.85	35.0	45.0	Deep	14.46	NA	1263.39	15.29	NA	1262.56
MW-12	9883.0874	10104.9278	1278.18	4.0	14.0	Shallow	8.44	NA	1269.74	8.61	NA	1269.57
MW-13	9752.0619	10240.2934	1278.12	8.0	18.0	Shallow	9.45	NA	1268.67	9.70	NA	1268.42
MW-14S	10048.7753	10135.5198	1280.25	10.0	20.0	Shallow	12.00	NA	1268.25	13.73	NA	1266.52
MW-14D	10049.5051	10129.1897	1280.01	40.0	50.0	Deep	15.83	NA	1264.18	16.60	NA	1263.41
MW-15S	10051.8272	10254.4862	1279.55	10.0	20.0	Shallow	11.14	NA	1268.41	12.76	NA	1266.79
MW-15D	10045.5611	10255.205	1279.46	34.0	44.0	Deep	14.24	NA	1265.22	15.16	NA	1264.30
MW-16S	10146.7788	10236.8582	1279.32	7.0	17.0	Shallow	11.03	NA	1268.29	12.41	NA	1266.91
MW-16D	10143.9497	10236.6005	1279.05	36.0	46.0	Deep	13.36	NA	1265.69	14.22	NA	1264.83
MW-17	9987.6315	9995.5207	1278.7			Deep	NA	NA	NA	NA	NA	NA
MW-18	9994.6655	10459.2207	1275.49		20.0	Shallow	7.43	NA	1268.06	9.79	NA	1265.70
MW-19S	9956.1454	10358.207	1276.82	9.0	19.0	Shallow	NA	NA	NA	9.78	NA	1267.04
MW-19D	9951.569	10355.9748	1276.21	34.0	44.0	Deep	NA	NA	NA	13.54	NA	1262.67
MW-20	9894.7336	10224.5128	1278.56	6.5	11.5	Shallow	7.28	NA	1271.28	NA	NA	NA
MW-21D	9995.0094	10314.801	1276.12	31.5	41.0	Deep	NA	NA	NA	10.96	NA	1265.16
MW-22D	10048.1687	10391.3548	1276.04	32.5	42.0	Deep	8.21	NA	1267.83	10.12	NA	1265.92
MW-23S	9824.696	10265.6365	1277.85	5.0	14.5	Shallow	6.30	NA	1271.55	6.14	NA	1271.71
MW-23D	9818.3152	10265.6675	1277.89	28.0	37.5	Deep	11.09	NA	1266.80	11.88	NA	1266.01
MW-24S	9817.1277	10186.2119	1278.77	5.0	14.5	Shallow	7.91	NA	1270.86	7.66	NA	1271.11

APPENDIX A-1

2014 Water Level Data Essex/Hope Site Jamestown, NY

Monitoring Location	Northing	Easting	Reference Elevation (ft msl)	Depth to Top of Screen	Depth to Bottom of Screen	Screened Zone	March 25, 2014			July 21, 2014		
							Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)	Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)
MW-25S	9995.6	10572.35	1272.76	7.0	17.0	Shallow	8.56	NA	1264.20	10.25	NA	1262.51
MW-25D	9995.46	10565.28	1273.41	31.0	41.0	Deep	9.48	NA	1263.93	10.30	NA	1263.11
MW-26S	9861.3519	10371.3241	1279.422	5.0	15.0	Shallow	8.12	NA	1271.30	9.02	NA	1270.40
MW-27S	9849.63382	10452.2197	1278.864	10.0	20.0	Shallow	8.80	NA	1270.06	9.76	NA	1269.10
MW-28S	9810.84281	10451.4089	1279.25	7.0	17.0	Shallow	8.74	NA	1270.51	9.49	NA	1269.76
MW-29S	9786.06533	10188.6419	1280.7	4.0	14.0	Shallow	8.13	NA	1272.57	7.94	NA	1272.76
MW-30S	NA	NA	NA	10.0	16.0	Shallow	NA	NA	NA	NA	NA	NA
MW-31S	NA	NA	NA	10.0	15.0	Shallow	NA	NA	NA	NA	NA	NA
HW-2	NA	NA	NA	NA	NA	Shallow	NA	NA	NA	NA	NA	NA
HW-6	NA	NA	NA	NA	NA	Shallow	11.40	NA	NA	11.49	NA	NA
HW-8	9834.664	10312.0885	1277.81	6.0	16.0	Shallow	6.21	NA	1271.60	6.10	NA	1271.71
HW-9	9810.5264	10313.3873	1280.78	6.0	16.0	Shallow	9.59	NA	1271.19	9.55	NA	1271.23
HW-10	9837.2976	9966.7406	1279.55	7.0	17.0	Shallow	NA	NA	NA	NA	NA	NA
RW-1S	9932.3606	10136.0515	1275.81	10.5	16.0	Shallow	9.90	11.50	1265.91	10.52	11.50	1265.29
RW-1D	9925.9898	10121.7689	1276.34	32.0	57.0	Deep	13.72	NA	1262.62	14.61	NA	1261.73
RW-2S	9982.9501	10151.7112	1276.33	10.0	15.5	Shallow	9.49	12.70	1266.84	10.24	12.70	1266.09
RW-2D	9982.6088	10169.3122	1276.35	27.0	42.0	Deep	34.61	36.90	1241.74	36.86	36.90	1239.49
RW-3S	9837.0894	9990.9663	1278.14	9.0	13.5	Shallow	8.40	8.80	1269.74	8.96	8.80	1269.18
RW-5S	9863.4298	10330.7462	1277.29	7.0	10.0	Shallow	NA	NA	NA	NA	NA	NA
RW-6D	9994.04	10367.91	1277.33			Deep	NA	NA	NA	14.46	NA	1262.87
GP-1S	9942.4384	10203.1085	1278.83	8.0	12.8	Shallow	NA	NA	NA	NA	NA	NA
GP-2S	9899.8775	10204.1632	1278.46	2.6	12.6	Shallow	NA	NA	NA	NA	NA	NA
GP-2D	9899.7358	10207.9807	1278.56	30.0	34.8	Deep	NA	NA	NA	NA	NA	NA
GP-3S	9941.2543	10263.8898	1278.59	4.0	14.0	Shallow	NA	NA	NA	NA	NA	NA
GP-3D	9936.9027	10264.588	1278.62	34.0	38.8	Deep	NA	NA	NA	NA	NA	NA
GP-4S	9940.86*	10154.97*	1278.06	10.8	15.8	Shallow	NA	NA	NA	8.98	NA	1269.08
GP-4D	9942.1743	10152.2232	1277.95	39.0	43.8	Deep	15.59	NA	1262.36	16.52	NA	1261.43
GP-5S	9994.7299	10200.2055	1277.44	7.0	11.8	Shallow	NA	NA	NA	NA	NA	NA
GP-5D	9994.8642	10202.9906	1276.81	36.0	40.8	Deep	NA	NA	NA	NA	NA	NA
PZ-1S	9981.8469	10169.3122	1277.77			Shallow	NA	NA	NA	NA	NA	NA

APPENDIX A-1

2014 Water Level Data Essex/Hope Site Jamestown, NY

Monitoring Location	Northing	Easting	Reference Elevation (ft msl)	Depth to Top of Screen	Depth to Bottom of Screen	Screened Zone	March 25, 2014			July 21, 2014		
							Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)	Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)
PZ-1D	9980.4294	10171.2636	1277.64			Deep	NA	NA	NA	NA	NA	NA
PZ-2D	9979.5627	10172.4761	1277.55			Deep	NA	NA	NA	NA	NA	NA
PZ-3D	9942.0414	10199.2937	1278.8	20.0	40.0	Deep	NA	NA	NA	NA	NA	NA
PZ-4D	9946.2326	10195.679	1278.71			Deep	NA	NA	NA	NA	NA	NA
PZ-5S	9897.7381	10330.7876	1276.42	5.5	12.0	Shallow	6.56	NA	1269.86	7.31	NA	1269.11
PZ-5D	9894.5731	10329.7148	1276.4	21.0	42.0	Deep	9.12	NA	1267.28	9.86	NA	1266.54
PZ-6S	9932.2079	10344.4895	1276.61	8.5	13.5	Shallow	NA	NA	NA	8.98	NA	1267.63
PZ-6D	9929.8004	10343.4742	1276.62	25.5	45.5	Deep	NA	NA	NA	10.41	NA	1266.21
PZ-7D	9994.5452	10463.2465	1275.68	22.0	42.0	Deep	NA	NA	NA	10.37	NA	1265.31
PZ-8D	9856.4908	10237.8118	1278.12	21.0	41.0	Deep	NA	NA	NA	NA	NA	NA
PZ-9D	9856.2398	10291.1658	1277.3	19.0	39.0	Deep	NA	NA	NA	NA	NA	NA
PZ-10D	9858.9821	10366.4236	1277.52	26.5	46.5	Deep	NA	NA	NA	NA	NA	NA
PZ-11D	9863.0677	10452.8989	1276.63	21.3	41.3	Deep	NA	NA	NA	NA	NA	NA
VP-5D	9925.1052	10103.0141	1277.88	12.5	34.3	Deep	11.83	NA	1266.05	11.74	NA	1266.14
VP-6S	9928.8123	10423.4628	1276.48	18.3	24.0	Deep upper gravel	NA	NA	NA	10.04	NA	1266.44
VP-6D	9932.5744	10424.1378	1276.6	29.5	39.5	Deep	8.92	NA	1267.68	10.31	NA	1266.29
VP-7D	9758.4881	10337.7133	1278.64	20.4	39.3	Deep	11.20	NA	1267.44	13.01	NA	1265.63
VP-8D	9994.6178	10197.8133	1277.15	20.0	39.0	Deep	NA	NA	NA	11.66	NA	1265.49

Notes:

NM = Not Measure
NA = Not Applicable

RW-4S, RW-5S taken offline in October 2002 for UST Removal.
Wells RW-4S, TW-01, and HW-7 destroyed during UST removal operations.

Multiple water levels were not obtained in March 2014 due to frozen water, snow, and ice.

APPENDIX A-1

2014 Water Level Data Essex/Hope Site Jamestown, NY

Monitoring Location	Northing	Easting	Reference Elevation (ft msl)	Depth to Top of Screen	Depth to Bottom of Screen	Screened Zone	September 18, 2014			November 24, 2014		
							Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)	Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)
MW-1	9758.7161	10383.6499	1280.48		20.0	Shallow	NA	NA	NA	NA	NA	NA
MW-2	9837.1531	9959.6857	1279.87		16.0	Shallow	8.96	NA	1270.91	7.86	NA	1272.01
MW-4	9792.3277	9900.7631	1281.02	13.0	18.0	Shallow	9.47	NA	1271.55	9.19	NA	1271.83
MW-5	9789.6222	9631.761	1280.82	9.5	20.0	Shallow	NA	NA	NA	NA	NA	NA
MW-6	9977.1197	10118.8762	1277.98			Shallow	10.75	NA	1267.23	8.14	NA	1269.84
MW-7	9976.6467	10175.6797	1277.73	10.0	20.0	Shallow	8.81	NA	1268.92	7.73	NA	1270.00
MW-7D	9973.2593	10174.8524	1277.8	35.0	45.0	Deep	16.19	NA	1261.61	14.66	NA	1263.14
MW-7DD	9970.8547	10176.2698	1277.74	90.0	100.0	Glacial Till	NA	NA	NA	NA	NA	NA
MW-8	9959.6089	10127.6898	1277.97	39.6	49.6	Deep	16.11	NA	1261.86	13.70	NA	1264.27
MW-10	9932.4702	10185.7078	1277.94	8.5	18.5	Shallow	8.26	NA	1269.68	6.79	NA	1271.15
MW-11	9937.9912	10101.7016	1277.75	5.0	15.0	Shallow	10.91	NA	1266.84	7.42	NA	1270.33
MW-11D	9942.3792	10101.1482	1277.85	35.0	45.0	Deep	14.97	NA	1262.88	12.54	NA	1265.31
MW-12	9883.0874	10104.9278	1278.18	4.0	14.0	Shallow	8.85	NA	1269.33	6.75	NA	1271.43
MW-13	9752.0619	10240.2934	1278.12	8.0	18.0	Shallow	10.23	NA	1267.89	7.50	NA	1270.62
MW-14S	10048.7753	10135.5198	1280.25	10.0	20.0	Shallow	14.14	NA	1266.11	11.06	NA	1269.19
MW-14D	10049.5051	10129.1897	1280.01	40.0	50.0	Deep	16.28	NA	1263.73	13.49	NA	1266.52
MW-15S	10051.8272	10254.4862	1279.55	10.0	20.0	Shallow	13.09	NA	1266.46	11.31	NA	1268.24
MW-15D	10045.5611	10255.205	1279.46	34.0	44.0	Deep	15.53	NA	1263.93	13.02	NA	1266.44
MW-16S	10146.7788	10236.8582	1279.32	7.0	17.0	Shallow	12.60	NA	1266.72	11.20	NA	1268.12
MW-16D	10143.9497	10236.6005	1279.05	36.0	46.0	Deep	14.63	NA	1264.42	12.18	NA	1266.87
MW-17	9987.6315	9995.5207	1278.7			Deep	NA	NA	NA	9.86	NA	1268.84
MW-18	9994.6655	10459.2207	1275.49		20.0	Shallow	10.03	NA	1265.46	9.12	NA	1266.37
MW-19S	9956.1454	10358.207	1276.82	9.0	19.0	Shallow	10.12	NA	1266.70	9.40	NA	1267.42
MW-19D	9951.569	10355.9748	1276.21	34.0	44.0	Deep	11.83	NA	1264.38	10.84	NA	1265.37
MW-20	9894.7336	10224.5128	1278.56	6.5	11.5	Shallow	7.48	NA	1271.08	5.86	NA	1272.70
MW-21D	9995.0094	10314.801	1276.12	31.5	41.0	Deep	11.69	NA	1264.43	9.95	NA	1266.17
MW-22D	10048.1687	10391.3548	1276.04	32.5	42.0	Deep	10.42	NA	1265.62	9.56	NA	1266.48
MW-23S	9824.696	10265.6365	1277.85	5.0	14.5	Shallow	6.65	NA	1271.20	4.83	NA	1273.02
MW-23D	9818.3152	10265.6675	1277.89	28.0	37.5	Deep	12.26	NA	1265.63	9.59	NA	1268.30
MW-24S	9817.1277	10186.2119	1278.77	5.0	14.5	Shallow	8.04	NA	1270.73	6.88	NA	1271.89

APPENDIX A-1

2014 Water Level Data Essex/Hope Site Jamestown, NY

Monitoring Location	Northing	Easting	Reference Elevation (ft msl)	Depth to Top of Screen	Depth to Bottom of Screen	Screened Zone	September 18, 2014			November 24, 2014		
							Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)	Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)
MW-25S	9995.6	10572.35	1272.76	7.0	17.0	Shallow	10.69	NA	1262.07	9.72	NA	1263.04
MW-25D	9995.46	10565.28	1273.41	31.0	41.0	Deep	10.91	NA	1262.50	9.83	NA	1263.58
MW-26S	9861.3519	10371.3241	1279.422	5.0	15.0	Shallow	9.35	NA	1270.07	6.96	NA	1272.46
MW-27S	9849.63382	10452.2197	1278.864	10.0	20.0	Shallow	9.90	NA	1268.96	7.64	NA	1271.22
MW-28S	9810.84281	10451.4089	1279.25	7.0	17.0	Shallow	10.28	NA	1268.97	7.61	NA	1271.64
MW-29S	9786.06533	10188.6419	1280.7	4.0	14.0	Shallow	8.33	NA	1272.37	7.29	NA	1273.41
MW-30S	NA	NA	NA	10.0	16.0	Shallow	NA	NA	NA	8.30	NA	NA
MW-31S	NA	NA	NA	10.0	15.0	Shallow	NA	NA	NA	7.79	NA	NA
HW-2	NA	NA	NA	NA	NA	Shallow	NA	NA	NA	11.18	NA	NA
HW-6	NA	NA	NA	NA	NA	Shallow	11.55	NA	NA	9.76	NA	NA
HW-8	9834.664	10312.0885	1277.81	6.0	16.0	Shallow	6.54	NA	1271.27	4.51	NA	1273.30
HW-9	9810.5264	10313.3873	1280.78	6.0	16.0	Shallow	10.12	NA	1270.66	7.76	NA	1273.02
HW-10	9837.2976	9966.7406	1279.55	7.0	17.0	Shallow	NA	NA	NA	7.65	NA	1271.90
RW-1S	9932.3606	10136.0515	1275.81	10.5	16.0	Shallow	9.29	11.50	1266.52	9.78	11.50	1266.03
RW-1D	9925.9898	10121.7689	1276.34	32.0	57.0	Deep	14.06	NA	1262.28	11.49	NA	1264.85
RW-2S	9982.9501	10151.7112	1276.33	10.0	15.5	Shallow	10.18	12.70	1266.15	10.16	12.70	1266.17
RW-2D	9982.6088	10169.3122	1276.35	27.0	42.0	Deep	36.34	36.90	1240.01	30.89	36.90	1245.46
RW-3S	9837.0894	9990.9663	1278.14	9.0	13.5	Shallow	9.10	8.80	1269.04	7.72	8.80	1270.42
RW-5S	9863.4298	10330.7462	1277.29	7.0	10.0	Shallow	NA	NA	NA	NA	NA	NA
RW-6D	9994.04	10367.91	1277.33			Deep	15.97	NA	1261.36	27.63	NA	1249.70
GP-1S	9942.4384	10203.1085	1278.83	8.0	12.8	Shallow	NA	NA	NA	NA	NA	NA
GP-2S	9899.8775	10204.1632	1278.46	2.6	12.6	Shallow	NA	NA	NA	5.97	NA	1272.49
GP-2D	9899.7358	10207.9807	1278.56	30.0	34.8	Deep	NA	NA	NA	10.81	NA	1267.75
GP-3S	9941.2543	10263.8898	1278.59	4.0	14.0	Shallow	NA	NA	NA	9.97	NA	1268.62
GP-3D	9936.9027	10264.588	1278.62	34.0	38.8	Deep	NA	NA	NA	12.38	NA	1266.24
GP-4S	9940.86*	10154.97*	1278.06	10.8	15.8	Shallow	9.09	NA	1268.97	7.96	NA	1270.10
GP-4D	9942.1743	10152.2232	1277.95	39.0	43.8	Deep	17.30	NA	1260.65	13.73	NA	1264.22
GP-5S	9994.7299	10200.2055	1277.44	7.0	11.8	Shallow	NA	NA	NA	NA	NA	NA
GP-5D	9994.8642	10202.9906	1276.81	36.0	40.8	Deep	NA	NA	NA	NA	NA	NA
PZ-1S	9981.8469	10169.3122	1277.77			Shallow	NA	NA	NA	NA	NA	NA

APPENDIX A-1

2014 Water Level Data Essex/Hope Site Jamestown, NY

Monitoring Location	Northing	Easting	Reference Elevation (ft msl)	Depth to Top of Screen	Depth to Bottom of Screen	Screened Zone	September 18, 2014			November 24, 2014		
							Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)	Depth to Water	Depth to Top of Pump	Groundwater Elevation (ft msl)
PZ-1D	9980.4294	10171.2636	1277.64			Deep	NA	NA	NA	NA	NA	NA
PZ-2D	9979.5627	10172.4761	1277.55			Deep	NA	NA	NA	NA	NA	NA
PZ-3D	9942.0414	10199.2937	1278.8	20.0	40.0	Deep	NA	NA	NA	NA	NA	NA
PZ-4D	9946.2326	10195.679	1278.71			Deep	NA	NA	NA	NA	NA	NA
PZ-5S	9897.7381	10330.7876	1276.42	5.5	12.0	Shallow	8.08	NA	1268.34	6.43	NA	1269.99
PZ-5D	9894.5731	10329.7148	1276.4	21.0	42.0	Deep	10.99	NA	1265.41	9.33	NA	1267.07
PZ-6S	9932.2079	10344.4895	1276.61	8.5	13.5	Shallow	9.73	NA	1266.88	8.38	NA	1268.23
PZ-6D	9929.8004	10343.4742	1276.62	25.5	45.5	Deep	11.77	NA	1264.85	9.61	NA	1267.01
PZ-7D	9994.5452	10463.2465	1275.68	22.0	42.0	Deep	10.89	NA	1264.79	9.96	NA	1265.72
PZ-8D	9856.4908	10237.8118	1278.12	21.0	41.0	Deep	NA	NA	NA	NA	NA	NA
PZ-9D	9856.2398	10291.1658	1277.3	19.0	39.0	Deep	NA	NA	NA	NA	NA	NA
PZ-10D	9858.9821	10366.4236	1277.52	26.5	46.5	Deep	NA	NA	NA	NA	NA	NA
PZ-11D	9863.0677	10452.8989	1276.63	21.3	41.3	Deep	NA	NA	NA	NA	NA	NA
VP-5D	9925.1052	10103.0141	1277.88	12.5	34.3	Deep	12.08	NA	1265.80	9.63	NA	1268.25
VP-6S	9928.8123	10423.4628	1276.48	18.3	24.0	Deep upper gravel	10.39	NA	1266.09	5.19	NA	1271.29
VP-6D	9932.5744	10424.1378	1276.6	29.5	39.5	Deep	10.84	NA	1265.76	9.56	NA	1267.04
VP-7D	9758.4881	10337.7133	1278.64	20.4	39.3	Deep	13.44	NA	1265.20	11.33	NA	1267.31
VP-8D	9994.6178	10197.8133	1277.15	20.0	39.0	Deep	11.34	NA	1265.81	9.78	NA	1267.37

Notes:

NM = Not Measure

NA = Not Applicable

RW-4S, RW-5S taken offline in October 2002 for UST Removal.

Wells RW-4S, TW-01, and HW-7 destroyed during UST removal operations.

Multiple water levels were not obtained in March 2014 due to frozen water, snow, and ice.

APPENDIX A-2

Groundwater Extraction System Monitoring Data

APPENDIX A-2

2014 Groundwater Extraction System Monitoring Data Essex/Hope Site Jamestown, NY

Date	NPL Area - Shallow WBZ			L.F. Sand WBZ			AST/UST Area - Shallow	Comments
	RW-1S	RW-2S	Total GPM	RW-2D	RW-6D	Total GPM	RW-3S	
	Avg. GPM	Avg. GPM		Avg. GPM	Avg. GPM		Avg. GPM	
03/12/14	0.288	2.26	2.548	3.40	offline	3.40	0.212	RWs/System online 3/11/14. RW-6D remain offline until heat trace repair.
03/25/14	0.243	2.05	2.293	3.04	offline	3.04	0.161	
04/08/14	0.123	0.963	1.086	1.76	offline	1.76	0.085	RWs offline due to breach of carbon through piping; broken vessel.
06/23/14	0.193	1.57	1.763	1.33	offline	1.33	0.096	RW-2D down bus undervoltage; reset. (Note: RWs online 6/5/14 following carbon change out. RW-6D remain offline due to dead VFD.)
07/11/14	0.197	1.54	1.737	1.02	0.01	1.03	0.046	RWs-2D and -6D down bus undervoltage; reset. (Note: RW-6D online 6/27/14.)
07/21/14	0.166	1.39	1.556	3.02	0	3.02	0.034	RW-6D frequency increased due to low pumping rate.
08/08/14	0.183	1.22	1.403	2.14	0.315	2.46	0.084	RW-2D down bus undervoltage; reset.
08/19/14	0.203	1.69	1.893	0.98	0.342	1.32	0.038	RW-2D down bus undervoltage; reset.
09/03/14	0.079	0.49	0.56	3.04	0.245	3.29	0.015	System down due to HHH alarm; reset.
09/10/14	0.211	1.54	1.75	3.14	0.682	3.82	0.075	
09/18/14	0.132	1.01	1.14	3.13	0.617	3.75	0.030	System offline for approximately 1 hour for carbon bed maintenance.
10/03/14	0.105	0.531	0.64	3.24	1.25	4.49	0.000	System online following RW-6D acid treatment activities. Note system down approximately 9/24/14 due to faulty level probe in equalizer tank. Subsequent repair done on 10/1/14.
10/06/14	0.098	0.441	0.54	3.04	1.18	4.22	0.001	System offline from 10/6/14-10/8/14 for carbon change out activities.
10/20/14	0.094	0.501	0.60	3.09	1.00	4.09	0.004	
11/03/14	0.086	0.494	0.58	2.99	1.23	4.22	0.0030	
11/13/14	0.088	0.545	0.63	2.63	1.29	2.63	0.007	RW-6D offline for approximately 4 hrs for heat trace repair.
11/24/14	0.030	0.194	0.22	0.294	0.263	0.56	0.004	System down due to HHH alarm; reset.
12/10/14	0.105	1.39	1.50	3.33	0.673	4.00	0.199	System down due to HHH alarm; reset. Potential blockage in lag carbon. RW-2D frequency reduced.
12/11/14	0.000	1.36	1.36	2.21	0.155	2.37	0	
12/22/14	0.000	0.676	0.676	1.17	2.66	3.83	0	System down due to HHH alarm; reset. Potential blockage in lag carbon. RW frequencies reduced.

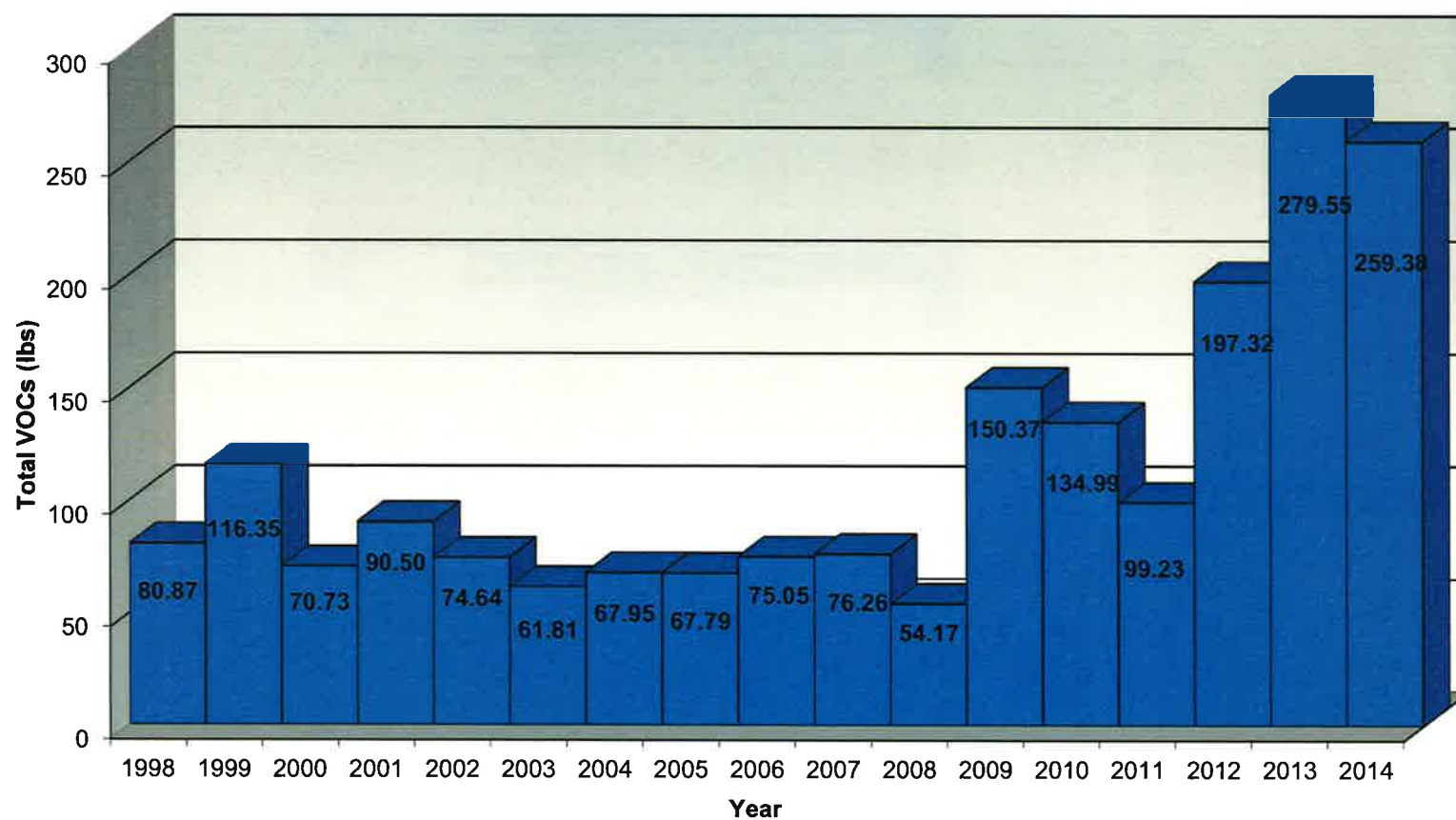
APPENDIX A-3

Recovery Well Performance Data

APPENDIX A-3 - Recovery Well Performance Data

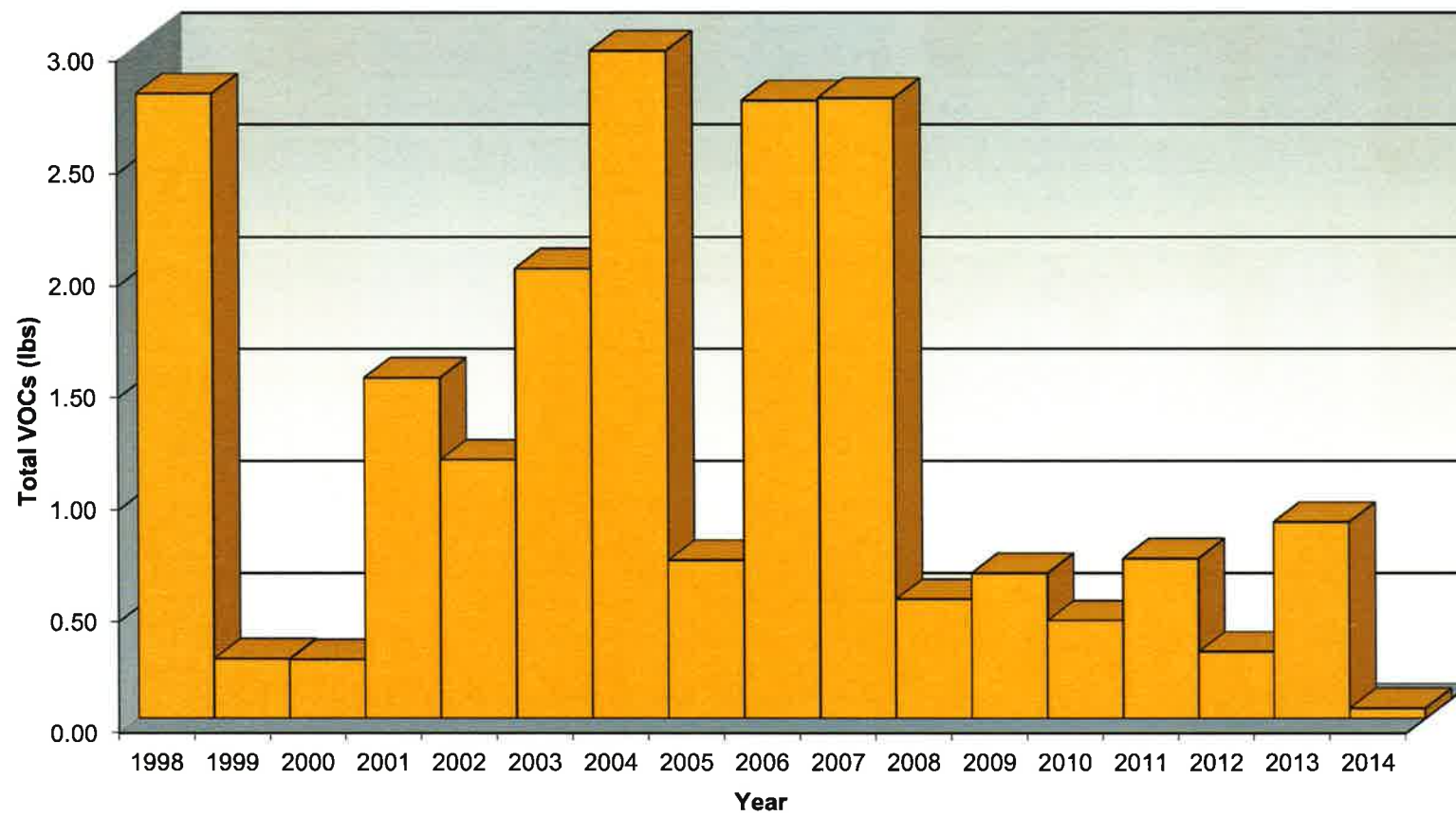
TOTAL SITE VOCs MASS REMOVED

Essex/Hope Site
Jamestown, NY



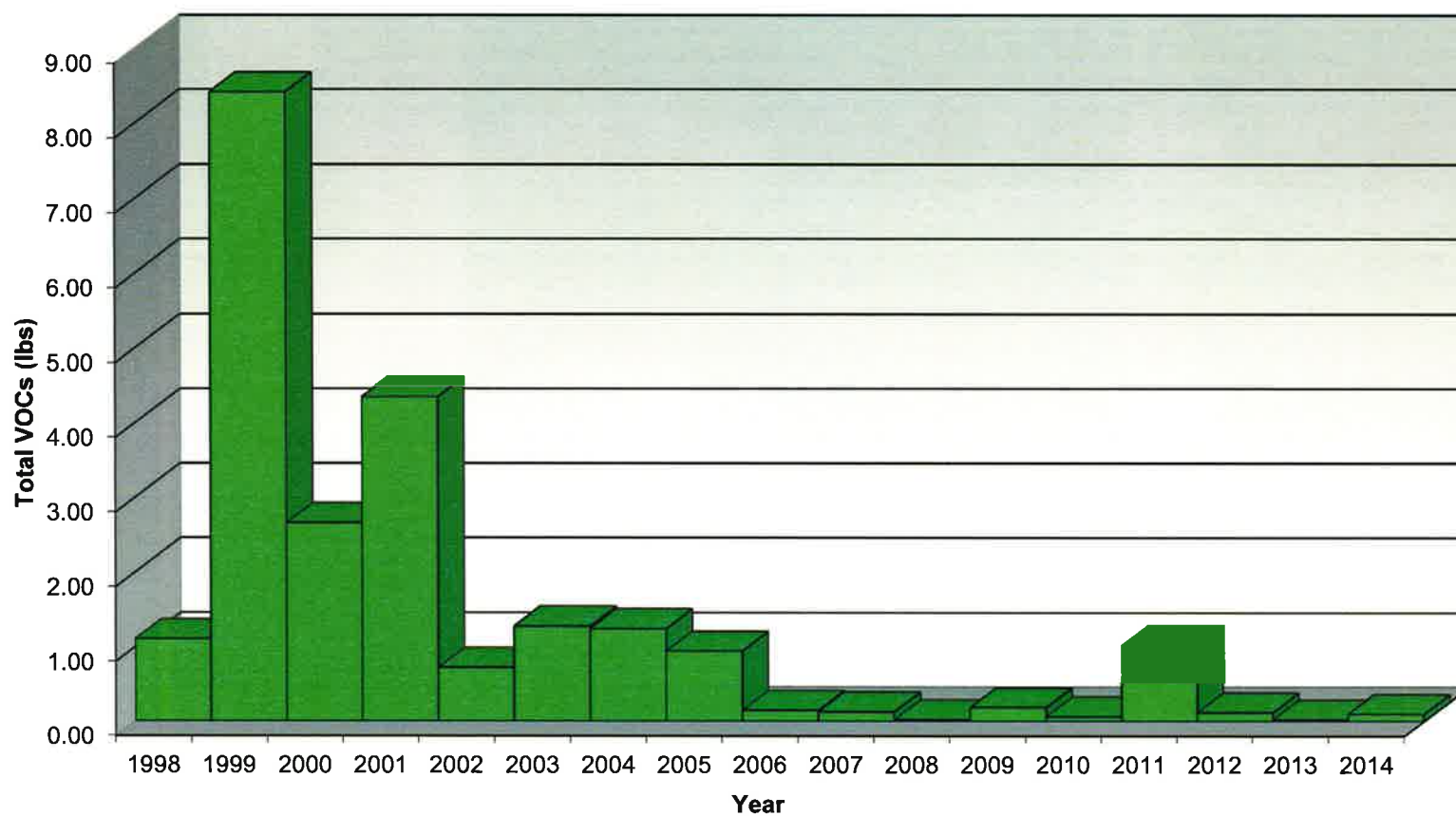
APPENDIX A-3 - Recovery Well Performance Data

RW-1S - Total VOCs Mass Removed
Essex/Hope Site
Jamestown, NY



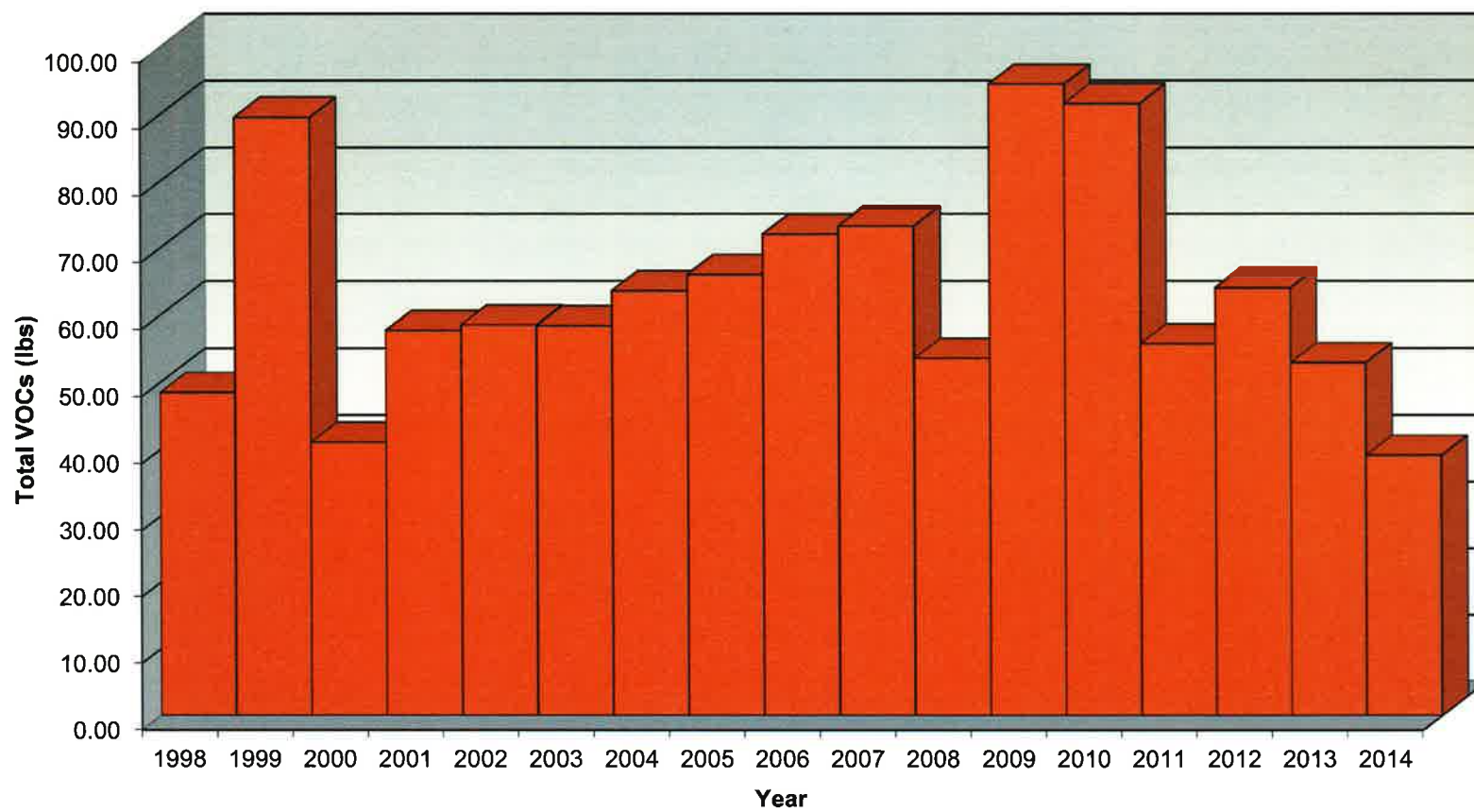
APPENDIX A-3 - Recovery Well Performance Data

RW-2S - Total VOCs Mass Removed
Essex/Hope Site
Jamestown, NY



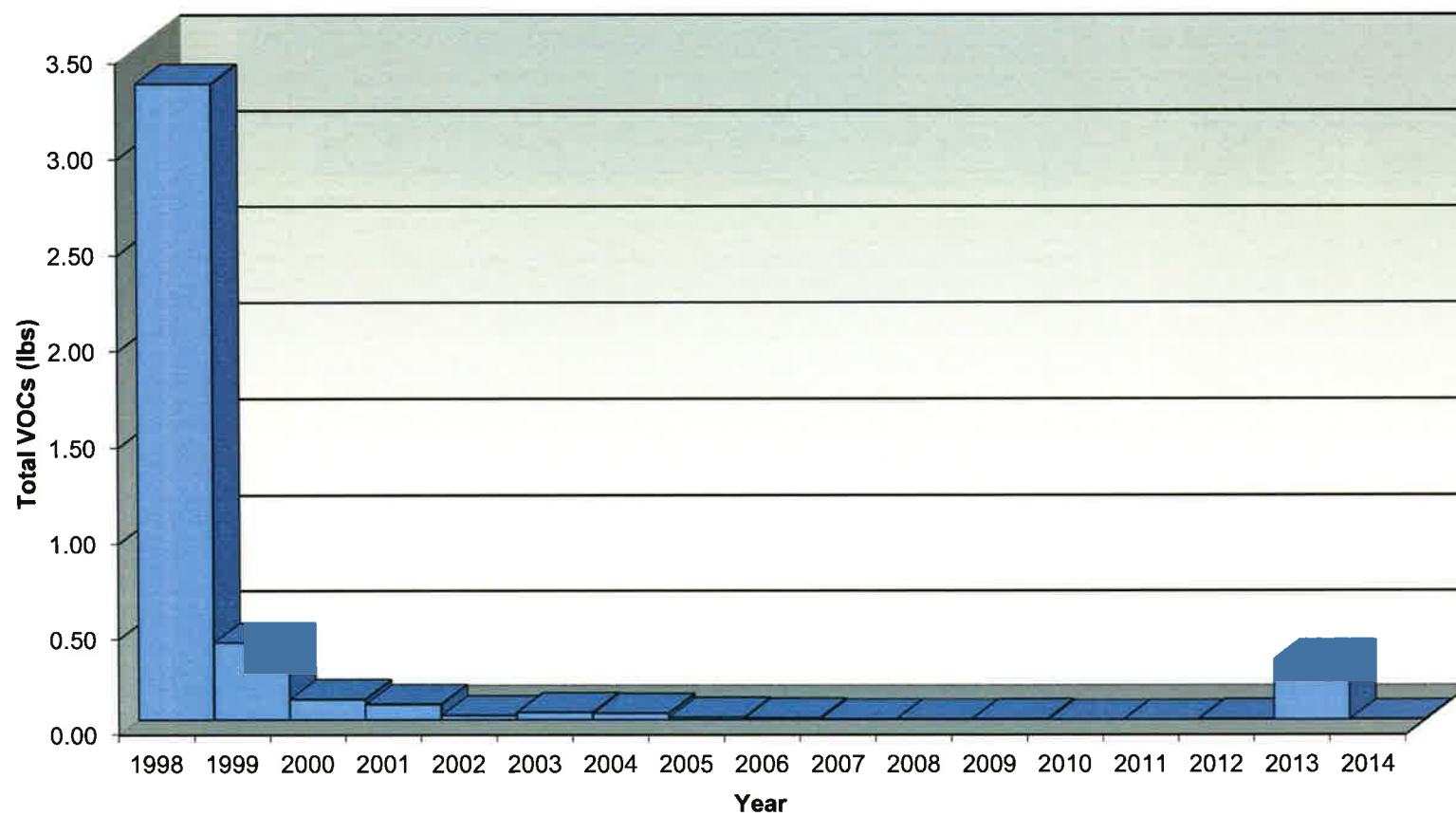
APPENDIX A-3 - Recovery Well Performance Data

RW-2D - Total VOCs Mass Removed
Essex/Hope Site
Jamestown, NY



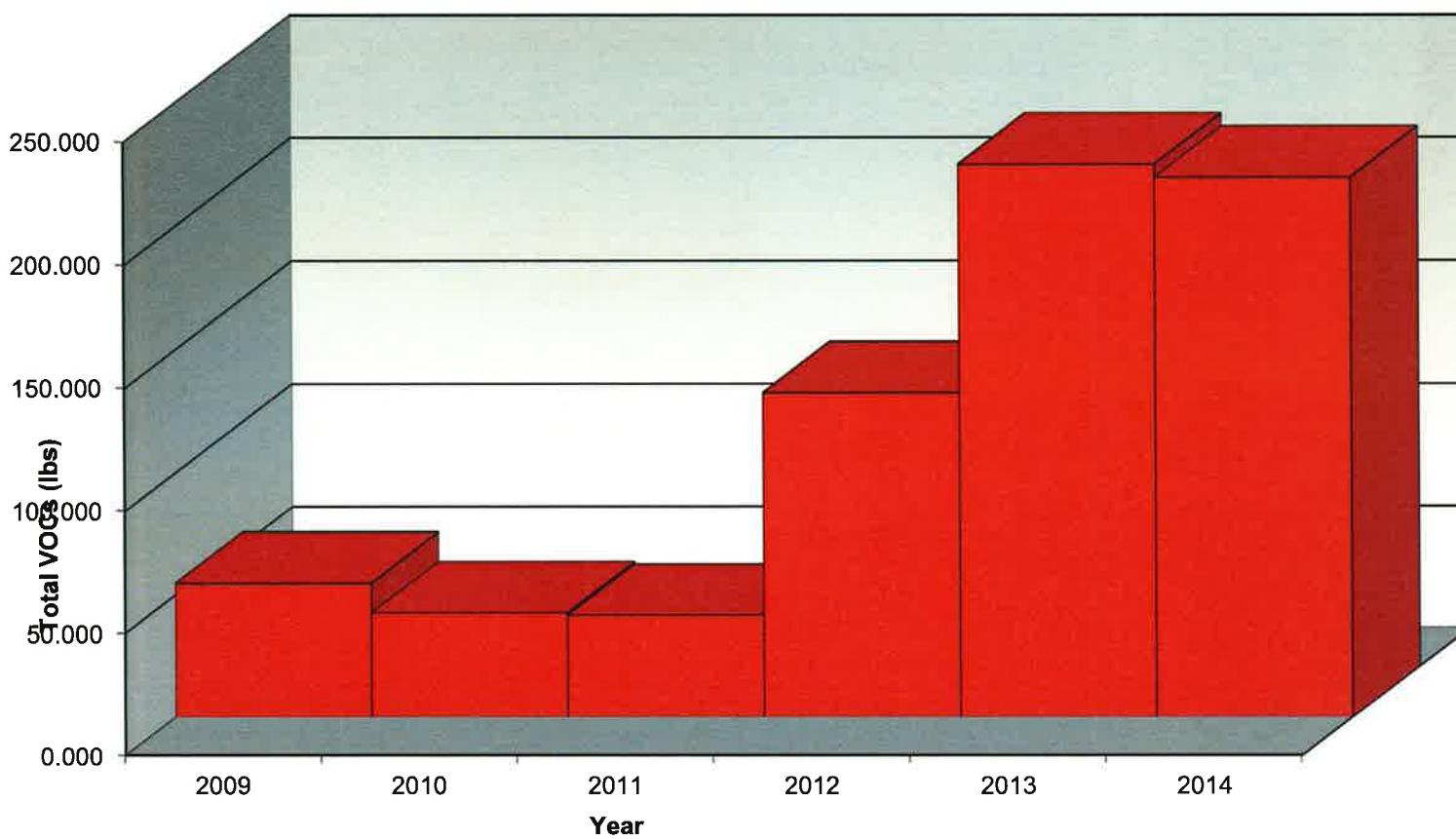
APPENDIX A-3 - Recovery Well Performance Data

RW-3S - Total VOCs Mass Removed
Essex/Hope Site
Jamestown, NY



APPENDIX A-3 - Recovery Well Performance Data

RW-6D - Total VOCs Mass Removed
Essex/Hope Site
Jamestown, NY



APPENDIX B

LABORATORY ANALYTICAL DATA (CD)

Table D-1
Supplemental Groundwater Investigations
Shallow Groundwater Zone Test Borings - Analytical Results
October 2014

Volatile Organic Compounds (Method 8260A) - µg/L	TB-300S	TB-302S	TB-303S	TB-304S	TB-305S	TB-307S	TB-308S	TB-309S	TB-315S
Sample Date	10/01/14	10/02/14	10/02/14	10/03/14	10/02/14	10/01/14	10/01/14	10/01/14	10/06/14
Acetone	ND	10.8	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	68.6	ND	ND	21.1	28.5	ND	ND	12.4
Carbon Disulfide	ND	3.5	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	1.3	ND	ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	22.9	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	9.3	ND	1.1	76.1	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	76.0	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	15.6	ND	42.1	ND	2.2	192	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	472	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected/Below minimum laboratory reporting limit

Table D-2
Supplemental Groundwater Investigations
Deep Groundwater Zone Test Borings - Analytical Results
October 2014

Volatile Organic Compounds (Method 8260A) - µg/L	TB-301D	TB-302D	TB-303D	TB-304D	TB-306D	TB-308D	TB-311D	TB-312D	TB-313D	TB-314D
Sample Date	10/06/14	10/02/14	10/02/14	10/03/14	10/02/14	10/01/14	10/06/14	10/03/14	10/03/14	10/06/14
Acetone	ND	ND	ND	ND	ND	15.8	ND	ND	ND	88.3
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	11.8	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	3.6	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	9.0	9.0	9.7	8.6	9.7	1.1	9.8	ND	9.1	6.9
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	3.2	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	6.4	ND	ND	10.7	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	2.9	ND	ND	ND	ND

Notes:

µg/l = Micrograms per liter

ND = Not Detected/Below minimum laboratory reporting limit

October 16, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: 41569123/Essex-Hope
Pace Project No.: 30130883

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

Sample: TB-300S		Lab ID: 30130883001	Collected: 10/01/14 09:00	Received: 10/02/14 09:25	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 14:15	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 14:15	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 14:15	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 14:15	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 14:15	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/15/14 14:15	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 14:15	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 14:15	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 14:15	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 14:15	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 14:15	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 14:15	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 14:15	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 14:15	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 14:15	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 14:15	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 14:15	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 14:15	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 14:15	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 14:15	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 14:15	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 14:15	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 14:15	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 14:15	10061-02-6	M5
Ethylbenzene	76.0 ug/L		1.0	1		10/15/14 14:15	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 14:15	591-78-6	M5
Isopropylbenzene (Cumene)	22.9 ug/L		1.0	1		10/15/14 14:15	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		10/15/14 14:15	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 14:15	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 14:15	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 14:15	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 14:15	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 14:15	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 14:15	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 14:15	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/15/14 14:15	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 14:15	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 14:15	75-01-4	M5
m&p-Xylene	298 ug/L		2.0	1		10/15/14 14:15	179601-23-1	M5
o-Xylene	174 ug/L		1.0	1		10/15/14 14:15	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	96 %		84-113	1		10/15/14 14:15	460-00-4	M5
1,2-Dichloroethane-d4 (S)	119 %		84-124	1		10/15/14 14:15	17060-07-0	M5
Toluene-d8 (S)	96 %		79-118	1		10/15/14 14:15	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

Sample: TB-309S		Lab ID: 30130883002	Collected: 10/01/14 10:22	Received: 10/02/14 09:25	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 14:40	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 14:40	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 14:40	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 14:40	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 14:40	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/15/14 14:40	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 14:40	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 14:40	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 14:40	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 14:40	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 14:40	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 14:40	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 14:40	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 14:40	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 14:40	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 14:40	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 14:40	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 14:40	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 14:40	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 14:40	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 14:40	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 14:40	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 14:40	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 14:40	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/15/14 14:40	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 14:40	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/15/14 14:40	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		10/15/14 14:40	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 14:40	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 14:40	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 14:40	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 14:40	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 14:40	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 14:40	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 14:40	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/15/14 14:40	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 14:40	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 14:40	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/15/14 14:40	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/15/14 14:40	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	93 %		84-113	1		10/15/14 14:40	460-00-4	M5
1,2-Dichloroethane-d4 (S)	117 %		84-124	1		10/15/14 14:40	17060-07-0	M5
Toluene-d8 (S)	98 %		79-118	1		10/15/14 14:40	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

Sample: TB-307S		Lab ID: 30130883003	Collected: 10/01/14 11:52	Received: 10/02/14 09:25	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 15:06	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 15:06	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 15:06	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 15:06	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 15:06	74-83-9	M5
2-Butanone (MEK)	28.5 ug/L		10.0	1		10/15/14 15:06	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 15:06	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 15:06	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 15:06	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 15:06	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 15:06	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 15:06	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 15:06	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 15:06	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 15:06	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 15:06	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 15:06	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 15:06	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 15:06	75-35-4	M5
cis-1,2-Dichloroethene	1.1 ug/L		1.0	1		10/15/14 15:06	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 15:06	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 15:06	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 15:06	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 15:06	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/15/14 15:06	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 15:06	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/15/14 15:06	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		10/15/14 15:06	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 15:06	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 15:06	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 15:06	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 15:06	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 15:06	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 15:06	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 15:06	79-00-5	M5
Trichloroethene	2.2 ug/L		1.0	1		10/15/14 15:06	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 15:06	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 15:06	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/15/14 15:06	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/15/14 15:06	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	94 %		84-113	1		10/15/14 15:06	460-00-4	M5
1,2-Dichloroethane-d4 (S)	118 %		84-124	1		10/15/14 15:06	17060-07-0	M5
Toluene-d8 (S)	97 %		79-118	1		10/15/14 15:06	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

Sample: TB-308S		Lab ID: 30130883004	Collected: 10/01/14 14:09	Received: 10/02/14 09:25	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		10/15/14 15:31	67-64-1	M5
Benzene	ND	ug/L	1.0	1		10/15/14 15:31	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		10/15/14 15:31	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		10/15/14 15:31	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		10/15/14 15:31	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	10.0	1		10/15/14 15:31	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		10/15/14 15:31	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		10/15/14 15:31	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		10/15/14 15:31	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		10/15/14 15:31	75-00-3	M5
Chloroform	1.3	ug/L	1.0	1		10/15/14 15:31	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		10/15/14 15:31	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	1.0	1		10/15/14 15:31	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 15:31	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 15:31	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 15:31	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		10/15/14 15:31	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		10/15/14 15:31	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	1.0	1		10/15/14 15:31	75-35-4	M5
cis-1,2-Dichloroethene	76.1	ug/L	1.0	1		10/15/14 15:31	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/15/14 15:31	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		10/15/14 15:31	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/15/14 15:31	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/15/14 15:31	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		10/15/14 15:31	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		10/15/14 15:31	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		10/15/14 15:31	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		10/15/14 15:31	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/15/14 15:31	108-10-1	M5
Styrene	ND	ug/L	1.0	1		10/15/14 15:31	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/15/14 15:31	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		10/15/14 15:31	127-18-4	M5
Toluene	ND	ug/L	1.0	1		10/15/14 15:31	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/15/14 15:31	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/15/14 15:31	79-00-5	M5
Trichloroethene	192	ug/L	1.0	1		10/15/14 15:31	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		10/15/14 15:31	75-69-4	M5
Vinyl chloride	ND	ug/L	1.0	1		10/15/14 15:31	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		10/15/14 15:31	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		10/15/14 15:31	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	96	%	84-113	1		10/15/14 15:31	460-00-4	M5
1,2-Dichloroethane-d4 (S)	116	%	84-124	1		10/15/14 15:31	17060-07-0	M5
Toluene-d8 (S)	102	%	79-118	1		10/15/14 15:31	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

Sample: TB-308D **Lab ID: 30130883005** Collected: 10/01/14 15:20 Received: 10/02/14 09:25 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was transferred to another vial prior to analysis due to excessive sediment.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	15.8	ug/L	10.0	1		10/15/14 15:56	67-64-1	M5
Benzene	ND	ug/L	1.0	1		10/15/14 15:56	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		10/15/14 15:56	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		10/15/14 15:56	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		10/15/14 15:56	74-83-9	M5
2-Butanone (MEK)	11.8	ug/L	10.0	1		10/15/14 15:56	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		10/15/14 15:56	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		10/15/14 15:56	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		10/15/14 15:56	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		10/15/14 15:56	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		10/15/14 15:56	67-66-3	M5
Chloromethane	1.2	ug/L	1.0	1		10/15/14 15:56	74-87-3	L1,M5
Dibromochloromethane	ND	ug/L	1.0	1		10/15/14 15:56	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 15:56	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 15:56	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 15:56	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		10/15/14 15:56	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		10/15/14 15:56	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	1.0	1		10/15/14 15:56	75-35-4	M5
cis-1,2-Dichloroethene	3.6	ug/L	1.0	1		10/15/14 15:56	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/15/14 15:56	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		10/15/14 15:56	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/15/14 15:56	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/15/14 15:56	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		10/15/14 15:56	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		10/15/14 15:56	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		10/15/14 15:56	98-82-8	M5
Methylene Chloride	1.1	ug/L	1.0	1		10/15/14 15:56	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/15/14 15:56	108-10-1	M5
Styrene	ND	ug/L	1.0	1		10/15/14 15:56	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/15/14 15:56	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		10/15/14 15:56	127-18-4	M5
Toluene	ND	ug/L	1.0	1		10/15/14 15:56	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/15/14 15:56	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/15/14 15:56	79-00-5	M5
Trichloroethene	3.2	ug/L	1.0	1		10/15/14 15:56	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		10/15/14 15:56	75-69-4	M5
Vinyl chloride	ND	ug/L	1.0	1		10/15/14 15:56	75-01-4	M5
m&p-Xylene	2.9	ug/L	2.0	1		10/15/14 15:56	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		10/15/14 15:56	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	97	%	84-113	1		10/15/14 15:56	460-00-4	M5
1,2-Dichloroethane-d4 (S)	118	%	84-124	1		10/15/14 15:56	17060-07-0	M5
Toluene-d8 (S)	101	%	79-118	1		10/15/14 15:56	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

Sample: TB-01		Lab ID: 30130883006	Collected: 10/01/14 00:00	Received: 10/02/14 09:25	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 13:50	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 13:50	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 13:50	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 13:50	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 13:50	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/15/14 13:50	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 13:50	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 13:50	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 13:50	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 13:50	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 13:50	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 13:50	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 13:50	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 13:50	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 13:50	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 13:50	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 13:50	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 13:50	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 13:50	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 13:50	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 13:50	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 13:50	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 13:50	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 13:50	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/15/14 13:50	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 13:50	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/15/14 13:50	98-82-8	M5
Methylene Chloride	1.0 ug/L		1.0	1		10/15/14 13:50	75-09-2	M5,Z3
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 13:50	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 13:50	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 13:50	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 13:50	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 13:50	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 13:50	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 13:50	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/15/14 13:50	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 13:50	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 13:50	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/15/14 13:50	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/15/14 13:50	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	93 %		84-113	1		10/15/14 13:50	460-00-4	M5
1,2-Dichloroethane-d4 (S)	118 %		84-124	1		10/15/14 13:50	17060-07-0	M5
Toluene-d8 (S)	98 %		79-118	1		10/15/14 13:50	2037-26-5	M5

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

QC Batch:	MSV/21281	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 8260C	Analysis Description:	8260C MSV
Associated Lab Samples:	30130883001, 30130883002, 30130883003, 30130883004, 30130883005, 30130883006		

METHOD BLANK:	802446	Matrix:	Water
Associated Lab Samples:	30130883001, 30130883002, 30130883003, 30130883004, 30130883005, 30130883006		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1-Dichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloropropane	ug/L	ND	1.0	10/15/14 13:25	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
2-Butanone (MEK)	ug/L	ND	10.0	10/15/14 13:25	M5
2-Hexanone	ug/L	ND	10.0	10/15/14 13:25	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/15/14 13:25	M5
Acetone	ug/L	ND	10.0	10/15/14 13:25	M5
Benzene	ug/L	ND	1.0	10/15/14 13:25	M5
Bromodichloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Bromoform	ug/L	ND	1.0	10/15/14 13:25	M5
Bromomethane	ug/L	ND	1.0	10/15/14 13:25	M5
Carbon disulfide	ug/L	ND	1.0	10/15/14 13:25	M5
Carbon tetrachloride	ug/L	ND	1.0	10/15/14 13:25	M5
Chlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
Chloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
Chloroform	ug/L	ND	1.0	10/15/14 13:25	M5
Chloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/15/14 13:25	M5
Dibromochloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Ethylbenzene	ug/L	ND	1.0	10/15/14 13:25	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/15/14 13:25	M5
m&p-Xylene	ug/L	ND	2.0	10/15/14 13:25	M5
Methylene Chloride	ug/L	1.6	1.0	10/15/14 13:25	M5
o-Xylene	ug/L	ND	1.0	10/15/14 13:25	M5
Styrene	ug/L	ND	1.0	10/15/14 13:25	M5
Tetrachloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
Toluene	ug/L	ND	1.0	10/15/14 13:25	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/15/14 13:25	M5
Trichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
Trichlorofluoromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Vinyl chloride	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloroethane-d4 (S)	%	117	84-124	10/15/14 13:25	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

METHOD BLANK: 802446

Matrix: Water

Associated Lab Samples: 30130883001, 30130883002, 30130883003, 30130883004, 30130883005, 30130883006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	97	84-113	10/15/14 13:25	M5
Toluene-d8 (S)	%	100	79-118	10/15/14 13:25	M5

LABORATORY CONTROL SAMPLE: 802447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	62-130	M5
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	100	74-115	M5
1,1,2-Trichloroethane	ug/L	20	19.1	96	73-121	M5
1,1-Dichloroethane	ug/L	20	20.3	101	64-125	M5
1,1-Dichloroethene	ug/L	20	17.8	89	58-126	M5
1,2-Dichlorobenzene	ug/L	20	20.6	103	76-117	M5
1,2-Dichloroethane	ug/L	20	20.2	101	66-124	M5
1,2-Dichloropropane	ug/L	20	20.7	104	66-119	M5
1,3-Dichlorobenzene	ug/L	20	20.3	101	73-116	M5
1,4-Dichlorobenzene	ug/L	20	20.8	104	75-119	M5
2-Butanone (MEK)	ug/L	20	23.7	119	69-126	M5
2-Hexanone	ug/L	20	17.9	89	53-118	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	21.9	109	68-124	M5
Acetone	ug/L	20	18.9	94	56-142	M5
Benzene	ug/L	20	18.9	95	69-123	M5
Bromodichloromethane	ug/L	20	20.2	101	64-120	M5
Bromoform	ug/L	20	21.3	106	56-133	M5
Bromomethane	ug/L	20	20.6	103	19-151	M5
Carbon disulfide	ug/L	20	25.5	128	53-173	CH,M5
Carbon tetrachloride	ug/L	20	26.4	132	52-133	CU,M5
Chlorobenzene	ug/L	20	19.5	97	72-121	M5
Chloroethane	ug/L	20	20.5	103	53-143	M5
Chloroform	ug/L	20	18.7	93	63-123	M5
Chloromethane	ug/L	20	33.2	166	48-139	CU,L0,M5
cis-1,2-Dichloroethene	ug/L	20	22.1	110	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	21.4	107	65-121	M5
Dibromochloromethane	ug/L	20	18.8	94	58-132	M5
Ethylbenzene	ug/L	20	20.0	100	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	22.8	114	66-136	M5
m&p-Xylene	ug/L	40	40.5	101	71-124	M5
Methylene Chloride	ug/L	20	22.7	113	55-134	M5
o-Xylene	ug/L	20	20.0	100	69-118	M5
Styrene	ug/L	20	20.0	100	66-126	M5
Tetrachloroethene	ug/L	20	19.3	96	62-131	M5
Toluene	ug/L	20	19.5	98	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	21.0	105	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	19.1	95	70-111	M5
Trichloroethene	ug/L	20	17.1	86	66-125	M5

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

LABORATORY CONTROL SAMPLE: 802447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	23.9	120	57-144	M5
Vinyl chloride	ug/L	20	22.6	113	58-131	M5
1,2-Dichloroethane-d4 (S)	%			106	84-124	M5
4-Bromofluorobenzene (S)	%			95	84-113	M5
Toluene-d8 (S)	%			99	79-118	M5

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QUALIFIERS

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/21281

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

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

CU The continuing calibration for this compound is outside of Pace Analytical acceptance limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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.

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

Z3 Methylene chloride is a common laboratory contaminant. Results for this analyte should be considered estimated unless the amount found in the sample is 3 to 5 times higher than that found in the method blank.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 41569123/Essex-Hope

Pace Project No.: 30130883

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30130883001	TB-300S	EPA 8260C	MSV/21281		
30130883002	TB-309S	EPA 8260C	MSV/21281		
30130883003	TB-307S	EPA 8260C	MSV/21281		
30130883004	TB-308S	EPA 8260C	MSV/21281		
30130883005	TB-308D	EPA 8260C	MSV/21281		
30130883006	TB-01	EPA 8260C	MSV/21281		

REPORT OF LABORATORY ANALYSIS

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Page: 5

L
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T

1830555	ICY	GROUND WATER	☐	DRINKING WATER
		RA	☐	OTHER

11

Requested Analysis	Filtered (Y/N)

[illegible]

1	TB-300S	WTG	10.1.14	0900	3	X	001
2	TB-309S	↓	10.1.14	1022	3	X	002
3	TB-307S	↓	10.1.14	1152	3	X	003
4	TB-308S	↓	10.1.14	1409	3	X	004
5	TB-308D	↓	10.1.14	1520	3	X	003
6	TB-01	WTG	10.1.14	—	2	X	006
7							
8							
9							
10							
11							
12							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
2014 SUPPLEMENTAL	Ellen McGuinness / URS	10/01/14	1610	Zach EA	10-1-14	1610	
GW INVESTIGATIONS				Jessie Chambers Pace	10-2-14	0925	Y N Y

Page _____

ORIGINAL	SAMPLER NAME AND SIGNATURE		Temp in °C Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)
	PRINT Name of SAMPLER: Ellen McGuinness		
	SIGNATURE of SAMPLER: <i>Ellen McGuinness</i>		
	DATE Signed (MM/DD/YY): 10/01/14		



Sample Condition Upon Receipt

Amn
30130883

Client Name: URS Corp

Project # _____

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8739 8101 9725

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used #6 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 2.3 °C Correction Factor: 0 °C Final Temp: 2.3 °C

Temp should be above freezing to 6°C

Comments:

Date and Initials of person

examining contents: SLA 10-2-14

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>ut</u>	
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>SBA</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☒ Yes ☒ No ☐ N/A	15. <u>Sample #5 3/3</u>
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 10/6/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

30130883

Project Number:

Client Name: _____

[illegible]

October 16, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: 41569123/Essex-Hope
Pace Project No.: 30130977

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Sample: TB-306D **Lab ID: 30130977001** Collected: 10/02/14 08:30 Received: 10/03/14 10:30 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was analyzed at a dilution due to excessive sediment.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	50.0	5		10/15/14 19:43	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/15/14 19:43	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/15/14 19:43	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/15/14 19:43	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/15/14 19:43	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/15/14 19:43	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/15/14 19:43	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/15/14 19:43	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/15/14 19:43	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/15/14 19:43	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/15/14 19:43	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/15/14 19:43	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	5.0	5		10/15/14 19:43	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 19:43	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 19:43	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 19:43	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/15/14 19:43	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/15/14 19:43	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/15/14 19:43	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 19:43	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 19:43	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/15/14 19:43	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 19:43	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 19:43	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/15/14 19:43	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/15/14 19:43	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/15/14 19:43	98-82-8	M5
Methylene Chloride	9.7	ug/L	5.0	5		10/15/14 19:43	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/15/14 19:43	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/15/14 19:43	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/15/14 19:43	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/15/14 19:43	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/15/14 19:43	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/15/14 19:43	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/15/14 19:43	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/15/14 19:43	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/15/14 19:43	75-69-4	M5
Vinyl chloride	ND	ug/L	5.0	5		10/15/14 19:43	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/15/14 19:43	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/15/14 19:43	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	95	%	84-113	5		10/15/14 19:43	460-00-4	M5
1,2-Dichloroethane-d4 (S)	124	%	84-124	5		10/15/14 19:43	17060-07-0	M5
Toluene-d8 (S)	99	%	79-118	5		10/15/14 19:43	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Sample: TB-305S		Lab ID: 30130977002	Collected: 10/02/14 09:53	Received: 10/03/14 10:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 16:46	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 16:46	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 16:46	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 16:46	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 16:46	74-83-9	M5
2-Butanone (MEK)	21.1 ug/L		10.0	1		10/15/14 16:46	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 16:46	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 16:46	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 16:46	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 16:46	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 16:46	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 16:46	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 16:46	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 16:46	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 16:46	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 16:46	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 16:46	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 16:46	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 16:46	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 16:46	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 16:46	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 16:46	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 16:46	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 16:46	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/15/14 16:46	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 16:46	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/15/14 16:46	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		10/15/14 16:46	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 16:46	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 16:46	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 16:46	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 16:46	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 16:46	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 16:46	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 16:46	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/15/14 16:46	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 16:46	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 16:46	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/15/14 16:46	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/15/14 16:46	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	97 %		84-113	1		10/15/14 16:46	460-00-4	M5
1,2-Dichloroethane-d4 (S)	122 %		84-124	1		10/15/14 16:46	17060-07-0	M5
Toluene-d8 (S)	99 %		79-118	1		10/15/14 16:46	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Sample: TB-303S		Lab ID: 30130977003	Collected: 10/02/14 10:50	Received: 10/03/14 10:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 17:12	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 17:12	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 17:12	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 17:12	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 17:12	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/15/14 17:12	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 17:12	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 17:12	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 17:12	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 17:12	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 17:12	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 17:12	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 17:12	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 17:12	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 17:12	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 17:12	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 17:12	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 17:12	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 17:12	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 17:12	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 17:12	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 17:12	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 17:12	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 17:12	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/15/14 17:12	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 17:12	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/15/14 17:12	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		10/15/14 17:12	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 17:12	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 17:12	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 17:12	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 17:12	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 17:12	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 17:12	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 17:12	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/15/14 17:12	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 17:12	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 17:12	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/15/14 17:12	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/15/14 17:12	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	98 %		84-113	1		10/15/14 17:12	460-00-4	M5
1,2-Dichloroethane-d4 (S)	122 %		84-124	1		10/15/14 17:12	17060-07-0	M5
Toluene-d8 (S)	98 %		79-118	1		10/15/14 17:12	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Sample: TB-303D **Lab ID: 30130977004** Collected: 10/02/14 11:35 Received: 10/03/14 10:30 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was analyzed at a dilution due to excessive sediment.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	50.0	5		10/15/14 17:37	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/15/14 17:37	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/15/14 17:37	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/15/14 17:37	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/15/14 17:37	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/15/14 17:37	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/15/14 17:37	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/15/14 17:37	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/15/14 17:37	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/15/14 17:37	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/15/14 17:37	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/15/14 17:37	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	5.0	5		10/15/14 17:37	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 17:37	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 17:37	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 17:37	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/15/14 17:37	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/15/14 17:37	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/15/14 17:37	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 17:37	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 17:37	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/15/14 17:37	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 17:37	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 17:37	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/15/14 17:37	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/15/14 17:37	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/15/14 17:37	98-82-8	M5
Methylene Chloride	9.7	ug/L	5.0	5		10/15/14 17:37	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/15/14 17:37	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/15/14 17:37	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/15/14 17:37	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/15/14 17:37	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/15/14 17:37	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/15/14 17:37	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/15/14 17:37	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/15/14 17:37	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/15/14 17:37	75-69-4	M5
Vinyl chloride	ND	ug/L	5.0	5		10/15/14 17:37	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/15/14 17:37	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/15/14 17:37	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	95	%	84-113	5		10/15/14 17:37	460-00-4	M5
1,2-Dichloroethane-d4 (S)	121	%	84-124	5		10/15/14 17:37	17060-07-0	M5
Toluene-d8 (S)	99	%	79-118	5		10/15/14 17:37	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Sample: TB-302S **Lab ID: 30130977005** Collected: 10/02/14 14:57 Received: 10/03/14 10:30 Matrix: Water

Comments: • 8260 VOA: The sample was transferred to another vial prior to analysis due to excessive sediment

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	10.8	ug/L	10.0	1		10/15/14 18:02	67-64-1	M5
Benzene	ND	ug/L	1.0	1		10/15/14 18:02	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		10/15/14 18:02	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		10/15/14 18:02	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		10/15/14 18:02	74-83-9	M5
2-Butanone (MEK)	68.6	ug/L	10.0	1		10/15/14 18:02	78-93-3	M5
Carbon disulfide	3.5	ug/L	1.0	1		10/15/14 18:02	75-15-0	CH,M5
Carbon tetrachloride	ND	ug/L	1.0	1		10/15/14 18:02	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		10/15/14 18:02	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		10/15/14 18:02	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		10/15/14 18:02	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		10/15/14 18:02	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	1.0	1		10/15/14 18:02	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 18:02	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 18:02	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/15/14 18:02	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		10/15/14 18:02	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		10/15/14 18:02	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	1.0	1		10/15/14 18:02	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/15/14 18:02	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/15/14 18:02	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		10/15/14 18:02	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/15/14 18:02	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/15/14 18:02	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		10/15/14 18:02	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		10/15/14 18:02	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		10/15/14 18:02	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		10/15/14 18:02	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/15/14 18:02	108-10-1	M5
Styrene	ND	ug/L	1.0	1		10/15/14 18:02	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/15/14 18:02	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		10/15/14 18:02	127-18-4	M5
Toluene	ND	ug/L	1.0	1		10/15/14 18:02	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/15/14 18:02	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/15/14 18:02	79-00-5	M5
Trichloroethene	15.6	ug/L	1.0	1		10/15/14 18:02	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		10/15/14 18:02	75-69-4	M5
Vinyl chloride	ND	ug/L	1.0	1		10/15/14 18:02	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		10/15/14 18:02	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		10/15/14 18:02	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	95	%	84-113	1		10/15/14 18:02	460-00-4	M5
1,2-Dichloroethane-d4 (S)	121	%	84-124	1		10/15/14 18:02	17060-07-0	M5
Toluene-d8 (S)	101	%	79-118	1		10/15/14 18:02	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Sample: TB-302D **Lab ID: 30130977006** Collected: 10/02/14 15:45 Received: 10/03/14 10:30 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was analyzed at a dilution due to excessive sediment.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	50.0	5		10/15/14 18:27	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/15/14 18:27	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/15/14 18:27	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/15/14 18:27	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/15/14 18:27	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/15/14 18:27	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/15/14 18:27	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/15/14 18:27	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/15/14 18:27	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/15/14 18:27	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/15/14 18:27	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/15/14 18:27	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	5.0	5		10/15/14 18:27	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 18:27	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 18:27	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 18:27	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/15/14 18:27	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/15/14 18:27	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/15/14 18:27	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 18:27	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 18:27	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/15/14 18:27	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 18:27	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 18:27	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/15/14 18:27	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/15/14 18:27	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/15/14 18:27	98-82-8	M5
Methylene Chloride	9.0	ug/L	5.0	5		10/15/14 18:27	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/15/14 18:27	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/15/14 18:27	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/15/14 18:27	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/15/14 18:27	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/15/14 18:27	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/15/14 18:27	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/15/14 18:27	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/15/14 18:27	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/15/14 18:27	75-69-4	M5
Vinyl chloride	ND	ug/L	5.0	5		10/15/14 18:27	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/15/14 18:27	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/15/14 18:27	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	92	%	84-113	5		10/15/14 18:27	460-00-4	M5
1,2-Dichloroethane-d4 (S)	122	%	84-124	5		10/15/14 18:27	17060-07-0	M5
Toluene-d8 (S)	99	%	79-118	5		10/15/14 18:27	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Sample: TB-01		Lab ID: 30130977007	Collected: 10/02/14 00:01	Received: 10/03/14 10:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 18:53	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 18:53	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 18:53	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 18:53	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 18:53	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/15/14 18:53	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 18:53	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 18:53	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 18:53	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 18:53	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 18:53	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 18:53	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 18:53	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 18:53	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 18:53	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 18:53	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 18:53	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 18:53	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 18:53	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 18:53	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 18:53	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 18:53	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 18:53	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 18:53	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/15/14 18:53	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 18:53	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/15/14 18:53	98-82-8	M5
Methylene Chloride	1.4 ug/L		1.0	1		10/15/14 18:53	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 18:53	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 18:53	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 18:53	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 18:53	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 18:53	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 18:53	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 18:53	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/15/14 18:53	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 18:53	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 18:53	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/15/14 18:53	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/15/14 18:53	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	93 %		84-113	1		10/15/14 18:53	460-00-4	M5
1,2-Dichloroethane-d4 (S)	126 %		84-124	1		10/15/14 18:53	17060-07-0	1c,M5
Toluene-d8 (S)	100 %		79-118	1		10/15/14 18:53	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

QC Batch:	MSV/21281	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 8260C	Analysis Description:	8260C MSV
Associated Lab Samples:	30130977001, 30130977002, 30130977003, 30130977004, 30130977005, 30130977006, 30130977007		

METHOD BLANK:	802446	Matrix:	Water
Associated Lab Samples:	30130977001, 30130977002, 30130977003, 30130977004, 30130977005, 30130977006, 30130977007		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1-Dichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloropropane	ug/L	ND	1.0	10/15/14 13:25	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
2-Butanone (MEK)	ug/L	ND	10.0	10/15/14 13:25	M5
2-Hexanone	ug/L	ND	10.0	10/15/14 13:25	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/15/14 13:25	M5
Acetone	ug/L	ND	10.0	10/15/14 13:25	M5
Benzene	ug/L	ND	1.0	10/15/14 13:25	M5
Bromodichloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Bromoform	ug/L	ND	1.0	10/15/14 13:25	M5
Bromomethane	ug/L	ND	1.0	10/15/14 13:25	M5
Carbon disulfide	ug/L	ND	1.0	10/15/14 13:25	M5
Carbon tetrachloride	ug/L	ND	1.0	10/15/14 13:25	M5
Chlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
Chloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
Chloroform	ug/L	ND	1.0	10/15/14 13:25	M5
Chloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/15/14 13:25	M5
Dibromochloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Ethylbenzene	ug/L	ND	1.0	10/15/14 13:25	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/15/14 13:25	M5
m&p-Xylene	ug/L	ND	2.0	10/15/14 13:25	M5
Methylene Chloride	ug/L	1.6	1.0	10/15/14 13:25	M5
o-Xylene	ug/L	ND	1.0	10/15/14 13:25	M5
Styrene	ug/L	ND	1.0	10/15/14 13:25	M5
Tetrachloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
Toluene	ug/L	ND	1.0	10/15/14 13:25	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/15/14 13:25	M5
Trichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
Trichlorofluoromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Vinyl chloride	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloroethane-d4 (S)	%	117	84-124	10/15/14 13:25	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

METHOD BLANK: 802446

Matrix: Water

Associated Lab Samples: 30130977001, 30130977002, 30130977003, 30130977004, 30130977005, 30130977006, 30130977007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	97	84-113	10/15/14 13:25	M5
Toluene-d8 (S)	%	100	79-118	10/15/14 13:25	M5

LABORATORY CONTROL SAMPLE: 802447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	62-130	M5
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	100	74-115	M5
1,1,2-Trichloroethane	ug/L	20	19.1	96	73-121	M5
1,1-Dichloroethane	ug/L	20	20.3	101	64-125	M5
1,1-Dichloroethene	ug/L	20	17.8	89	58-126	M5
1,2-Dichlorobenzene	ug/L	20	20.6	103	76-117	M5
1,2-Dichloroethane	ug/L	20	20.2	101	66-124	M5
1,2-Dichloropropane	ug/L	20	20.7	104	66-119	M5
1,3-Dichlorobenzene	ug/L	20	20.3	101	73-116	M5
1,4-Dichlorobenzene	ug/L	20	20.8	104	75-119	M5
2-Butanone (MEK)	ug/L	20	23.7	119	69-126	M5
2-Hexanone	ug/L	20	17.9	89	53-118	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	21.9	109	68-124	M5
Acetone	ug/L	20	18.9	94	56-142	M5
Benzene	ug/L	20	18.9	95	69-123	M5
Bromodichloromethane	ug/L	20	20.2	101	64-120	M5
Bromoform	ug/L	20	21.3	106	56-133	M5
Bromomethane	ug/L	20	20.6	103	19-151	M5
Carbon disulfide	ug/L	20	25.5	128	53-173	CH,M5
Carbon tetrachloride	ug/L	20	26.4	132	52-133	CU,M5
Chlorobenzene	ug/L	20	19.5	97	72-121	M5
Chloroethane	ug/L	20	20.5	103	53-143	M5
Chloroform	ug/L	20	18.7	93	63-123	M5
Chloromethane	ug/L	20	33.2	166	48-139	CU,L0,M5
cis-1,2-Dichloroethene	ug/L	20	22.1	110	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	21.4	107	65-121	M5
Dibromochloromethane	ug/L	20	18.8	94	58-132	M5
Ethylbenzene	ug/L	20	20.0	100	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	22.8	114	66-136	M5
m&p-Xylene	ug/L	40	40.5	101	71-124	M5
Methylene Chloride	ug/L	20	22.7	113	55-134	M5
o-Xylene	ug/L	20	20.0	100	69-118	M5
Styrene	ug/L	20	20.0	100	66-126	M5
Tetrachloroethene	ug/L	20	19.3	96	62-131	M5
Toluene	ug/L	20	19.5	98	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	21.0	105	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	19.1	95	70-111	M5
Trichloroethene	ug/L	20	17.1	86	66-125	M5

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

LABORATORY CONTROL SAMPLE: 802447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	23.9	120	57-144	M5
Vinyl chloride	ug/L	20	22.6	113	58-131	M5
1,2-Dichloroethane-d4 (S)	%			106	84-124	M5
4-Bromofluorobenzene (S)	%			95	84-113	M5
Toluene-d8 (S)	%			99	79-118	M5

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/21281

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

ANALYTE QUALIFIERS

1c Surrogate recovery outside laboratory control limits. Results may be biased high.

B Analyte was detected in the associated method blank.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

CU The continuing calibration for this compound is outside of Pace Analytical acceptance limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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.

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

Z3 Methylene chloride is a common laboratory contaminant. Results for this analyte should be considered estimated unless the amount found in the sample is 3 to 5 times higher than that found in the method blank.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 41569123/Essex-Hope

Pace Project No.: 30130977

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30130977001	TB-306D	EPA 8260C	MSV/21281		
30130977002	TB-305S	EPA 8260C	MSV/21281		
30130977003	TB-303S	EPA 8260C	MSV/21281		
30130977004	TB-303D	EPA 8260C	MSV/21281		
30130977005	TB-302S	EPA 8260C	MSV/21281		
30130977006	TB-302D	EPA 8260C	MSV/21281		
30130977007	TB-01	EPA 8260C	MSV/21281		

REPORT OF LABORATORY ANALYSIS

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: URS CORP	Report To: MARK DOWIAK	Attention:	Company Name:	Address:	REGULATORY AGENCY
Address: FOSTER PLAZA 6	Copy To: VALERIE SIBETO		Address:	Pace Quote Reference:	☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
601 ANDERSEN DR. STE. 400	Purchase Order No.: 41569123		Pace Project Manager:	Pace Profile #:	☐ UST ☐ RCRA ☐ OTHER
PITTSBURGH, PA 15220	Project Name: ESSEX/HOPE JAMES TOWN				
Email To:	Project Number: 41569123				
Phone: 412-503-4700					
Fax: 412-503-4701					
Requested Due Date/TAT: STANDARD					
Page: 1 of 1		1856364		NY	

[illegible]



Sample Condition Upon Receipt

Client Name: URS

Project # 30130977

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 9739 8101 9736

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap 0 Bubble Bags _____ None _____ Other _____

Thermometer Used 6 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 3.4 °C Correction Factor: 0.0 °C Final Temp: 3.4 °C

Temp should be above freezing to 6°C

Comments:

Date and Initials of person

examining contents: Amn
10-3-14

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>Amn</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☒ Yes ☐ No ☐ N/A	15. <u>Sample 006 has headspace (3 out of 3 vials)</u>
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 9/10/3/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

October 16, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: 41569123/Essex-Hope Jamestown
Pace Project No.: 30131096

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

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North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

Sample: TB-3045		Lab ID: 30131096001	Collected: 10/03/14 08:35	Received: 10/04/14 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 19:18	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 19:18	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 19:18	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 19:18	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 19:18	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/15/14 19:18	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 19:18	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 19:18	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 19:18	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 19:18	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 19:18	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 19:18	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 19:18	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 19:18	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 19:18	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 19:18	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 19:18	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 19:18	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 19:18	75-35-4	M5
cis-1,2-Dichloroethene	9.3 ug/L		1.0	1		10/15/14 19:18	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 19:18	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 19:18	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 19:18	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 19:18	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/15/14 19:18	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 19:18	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/15/14 19:18	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		10/15/14 19:18	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 19:18	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 19:18	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 19:18	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 19:18	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 19:18	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 19:18	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 19:18	79-00-5	M5
Trichloroethene	42.1 ug/L		1.0	1		10/15/14 19:18	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 19:18	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 19:18	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/15/14 19:18	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/15/14 19:18	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	97 %		84-113	1		10/15/14 19:18	460-00-4	M5
1,2-Dichloroethane-d4 (S)	122 %		84-124	1		10/15/14 19:18	17060-07-0	M5
Toluene-d8 (S)	99 %		79-118	1		10/15/14 19:18	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

Sample: TB-304D **Lab ID: 30131096002** Collected: 10/03/14 09:10 Received: 10/04/14 09:45 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was analyzed at a dilution due to excessive sediment.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	50.0	5		10/15/14 20:08	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/15/14 20:08	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/15/14 20:08	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/15/14 20:08	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/15/14 20:08	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/15/14 20:08	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/15/14 20:08	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/15/14 20:08	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/15/14 20:08	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/15/14 20:08	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/15/14 20:08	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/15/14 20:08	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	5.0	5		10/15/14 20:08	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:08	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:08	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:08	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/15/14 20:08	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/15/14 20:08	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:08	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:08	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:08	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/15/14 20:08	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 20:08	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 20:08	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/15/14 20:08	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/15/14 20:08	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/15/14 20:08	98-82-8	M5
Methylene Chloride	8.6	ug/L	5.0	5		10/15/14 20:08	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/15/14 20:08	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/15/14 20:08	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/15/14 20:08	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/15/14 20:08	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/15/14 20:08	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/15/14 20:08	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/15/14 20:08	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/15/14 20:08	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/15/14 20:08	75-69-4	M5
Vinyl chloride	6.4	ug/L	5.0	5		10/15/14 20:08	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/15/14 20:08	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/15/14 20:08	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	95	%	84-113	5		10/15/14 20:08	460-00-4	M5
1,2-Dichloroethane-d4 (S)	124	%	84-124	5		10/15/14 20:08	17060-07-0	M5
Toluene-d8 (S)	98	%	79-118	5		10/15/14 20:08	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

Sample: TB-313D **Lab ID: 30131096003** Collected: 10/03/14 10:10 Received: 10/04/14 09:45 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was analyzed at a dilution due to excessive sediment.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	50.0	5		10/15/14 20:33	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/15/14 20:33	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/15/14 20:33	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/15/14 20:33	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/15/14 20:33	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/15/14 20:33	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/15/14 20:33	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/15/14 20:33	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/15/14 20:33	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/15/14 20:33	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/15/14 20:33	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/15/14 20:33	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	5.0	5		10/15/14 20:33	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:33	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:33	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:33	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/15/14 20:33	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/15/14 20:33	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:33	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:33	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:33	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/15/14 20:33	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 20:33	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 20:33	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/15/14 20:33	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/15/14 20:33	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/15/14 20:33	98-82-8	M5
Methylene Chloride	9.1	ug/L	5.0	5		10/15/14 20:33	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/15/14 20:33	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/15/14 20:33	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/15/14 20:33	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/15/14 20:33	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/15/14 20:33	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/15/14 20:33	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/15/14 20:33	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/15/14 20:33	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/15/14 20:33	75-69-4	M5
Vinyl chloride	ND	ug/L	5.0	5		10/15/14 20:33	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/15/14 20:33	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/15/14 20:33	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	94	%	84-113	5		10/15/14 20:33	460-00-4	M5
1,2-Dichloroethane-d4 (S)	126	%	84-124	5		10/15/14 20:33	17060-07-0	1c,M5
Toluene-d8 (S)	98	%	79-118	5		10/15/14 20:33	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

Sample: TB-312D **Lab ID: 30131096004** Collected: 10/03/14 11:04 Received: 10/04/14 09:45 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was analyzed at a dilution due to excessive sediment

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	50.0	5		10/15/14 20:59	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/15/14 20:59	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/15/14 20:59	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/15/14 20:59	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/15/14 20:59	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/15/14 20:59	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/15/14 20:59	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/15/14 20:59	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/15/14 20:59	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/15/14 20:59	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/15/14 20:59	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/15/14 20:59	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	5.0	5		10/15/14 20:59	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:59	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:59	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 20:59	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/15/14 20:59	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/15/14 20:59	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:59	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:59	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 20:59	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/15/14 20:59	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 20:59	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 20:59	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/15/14 20:59	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/15/14 20:59	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/15/14 20:59	98-82-8	M5
Methylene Chloride	ND	ug/L	5.0	5		10/15/14 20:59	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/15/14 20:59	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/15/14 20:59	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/15/14 20:59	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/15/14 20:59	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/15/14 20:59	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/15/14 20:59	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/15/14 20:59	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/15/14 20:59	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/15/14 20:59	75-69-4	M5
Vinyl chloride	ND	ug/L	5.0	5		10/15/14 20:59	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/15/14 20:59	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/15/14 20:59	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	93 %		84-113	5		10/15/14 20:59	460-00-4	M5
1,2-Dichloroethane-d4 (S)	125 %		84-124	5		10/15/14 20:59	17060-07-0	M5,S3
Toluene-d8 (S)	98 %		79-118	5		10/15/14 20:59	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

Sample: TB-01		Lab ID: 30131096005	Collected: 10/03/14 00:01	Received: 10/04/14 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/15/14 21:24	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/15/14 21:24	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/15/14 21:24	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/15/14 21:24	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/15/14 21:24	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/15/14 21:24	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/15/14 21:24	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/15/14 21:24	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/15/14 21:24	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/15/14 21:24	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/15/14 21:24	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/15/14 21:24	74-87-3	L3,M5
Dibromochloromethane	ND ug/L		1.0	1		10/15/14 21:24	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 21:24	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 21:24	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/15/14 21:24	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/15/14 21:24	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/15/14 21:24	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/15/14 21:24	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 21:24	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/15/14 21:24	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/15/14 21:24	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 21:24	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/15/14 21:24	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/15/14 21:24	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/15/14 21:24	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/15/14 21:24	98-82-8	M5
Methylene Chloride	3.3 ug/L		1.0	1		10/15/14 21:24	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/15/14 21:24	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/15/14 21:24	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/15/14 21:24	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/15/14 21:24	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/15/14 21:24	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/15/14 21:24	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/15/14 21:24	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/15/14 21:24	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/15/14 21:24	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/15/14 21:24	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/15/14 21:24	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/15/14 21:24	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	90 %		84-113	1		10/15/14 21:24	460-00-4	M5
1,2-Dichloroethane-d4 (S)	125 %		84-124	1		10/15/14 21:24	17060-07-0	2c,M5
Toluene-d8 (S)	97 %		79-118	1		10/15/14 21:24	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

QC Batch: MSV/21281 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30131096001, 30131096002, 30131096003, 30131096004, 30131096005

METHOD BLANK: 802446 Matrix: Water
Associated Lab Samples: 30131096001, 30131096002, 30131096003, 30131096004, 30131096005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1-Dichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloropropane	ug/L	ND	1.0	10/15/14 13:25	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
2-Butanone (MEK)	ug/L	ND	10.0	10/15/14 13:25	M5
2-Hexanone	ug/L	ND	10.0	10/15/14 13:25	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/15/14 13:25	M5
Acetone	ug/L	ND	10.0	10/15/14 13:25	M5
Benzene	ug/L	ND	1.0	10/15/14 13:25	M5
Bromodichloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Bromoform	ug/L	ND	1.0	10/15/14 13:25	M5
Bromomethane	ug/L	ND	1.0	10/15/14 13:25	M5
Carbon disulfide	ug/L	ND	1.0	10/15/14 13:25	M5
Carbon tetrachloride	ug/L	ND	1.0	10/15/14 13:25	M5
Chlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
Chloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
Chloroform	ug/L	ND	1.0	10/15/14 13:25	M5
Chloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/15/14 13:25	M5
Dibromochloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Ethylbenzene	ug/L	ND	1.0	10/15/14 13:25	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/15/14 13:25	M5
m&p-Xylene	ug/L	ND	2.0	10/15/14 13:25	M5
Methylene Chloride	ug/L	1.6	1.0	10/15/14 13:25	M5
o-Xylene	ug/L	ND	1.0	10/15/14 13:25	M5
Styrene	ug/L	ND	1.0	10/15/14 13:25	M5
Tetrachloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
Toluene	ug/L	ND	1.0	10/15/14 13:25	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/15/14 13:25	M5
Trichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
Trichlorofluoromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Vinyl chloride	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloroethane-d4 (S)	%	117	84-124	10/15/14 13:25	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

METHOD BLANK: 802446

Matrix: Water

Associated Lab Samples: 30131096001, 30131096002, 30131096003, 30131096004, 30131096005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	97	84-113	10/15/14 13:25	M5
Toluene-d8 (S)	%	100	79-118	10/15/14 13:25	M5

LABORATORY CONTROL SAMPLE: 802447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	62-130	M5
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	100	74-115	M5
1,1,2-Trichloroethane	ug/L	20	19.1	96	73-121	M5
1,1-Dichloroethane	ug/L	20	20.3	101	64-125	M5
1,1-Dichloroethene	ug/L	20	17.8	89	58-126	M5
1,2-Dichlorobenzene	ug/L	20	20.6	103	76-117	M5
1,2-Dichloroethane	ug/L	20	20.2	101	66-124	M5
1,2-Dichloropropane	ug/L	20	20.7	104	66-119	M5
1,3-Dichlorobenzene	ug/L	20	20.3	101	73-116	M5
1,4-Dichlorobenzene	ug/L	20	20.8	104	75-119	M5
2-Butanone (MEK)	ug/L	20	23.7	119	69-126	M5
2-Hexanone	ug/L	20	17.9	89	53-118	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	21.9	109	68-124	M5
Acetone	ug/L	20	18.9	94	56-142	M5
Benzene	ug/L	20	18.9	95	69-123	M5
Bromodichloromethane	ug/L	20	20.2	101	64-120	M5
Bromoform	ug/L	20	21.3	106	56-133	M5
Bromomethane	ug/L	20	20.6	103	19-151	M5
Carbon disulfide	ug/L	20	25.5	128	53-173	CH,M5
Carbon tetrachloride	ug/L	20	26.4	132	52-133	CU,M5
Chlorobenzene	ug/L	20	19.5	97	72-121	M5
Chloroethane	ug/L	20	20.5	103	53-143	M5
Chloroform	ug/L	20	18.7	93	63-123	M5
Chloromethane	ug/L	20	33.2	166	48-139	CU,L0,M5
cis-1,2-Dichloroethene	ug/L	20	22.1	110	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	21.4	107	65-121	M5
Dibromochloromethane	ug/L	20	18.8	94	58-132	M5
Ethylbenzene	ug/L	20	20.0	100	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	22.8	114	66-136	M5
m&p-Xylene	ug/L	40	40.5	101	71-124	M5
Methylene Chloride	ug/L	20	22.7	113	55-134	M5
o-Xylene	ug/L	20	20.0	100	69-118	M5
Styrene	ug/L	20	20.0	100	66-126	M5
Tetrachloroethene	ug/L	20	19.3	96	62-131	M5
Toluene	ug/L	20	19.5	98	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	21.0	105	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	19.1	95	70-111	M5
Trichloroethene	ug/L	20	17.1	86	66-125	M5

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QUALITY CONTROL DATA

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

LABORATORY CONTROL SAMPLE: 802447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	23.9	120	57-144	M5
Vinyl chloride	ug/L	20	22.6	113	58-131	M5
1,2-Dichloroethane-d4 (S)	%			106	84-124	M5
4-Bromofluorobenzene (S)	%			95	84-113	M5
Toluene-d8 (S)	%			99	79-118	M5

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/21281

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

ANALYTE QUALIFIERS

1c Surrogate recovery outside laboratory control limits. Results may be biased high.

2c Surrogate recovery outside laboratory control limits. Results may be biased high.

B Analyte was detected in the associated method blank.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

CU The continuing calibration for this compound is outside of Pace Analytical acceptance limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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.

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

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

Z3 Methylene chloride is a common laboratory contaminant. Results for this analyte should be considered estimated unless the amount found in the sample is 3 to 5 times higher than that found in the method blank.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 41569123/Essex-Hope Jamestown

Pace Project No.: 30131096

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30131096001	TB-3045	EPA 8260C	MSV/21281		
30131096002	TB-304D	EPA 8260C	MSV/21281		
30131096003	TB-313D	EPA 8260C	MSV/21281		
30131096004	TB-312D	EPA 8260C	MSV/21281		
30131096005	TB-01	EPA 8260C	MSV/21281		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	URS CORP	Report To:	MARK DOWIAK	Attention:	
Address:	FOSTER PLAZA 6 601 ANDERSEN DR., STE 4100 PITTSBURGH, PA 15220	Copy To:	VALERIE SIBETO	Company Name:	
Email To:		Purchase Order No.:	41569173	Address:	
Phone:	412-503-4700	Project Name:	ESSER/HOPE JAMIE STOWN	Pace Quote Reference:	
Requested Due Date/TAT:	STANDARD	Project Number:	41569173	Pace Project Manager:	
				Pace Profile #:	
				Site Location	NY
				STATE:	
				REGULATORY AGENCY	
				☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER	
				☐ UST ☐ RCRA ☐ OTHER	
				Page: 1 of 1	1814545

ITEM #	Section D Required Client Information		Matrix Codes MATRIX / CODE		COLLECTED				SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION	PRESERVATIVES				Analysis Test ↓	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.												
	SAMPLE ID (A-Z, 0-9 / -)	Sample IDs MUST BE UNIQUE	Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	MATRIX / CODE	COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME				DATE	TIME	DATE	TIME				DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS						
																									Y	N	Y	N	Y	N
1	TB-304S																													
2	TB-304D																													
3	TB-313D																													
4	TB-312D																													
5	TB-01																													
6																														
7																														
8																														
9																														
10																														
11																														
12																														
2014 SUPPLEMENTAL																			10/03/14	1200	Ed	10/03/14	1200							
REMEDIAL ACTIONS																			Alma B. Muchoney			Alma B. Muchoney	10/14/09	0945	3.5	Y	N	Y		
ORIGINAL																			SAMPLER NAME AND SIGNATURE				SAMPLER NAME AND SIGNATURE				SAMPLER NAME AND SIGNATURE			
																			PRINT Name of SAMPLER: ELLEN MCGWNESS				PRINT Name of SAMPLER: ELLEN MCGWNESS				PRINT Name of SAMPLER: ELLEN MCGWNESS			
																			SIGNATURE of SAMPLER: [Signature]				SIGNATURE of SAMPLER: [Signature]				SIGNATURE of SAMPLER: [Signature]			
																			DATE Signed (MM/DD/YYYY): 10.3.14				DATE Signed (MM/DD/YYYY): 10.3.14				DATE Signed (MM/DD/YYYY): 10.3.14			



Sample Condition Upon Receipt

Client Name: URS

Project # 30131096 ^{DTJ}

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 87398019747

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used 8 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 3.10 °C Correction Factor: -0.1 °C Final Temp: 3.5 °C

Date and Initials of person

examining contents: hen 10/4/14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10. <u>hen 10/4/14</u>
Filtered volume received for Dissolved tests	☐ Yes ☒ No ☐ N/A	11. <u>002,003,004</u>
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12. <u>sample has a bit of sediment in the VOA have</u>
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☐ Yes ☒ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>ARM</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☒ No ☐ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15. <u>Both Trip Blanks</u>
Trip Blank Present:	☐ Yes ☒ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 10/6/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Client Name: _____

[illegible]

Client Name: _____

[illegible]

October 21, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: 41569123 Essex-Hope Jamestown
Pace Project No.: 30131265

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

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ANALYTICAL RESULTS

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

Sample: TB-311D **Lab ID: 30131265001** Collected: 10/06/14 11:18 Received: 10/07/14 09:40 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was analyzed at a dilution due to excessive sediment.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	50.0	5		10/15/14 21:49	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/15/14 21:49	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/15/14 21:49	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/15/14 21:49	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/15/14 21:49	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/15/14 21:49	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/15/14 21:49	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/15/14 21:49	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/15/14 21:49	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/15/14 21:49	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/15/14 21:49	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/15/14 21:49	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	5.0	5		10/15/14 21:49	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 21:49	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 21:49	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 21:49	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/15/14 21:49	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/15/14 21:49	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/15/14 21:49	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 21:49	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 21:49	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/15/14 21:49	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 21:49	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 21:49	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/15/14 21:49	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/15/14 21:49	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/15/14 21:49	98-82-8	M5
Methylene Chloride	9.8	ug/L	5.0	5		10/15/14 21:49	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/15/14 21:49	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/15/14 21:49	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/15/14 21:49	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/15/14 21:49	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/15/14 21:49	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/15/14 21:49	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/15/14 21:49	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/15/14 21:49	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/15/14 21:49	75-69-4	M5
Vinyl chloride	10.7	ug/L	5.0	5		10/15/14 21:49	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/15/14 21:49	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/15/14 21:49	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	93	%	84-113	5		10/15/14 21:49	460-00-4	M5
1,2-Dichloroethane-d4 (S)	124	%	84-124	5		10/15/14 21:49	17060-07-0	M5
Toluene-d8 (S)	98	%	79-118	5		10/15/14 21:49	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

Sample: TB-301D **Lab ID: 30131265002** Collected: 10/06/14 12:25 Received: 10/07/14 09:40 Matrix: Water

Comments: • 8260 VOA: The pH of the VOA vial used for analysis is 7. The sample was analyzed at a dilution due to excessive sediment.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	50.0	5		10/15/14 22:14	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/15/14 22:14	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/15/14 22:14	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/15/14 22:14	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/15/14 22:14	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/15/14 22:14	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/15/14 22:14	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/15/14 22:14	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/15/14 22:14	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/15/14 22:14	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/15/14 22:14	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/15/14 22:14	74-87-3	L3,M5
Dibromochloromethane	ND	ug/L	5.0	5		10/15/14 22:14	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 22:14	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 22:14	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/15/14 22:14	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/15/14 22:14	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/15/14 22:14	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/15/14 22:14	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 22:14	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/15/14 22:14	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/15/14 22:14	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 22:14	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/15/14 22:14	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/15/14 22:14	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/15/14 22:14	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/15/14 22:14	98-82-8	M5
Methylene Chloride	9.0	ug/L	5.0	5		10/15/14 22:14	75-09-2	B,M5,Z3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/15/14 22:14	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/15/14 22:14	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/15/14 22:14	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/15/14 22:14	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/15/14 22:14	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/15/14 22:14	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/15/14 22:14	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/15/14 22:14	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/15/14 22:14	75-69-4	M5
Vinyl chloride	ND	ug/L	5.0	5		10/15/14 22:14	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/15/14 22:14	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/15/14 22:14	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	92	%	84-113	5		10/15/14 22:14	460-00-4	M5
1,2-Dichloroethane-d4 (S)	119	%	84-124	5		10/15/14 22:14	17060-07-0	M5
Toluene-d8 (S)	98	%	79-118	5		10/15/14 22:14	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

Sample: TB-315S		Lab ID: 30131265003	Collected: 10/06/14 13:35	Received: 10/07/14 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/20/14 15:31	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/20/14 15:31	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/20/14 15:31	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/20/14 15:31	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/20/14 15:31	74-83-9	M5
2-Butanone (MEK)	12.4 ug/L		10.0	1		10/20/14 15:31	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/20/14 15:31	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/20/14 15:31	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/20/14 15:31	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/20/14 15:31	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/20/14 15:31	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/20/14 15:31	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		10/20/14 15:31	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/20/14 15:31	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/20/14 15:31	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/20/14 15:31	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/20/14 15:31	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/20/14 15:31	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/20/14 15:31	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/20/14 15:31	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/20/14 15:31	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/20/14 15:31	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/20/14 15:31	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/20/14 15:31	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/20/14 15:31	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/20/14 15:31	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/20/14 15:31	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		10/20/14 15:31	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/20/14 15:31	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/20/14 15:31	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/20/14 15:31	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/20/14 15:31	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/20/14 15:31	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/20/14 15:31	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/20/14 15:31	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/20/14 15:31	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/20/14 15:31	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/20/14 15:31	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/20/14 15:31	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/20/14 15:31	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	95 %		84-113	1		10/20/14 15:31	460-00-4	M5
1,2-Dichloroethane-d4 (S)	112 %		84-124	1		10/20/14 15:31	17060-07-0	M5
Toluene-d8 (S)	101 %		79-118	1		10/20/14 15:31	2037-26-5	M5

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ANALYTICAL RESULTS

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

Sample: TB-314D **Lab ID: 30131265004** Collected: 10/06/14 14:25 Received: 10/07/14 09:40 Matrix: Water

Comments: • 8260 VOA: The sample was analyzed at a dilution due to insufficient sample volume (excessive sediment).

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	88.3	ug/L	50.0	5		10/20/14 15:56	67-64-1	M5
Benzene	ND	ug/L	5.0	5		10/20/14 15:56	71-43-2	M5
Bromodichloromethane	ND	ug/L	5.0	5		10/20/14 15:56	75-27-4	M5
Bromoform	ND	ug/L	5.0	5		10/20/14 15:56	75-25-2	M5
Bromomethane	ND	ug/L	5.0	5		10/20/14 15:56	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	50.0	5		10/20/14 15:56	78-93-3	M5
Carbon disulfide	ND	ug/L	5.0	5		10/20/14 15:56	75-15-0	M5
Carbon tetrachloride	ND	ug/L	5.0	5		10/20/14 15:56	56-23-5	M5
Chlorobenzene	ND	ug/L	5.0	5		10/20/14 15:56	108-90-7	M5
Chloroethane	ND	ug/L	5.0	5		10/20/14 15:56	75-00-3	M5
Chloroform	ND	ug/L	5.0	5		10/20/14 15:56	67-66-3	M5
Chloromethane	ND	ug/L	5.0	5		10/20/14 15:56	74-87-3	M5
Dibromochloromethane	ND	ug/L	5.0	5		10/20/14 15:56	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	5.0	5		10/20/14 15:56	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	5.0	5		10/20/14 15:56	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	5.0	5		10/20/14 15:56	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	5.0	5		10/20/14 15:56	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	5.0	5		10/20/14 15:56	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	5.0	5		10/20/14 15:56	75-35-4	M5
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/20/14 15:56	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/20/14 15:56	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	5.0	5		10/20/14 15:56	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		10/20/14 15:56	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		10/20/14 15:56	10061-02-6	M5
Ethylbenzene	ND	ug/L	5.0	5		10/20/14 15:56	100-41-4	M5
2-Hexanone	ND	ug/L	50.0	5		10/20/14 15:56	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	5.0	5		10/20/14 15:56	98-82-8	M5
Methylene Chloride	6.9	ug/L	5.0	5		10/20/14 15:56	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		10/20/14 15:56	108-10-1	M5
Styrene	ND	ug/L	5.0	5		10/20/14 15:56	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		10/20/14 15:56	79-34-5	M5
Tetrachloroethene	ND	ug/L	5.0	5		10/20/14 15:56	127-18-4	M5
Toluene	ND	ug/L	5.0	5		10/20/14 15:56	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/20/14 15:56	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	5.0	5		10/20/14 15:56	79-00-5	M5
Trichloroethene	ND	ug/L	5.0	5		10/20/14 15:56	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	5.0	5		10/20/14 15:56	75-69-4	M5
Vinyl chloride	ND	ug/L	5.0	5		10/20/14 15:56	75-01-4	M5
m&p-Xylene	ND	ug/L	10.0	5		10/20/14 15:56	179601-23-1	M5
o-Xylene	ND	ug/L	5.0	5		10/20/14 15:56	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	93	%	84-113	5		10/20/14 15:56	460-00-4	M5
1,2-Dichloroethane-d4 (S)	112	%	84-124	5		10/20/14 15:56	17060-07-0	M5
Toluene-d8 (S)	104	%	79-118	5		10/20/14 15:56	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

Sample: TB-01		Lab ID: 30131265005	Collected: 10/06/14 00:01	Received: 10/07/14 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/20/14 15:05	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/20/14 15:05	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/20/14 15:05	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/20/14 15:05	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/20/14 15:05	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/20/14 15:05	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/20/14 15:05	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/20/14 15:05	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/20/14 15:05	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/20/14 15:05	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/20/14 15:05	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/20/14 15:05	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		10/20/14 15:05	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/20/14 15:05	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/20/14 15:05	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/20/14 15:05	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/20/14 15:05	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/20/14 15:05	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/20/14 15:05	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/20/14 15:05	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/20/14 15:05	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/20/14 15:05	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/20/14 15:05	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/20/14 15:05	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/20/14 15:05	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/20/14 15:05	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/20/14 15:05	98-82-8	M5
Methylene Chloride	1.3 ug/L		1.0	1		10/20/14 15:05	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/20/14 15:05	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/20/14 15:05	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/20/14 15:05	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/20/14 15:05	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/20/14 15:05	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/20/14 15:05	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/20/14 15:05	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/20/14 15:05	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/20/14 15:05	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/20/14 15:05	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/20/14 15:05	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/20/14 15:05	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	94 %		84-113	1		10/20/14 15:05	460-00-4	M5
1,2-Dichloroethane-d4 (S)	111 %		84-124	1		10/20/14 15:05	17060-07-0	M5
Toluene-d8 (S)	105 %		79-118	1		10/20/14 15:05	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

QC Batch: MSV/21281

Analysis Method: EPA 8260C

QC Batch Method: EPA 8260C

Analysis Description: 8260C MSV

Associated Lab Samples: 30131265001, 30131265002

METHOD BLANK: 802446

Matrix: Water

Associated Lab Samples: 30131265001, 30131265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1-Dichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,1-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloropropane	ug/L	ND	1.0	10/15/14 13:25	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
2-Butanone (MEK)	ug/L	ND	10.0	10/15/14 13:25	M5
2-Hexanone	ug/L	ND	10.0	10/15/14 13:25	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/15/14 13:25	M5
Acetone	ug/L	ND	10.0	10/15/14 13:25	M5
Benzene	ug/L	ND	1.0	10/15/14 13:25	M5
Bromodichloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Bromoform	ug/L	ND	1.0	10/15/14 13:25	M5
Bromomethane	ug/L	ND	1.0	10/15/14 13:25	M5
Carbon disulfide	ug/L	ND	1.0	10/15/14 13:25	M5
Carbon tetrachloride	ug/L	ND	1.0	10/15/14 13:25	M5
Chlorobenzene	ug/L	ND	1.0	10/15/14 13:25	M5
Chloroethane	ug/L	ND	1.0	10/15/14 13:25	M5
Chloroform	ug/L	ND	1.0	10/15/14 13:25	M5
Chloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/15/14 13:25	M5
Dibromochloromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Ethylbenzene	ug/L	ND	1.0	10/15/14 13:25	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/15/14 13:25	M5
m&p-Xylene	ug/L	ND	2.0	10/15/14 13:25	M5
Methylene Chloride	ug/L	1.6	1.0	10/15/14 13:25	M5
o-Xylene	ug/L	ND	1.0	10/15/14 13:25	M5
Styrene	ug/L	ND	1.0	10/15/14 13:25	M5
Tetrachloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
Toluene	ug/L	ND	1.0	10/15/14 13:25	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/15/14 13:25	M5
Trichloroethene	ug/L	ND	1.0	10/15/14 13:25	M5
Trichlorofluoromethane	ug/L	ND	1.0	10/15/14 13:25	M5
Vinyl chloride	ug/L	ND	1.0	10/15/14 13:25	M5
1,2-Dichloroethane-d4 (S)	%	117	84-124	10/15/14 13:25	M5

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

METHOD BLANK: 802446

Matrix: Water

Associated Lab Samples: 30131265001, 30131265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	97	84-113	10/15/14 13:25	M5
Toluene-d8 (S)	%	100	79-118	10/15/14 13:25	M5

LABORATORY CONTROL SAMPLE: 802447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	62-130	M5
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	100	74-115	M5
1,1,2-Trichloroethane	ug/L	20	19.1	96	73-121	M5
1,1-Dichloroethane	ug/L	20	20.3	101	64-125	M5
1,1-Dichloroethene	ug/L	20	17.8	89	58-126	M5
1,2-Dichlorobenzene	ug/L	20	20.6	103	76-117	M5
1,2-Dichloroethane	ug/L	20	20.2	101	66-124	M5
1,2-Dichloropropane	ug/L	20	20.7	104	66-119	M5
1,3-Dichlorobenzene	ug/L	20	20.3	101	73-116	M5
1,4-Dichlorobenzene	ug/L	20	20.8	104	75-119	M5
2-Butanone (MEK)	ug/L	20	23.7	119	69-126	M5
2-Hexanone	ug/L	20	17.9	89	53-118	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	21.9	109	68-124	M5
Acetone	ug/L	20	18.9	94	56-142	M5
Benzene	ug/L	20	18.9	95	69-123	M5
Bromodichloromethane	ug/L	20	20.2	101	64-120	M5
Bromoform	ug/L	20	21.3	106	56-133	M5
Bromomethane	ug/L	20	20.6	103	19-151	M5
Carbon disulfide	ug/L	20	25.5	128	53-173	CH,M5
Carbon tetrachloride	ug/L	20	26.4	132	52-133	CU,M5
Chlorobenzene	ug/L	20	19.5	97	72-121	M5
Chloroethane	ug/L	20	20.5	103	53-143	M5
Chloroform	ug/L	20	18.7	93	63-123	M5
Chloromethane	ug/L	20	33.2	166	48-139	CU,L0,M5
cis-1,2-Dichloroethene	ug/L	20	22.1	110	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	21.4	107	65-121	M5
Dibromochloromethane	ug/L	20	18.8	94	58-132	M5
Ethylbenzene	ug/L	20	20.0	100	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	22.8	114	66-136	M5
m&p-Xylene	ug/L	40	40.5	101	71-124	M5
Methylene Chloride	ug/L	20	22.7	113	55-134	M5
o-Xylene	ug/L	20	20.0	100	69-118	M5
Styrene	ug/L	20	20.0	100	66-126	M5
Tetrachloroethene	ug/L	20	19.3	96	62-131	M5
Toluene	ug/L	20	19.5	98	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	21.0	105	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	19.1	95	70-111	M5
Trichloroethene	ug/L	20	17.1	86	66-125	M5

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QUALITY CONTROL DATA

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

LABORATORY CONTROL SAMPLE: 802447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	23.9	120	57-144	M5
Vinyl chloride	ug/L	20	22.6	113	58-131	M5
1,2-Dichloroethane-d4 (S)	%			106	84-124	M5
4-Bromofluorobenzene (S)	%			95	84-113	M5
Toluene-d8 (S)	%			99	79-118	M5

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QUALITY CONTROL DATA

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

QC Batch:	MSV/21335	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 8260C	Analysis Description:	8260C MSV
Associated Lab Samples: 30131265003, 30131265004, 30131265005			

METHOD BLANK: 804897 Matrix: Water

Associated Lab Samples: 30131265003, 30131265004, 30131265005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/20/14 14:40	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/20/14 14:40	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	10/20/14 14:40	M5
1,1-Dichloroethane	ug/L	ND	1.0	10/20/14 14:40	M5
1,1-Dichloroethene	ug/L	ND	1.0	10/20/14 14:40	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	10/20/14 14:40	M5
1,2-Dichloroethane	ug/L	ND	1.0	10/20/14 14:40	M5
1,2-Dichloropropane	ug/L	ND	1.0	10/20/14 14:40	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	10/20/14 14:40	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	10/20/14 14:40	M5
2-Butanone (MEK)	ug/L	ND	10.0	10/20/14 14:40	M5
2-Hexanone	ug/L	ND	10.0	10/20/14 14:40	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/20/14 14:40	M5
Acetone	ug/L	ND	10.0	10/20/14 14:40	M5
Benzene	ug/L	ND	1.0	10/20/14 14:40	M5
Bromodichloromethane	ug/L	ND	1.0	10/20/14 14:40	M5
Bromoform	ug/L	ND	1.0	10/20/14 14:40	M5
Bromomethane	ug/L	ND	1.0	10/20/14 14:40	M5
Carbon disulfide	ug/L	ND	1.0	10/20/14 14:40	M5
Carbon tetrachloride	ug/L	ND	1.0	10/20/14 14:40	M5
Chlorobenzene	ug/L	ND	1.0	10/20/14 14:40	M5
Chloroethane	ug/L	ND	1.0	10/20/14 14:40	M5
Chloroform	ug/L	ND	1.0	10/20/14 14:40	M5
Chloromethane	ug/L	ND	1.0	10/20/14 14:40	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/20/14 14:40	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/20/14 14:40	M5
Dibromochloromethane	ug/L	ND	1.0	10/20/14 14:40	M5
Ethylbenzene	ug/L	ND	1.0	10/20/14 14:40	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/20/14 14:40	M5
m&p-Xylene	ug/L	ND	2.0	10/20/14 14:40	M5
Methylene Chloride	ug/L	ND	1.0	10/20/14 14:40	M5
o-Xylene	ug/L	ND	1.0	10/20/14 14:40	M5
Styrene	ug/L	ND	1.0	10/20/14 14:40	M5
Tetrachloroethene	ug/L	ND	1.0	10/20/14 14:40	M5
Toluene	ug/L	ND	1.0	10/20/14 14:40	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/20/14 14:40	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/20/14 14:40	M5
Trichloroethene	ug/L	ND	1.0	10/20/14 14:40	M5
Trichlorofluoromethane	ug/L	ND	1.0	10/20/14 14:40	M5
Vinyl chloride	ug/L	ND	1.0	10/20/14 14:40	M5
1,2-Dichloroethane-d4 (S)	%	112	84-124	10/20/14 14:40	M5

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QUALITY CONTROL DATA

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

METHOD BLANK: 804897

Matrix: Water

Associated Lab Samples: 30131265003, 30131265004, 30131265005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	94	84-113	10/20/14 14:40	M5
Toluene-d8 (S)	%	103	79-118	10/20/14 14:40	M5

LABORATORY CONTROL SAMPLE: 804898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	62-130	M5
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	89	74-115	M5
1,1,2-Trichloroethane	ug/L	20	20.7	103	73-121	M5
1,1-Dichloroethane	ug/L	20	19.1	96	64-125	M5
1,1-Dichloroethene	ug/L	20	20.0	100	58-126	M5
1,2-Dichlorobenzene	ug/L	20	20.2	101	76-117	M5
1,2-Dichloroethane	ug/L	20	19.7	98	66-124	M5
1,2-Dichloropropane	ug/L	20	20.0	100	66-119	M5
1,3-Dichlorobenzene	ug/L	20	20.5	102	73-116	M5
1,4-Dichlorobenzene	ug/L	20	20.3	101	75-119	M5
2-Butanone (MEK)	ug/L	20	17.5	87	69-126	M5
2-Hexanone	ug/L	20	13.4	67	53-118	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	18.1	90	68-124	M5
Acetone	ug/L	20	13.5	68	56-142	M5
Benzene	ug/L	20	19.4	97	69-123	M5
Bromodichloromethane	ug/L	20	20.5	102	64-120	M5
Bromoform	ug/L	20	19.3	97	56-133	M5
Bromomethane	ug/L	20	16.1	80	19-151	M5
Carbon disulfide	ug/L	20	27.4	137	53-173	CU,M5
Carbon tetrachloride	ug/L	20	30.9	155	52-133	1c,M5
Chlorobenzene	ug/L	20	21.4	107	72-121	M5
Chloroethane	ug/L	20	16.5	82	53-143	M5
Chloroform	ug/L	20	18.7	93	63-123	M5
Chloromethane	ug/L	20	30.8	154	48-139	L3,M5
cis-1,2-Dichloroethene	ug/L	20	20.1	101	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	20.7	104	65-121	M5
Dibromochloromethane	ug/L	20	21.7	109	58-132	M5
Ethylbenzene	ug/L	20	20.0	100	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	21.8	109	66-136	M5
m&p-Xylene	ug/L	40	41.5	104	71-124	M5
Methylene Chloride	ug/L	20	22.8	114	55-134	M5
o-Xylene	ug/L	20	19.6	98	69-118	M5
Styrene	ug/L	20	21.0	105	66-126	M5
Tetrachloroethene	ug/L	20	20.2	101	62-131	M5
Toluene	ug/L	20	20.0	100	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	20.2	101	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	19.0	95	70-111	M5
Trichloroethene	ug/L	20	19.7	99	66-125	M5

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QUALITY CONTROL DATA

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

LABORATORY CONTROL SAMPLE: 804898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	21.8	109	57-144	M5
Vinyl chloride	ug/L	20	18.9	94	58-131	M5
1,2-Dichloroethane-d4 (S)	%			106	84-124	M5
4-Bromofluorobenzene (S)	%			93	84-113	M5
Toluene-d8 (S)	%			104	79-118	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/21281

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

Batch: MSV/21335

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

ANALYTE QUALIFIERS

1c Analyte recovery in the continuing calibration and laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

B Analyte was detected in the associated method blank.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

CU The continuing calibration for this compound is outside of Pace Analytical acceptance limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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.

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

Z3 Methylene chloride is a common laboratory contaminant. Results for this analyte should be considered estimated unless the amount found in the sample is 3 to 5 times higher than that found in the method blank.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 41569123 Essex-Hope Jamestown

Pace Project No.: 30131265

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30131265001	TB-311D	EPA 8260C	MSV/21281		
30131265002	TB-301D	EPA 8260C	MSV/21281		
30131265003	TB-315S	EPA 8260C	MSV/21335		
30131265004	TB-314D	EPA 8260C	MSV/21335		
30131265005	TB-01	EPA 8260C	MSV/21335		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Company: URS CORP Address: FOSTER PURZA 6 661 ANDERSON DR STE. 400 PITTSBURGH, PA 15220 Email To: _____ Phone: 412-508-4700 Fax: 412-503-4701 Requested Due Date/TAT: STANDARD		Section B Required Project Information: Report To: MARK DOWIAK Copy To: VALERIE SIBERT Purchase Order No.: 41569123 Project Name: ESSEX/HOPE JAMESTOWN Project Number: 41569123		Section C Invoice Information: Attention: _____ Company Name: _____ Address: _____ Pace Quote Reference: _____ Pace Project Manager: _____ Pace Profile #: _____	
Page: 1 of 1		REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____		NY Site Location STATE: _____	
1364227					

[illegible]



Sample Condition Upon Receipt

Client Name: URS Corp

Project #

Am
30131265

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 87398019758

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used #6 Type of Ice: Wei Blue None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 3.3 °C Correction Factor: 0 °C Final Temp: 3.3 °C

Temp should be above freezing to 6°C

Comments:

Date and Initials of person

examining contents: SRA 10-7-14

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>ut</u>	
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>SRA</u> Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 10/8/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

[illegible]

December 04, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: 41569181/Essex-Hope
Pace Project No.: 30134103

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ACLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-25D		Lab ID: 30134103001	Collected: 11/10/14 12:15	Received: 11/11/14 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/22/14 03:20	67-64-1	
Benzene	ND ug/L		1.0	1		11/22/14 03:20	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		11/22/14 03:20	75-27-4	
Bromoform	ND ug/L		1.0	1		11/22/14 03:20	75-25-2	
Bromomethane	ND ug/L		1.0	1		11/22/14 03:20	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		11/22/14 03:20	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		11/22/14 03:20	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		11/22/14 03:20	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/22/14 03:20	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/22/14 03:20	75-00-3	
Chloroform	ND ug/L		1.0	1		11/22/14 03:20	67-66-3	
Chloromethane	ND ug/L		1.0	1		11/22/14 03:20	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		11/22/14 03:20	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 03:20	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 03:20	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 03:20	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		11/22/14 03:20	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/22/14 03:20	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		11/22/14 03:20	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 03:20	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 03:20	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		11/22/14 03:20	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 03:20	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 03:20	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		11/22/14 03:20	100-41-4	
2-Hexanone	ND ug/L		10.0	1		11/22/14 03:20	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/22/14 03:20	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		11/22/14 03:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/22/14 03:20	108-10-1	
Styrene	ND ug/L		1.0	1		11/22/14 03:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/22/14 03:20	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/22/14 03:20	127-18-4	
Toluene	ND ug/L		1.0	1		11/22/14 03:20	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/22/14 03:20	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/22/14 03:20	79-00-5	
Trichloroethene	ND ug/L		1.0	1		11/22/14 03:20	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/22/14 03:20	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		11/22/14 03:20	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		11/22/14 03:20	179601-23-1	
o-Xylene	ND ug/L		1.0	1		11/22/14 03:20	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104 %		84-113	1		11/22/14 03:20	460-00-4	
1,2-Dichloroethane-d4 (S)	96 %		84-124	1		11/22/14 03:20	17060-07-0	
Toluene-d8 (S)	102 %		79-118	1		11/22/14 03:20	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-25S		Lab ID: 30134103002	Collected: 11/10/14 12:25	Received: 11/11/14 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		11/22/14 03:46	67-64-1	
Benzene	ND	ug/L	1.0	1		11/22/14 03:46	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/22/14 03:46	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/22/14 03:46	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/22/14 03:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/22/14 03:46	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/22/14 03:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/22/14 03:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/22/14 03:46	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/22/14 03:46	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/22/14 03:46	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/22/14 03:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/22/14 03:46	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 03:46	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 03:46	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 03:46	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/22/14 03:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/22/14 03:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/22/14 03:46	75-35-4	
cis-1,2-Dichloroethene	35.9	ug/L	1.0	1		11/22/14 03:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/22/14 03:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/22/14 03:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 03:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 03:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/22/14 03:46	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/22/14 03:46	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/22/14 03:46	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		11/22/14 03:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/22/14 03:46	108-10-1	
Styrene	ND	ug/L	1.0	1		11/22/14 03:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/22/14 03:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/22/14 03:46	127-18-4	
Toluene	ND	ug/L	1.0	1		11/22/14 03:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/22/14 03:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/22/14 03:46	79-00-5	
Trichloroethene	175	ug/L	1.0	1		11/22/14 03:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/22/14 03:46	75-69-4	
Vinyl chloride	ND	ug/L	1.0	1		11/22/14 03:46	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/22/14 03:46	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/22/14 03:46	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	108	%	84-113	1		11/22/14 03:46	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	84-124	1		11/22/14 03:46	17060-07-0	
Toluene-d8 (S)	104	%	79-118	1		11/22/14 03:46	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-16D		Lab ID: 30134103003		Collected: 11/10/14 12:45		Received: 11/11/14 09:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C							
Acetone	ND ug/L	10.0	1			11/22/14 04:39	67-64-1		
Benzene	ND ug/L	1.0	1			11/22/14 04:39	71-43-2		
Bromodichloromethane	ND ug/L	1.0	1			11/22/14 04:39	75-27-4		
Bromoform	ND ug/L	1.0	1			11/22/14 04:39	75-25-2		
Bromomethane	ND ug/L	1.0	1			11/22/14 04:39	74-83-9		
2-Butanone (MEK)	ND ug/L	10.0	1			11/22/14 04:39	78-93-3		
Carbon disulfide	ND ug/L	1.0	1			11/22/14 04:39	75-15-0		
Carbon tetrachloride	ND ug/L	1.0	1			11/22/14 04:39	56-23-5		
Chlorobenzene	ND ug/L	1.0	1			11/22/14 04:39	108-90-7		
Chloroethane	ND ug/L	1.0	1			11/22/14 04:39	75-00-3		
Chloroform	ND ug/L	1.0	1			11/22/14 04:39	67-66-3		
Chloromethane	ND ug/L	1.0	1			11/22/14 04:39	74-87-3		
Dibromochloromethane	ND ug/L	1.0	1			11/22/14 04:39	124-48-1		
1,2-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 04:39	95-50-1		
1,3-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 04:39	541-73-1		
1,4-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 04:39	106-46-7		
1,1-Dichloroethane	ND ug/L	1.0	1			11/22/14 04:39	75-34-3		
1,2-Dichloroethane	ND ug/L	1.0	1			11/22/14 04:39	107-06-2		
1,1-Dichloroethene	ND ug/L	1.0	1			11/22/14 04:39	75-35-4		
cis-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 04:39	156-59-2		
trans-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 04:39	156-60-5		
1,2-Dichloropropane	ND ug/L	1.0	1			11/22/14 04:39	78-87-5		
cis-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 04:39	10061-01-5		
trans-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 04:39	10061-02-6		
Ethylbenzene	ND ug/L	1.0	1			11/22/14 04:39	100-41-4		
2-Hexanone	ND ug/L	10.0	1			11/22/14 04:39	591-78-6		
Isopropylbenzene (Cumene)	ND ug/L	1.0	1			11/22/14 04:39	98-82-8		
Methylene Chloride	ND ug/L	1.0	1			11/22/14 04:39	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND ug/L	10.0	1			11/22/14 04:39	108-10-1		
Styrene	ND ug/L	1.0	1			11/22/14 04:39	100-42-5		
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1			11/22/14 04:39	79-34-5		
Tetrachloroethene	ND ug/L	1.0	1			11/22/14 04:39	127-18-4		
Toluene	ND ug/L	1.0	1			11/22/14 04:39	108-88-3		
1,1,1-Trichloroethane	ND ug/L	1.0	1			11/22/14 04:39	71-55-6		
1,1,2-Trichloroethane	ND ug/L	1.0	1			11/22/14 04:39	79-00-5		
Trichloroethene	ND ug/L	1.0	1			11/22/14 04:39	79-01-6		
Trichlorofluoromethane	ND ug/L	1.0	1			11/22/14 04:39	75-69-4		
Vinyl chloride	ND ug/L	1.0	1			11/22/14 04:39	75-01-4		
m&p-Xylene	ND ug/L	2.0	1			11/22/14 04:39	179601-23-1		
o-Xylene	ND ug/L	1.0	1			11/22/14 04:39	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	100 %	84-113	1			11/22/14 04:39	460-00-4		
1,2-Dichloroethane-d4 (S)	94 %	84-124	1			11/22/14 04:39	17060-07-0		
Toluene-d8 (S)	102 %	79-118	1			11/22/14 04:39	2037-26-5		

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-16S		Lab ID: 30134103004		Collected: 11/10/14 12:55		Received: 11/11/14 09:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C							
Acetone	ND ug/L	10.0	1			11/22/14 05:05	67-64-1		
Benzene	ND ug/L	1.0	1			11/22/14 05:05	71-43-2		
Bromodichloromethane	ND ug/L	1.0	1			11/22/14 05:05	75-27-4		
Bromoform	ND ug/L	1.0	1			11/22/14 05:05	75-25-2		
Bromomethane	ND ug/L	1.0	1			11/22/14 05:05	74-83-9		
2-Butanone (MEK)	ND ug/L	10.0	1			11/22/14 05:05	78-93-3		
Carbon disulfide	ND ug/L	1.0	1			11/22/14 05:05	75-15-0		
Carbon tetrachloride	ND ug/L	1.0	1			11/22/14 05:05	56-23-5		
Chlorobenzene	ND ug/L	1.0	1			11/22/14 05:05	108-90-7		
Chloroethane	ND ug/L	1.0	1			11/22/14 05:05	75-00-3		
Chloroform	ND ug/L	1.0	1			11/22/14 05:05	67-66-3		
Chloromethane	ND ug/L	1.0	1			11/22/14 05:05	74-87-3		
Dibromochloromethane	ND ug/L	1.0	1			11/22/14 05:05	124-48-1		
1,2-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 05:05	95-50-1		
1,3-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 05:05	541-73-1		
1,4-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 05:05	106-46-7		
1,1-Dichloroethane	ND ug/L	1.0	1			11/22/14 05:05	75-34-3		
1,2-Dichloroethane	ND ug/L	1.0	1			11/22/14 05:05	107-06-2		
1,1-Dichloroethene	ND ug/L	1.0	1			11/22/14 05:05	75-35-4		
cis-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 05:05	156-59-2		
trans-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 05:05	156-60-5		
1,2-Dichloropropane	ND ug/L	1.0	1			11/22/14 05:05	78-87-5		
cis-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 05:05	10061-01-5		
trans-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 05:05	10061-02-6		
Ethylbenzene	ND ug/L	1.0	1			11/22/14 05:05	100-41-4		
2-Hexanone	ND ug/L	10.0	1			11/22/14 05:05	591-78-6		
Isopropylbenzene (Cumene)	ND ug/L	1.0	1			11/22/14 05:05	98-82-8		
Methylene Chloride	ND ug/L	1.0	1			11/22/14 05:05	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND ug/L	10.0	1			11/22/14 05:05	108-10-1		
Styrene	ND ug/L	1.0	1			11/22/14 05:05	100-42-5		
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1			11/22/14 05:05	79-34-5		
Tetrachloroethene	ND ug/L	1.0	1			11/22/14 05:05	127-18-4		
Toluene	ND ug/L	1.0	1			11/22/14 05:05	108-88-3		
1,1,1-Trichloroethane	ND ug/L	1.0	1			11/22/14 05:05	71-55-6		
1,1,2-Trichloroethane	ND ug/L	1.0	1			11/22/14 05:05	79-00-5		
Trichloroethene	ND ug/L	1.0	1			11/22/14 05:05	79-01-6		
Trichlorofluoromethane	ND ug/L	1.0	1			11/22/14 05:05	75-69-4		
Vinyl chloride	ND ug/L	1.0	1			11/22/14 05:05	75-01-4		
m&p-Xylene	ND ug/L	2.0	1			11/22/14 05:05	179601-23-1		
o-Xylene	ND ug/L	1.0	1			11/22/14 05:05	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	105 %	84-113	1			11/22/14 05:05	460-00-4		
1,2-Dichloroethane-d4 (S)	96 %	84-124	1			11/22/14 05:05	17060-07-0		
Toluene-d8 (S)	105 %	79-118	1			11/22/14 05:05	2037-26-5		

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-14S		Lab ID: 30134103005	Collected: 11/10/14 13:15	Received: 11/11/14 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		11/22/14 05:32	67-64-1	
Benzene	ND	ug/L	1.0	1		11/22/14 05:32	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/22/14 05:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/22/14 05:32	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/22/14 05:32	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/22/14 05:32	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/22/14 05:32	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/22/14 05:32	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/22/14 05:32	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/22/14 05:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/22/14 05:32	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/22/14 05:32	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/22/14 05:32	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 05:32	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 05:32	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 05:32	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/22/14 05:32	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/22/14 05:32	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/22/14 05:32	75-35-4	
cis-1,2-Dichloroethene	66.0	ug/L	1.0	1		11/22/14 05:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/22/14 05:32	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/22/14 05:32	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 05:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 05:32	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/22/14 05:32	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/22/14 05:32	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/22/14 05:32	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		11/22/14 05:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/22/14 05:32	108-10-1	
Styrene	ND	ug/L	1.0	1		11/22/14 05:32	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/22/14 05:32	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/22/14 05:32	127-18-4	
Toluene	ND	ug/L	1.0	1		11/22/14 05:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/22/14 05:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/22/14 05:32	79-00-5	
Trichloroethene	39.6	ug/L	1.0	1		11/22/14 05:32	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/22/14 05:32	75-69-4	
Vinyl chloride	9.3	ug/L	1.0	1		11/22/14 05:32	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/22/14 05:32	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/22/14 05:32	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	84-113	1		11/22/14 05:32	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	84-124	1		11/22/14 05:32	17060-07-0	
Toluene-d8 (S)	101	%	79-118	1		11/22/14 05:32	2037-26-5	

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-14D		Lab ID: 30134103006		Collected: 11/10/14 13:30		Received: 11/11/14 09:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C							
Acetone	ND ug/L	10.0	1			11/22/14 05:58	67-64-1		
Benzene	ND ug/L	1.0	1			11/22/14 05:58	71-43-2		
Bromodichloromethane	ND ug/L	1.0	1			11/22/14 05:58	75-27-4		
Bromoform	ND ug/L	1.0	1			11/22/14 05:58	75-25-2		
Bromomethane	ND ug/L	1.0	1			11/22/14 05:58	74-83-9		
2-Butanone (MEK)	ND ug/L	10.0	1			11/22/14 05:58	78-93-3		
Carbon disulfide	ND ug/L	1.0	1			11/22/14 05:58	75-15-0		
Carbon tetrachloride	ND ug/L	1.0	1			11/22/14 05:58	56-23-5		
Chlorobenzene	ND ug/L	1.0	1			11/22/14 05:58	108-90-7		
Chloroethane	ND ug/L	1.0	1			11/22/14 05:58	75-00-3		
Chloroform	ND ug/L	1.0	1			11/22/14 05:58	67-66-3		
Chloromethane	ND ug/L	1.0	1			11/22/14 05:58	74-87-3		
Dibromochloromethane	ND ug/L	1.0	1			11/22/14 05:58	124-48-1		
1,2-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 05:58	95-50-1		
1,3-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 05:58	541-73-1		
1,4-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 05:58	106-46-7		
1,1-Dichloroethane	ND ug/L	1.0	1			11/22/14 05:58	75-34-3		
1,2-Dichloroethane	ND ug/L	1.0	1			11/22/14 05:58	107-06-2		
1,1-Dichloroethene	ND ug/L	1.0	1			11/22/14 05:58	75-35-4		
cis-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 05:58	156-59-2		
trans-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 05:58	156-60-5		
1,2-Dichloropropane	ND ug/L	1.0	1			11/22/14 05:58	78-87-5		
cis-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 05:58	10061-01-5		
trans-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 05:58	10061-02-6		
Ethylbenzene	ND ug/L	1.0	1			11/22/14 05:58	100-41-4		
2-Hexanone	ND ug/L	10.0	1			11/22/14 05:58	591-78-6		
Isopropylbenzene (Cumene)	ND ug/L	1.0	1			11/22/14 05:58	98-82-8		
Methylene Chloride	ND ug/L	1.0	1			11/22/14 05:58	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND ug/L	10.0	1			11/22/14 05:58	108-10-1		
Styrene	ND ug/L	1.0	1			11/22/14 05:58	100-42-5		
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1			11/22/14 05:58	79-34-5		
Tetrachloroethene	ND ug/L	1.0	1			11/22/14 05:58	127-18-4		
Toluene	ND ug/L	1.0	1			11/22/14 05:58	108-88-3		
1,1,1-Trichloroethane	ND ug/L	1.0	1			11/22/14 05:58	71-55-6		
1,1,2-Trichloroethane	ND ug/L	1.0	1			11/22/14 05:58	79-00-5		
Trichloroethene	ND ug/L	1.0	1			11/22/14 05:58	79-01-6		
Trichlorofluoromethane	ND ug/L	1.0	1			11/22/14 05:58	75-69-4		
Vinyl chloride	7.9 ug/L	1.0	1			11/22/14 05:58	75-01-4		
m&p-Xylene	ND ug/L	2.0	1			11/22/14 05:58	179601-23-1		
o-Xylene	ND ug/L	1.0	1			11/22/14 05:58	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	106 %	84-113	1			11/22/14 05:58	460-00-4		
1,2-Dichloroethane-d4 (S)	96 %	84-124	1			11/22/14 05:58	17060-07-0		
Toluene-d8 (S)	100 %	79-118	1			11/22/14 05:58	2037-26-5		

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-15S		Lab ID: 30134103007		Collected: 11/10/14 13:50		Received: 11/11/14 09:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C							
Acetone	ND ug/L	10.0	1			11/22/14 06:25	67-64-1		
Benzene	ND ug/L	1.0	1			11/22/14 06:25	71-43-2		
Bromodichloromethane	ND ug/L	1.0	1			11/22/14 06:25	75-27-4		
Bromoform	ND ug/L	1.0	1			11/22/14 06:25	75-25-2		
Bromomethane	ND ug/L	1.0	1			11/22/14 06:25	74-83-9		
2-Butanone (MEK)	ND ug/L	10.0	1			11/22/14 06:25	78-93-3		
Carbon disulfide	ND ug/L	1.0	1			11/22/14 06:25	75-15-0		
Carbon tetrachloride	ND ug/L	1.0	1			11/22/14 06:25	56-23-5		
Chlorobenzene	ND ug/L	1.0	1			11/22/14 06:25	108-90-7		
Chloroethane	ND ug/L	1.0	1			11/22/14 06:25	75-00-3		
Chloroform	ND ug/L	1.0	1			11/22/14 06:25	67-66-3		
Chloromethane	ND ug/L	1.0	1			11/22/14 06:25	74-87-3		
Dibromochloromethane	ND ug/L	1.0	1			11/22/14 06:25	124-48-1		
1,2-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 06:25	95-50-1		
1,3-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 06:25	541-73-1		
1,4-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 06:25	106-46-7		
1,1-Dichloroethane	ND ug/L	1.0	1			11/22/14 06:25	75-34-3		
1,2-Dichloroethane	ND ug/L	1.0	1			11/22/14 06:25	107-06-2		
1,1-Dichloroethene	ND ug/L	1.0	1			11/22/14 06:25	75-35-4		
cis-1,2-Dichloroethene	1.9 ug/L	1.0	1			11/22/14 06:25	156-59-2		
trans-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 06:25	156-60-5		
1,2-Dichloropropane	ND ug/L	1.0	1			11/22/14 06:25	78-87-5		
cis-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 06:25	10061-01-5		
trans-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 06:25	10061-02-6		
Ethylbenzene	ND ug/L	1.0	1			11/22/14 06:25	100-41-4		
2-Hexanone	ND ug/L	10.0	1			11/22/14 06:25	591-78-6		
Isopropylbenzene (Cumene)	ND ug/L	1.0	1			11/22/14 06:25	98-82-8		
Methylene Chloride	ND ug/L	1.0	1			11/22/14 06:25	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND ug/L	10.0	1			11/22/14 06:25	108-10-1		
Styrene	ND ug/L	1.0	1			11/22/14 06:25	100-42-5		
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1			11/22/14 06:25	79-34-5		
Tetrachloroethene	ND ug/L	1.0	1			11/22/14 06:25	127-18-4		
Toluene	ND ug/L	1.0	1			11/22/14 06:25	108-88-3		
1,1,1-Trichloroethane	ND ug/L	1.0	1			11/22/14 06:25	71-55-6		
1,1,2-Trichloroethane	ND ug/L	1.0	1			11/22/14 06:25	79-00-5		
Trichloroethene	6.4 ug/L	1.0	1			11/22/14 06:25	79-01-6		
Trichlorofluoromethane	ND ug/L	1.0	1			11/22/14 06:25	75-69-4		
Vinyl chloride	ND ug/L	1.0	1			11/22/14 06:25	75-01-4		
m&p-Xylene	ND ug/L	2.0	1			11/22/14 06:25	179601-23-1		
o-Xylene	ND ug/L	1.0	1			11/22/14 06:25	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	98 %	84-113	1			11/22/14 06:25	460-00-4		
1,2-Dichloroethane-d4 (S)	96 %	84-124	1			11/22/14 06:25	17060-07-0		
Toluene-d8 (S)	105 %	79-118	1			11/22/14 06:25	2037-26-5		

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-15D		Lab ID: 30134103008	Collected: 11/10/14 14:15	Received: 11/11/14 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		11/22/14 10:35	67-64-1	
Benzene	2.7	ug/L	1.0	1		11/22/14 10:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/22/14 10:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/22/14 10:35	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/22/14 10:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/22/14 10:35	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/22/14 10:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/22/14 10:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/22/14 10:35	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/22/14 10:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/22/14 10:35	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/22/14 10:35	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/22/14 10:35	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 10:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 10:35	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 10:35	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/22/14 10:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/22/14 10:35	107-06-2	
1,1-Dichloroethene	210	ug/L	1.0	1		11/22/14 10:35	75-35-4	
cis-1,2-Dichloroethene	44300	ug/L	200	200		11/22/14 11:28	156-59-2	
trans-1,2-Dichloroethene	299	ug/L	10.0	10		11/22/14 11:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/22/14 10:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 10:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 10:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/22/14 10:35	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/22/14 10:35	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/22/14 10:35	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		11/22/14 10:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/22/14 10:35	108-10-1	
Styrene	ND	ug/L	1.0	1		11/22/14 10:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/22/14 10:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/22/14 10:35	127-18-4	
Toluene	ND	ug/L	1.0	1		11/22/14 10:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/22/14 10:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/22/14 10:35	79-00-5	
Trichloroethene	22400	ug/L	200	200		11/22/14 11:28	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/22/14 10:35	75-69-4	
Vinyl chloride	1460	ug/L	10.0	10		11/22/14 11:01	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/22/14 10:35	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/22/14 10:35	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	94	%	84-113	1		11/22/14 10:35	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	84-124	1		11/22/14 10:35	17060-07-0	
Toluene-d8 (S)	93	%	79-118	1		11/22/14 10:35	2037-26-5	

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-2		Lab ID: 30134103009	Collected: 11/10/14 15:25	Received: 11/11/14 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/22/14 04:13	67-64-1	
Benzene	ND ug/L		1.0	1		11/22/14 04:13	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		11/22/14 04:13	75-27-4	
Bromoform	ND ug/L		1.0	1		11/22/14 04:13	75-25-2	
Bromomethane	ND ug/L		1.0	1		11/22/14 04:13	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		11/22/14 04:13	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		11/22/14 04:13	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		11/22/14 04:13	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/22/14 04:13	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/22/14 04:13	75-00-3	
Chloroform	ND ug/L		1.0	1		11/22/14 04:13	67-66-3	
Chloromethane	ND ug/L		1.0	1		11/22/14 04:13	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		11/22/14 04:13	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 04:13	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 04:13	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 04:13	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		11/22/14 04:13	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/22/14 04:13	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		11/22/14 04:13	75-35-4	
cis-1,2-Dichloroethene	1.4 ug/L		1.0	1		11/22/14 04:13	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 04:13	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		11/22/14 04:13	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 04:13	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 04:13	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		11/22/14 04:13	100-41-4	
2-Hexanone	ND ug/L		10.0	1		11/22/14 04:13	591-78-6	
Isopropylbenzene (Cumene)	3.3 ug/L		1.0	1		11/22/14 04:13	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		11/22/14 04:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/22/14 04:13	108-10-1	
Styrene	ND ug/L		1.0	1		11/22/14 04:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/22/14 04:13	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/22/14 04:13	127-18-4	
Toluene	ND ug/L		1.0	1		11/22/14 04:13	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/22/14 04:13	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/22/14 04:13	79-00-5	
Trichloroethene	3.9 ug/L		1.0	1		11/22/14 04:13	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/22/14 04:13	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		11/22/14 04:13	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		11/22/14 04:13	179601-23-1	
o-Xylene	ND ug/L		1.0	1		11/22/14 04:13	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	97 %		84-113	1		11/22/14 04:13	460-00-4	
1,2-Dichloroethane-d4 (S)	96 %		84-124	1		11/22/14 04:13	17060-07-0	
Toluene-d8 (S)	107 %		79-118	1		11/22/14 04:13	2037-26-5	

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: HW-2		Lab ID: 30134103010		Collected: 11/10/14 15:40		Received: 11/11/14 09:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C							
Acetone	ND ug/L	10.0	1			11/22/14 06:51	67-64-1		
Benzene	ND ug/L	1.0	1			11/22/14 06:51	71-43-2		
Bromodichloromethane	ND ug/L	1.0	1			11/22/14 06:51	75-27-4		
Bromoform	ND ug/L	1.0	1			11/22/14 06:51	75-25-2		
Bromomethane	ND ug/L	1.0	1			11/22/14 06:51	74-83-9		
2-Butanone (MEK)	ND ug/L	10.0	1			11/22/14 06:51	78-93-3		
Carbon disulfide	ND ug/L	1.0	1			11/22/14 06:51	75-15-0		
Carbon tetrachloride	ND ug/L	1.0	1			11/22/14 06:51	56-23-5		
Chlorobenzene	ND ug/L	1.0	1			11/22/14 06:51	108-90-7		
Chloroethane	ND ug/L	1.0	1			11/22/14 06:51	75-00-3		
Chloroform	ND ug/L	1.0	1			11/22/14 06:51	67-66-3		
Chloromethane	ND ug/L	1.0	1			11/22/14 06:51	74-87-3		
Dibromochloromethane	ND ug/L	1.0	1			11/22/14 06:51	124-48-1		
1,2-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 06:51	95-50-1		
1,3-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 06:51	541-73-1		
1,4-Dichlorobenzene	ND ug/L	1.0	1			11/22/14 06:51	106-46-7		
1,1-Dichloroethane	ND ug/L	1.0	1			11/22/14 06:51	75-34-3		
1,2-Dichloroethane	ND ug/L	1.0	1			11/22/14 06:51	107-06-2		
1,1-Dichloroethene	ND ug/L	1.0	1			11/22/14 06:51	75-35-4		
cis-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 06:51	156-59-2		
trans-1,2-Dichloroethene	ND ug/L	1.0	1			11/22/14 06:51	156-60-5		
1,2-Dichloropropane	ND ug/L	1.0	1			11/22/14 06:51	78-87-5		
cis-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 06:51	10061-01-5		
trans-1,3-Dichloropropene	ND ug/L	1.0	1			11/22/14 06:51	10061-02-6		
Ethylbenzene	ND ug/L	1.0	1			11/22/14 06:51	100-41-4		
2-Hexanone	ND ug/L	10.0	1			11/22/14 06:51	591-78-6		
Isopropylbenzene (Cumene)	ND ug/L	1.0	1			11/22/14 06:51	98-82-8		
Methylene Chloride	ND ug/L	1.0	1			11/22/14 06:51	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND ug/L	10.0	1			11/22/14 06:51	108-10-1		
Styrene	ND ug/L	1.0	1			11/22/14 06:51	100-42-5		
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1			11/22/14 06:51	79-34-5		
Tetrachloroethene	ND ug/L	1.0	1			11/22/14 06:51	127-18-4		
Toluene	ND ug/L	1.0	1			11/22/14 06:51	108-88-3		
1,1,1-Trichloroethane	ND ug/L	1.0	1			11/22/14 06:51	71-55-6		
1,1,2-Trichloroethane	ND ug/L	1.0	1			11/22/14 06:51	79-00-5		
Trichloroethene	3.3 ug/L	1.0	1			11/22/14 06:51	79-01-6		
Trichlorofluoromethane	ND ug/L	1.0	1			11/22/14 06:51	75-69-4		
Vinyl chloride	ND ug/L	1.0	1			11/22/14 06:51	75-01-4		
m&p-Xylene	ND ug/L	2.0	1			11/22/14 06:51	179601-23-1		
o-Xylene	ND ug/L	1.0	1			11/22/14 06:51	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	102 %	84-113	1			11/22/14 06:51	460-00-4		
1,2-Dichloroethane-d4 (S)	98 %	84-124	1			11/22/14 06:51	17060-07-0		
Toluene-d8 (S)	100 %	79-118	1			11/22/14 06:51	2037-26-5		

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: MW-17		Lab ID: 30134103011	Collected: 11/10/14 16:40	Received: 11/11/14 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/22/14 07:18	67-64-1	
Benzene	ND ug/L		1.0	1		11/22/14 07:18	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		11/22/14 07:18	75-27-4	
Bromoform	ND ug/L		1.0	1		11/22/14 07:18	75-25-2	
Bromomethane	ND ug/L		1.0	1		11/22/14 07:18	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		11/22/14 07:18	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		11/22/14 07:18	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		11/22/14 07:18	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/22/14 07:18	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/22/14 07:18	75-00-3	
Chloroform	ND ug/L		1.0	1		11/22/14 07:18	67-66-3	
Chloromethane	ND ug/L		1.0	1		11/22/14 07:18	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		11/22/14 07:18	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 07:18	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 07:18	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 07:18	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		11/22/14 07:18	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/22/14 07:18	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		11/22/14 07:18	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 07:18	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 07:18	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		11/22/14 07:18	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 07:18	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 07:18	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		11/22/14 07:18	100-41-4	
2-Hexanone	ND ug/L		10.0	1		11/22/14 07:18	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/22/14 07:18	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		11/22/14 07:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/22/14 07:18	108-10-1	
Styrene	ND ug/L		1.0	1		11/22/14 07:18	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/22/14 07:18	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/22/14 07:18	127-18-4	
Toluene	ND ug/L		1.0	1		11/22/14 07:18	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/22/14 07:18	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/22/14 07:18	79-00-5	
Trichloroethene	ND ug/L		1.0	1		11/22/14 07:18	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/22/14 07:18	75-69-4	
Vinyl chloride	1.9 ug/L		1.0	1		11/22/14 07:18	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		11/22/14 07:18	179601-23-1	
o-Xylene	ND ug/L		1.0	1		11/22/14 07:18	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100 %		84-113	1		11/22/14 07:18	460-00-4	
1,2-Dichloroethane-d4 (S)	90 %		84-124	1		11/22/14 07:18	17060-07-0	
Toluene-d8 (S)	101 %		79-118	1		11/22/14 07:18	2037-26-5	

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Sample: TB-01		Lab ID: 30134103012	Collected: 11/10/14 00:01	Received: 11/11/14 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/22/14 02:53	67-64-1	
Benzene	ND ug/L		1.0	1		11/22/14 02:53	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		11/22/14 02:53	75-27-4	
Bromoform	ND ug/L		1.0	1		11/22/14 02:53	75-25-2	
Bromomethane	ND ug/L		1.0	1		11/22/14 02:53	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		11/22/14 02:53	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		11/22/14 02:53	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		11/22/14 02:53	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/22/14 02:53	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/22/14 02:53	75-00-3	
Chloroform	ND ug/L		1.0	1		11/22/14 02:53	67-66-3	
Chloromethane	ND ug/L		1.0	1		11/22/14 02:53	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		11/22/14 02:53	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 02:53	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 02:53	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 02:53	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		11/22/14 02:53	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/22/14 02:53	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		11/22/14 02:53	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 02:53	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 02:53	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		11/22/14 02:53	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 02:53	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 02:53	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		11/22/14 02:53	100-41-4	
2-Hexanone	ND ug/L		10.0	1		11/22/14 02:53	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/22/14 02:53	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		11/22/14 02:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/22/14 02:53	108-10-1	
Styrene	ND ug/L		1.0	1		11/22/14 02:53	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/22/14 02:53	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/22/14 02:53	127-18-4	
Toluene	ND ug/L		1.0	1		11/22/14 02:53	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/22/14 02:53	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/22/14 02:53	79-00-5	
Trichloroethene	ND ug/L		1.0	1		11/22/14 02:53	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/22/14 02:53	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		11/22/14 02:53	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		11/22/14 02:53	179601-23-1	
o-Xylene	ND ug/L		1.0	1		11/22/14 02:53	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	105 %		84-113	1		11/22/14 02:53	460-00-4	
1,2-Dichloroethane-d4 (S)	94 %		84-124	1		11/22/14 02:53	17060-07-0	
Toluene-d8 (S)	101 %		79-118	1		11/22/14 02:53	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

QC Batch:	MSV/21679	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 8260C	Analysis Description:	8260C MSV
Associated Lab Samples:	30134103001, 30134103002, 30134103003, 30134103004, 30134103005, 30134103006, 30134103007, 30134103008, 30134103009, 30134103010, 30134103011, 30134103012		

METHOD BLANK: 820913

Matrix: Water

Associated Lab Samples: 30134103001, 30134103002, 30134103003, 30134103004, 30134103005, 30134103006, 30134103007, 30134103008, 30134103009, 30134103010, 30134103011, 30134103012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,1-Dichloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,1-Dichloroethene	ug/L	ND	1.0	11/22/14 02:00	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/22/14 02:00	
1,2-Dichloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,2-Dichloropropane	ug/L	ND	1.0	11/22/14 02:00	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/22/14 02:00	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/22/14 02:00	
2-Butanone (MEK)	ug/L	ND	10.0	11/22/14 02:00	
2-Hexanone	ug/L	ND	10.0	11/22/14 02:00	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/22/14 02:00	
Acetone	ug/L	ND	10.0	11/22/14 02:00	
Benzene	ug/L	ND	1.0	11/22/14 02:00	
Bromodichloromethane	ug/L	ND	1.0	11/22/14 02:00	
Bromoform	ug/L	ND	1.0	11/22/14 02:00	
Bromomethane	ug/L	ND	1.0	11/22/14 02:00	
Carbon disulfide	ug/L	ND	1.0	11/22/14 02:00	
Carbon tetrachloride	ug/L	ND	1.0	11/22/14 02:00	
Chlorobenzene	ug/L	ND	1.0	11/22/14 02:00	
Chloroethane	ug/L	ND	1.0	11/22/14 02:00	
Chloroform	ug/L	ND	1.0	11/22/14 02:00	
Chloromethane	ug/L	ND	1.0	11/22/14 02:00	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/22/14 02:00	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/22/14 02:00	
Dibromochloromethane	ug/L	ND	1.0	11/22/14 02:00	
Ethylbenzene	ug/L	ND	1.0	11/22/14 02:00	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	11/22/14 02:00	
m&p-Xylene	ug/L	ND	2.0	11/22/14 02:00	
Methylene Chloride	ug/L	ND	1.0	11/22/14 02:00	
o-Xylene	ug/L	ND	1.0	11/22/14 02:00	
Styrene	ug/L	ND	1.0	11/22/14 02:00	
Tetrachloroethene	ug/L	ND	1.0	11/22/14 02:00	
Toluene	ug/L	ND	1.0	11/22/14 02:00	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/22/14 02:00	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/22/14 02:00	
Trichloroethene	ug/L	ND	1.0	11/22/14 02:00	
Trichlorofluoromethane	ug/L	ND	1.0	11/22/14 02:00	
Vinyl chloride	ug/L	ND	1.0	11/22/14 02:00	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

METHOD BLANK: 820913

Matrix: Water

Associated Lab Samples: 30134103001, 30134103002, 30134103003, 30134103004, 30134103005, 30134103006, 30134103007, 30134103008, 30134103009, 30134103010, 30134103011, 30134103012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane-d4 (S)	%	93	84-124	11/22/14 02:00	
4-Bromofluorobenzene (S)	%	104	84-113	11/22/14 02:00	
Toluene-d8 (S)	%	106	79-118	11/22/14 02:00	

LABORATORY CONTROL SAMPLE: 820914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	101	62-130	
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	93	74-115	
1,1,2-Trichloroethane	ug/L	20	21.6	108	73-121	
1,1-Dichloroethane	ug/L	20	18.7	93	64-125	
1,1-Dichloroethene	ug/L	20	18.5	93	58-126	
1,2-Dichlorobenzene	ug/L	20	20.2	101	76-117	
1,2-Dichloroethane	ug/L	20	18.8	94	66-124	
1,2-Dichloropropane	ug/L	20	18.4	92	66-119	
1,3-Dichlorobenzene	ug/L	20	19.7	99	73-116	
1,4-Dichlorobenzene	ug/L	20	20.0	100	75-119	
2-Butanone (MEK)	ug/L	20	19.5	98	69-126	
2-Hexanone	ug/L	20	16.6	83	53-118	
4-Methyl-2-pentanone (MIBK)	ug/L	20	18.2	91	68-124	
Acetone	ug/L	20	25.2	126	56-142	
Benzene	ug/L	20	20.3	101	69-123	
Bromodichloromethane	ug/L	20	19.3	96	64-120	
Bromoform	ug/L	20	23.6	118	56-133	
Bromomethane	ug/L	20	18.9	95	19-151	
Carbon disulfide	ug/L	20	17.0	85	53-173	
Carbon tetrachloride	ug/L	20	21.0	105	52-133	
Chlorobenzene	ug/L	20	21.4	107	72-121	
Chloroethane	ug/L	20	18.0	90	53-143	
Chloroform	ug/L	20	20.3	101	63-123	
Chloromethane	ug/L	20	20.6	103	48-139	
cis-1,2-Dichloroethene	ug/L	20	19.4	97	63-123	
cis-1,3-Dichloropropene	ug/L	20	18.9	94	65-121	
Dibromochloromethane	ug/L	20	22.2	111	58-132	
Ethylbenzene	ug/L	20	19.1	95	70-123	
Isopropylbenzene (Cumene)	ug/L	20	21.1	106	66-136	
m&p-Xylene	ug/L	40	41.4	104	71-124	
Methylene Chloride	ug/L	20	17.4	87	55-134	
o-Xylene	ug/L	20	20.3	101	69-118	
Styrene	ug/L	20	21.1	106	66-126	
Tetrachloroethene	ug/L	20	22.0	110	62-131	
Toluene	ug/L	20	19.9	99	73-123	
trans-1,2-Dichloroethene	ug/L	20	18.7	93	61-124	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

LABORATORY CONTROL SAMPLE: 820914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
trans-1,3-Dichloropropene	ug/L	20	18.9	94	70-111	
Trichloroethene	ug/L	20	21.2	106	66-125	
Trichlorofluoromethane	ug/L	20	22.2	111	57-144	
Vinyl chloride	ug/L	20	21.2	106	58-131	
1,2-Dichloroethane-d4 (S)	%			95	84-124	
4-Bromofluorobenzene (S)	%			105	84-113	
Toluene-d8 (S)	%			99	79-118	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821746 821747

Parameter	Units	30134369002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	22.0	21.2	110	106	62-130	4	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.5	15.8	82	79	74-115	4	
1,1,2-Trichloroethane	ug/L	ND	20	20	18.5	19.6	92	98	73-121	6	
1,1-Dichloroethane	ug/L	ND	20	20	19.8	26.0	99	130	64-125	27	M0
1,1-Dichloroethene	ug/L	ND	20	20	24.9	25.2	124	126	58-126	1	
1,2-Dichlorobenzene	ug/L	ND	20	20	17.1	17.0	86	85	76-117	0	
1,2-Dichloroethane	ug/L	ND	20	20	19.9	18.7	99	94	66-124	6	
1,2-Dichloropropane	ug/L	ND	20	20	21.5	17.2	108	86	66-119	22	
1,3-Dichlorobenzene	ug/L	ND	20	20	18.0	16.5	90	83	73-116	9	
1,4-Dichlorobenzene	ug/L	ND	20	20	17.7	17.9	89	89	75-119	1	
2-Butanone (MEK)	ug/L	ND	20	20	23.7	20.8	119	104	69-126	13	
2-Hexanone	ug/L	ND	20	20	18.2	17.4	91	87	53-118	5	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	18.4	18.3	92	92	68-124	0	
Acetone	ug/L	ND	20	20	31.5	31.0	157	155	56-142	2	M0
Benzene	ug/L	ND	20	20	18.3	18.2	92	91	69-123	1	
Bromodichloromethane	ug/L	ND	20	20	21.3	18.0	106	90	64-120	17	
Bromoform	ug/L	ND	20	20	22.1	23.4	111	117	56-133	6	
Bromomethane	ug/L	ND	20	20	25.9	24.2	129	121	19-151	7	
Carbon disulfide	ug/L	ND	20	20	20.1	20.0	101	100	53-173	1	
Carbon tetrachloride	ug/L	ND	20	20	23.1	21.7	115	108	52-133	6	
Chlorobenzene	ug/L	ND	20	20	18.7	18.7	93	94	72-121	0	
Chloroethane	ug/L	ND	20	20	34.1	28.7	171	144	53-143	17	M0
Chloroform	ug/L	ND	20	20	20.3	21.6	101	108	63-123	6	
Chloromethane	ug/L	ND	20	20	25.2	24.9	126	124	48-139	1	
cis-1,2-Dichloroethene	ug/L	ND	20	20	24.9	25.0	124	125	63-123	0	M0
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.4	18.9	92	94	65-121	2	
Dibromochloromethane	ug/L	ND	20	20	21.4	21.1	107	105	58-132	2	
Ethylbenzene	ug/L	ND	20	20	18.9	20.7	95	104	70-123	9	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	15.8	19.6	79	98	66-136	21	
m&p-Xylene	ug/L	ND	40	40	38.7	41.0	97	102	71-124	6	
Methylene Chloride	ug/L	ND	20	20	20.5	22.6	103	113	55-134	9	
o-Xylene	ug/L	ND	20	20	18.5	18.8	92	94	69-118	2	
Styrene	ug/L	ND	20	20	18.2	17.9	91	90	66-126	1	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821746 821747											
Parameter	Units	30134369002		MS		MSD		MS		MSD	
		Result		Spike Conc.		Spike Conc.		Result		Result	
								% Rec		% Rec	
								Limits	RPD		Qual
Tetrachloroethene	ug/L	ND		20		20		20.4		20.1	
Toluene	ug/L	ND		20		20		18.0		17.9	
trans-1,2-Dichloroethene	ug/L	ND		20		20		23.6		25.5	
trans-1,3-Dichloropropene	ug/L	ND		20		20		17.7		17.6	
Trichloroethene	ug/L	1.0		20		20		20.2		21.2	
Trichlorofluoromethane	ug/L	ND		20		20		35.5		36.2	
Vinyl chloride	ug/L	ND		20		20		30.8		29.6	
1,2-Dichloroethane-d4 (S)	%							154		148	
4-Bromofluorobenzene (S)	%							92		95	
Toluene-d8 (S)	%							97		103	
								94		94	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

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.

PQL - Practical Quantitation 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.

WORKORDER QUALIFIERS

WO: 30134103

[1] This project was revised on 12/4/14 in order to correct the sample ID for 001.

ANALYTE QUALIFIERS

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 41569181/Essex-Hope

Pace Project No.: 30134103

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30134103001	MW-25D	EPA 8260C	MSV/21679		
30134103002	MW-25S	EPA 8260C	MSV/21679		
30134103003	MW-16D	EPA 8260C	MSV/21679		
30134103004	MW-16S	EPA 8260C	MSV/21679		
30134103005	MW-14S	EPA 8260C	MSV/21679		
30134103006	MW-14D	EPA 8260C	MSV/21679		
30134103007	MW-15S	EPA 8260C	MSV/21679		
30134103008	MW-15D	EPA 8260C	MSV/21679		
30134103009	MW-2	EPA 8260C	MSV/21679		
30134103010	HW-2	EPA 8260C	MSV/21679		
30134103011	MW-17	EPA 8260C	MSV/21679		
30134103012	TB-01	EPA 8260C	MSV/21679		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A Required Client Information: Company: <u>URS Corp</u> Address: <u>681 Anderson Dr. Suite 400</u> City: <u>Pittsburgh PA 15220</u> Phone: <u>412 503 4700</u> Fax: <u>412 503 4701</u> Requested Due Date/TAT: <u>Standard</u>		Section B Required Project Information: Report To: <u>Mark Dawick</u> Copy To: <u>Valerie Sibeto</u> Purchase Order No.: <u>41569831</u> Project Name: <u>PSSEX/HOPE JAMESTOWN</u> Project Number: <u>41569831.40000</u>		Section C Invoice Information: Attention: <u>Mark Dawick</u> Company Name: Address: Pace Quote Reference: Pace Project Manager: Pace Profile #:	
Regulatory Agency: ☐ NPDES ☒ GROUND WATER ☐ RCRA ☐ UST ☐ OTHER DRINKING WATER		Site Location: <u>NY</u> STATE:		Page: <u>1</u> of <u>1</u> 1364230	

ITEM #	Section D Required Client Information		Matrix Codes MATRIX / CODE Drinking Water DW Waste Water WT Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Y/N ↑	Analysis Test ↑	VOC (BACOB)	Residual Chlorine (Y/N)	30134103	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	COMPOSITE START	COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄			HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
1	MW-250			WT G	G			11/10/14 1215	3					X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

ADDITIONAL COMMENTS 2014 ANNUAL PMP SAMPLING AND SUPERVISORIAL REMEDIAL INVESTIGATIONS.		RELINQUISHED BY / AFFILIATION BRAD CAROSONE	DATE 11/14/14	TIME 0920	ACCEPTED BY / AFFILIATION Fed Ex Antonio M. Pace	DATE 11/10/14	TIME 0920	SAMPLE CONDITIONS Temp in °C 0.6	Received on Ice (Y/N) Y	Custody Sealed Cooler (Y/N) N	Samples Intact (Y/N) Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: BRAD CAROSONE
 SIGNATURE of SAMPLER: [Signature]

DATE Signed (MM/DD/YYYY): 11/10/14



Sample Condition Upon Receipt

Client Name: URS Corp

Project #

30134103

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: missing tracking number

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used 6 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 0.6 °C Correction Factor: 0.0 °C Final Temp: 0.6 °C

Temp should be above freezing to 6°C

Comments:

Date and Initials of person

examining contents: Ann
11/11/14

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>wt</u>	
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>Ann</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review:

[Signature]

Date:

11/13/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Project Number:

Client Name: URS Corp

[illegible]

December 01, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: Essex-Hope Jamestown 41569831.
Pace Project No.: 30134369

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on November 13, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: TB-03		Lab ID: 30134369001	Collected: 11/12/14 00:01	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/22/14 02:27	67-64-1	
Benzene	ND ug/L		1.0	1		11/22/14 02:27	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		11/22/14 02:27	75-27-4	
Bromoform	ND ug/L		1.0	1		11/22/14 02:27	75-25-2	
Bromomethane	ND ug/L		1.0	1		11/22/14 02:27	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		11/22/14 02:27	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		11/22/14 02:27	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		11/22/14 02:27	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/22/14 02:27	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/22/14 02:27	75-00-3	
Chloroform	ND ug/L		1.0	1		11/22/14 02:27	67-66-3	
Chloromethane	ND ug/L		1.0	1		11/22/14 02:27	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		11/22/14 02:27	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 02:27	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 02:27	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 02:27	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		11/22/14 02:27	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/22/14 02:27	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		11/22/14 02:27	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 02:27	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 02:27	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		11/22/14 02:27	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 02:27	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 02:27	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		11/22/14 02:27	100-41-4	
2-Hexanone	ND ug/L		10.0	1		11/22/14 02:27	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/22/14 02:27	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		11/22/14 02:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/22/14 02:27	108-10-1	
Styrene	ND ug/L		1.0	1		11/22/14 02:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/22/14 02:27	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/22/14 02:27	127-18-4	
Toluene	ND ug/L		1.0	1		11/22/14 02:27	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/22/14 02:27	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/22/14 02:27	79-00-5	
Trichloroethene	ND ug/L		1.0	1		11/22/14 02:27	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/22/14 02:27	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		11/22/14 02:27	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		11/22/14 02:27	179601-23-1	
o-Xylene	ND ug/L		1.0	1		11/22/14 02:27	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98 %		84-113	1		11/22/14 02:27	460-00-4	
1,2-Dichloroethane-d4 (S)	90 %		84-124	1		11/22/14 02:27	17060-07-0	
Toluene-d8 (S)	99 %		79-118	1		11/22/14 02:27	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-6		Lab ID: 30134369002	Collected: 11/12/14 08:35	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		11/22/14 07:44	67-64-1	
Benzene	ND	ug/L	1.0	1		11/22/14 07:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/22/14 07:44	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/22/14 07:44	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/22/14 07:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/22/14 07:44	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/22/14 07:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/22/14 07:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/22/14 07:44	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/22/14 07:44	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/22/14 07:44	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/22/14 07:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/22/14 07:44	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 07:44	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 07:44	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 07:44	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/22/14 07:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/22/14 07:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/22/14 07:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/22/14 07:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/22/14 07:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/22/14 07:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 07:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 07:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/22/14 07:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/22/14 07:44	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/22/14 07:44	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		11/22/14 07:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/22/14 07:44	108-10-1	
Styrene	ND	ug/L	1.0	1		11/22/14 07:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/22/14 07:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/22/14 07:44	127-18-4	
Toluene	ND	ug/L	1.0	1		11/22/14 07:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/22/14 07:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/22/14 07:44	79-00-5	
Trichloroethene	1.0	ug/L	1.0	1		11/22/14 07:44	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/22/14 07:44	75-69-4	
Vinyl chloride	ND	ug/L	1.0	1		11/22/14 07:44	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/22/14 07:44	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/22/14 07:44	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	107	%	84-113	1		11/22/14 07:44	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	84-124	1		11/22/14 07:44	17060-07-0	
Toluene-d8 (S)	102	%	79-118	1		11/22/14 07:44	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-8		Lab ID: 30134369003	Collected: 11/12/14 08:55	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		11/22/14 08:23	67-64-1	
Benzene	ND	ug/L	1.0	1		11/22/14 08:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/22/14 08:23	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/22/14 08:23	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/22/14 08:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/22/14 08:23	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/22/14 08:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/22/14 08:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/22/14 08:23	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/22/14 08:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/22/14 08:23	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/22/14 08:23	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/22/14 08:23	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 08:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 08:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 08:23	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/22/14 08:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/22/14 08:23	107-06-2	
1,1-Dichloroethene	1.5	ug/L	1.0	1		11/22/14 08:23	75-35-4	
cis-1,2-Dichloroethene	86.6	ug/L	1.0	1		11/22/14 08:23	156-59-2	
trans-1,2-Dichloroethene	4.3	ug/L	1.0	1		11/22/14 08:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/22/14 08:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 08:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 08:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/22/14 08:23	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/22/14 08:23	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/22/14 08:23	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		11/22/14 08:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/22/14 08:23	108-10-1	
Styrene	ND	ug/L	1.0	1		11/22/14 08:23	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/22/14 08:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/22/14 08:23	127-18-4	
Toluene	ND	ug/L	1.0	1		11/22/14 08:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/22/14 08:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/22/14 08:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/22/14 08:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/22/14 08:23	75-69-4	
Vinyl chloride	10.7	ug/L	1.0	1		11/22/14 08:23	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/22/14 08:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/22/14 08:23	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	84-113	1		11/22/14 08:23	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	84-124	1		11/22/14 08:23	17060-07-0	
Toluene-d8 (S)	101	%	79-118	1		11/22/14 08:23	2037-26-5	

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-10		Lab ID: 30134369004	Collected: 11/12/14 09:20	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/22/14 09:42	67-64-1	
Benzene	ND ug/L		1.0	1		11/22/14 09:42	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		11/22/14 09:42	75-27-4	
Bromoform	ND ug/L		1.0	1		11/22/14 09:42	75-25-2	
Bromomethane	ND ug/L		1.0	1		11/22/14 09:42	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		11/22/14 09:42	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		11/22/14 09:42	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		11/22/14 09:42	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/22/14 09:42	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/22/14 09:42	75-00-3	
Chloroform	ND ug/L		1.0	1		11/22/14 09:42	67-66-3	
Chloromethane	ND ug/L		1.0	1		11/22/14 09:42	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		11/22/14 09:42	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 09:42	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 09:42	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 09:42	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		11/22/14 09:42	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/22/14 09:42	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		11/22/14 09:42	75-35-4	
cis-1,2-Dichloroethene	4.2 ug/L		1.0	1		11/22/14 09:42	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 09:42	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		11/22/14 09:42	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 09:42	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 09:42	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		11/22/14 09:42	100-41-4	
2-Hexanone	ND ug/L		10.0	1		11/22/14 09:42	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/22/14 09:42	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		11/22/14 09:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/22/14 09:42	108-10-1	
Styrene	ND ug/L		1.0	1		11/22/14 09:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/22/14 09:42	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/22/14 09:42	127-18-4	
Toluene	ND ug/L		1.0	1		11/22/14 09:42	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/22/14 09:42	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/22/14 09:42	79-00-5	
Trichloroethene	4.9 ug/L		1.0	1		11/22/14 09:42	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/22/14 09:42	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		11/22/14 09:42	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		11/22/14 09:42	179601-23-1	
o-Xylene	ND ug/L		1.0	1		11/22/14 09:42	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104 %		84-113	1		11/22/14 09:42	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %		84-124	1		11/22/14 09:42	17060-07-0	
Toluene-d8 (S)	119 %		79-118	1		11/22/14 09:42	2037-26-5	S2

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-7S		Lab ID: 30134369005	Collected: 11/12/14 09:45	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		11/22/14 08:49	67-64-1	
Benzene	ND	ug/L	1.0	1		11/22/14 08:49	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/22/14 08:49	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/22/14 08:49	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/22/14 08:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/22/14 08:49	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/22/14 08:49	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/22/14 08:49	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/22/14 08:49	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/22/14 08:49	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/22/14 08:49	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/22/14 08:49	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/22/14 08:49	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 08:49	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 08:49	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 08:49	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/22/14 08:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/22/14 08:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/22/14 08:49	75-35-4	
cis-1,2-Dichloroethene	3.7	ug/L	1.0	1		11/22/14 08:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/22/14 08:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/22/14 08:49	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 08:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 08:49	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/22/14 08:49	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/22/14 08:49	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/22/14 08:49	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		11/22/14 08:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/22/14 08:49	108-10-1	
Styrene	ND	ug/L	1.0	1		11/22/14 08:49	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/22/14 08:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/22/14 08:49	127-18-4	
Toluene	ND	ug/L	1.0	1		11/22/14 08:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/22/14 08:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/22/14 08:49	79-00-5	
Trichloroethene	5.4	ug/L	1.0	1		11/22/14 08:49	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/22/14 08:49	75-69-4	
Vinyl chloride	ND	ug/L	1.0	1		11/22/14 08:49	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/22/14 08:49	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/22/14 08:49	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	92	%	84-113	1		11/22/14 08:49	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	84-124	1		11/22/14 08:49	17060-07-0	
Toluene-d8 (S)	110	%	79-118	1		11/22/14 08:49	2037-26-5	

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-7D		Lab ID: 30134369006	Collected: 11/12/14 10:05	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		11/22/14 11:54	67-64-1	
Benzene	1.6	ug/L	1.0	1		11/22/14 11:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/22/14 11:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/22/14 11:54	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/22/14 11:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/22/14 11:54	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/22/14 11:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/22/14 11:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/22/14 11:54	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/22/14 11:54	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/22/14 11:54	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/22/14 11:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/22/14 11:54	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 11:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 11:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/22/14 11:54	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/22/14 11:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/22/14 11:54	107-06-2	
1,1-Dichloroethene	3.5	ug/L	1.0	1		11/22/14 11:54	75-35-4	
cis-1,2-Dichloroethene	642	ug/L	10.0	10		11/24/14 14:14	156-59-2	
trans-1,2-Dichloroethene	5.9	ug/L	1.0	1		11/22/14 11:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/22/14 11:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 11:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/22/14 11:54	10061-02-6	
Ethylbenzene	3.6	ug/L	1.0	1		11/22/14 11:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/22/14 11:54	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/22/14 11:54	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		11/22/14 11:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/22/14 11:54	108-10-1	
Styrene	ND	ug/L	1.0	1		11/22/14 11:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/22/14 11:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/22/14 11:54	127-18-4	
Toluene	ND	ug/L	1.0	1		11/22/14 11:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/22/14 11:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/22/14 11:54	79-00-5	
Trichloroethene	114	ug/L	1.0	1		11/22/14 11:54	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/22/14 11:54	75-69-4	
Vinyl chloride	213	ug/L	1.0	1		11/22/14 11:54	75-01-4	
m&p-Xylene	5.7	ug/L	2.0	1		11/22/14 11:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/22/14 11:54	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	84-113	1		11/22/14 11:54	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	84-124	1		11/22/14 11:54	17060-07-0	
Toluene-d8 (S)	123	%	79-118	1		11/22/14 11:54	2037-26-5	S2

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-19S		Lab ID: 30134369007	Collected: 11/12/14 10:35	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/24/14 16:17	67-64-1	M5
Benzene	ND ug/L		1.0	1		11/24/14 16:17	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		11/24/14 16:17	75-27-4	M5
Bromoform	ND ug/L		1.0	1		11/24/14 16:17	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		11/24/14 16:17	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		11/24/14 16:17	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		11/24/14 16:17	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		11/24/14 16:17	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		11/24/14 16:17	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		11/24/14 16:17	75-00-3	M5
Chloroform	ND ug/L		1.0	1		11/24/14 16:17	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		11/24/14 16:17	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		11/24/14 16:17	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 16:17	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 16:17	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 16:17	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		11/24/14 16:17	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		11/24/14 16:17	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		11/24/14 16:17	75-35-4	M5
cis-1,2-Dichloroethene	7.2 ug/L		1.0	1		11/24/14 16:17	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/24/14 16:17	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		11/24/14 16:17	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 16:17	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 16:17	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		11/24/14 16:17	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		11/24/14 16:17	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/24/14 16:17	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		11/24/14 16:17	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/24/14 16:17	108-10-1	M5
Styrene	ND ug/L		1.0	1		11/24/14 16:17	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/24/14 16:17	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		11/24/14 16:17	127-18-4	M5
Toluene	ND ug/L		1.0	1		11/24/14 16:17	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/24/14 16:17	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/24/14 16:17	79-00-5	M5
Trichloroethene	1.1 ug/L		1.0	1		11/24/14 16:17	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		11/24/14 16:17	75-69-4	M5
Vinyl chloride	1.3 ug/L		1.0	1		11/24/14 16:17	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		11/24/14 16:17	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		11/24/14 16:17	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	102 %		84-113	1		11/24/14 16:17	460-00-4	M5
1,2-Dichloroethane-d4 (S)	92 %		84-124	1		11/24/14 16:17	17060-07-0	M5
Toluene-d8 (S)	125 %		79-118	1		11/24/14 16:17	2037-26-5	M5,S5

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-19D		Lab ID: 30134369008	Collected: 11/12/14 11:20	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/24/14 16:42	67-64-1	M5
Benzene	ND ug/L		1.0	1		11/24/14 16:42	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		11/24/14 16:42	75-27-4	M5
Bromoform	ND ug/L		1.0	1		11/24/14 16:42	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		11/24/14 16:42	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		11/24/14 16:42	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		11/24/14 16:42	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		11/24/14 16:42	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		11/24/14 16:42	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		11/24/14 16:42	75-00-3	M5
Chloroform	ND ug/L		1.0	1		11/24/14 16:42	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		11/24/14 16:42	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		11/24/14 16:42	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 16:42	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 16:42	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 16:42	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		11/24/14 16:42	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		11/24/14 16:42	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		11/24/14 16:42	75-35-4	M5
cis-1,2-Dichloroethene	27.8 ug/L		1.0	1		11/24/14 16:42	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/24/14 16:42	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		11/24/14 16:42	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 16:42	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 16:42	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		11/24/14 16:42	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		11/24/14 16:42	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/24/14 16:42	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		11/24/14 16:42	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/24/14 16:42	108-10-1	M5
Styrene	ND ug/L		1.0	1		11/24/14 16:42	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/24/14 16:42	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		11/24/14 16:42	127-18-4	M5
Toluene	ND ug/L		1.0	1		11/24/14 16:42	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/24/14 16:42	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/24/14 16:42	79-00-5	M5
Trichloroethene	4.1 ug/L		1.0	1		11/24/14 16:42	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		11/24/14 16:42	75-69-4	M5
Vinyl chloride	41.8 ug/L		1.0	1		11/24/14 16:42	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		11/24/14 16:42	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		11/24/14 16:42	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	85 %		84-113	1		11/24/14 16:42	460-00-4	M5
1,2-Dichloroethane-d4 (S)	94 %		84-124	1		11/24/14 16:42	17060-07-0	M5
Toluene-d8 (S)	99 %		79-118	1		11/24/14 16:42	2037-26-5	M5

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-22D		Lab ID: 30134369009	Collected: 11/12/14 11:50	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/24/14 17:07	67-64-1	M5
Benzene	ND ug/L		1.0	1		11/24/14 17:07	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		11/24/14 17:07	75-27-4	M5
Bromoform	ND ug/L		1.0	1		11/24/14 17:07	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		11/24/14 17:07	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		11/24/14 17:07	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		11/24/14 17:07	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		11/24/14 17:07	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		11/24/14 17:07	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		11/24/14 17:07	75-00-3	M5
Chloroform	ND ug/L		1.0	1		11/24/14 17:07	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		11/24/14 17:07	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		11/24/14 17:07	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 17:07	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 17:07	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 17:07	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		11/24/14 17:07	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		11/24/14 17:07	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		11/24/14 17:07	75-35-4	M5
cis-1,2-Dichloroethene	174 ug/L		1.0	1		11/24/14 17:07	156-59-2	M5
trans-1,2-Dichloroethene	7.1 ug/L		1.0	1		11/24/14 17:07	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		11/24/14 17:07	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 17:07	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 17:07	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		11/24/14 17:07	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		11/24/14 17:07	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/24/14 17:07	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		11/24/14 17:07	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/24/14 17:07	108-10-1	M5
Styrene	ND ug/L		1.0	1		11/24/14 17:07	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/24/14 17:07	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		11/24/14 17:07	127-18-4	M5
Toluene	ND ug/L		1.0	1		11/24/14 17:07	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/24/14 17:07	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/24/14 17:07	79-00-5	M5
Trichloroethene	1270 ug/L		10.0	10		11/24/14 17:31	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		11/24/14 17:07	75-69-4	M5
Vinyl chloride	3.1 ug/L		1.0	1		11/24/14 17:07	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		11/24/14 17:07	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		11/24/14 17:07	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	105 %		84-113	1		11/24/14 17:07	460-00-4	M5
1,2-Dichloroethane-d4 (S)	95 %		84-124	1		11/24/14 17:07	17060-07-0	M5
Toluene-d8 (S)	86 %		79-118	1		11/24/14 17:07	2037-26-5	M5

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-21D		Lab ID: 30134369010	Collected: 11/12/14 12:20	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	423000	ug/L	20000	2000		11/24/14 18:45	67-64-1	M5
Benzene	63.0	ug/L	1.0	1		11/24/14 17:56	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		11/24/14 17:56	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		11/24/14 17:56	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		11/24/14 17:56	74-83-9	M5
2-Butanone (MEK)	2820	ug/L	500	50		11/24/14 18:21	78-93-3	M5
Carbon disulfide	6.6	ug/L	1.0	1		11/24/14 17:56	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		11/24/14 17:56	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		11/24/14 17:56	108-90-7	M5
Chloroethane	11.7	ug/L	1.0	1		11/24/14 17:56	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		11/24/14 17:56	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		11/24/14 17:56	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		11/24/14 17:56	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/24/14 17:56	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/24/14 17:56	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/24/14 17:56	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		11/24/14 17:56	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		11/24/14 17:56	107-06-2	M5
1,1-Dichloroethene	61.4	ug/L	1.0	1		11/24/14 17:56	75-35-4	M5
cis-1,2-Dichloroethene	92300	ug/L	2000	2000		11/24/14 18:45	156-59-2	M5
trans-1,2-Dichloroethene	620	ug/L	50.0	50		11/24/14 18:21	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		11/24/14 17:56	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/24/14 17:56	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/24/14 17:56	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		11/24/14 17:56	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		11/24/14 17:56	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/24/14 17:56	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		11/24/14 17:56	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	13.7	ug/L	10.0	1		11/24/14 17:56	108-10-1	M5
Styrene	ND	ug/L	1.0	1		11/24/14 17:56	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/24/14 17:56	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		11/24/14 17:56	127-18-4	M5
Toluene	3.4	ug/L	1.0	1		11/24/14 17:56	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/24/14 17:56	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/24/14 17:56	79-00-5	M5
Trichloroethene	10.9	ug/L	1.0	1		11/24/14 17:56	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		11/24/14 17:56	75-69-4	M5
Vinyl chloride	61200	ug/L	2000	2000		11/24/14 18:45	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		11/24/14 17:56	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		11/24/14 17:56	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	118	%	84-113	1		11/24/14 17:56	460-00-4	M5, S2
1,2-Dichloroethane-d4 (S)	107	%	84-124	1		11/24/14 17:56	17060-07-0	M5
Toluene-d8 (S)	83	%	79-118	1		11/24/14 17:56	2037-26-5	M5

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-31S		Lab ID: 30134369011	Collected: 11/12/14 13:30	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	47.5 ug/L		10.0	1		11/24/14 19:10	67-64-1	M5
Benzene	163 ug/L		1.0	1		11/24/14 19:10	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		11/24/14 19:10	75-27-4	M5
Bromoform	ND ug/L		1.0	1		11/24/14 19:10	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		11/24/14 19:10	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		11/24/14 19:10	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		11/24/14 19:10	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		11/24/14 19:10	56-23-5	M5
Chlorobenzene	1.6 ug/L		1.0	1		11/24/14 19:10	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		11/24/14 19:10	75-00-3	M5
Chloroform	ND ug/L		1.0	1		11/24/14 19:10	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		11/24/14 19:10	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		11/24/14 19:10	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 19:10	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 19:10	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 19:10	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		11/24/14 19:10	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		11/24/14 19:10	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		11/24/14 19:10	75-35-4	M5
cis-1,2-Dichloroethene	9.1 ug/L		1.0	1		11/24/14 19:10	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/24/14 19:10	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		11/24/14 19:10	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 19:10	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 19:10	10061-02-6	M5
Ethylbenzene	14400 ug/L		500	500		11/24/14 19:35	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		11/24/14 19:10	591-78-6	M5
Isopropylbenzene (Cumene)	259 ug/L		1.0	1		11/24/14 19:10	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		11/24/14 19:10	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/24/14 19:10	108-10-1	M5
Styrene	ND ug/L		1.0	1		11/24/14 19:10	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/24/14 19:10	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		11/24/14 19:10	127-18-4	M5
Toluene	10.6 ug/L		1.0	1		11/24/14 19:10	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/24/14 19:10	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/24/14 19:10	79-00-5	M5
Trichloroethene	1.8 ug/L		1.0	1		11/24/14 19:10	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		11/24/14 19:10	75-69-4	M5
Vinyl chloride	4.7 ug/L		1.0	1		11/24/14 19:10	75-01-4	M5
m&p-Xylene	17900 ug/L		1000	500		11/24/14 19:35	179601-23-1	M5
o-Xylene	207 ug/L		1.0	1		11/24/14 19:10	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	112 %		84-113	1		11/24/14 19:10	460-00-4	M5
1,2-Dichloroethane-d4 (S)	76 %		84-124	1		11/24/14 19:10	17060-07-0	M5,S2
Toluene-d8 (S)	122 %		79-118	1		11/24/14 19:10	2037-26-5	M5,S2

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-30S		Lab ID: 30134369012	Collected: 11/12/14 13:30	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	20.5 ug/L		10.0	1		11/24/14 19:59	67-64-1	M5
Benzene	3.4 ug/L		1.0	1		11/24/14 19:59	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		11/24/14 19:59	75-27-4	M5
Bromoform	ND ug/L		1.0	1		11/24/14 19:59	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		11/24/14 19:59	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		11/24/14 19:59	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		11/24/14 19:59	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		11/24/14 19:59	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		11/24/14 19:59	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		11/24/14 19:59	75-00-3	M5
Chloroform	ND ug/L		1.0	1		11/24/14 19:59	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		11/24/14 19:59	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		11/24/14 19:59	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 19:59	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 19:59	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/24/14 19:59	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		11/24/14 19:59	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		11/24/14 19:59	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		11/24/14 19:59	75-35-4	M5
cis-1,2-Dichloroethene	21.5 ug/L		1.0	1		11/24/14 19:59	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/24/14 19:59	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		11/24/14 19:59	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 19:59	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/24/14 19:59	10061-02-6	M5
Ethylbenzene	3940 ug/L		500	500		11/24/14 20:24	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		11/24/14 19:59	591-78-6	M5
Isopropylbenzene (Cumene)	91.0 ug/L		1.0	1		11/24/14 19:59	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		11/24/14 19:59	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/24/14 19:59	108-10-1	M5
Styrene	ND ug/L		1.0	1		11/24/14 19:59	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/24/14 19:59	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		11/24/14 19:59	127-18-4	M5
Toluene	ND ug/L		1.0	1		11/24/14 19:59	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/24/14 19:59	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/24/14 19:59	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		11/24/14 19:59	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		11/24/14 19:59	75-69-4	M5
Vinyl chloride	7.2 ug/L		1.0	1		11/24/14 19:59	75-01-4	M5
m&p-Xylene	11900 ug/L		1000	500		11/24/14 20:24	179601-23-1	M5
o-Xylene	20.2 ug/L		1.0	1		11/24/14 19:59	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	109 %		84-113	1		11/24/14 19:59	460-00-4	M5
1,2-Dichloroethane-d4 (S)	104 %		84-124	1		11/24/14 19:59	17060-07-0	M5
Toluene-d8 (S)	95 %		79-118	1		11/24/14 19:59	2037-26-5	M5

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Sample: MW-20		Lab ID: 30134369013	Collected: 11/12/14 14:00	Received: 11/13/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		11/22/14 09:15	67-64-1	
Benzene	ND ug/L		1.0	1		11/22/14 09:15	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		11/22/14 09:15	75-27-4	
Bromoform	ND ug/L		1.0	1		11/22/14 09:15	75-25-2	
Bromomethane	ND ug/L		1.0	1		11/22/14 09:15	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		11/22/14 09:15	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		11/22/14 09:15	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		11/22/14 09:15	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		11/22/14 09:15	108-90-7	
Chloroethane	ND ug/L		1.0	1		11/22/14 09:15	75-00-3	
Chloroform	ND ug/L		1.0	1		11/22/14 09:15	67-66-3	
Chloromethane	ND ug/L		1.0	1		11/22/14 09:15	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		11/22/14 09:15	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 09:15	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 09:15	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		11/22/14 09:15	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		11/22/14 09:15	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		11/22/14 09:15	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		11/22/14 09:15	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 09:15	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		11/22/14 09:15	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		11/22/14 09:15	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 09:15	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		11/22/14 09:15	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		11/22/14 09:15	100-41-4	
2-Hexanone	ND ug/L		10.0	1		11/22/14 09:15	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		11/22/14 09:15	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		11/22/14 09:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		11/22/14 09:15	108-10-1	
Styrene	ND ug/L		1.0	1		11/22/14 09:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		11/22/14 09:15	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		11/22/14 09:15	127-18-4	
Toluene	ND ug/L		1.0	1		11/22/14 09:15	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		11/22/14 09:15	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		11/22/14 09:15	79-00-5	
Trichloroethene	ND ug/L		1.0	1		11/22/14 09:15	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		11/22/14 09:15	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		11/22/14 09:15	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		11/22/14 09:15	179601-23-1	
o-Xylene	ND ug/L		1.0	1		11/22/14 09:15	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	110 %		84-113	1		11/22/14 09:15	460-00-4	
1,2-Dichloroethane-d4 (S)	94 %		84-124	1		11/22/14 09:15	17060-07-0	
Toluene-d8 (S)	110 %		79-118	1		11/22/14 09:15	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

QC Batch:	MSV/21679	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 8260C	Analysis Description:	8260C MSV
Associated Lab Samples:	30134369001, 30134369002, 30134369003, 30134369004, 30134369005, 30134369006, 30134369013		

METHOD BLANK:	820913	Matrix:	Water
Associated Lab Samples:	30134369001, 30134369002, 30134369003, 30134369004, 30134369005, 30134369006, 30134369013		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,1-Dichloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,1-Dichloroethene	ug/L	ND	1.0	11/22/14 02:00	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/22/14 02:00	
1,2-Dichloroethane	ug/L	ND	1.0	11/22/14 02:00	
1,2-Dichloropropane	ug/L	ND	1.0	11/22/14 02:00	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/22/14 02:00	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/22/14 02:00	
2-Butanone (MEK)	ug/L	ND	10.0	11/22/14 02:00	
2-Hexanone	ug/L	ND	10.0	11/22/14 02:00	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/22/14 02:00	
Acetone	ug/L	ND	10.0	11/22/14 02:00	
Benzene	ug/L	ND	1.0	11/22/14 02:00	
Bromodichloromethane	ug/L	ND	1.0	11/22/14 02:00	
Bromoform	ug/L	ND	1.0	11/22/14 02:00	
Bromomethane	ug/L	ND	1.0	11/22/14 02:00	
Carbon disulfide	ug/L	ND	1.0	11/22/14 02:00	
Carbon tetrachloride	ug/L	ND	1.0	11/22/14 02:00	
Chlorobenzene	ug/L	ND	1.0	11/22/14 02:00	
Chloroethane	ug/L	ND	1.0	11/22/14 02:00	
Chloroform	ug/L	ND	1.0	11/22/14 02:00	
Chloromethane	ug/L	ND	1.0	11/22/14 02:00	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/22/14 02:00	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/22/14 02:00	
Dibromochloromethane	ug/L	ND	1.0	11/22/14 02:00	
Ethylbenzene	ug/L	ND	1.0	11/22/14 02:00	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	11/22/14 02:00	
m&p-Xylene	ug/L	ND	2.0	11/22/14 02:00	
Methylene Chloride	ug/L	ND	1.0	11/22/14 02:00	
o-Xylene	ug/L	ND	1.0	11/22/14 02:00	
Styrene	ug/L	ND	1.0	11/22/14 02:00	
Tetrachloroethene	ug/L	ND	1.0	11/22/14 02:00	
Toluene	ug/L	ND	1.0	11/22/14 02:00	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/22/14 02:00	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/22/14 02:00	
Trichloroethene	ug/L	ND	1.0	11/22/14 02:00	
Trichlorofluoromethane	ug/L	ND	1.0	11/22/14 02:00	
Vinyl chloride	ug/L	ND	1.0	11/22/14 02:00	
1,2-Dichloroethane-d4 (S)	%	93	84-124	11/22/14 02:00	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

METHOD BLANK: 820913

Matrix: Water

Associated Lab Samples: 30134369001, 30134369002, 30134369003, 30134369004, 30134369005, 30134369006, 30134369013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	104	84-113	11/22/14 02:00	
Toluene-d8 (S)	%	106	79-118	11/22/14 02:00	

LABORATORY CONTROL SAMPLE: 820914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	101	62-130	
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	93	74-115	
1,1,2-Trichloroethane	ug/L	20	21.6	108	73-121	
1,1-Dichloroethane	ug/L	20	18.7	93	64-125	
1,1-Dichloroethene	ug/L	20	18.5	93	58-126	
1,2-Dichlorobenzene	ug/L	20	20.2	101	76-117	
1,2-Dichloroethane	ug/L	20	18.8	94	66-124	
1,2-Dichloropropane	ug/L	20	18.4	92	66-119	
1,3-Dichlorobenzene	ug/L	20	19.7	99	73-116	
1,4-Dichlorobenzene	ug/L	20	20.0	100	75-119	
2-Butanone (MEK)	ug/L	20	19.5	98	69-126	
2-Hexanone	ug/L	20	16.6	83	53-118	
4-Methyl-2-pentanone (MIBK)	ug/L	20	18.2	91	68-124	
Acetone	ug/L	20	25.2	126	56-142	
Benzene	ug/L	20	20.3	101	69-123	
Bromodichloromethane	ug/L	20	19.3	96	64-120	
Bromoform	ug/L	20	23.6	118	56-133	
Bromomethane	ug/L	20	18.9	95	19-151	
Carbon disulfide	ug/L	20	17.0	85	53-173	
Carbon tetrachloride	ug/L	20	21.0	105	52-133	
Chlorobenzene	ug/L	20	21.4	107	72-121	
Chloroethane	ug/L	20	18.0	90	53-143	
Chloroform	ug/L	20	20.3	101	63-123	
Chloromethane	ug/L	20	20.6	103	48-139	
cis-1,2-Dichloroethene	ug/L	20	19.4	97	63-123	
cis-1,3-Dichloropropene	ug/L	20	18.9	94	65-121	
Dibromochloromethane	ug/L	20	22.2	111	58-132	
Ethylbenzene	ug/L	20	19.1	95	70-123	
Isopropylbenzene (Cumene)	ug/L	20	21.1	106	66-136	
m&p-Xylene	ug/L	40	41.4	104	71-124	
Methylene Chloride	ug/L	20	17.4	87	55-134	
o-Xylene	ug/L	20	20.3	101	69-118	
Styrene	ug/L	20	21.1	106	66-126	
Tetrachloroethene	ug/L	20	22.0	110	62-131	
Toluene	ug/L	20	19.9	99	73-123	
trans-1,2-Dichloroethene	ug/L	20	18.7	93	61-124	
trans-1,3-Dichloropropene	ug/L	20	18.9	94	70-111	
Trichloroethene	ug/L	20	21.2	106	66-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

LABORATORY CONTROL SAMPLE: 820914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	22.2	111	57-144	
Vinyl chloride	ug/L	20	21.2	106	58-131	
1,2-Dichloroethane-d4 (S)	%			95	84-124	
4-Bromofluorobenzene (S)	%			105	84-113	
Toluene-d8 (S)	%			99	79-118	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821746 821747

Parameter	30134369002		MS	MSD	821746		MS	MSD	821747		% Rec Limits	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	MS Result	MSD Result			
1,1,1-Trichloroethane	ug/L	ND	20	20	22.0	21.2	110	106	62-130	4			
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.5	15.8	82	79	74-115	4			
1,1,2-Trichloroethane	ug/L	ND	20	20	18.5	19.6	92	98	73-121	6			
1,1-Dichloroethane	ug/L	ND	20	20	19.8	26.0	99	130	64-125	27	M0		
1,1-Dichloroethene	ug/L	ND	20	20	24.9	25.2	124	126	58-126	1			
1,2-Dichlorobenzene	ug/L	ND	20	20	17.1	17.0	86	85	76-117	0			
1,2-Dichloroethane	ug/L	ND	20	20	19.9	18.7	99	94	66-124	6			
1,2-Dichloropropane	ug/L	ND	20	20	21.5	17.2	108	86	66-119	22			
1,3-Dichlorobenzene	ug/L	ND	20	20	18.0	16.5	90	83	73-116	9			
1,4-Dichlorobenzene	ug/L	ND	20	20	17.7	17.9	89	89	75-119	1			
2-Butanone (MEK)	ug/L	ND	20	20	23.7	20.8	119	104	69-126	13			
2-Hexanone	ug/L	ND	20	20	18.2	17.4	91	87	53-118	5			
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	18.4	18.3	92	92	68-124	0			
Acetone	ug/L	ND	20	20	31.5	31.0	157	155	56-142	2	M0		
Benzene	ug/L	ND	20	20	18.3	18.2	92	91	69-123	1			
Bromodichloromethane	ug/L	ND	20	20	21.3	18.0	106	90	64-120	17			
Bromoform	ug/L	ND	20	20	22.1	23.4	111	117	56-133	6			
Bromomethane	ug/L	ND	20	20	25.9	24.2	129	121	19-151	7			
Carbon disulfide	ug/L	ND	20	20	20.1	20.0	101	100	53-173	1			
Carbon tetrachloride	ug/L	ND	20	20	23.1	21.7	115	108	52-133	6			
Chlorobenzene	ug/L	ND	20	20	18.7	18.7	93	94	72-121	0			
Chloroethane	ug/L	ND	20	20	34.1	28.7	171	144	53-143	17	M0		
Chloroform	ug/L	ND	20	20	20.3	21.6	101	108	63-123	6			
Chloromethane	ug/L	ND	20	20	25.2	24.9	126	124	48-139	1			
cis-1,2-Dichloroethene	ug/L	ND	20	20	24.9	25.0	124	125	63-123	0	M0		
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.4	18.9	92	94	65-121	2			
Dibromochloromethane	ug/L	ND	20	20	21.4	21.1	107	105	58-132	2			
Ethylbenzene	ug/L	ND	20	20	18.9	20.7	95	104	70-123	9			
Isopropylbenzene (Cumene)	ug/L	ND	20	20	15.8	19.6	79	98	66-136	21			
m&p-Xylene	ug/L	ND	40	40	38.7	41.0	97	102	71-124	6			
Methylene Chloride	ug/L	ND	20	20	20.5	22.6	103	113	55-134	9			
o-Xylene	ug/L	ND	20	20	18.5	18.8	92	94	69-118	2			
Styrene	ug/L	ND	20	20	18.2	17.9	91	90	66-126	1			
Tetrachloroethene	ug/L	ND	20	20	20.4	20.1	102	101	62-131	1			
Toluene	ug/L	ND	20	20	18.0	17.9	90	89	73-123	1			

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821746 821747											
Parameter	Units	30134369002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
trans-1,2-Dichloroethene	ug/L	ND	20	20	23.6	25.5	118	128	61-124	8	M0
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.7	17.6	88	88	70-111	1	
Trichloroethene	ug/L	1.0	20	20	20.2	21.2	96	101	66-125	5	
Trichlorofluoromethane	ug/L	ND	20	20	35.5	36.2	178	181	57-144	2	M0
Vinyl chloride	ug/L	ND	20	20	30.8	29.6	154	148	58-131	4	M0
1,2-Dichloroethane-d4 (S)	%						92	95	84-124		
4-Bromofluorobenzene (S)	%						97	103	84-113		
Toluene-d8 (S)	%						94	94	79-118		

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

QC Batch:	MSV/21684	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 8260C	Analysis Description:	8260C MSV
Associated Lab Samples:	30134369007, 30134369008, 30134369009, 30134369010, 30134369011, 30134369012		

METHOD BLANK:	821642	Matrix:	Water
Associated Lab Samples:	30134369007, 30134369008, 30134369009, 30134369010, 30134369011, 30134369012		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	11/24/14 13:00	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/24/14 13:00	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	11/24/14 13:00	M5
1,1-Dichloroethane	ug/L	ND	1.0	11/24/14 13:00	M5
1,1-Dichloroethene	ug/L	ND	1.0	11/24/14 13:00	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	11/24/14 13:00	M5
1,2-Dichloroethane	ug/L	ND	1.0	11/24/14 13:00	M5
1,2-Dichloropropane	ug/L	ND	1.0	11/24/14 13:00	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	11/24/14 13:00	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	11/24/14 13:00	M5
2-Butanone (MEK)	ug/L	ND	10.0	11/24/14 13:00	M5
2-Hexanone	ug/L	ND	10.0	11/24/14 13:00	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/24/14 13:00	M5
Acetone	ug/L	ND	10.0	11/24/14 13:00	M5
Benzene	ug/L	ND	1.0	11/24/14 13:00	M5
Bromodichloromethane	ug/L	ND	1.0	11/24/14 13:00	M5
Bromoform	ug/L	ND	1.0	11/24/14 13:00	M5
Bromomethane	ug/L	ND	1.0	11/24/14 13:00	M5
Carbon disulfide	ug/L	ND	1.0	11/24/14 13:00	M5
Carbon tetrachloride	ug/L	ND	1.0	11/24/14 13:00	M5
Chlorobenzene	ug/L	ND	1.0	11/24/14 13:00	M5
Chloroethane	ug/L	ND	1.0	11/24/14 13:00	M5
Chloroform	ug/L	ND	1.0	11/24/14 13:00	M5
Chloromethane	ug/L	ND	1.0	11/24/14 13:00	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/24/14 13:00	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/24/14 13:00	M5
Dibromochloromethane	ug/L	ND	1.0	11/24/14 13:00	M5
Ethylbenzene	ug/L	ND	1.0	11/24/14 13:00	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	11/24/14 13:00	M5
m&p-Xylene	ug/L	ND	2.0	11/24/14 13:00	M5
Methylene Chloride	ug/L	ND	1.0	11/24/14 13:00	M5
o-Xylene	ug/L	ND	1.0	11/24/14 13:00	M5
Styrene	ug/L	ND	1.0	11/24/14 13:00	M5
Tetrachloroethene	ug/L	ND	1.0	11/24/14 13:00	M5
Toluene	ug/L	ND	1.0	11/24/14 13:00	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/24/14 13:00	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/24/14 13:00	M5
Trichloroethene	ug/L	ND	1.0	11/24/14 13:00	M5
Trichlorofluoromethane	ug/L	ND	1.0	11/24/14 13:00	M5
Vinyl chloride	ug/L	ND	1.0	11/24/14 13:00	M5
1,2-Dichloroethane-d4 (S)	%	102	84-124	11/24/14 13:00	M5

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

METHOD BLANK: 821642

Matrix: Water

Associated Lab Samples: 30134369007, 30134369008, 30134369009, 30134369010, 30134369011, 30134369012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	107	84-113	11/24/14 13:00	M5
Toluene-d8 (S)	%	100	79-118	11/24/14 13:00	M5

LABORATORY CONTROL SAMPLE: 821643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.0	100	62-130	M5
1,1,2,2-Tetrachloroethane	ug/L	20	14.8	74	74-115	M5
1,1,2-Trichloroethane	ug/L	20	19.7	98	73-121	M5
1,1-Dichloroethane	ug/L	20	19.2	96	64-125	M5
1,1-Dichloroethene	ug/L	20	23.7	118	58-126	M5
1,2-Dichlorobenzene	ug/L	20	18.1	91	76-117	M5
1,2-Dichloroethane	ug/L	20	19.1	96	66-124	M5
1,2-Dichloropropane	ug/L	20	17.5	88	66-119	M5
1,3-Dichlorobenzene	ug/L	20	18.5	93	73-116	M5
1,4-Dichlorobenzene	ug/L	20	19.2	96	75-119	M5
2-Butanone (MEK)	ug/L	20	20.4	102	69-126	M5
2-Hexanone	ug/L	20	17.3	86	53-118	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	18.1	91	68-124	M5
Acetone	ug/L	20	21.6	108	56-142	M5
Benzene	ug/L	20	18.7	93	69-123	M5
Bromodichloromethane	ug/L	20	19.8	99	64-120	M5
Bromoform	ug/L	20	25.0	125	56-133	M5
Bromomethane	ug/L	20	33.1	165	19-151	L3,M5
Carbon disulfide	ug/L	20	21.0	105	53-173	M5
Carbon tetrachloride	ug/L	20	21.8	109	52-133	M5
Chlorobenzene	ug/L	20	20.0	100	72-121	M5
Chloroethane	ug/L	20	22.9	114	53-143	M5
Chloroform	ug/L	20	19.7	98	63-123	M5
Chloromethane	ug/L	20	21.0	105	48-139	M5
cis-1,2-Dichloroethene	ug/L	20	18.9	95	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	20.2	101	65-121	M5
Dibromochloromethane	ug/L	20	22.6	113	58-132	M5
Ethylbenzene	ug/L	20	20.3	102	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	17.7	89	66-136	M5
m&p-Xylene	ug/L	40	38.4	96	71-124	M5
Methylene Chloride	ug/L	20	19.8	99	55-134	M5
o-Xylene	ug/L	20	19.2	96	69-118	M5
Styrene	ug/L	20	20.5	102	66-126	M5
Tetrachloroethene	ug/L	20	21.1	105	62-131	M5
Toluene	ug/L	20	19.1	96	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	18.8	94	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	20.0	100	70-111	M5
Trichloroethene	ug/L	20	20.7	103	66-125	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

LABORATORY CONTROL SAMPLE: 821643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	27.8	139	57-144	M5
Vinyl chloride	ug/L	20	25.9	129	58-131	M5
1,2-Dichloroethane-d4 (S)	%			97	84-124	M5
4-Bromofluorobenzene (S)	%			90	84-113	M5
Toluene-d8 (S)	%			101	79-118	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/21684

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

ANALYTE QUALIFIERS

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.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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

S2 Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

S5 Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Essex-Hope Jamestown 41569831.

Pace Project No.: 30134369

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30134369001	TB-03	EPA 8260C	MSV/21679		
30134369002	MW-6	EPA 8260C	MSV/21679		
30134369003	MW-8	EPA 8260C	MSV/21679		
30134369004	MW-10	EPA 8260C	MSV/21679		
30134369005	MW-7S	EPA 8260C	MSV/21679		
30134369006	MW-7D	EPA 8260C	MSV/21679		
30134369007	MW-19S	EPA 8260C	MSV/21684		
30134369008	MW-19D	EPA 8260C	MSV/21684		
30134369009	MW-22D	EPA 8260C	MSV/21684		
30134369010	MW-21D	EPA 8260C	MSV/21684		
30134369011	MW-31S	EPA 8260C	MSV/21684		
30134369012	MW-30S	EPA 8260C	MSV/21684		
30134369013	MW-20	EPA 8260C	MSV/21679		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: <u>URS</u> Address: <u>68 Anderson Dr. Suite 400</u> City: <u>Pittsburgh PA 15220</u> Email To: <u>Mark.Denisik@urscorp.com</u> Phone: <u>412 503 4700</u> Fax: <u>412 503 4701</u> Requested Due Date: <u>11/12/14</u>		Section B Required Project Information: Report To: <u>Mark Denisik</u> Copy To: <u>Valerie S. Bobo</u> Purchase Order No.: <u>41569831</u> Project Name: <u>E35x1/Hopk Jonesstown</u> Project Number: <u>41569831.40000</u>		Section C Invoice Information: Attention: <u>Mark Denisik</u> Company Name: Address: Pace Quote Reference: Pace Project Manager: Pace Profile #:	
Regulatory Agency ☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER		Site Location STATE: <u>NY</u>		Page: <u>1</u> of <u>2</u> <u>1891852</u>	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	Matrix Code (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED			SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB	DATE						
		Drinking Water WT P SL OL WP AR TS OT											
		Water Product Soil/Solid Oil Wipe Air Tissue Other											

ADDITIONAL COMMENTS 2014 ANNUAL PMP SAMPLING AND SUPPLEMENTAL REMEDIAL INVESTIGATION		RELINQUISHED BY / AFFILIATION BRAD CAROSONE	DATE 11/12/14	TIME 0930	ACCEPTED BY / AFFILIATION Fred Ex / Scott Charlton Pace	DATE 11/12/14	TIME 0930	SAMPLE CONDITIONS Y N Y	Temp in °C 4.0	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: <u>BRAD CAROSONE</u> SIGNATURE of SAMPLER: <u>BR C</u>		DATE Signed (MM/DD/YY): <u>11.12.14</u>		F-ALL-Q-020rev.07, 15-May-2007								

ORIGINAL

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



www.pacelabs.com

Section A Required Client Information: Company: <u>URS</u> Address: <u>691 Anderson Dr Suite 400</u> <u>Pittsburgh PA 15220</u> Email To: <u>mark.dewick@urs.com</u> Phone: <u>412 503 4700</u> Fax: <u>412 503 4701</u> Requested Due Date: <u>12/12/14</u>		Section B Required Project Information: Report To: <u>Mark Dewick</u> Copy To: <u>Ulrich Sibels</u> Purchase Order No.: <u>41569831</u> Project Name: <u>Essex / Hqs. Investigation</u> Project Number: <u>41569831 40000</u>		Section C Invoice Information: Attention: <u>Mark Dewick</u> Company Name: Address: Pace Quote Reference: Pace Project Manager: Pace Profile #:	
Page: <u>2</u> of <u>2</u> <u>1891851</u>		REGULATORY AGENCY ☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER			
Site Location STATE: <u>NY</u>					

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)	Residual Solvent (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB							
1	MW-20	DW Water WW Waste Water P Product SL/Solid Oil Wipe Air Tissue Other	G	DATE: 11/12/14	TIME: 1400		3	Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	X			0134369
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
2014 ANNUAL PMP SAMPLING	BRAD CAROSONE	11/12/14		FedEx	11/12/14		
AIR SUPPLEMENTAL				Scott Carosone	11-13-14	0930	Y
REMEDIATION INVESTIGATION							Y

SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: <u>BRAD CAROSONE</u> SIGNATURE of SAMPLER: <u>[Signature]</u> DATE Signed (MM/DD/YY): <u>11/12/14</u>		Temp in °C Received on Custody (Y/N) Sealed Cooler (Y/N) Samples Intact (Y/N)

ORIGINAL



Sample Condition Upon Receipt

Client Name: URS

Project # 30134369

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8023 3932 6814

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used #6 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 4.0 °C Correction Factor: 0 °C Final Temp: 4.0 °C

Date and Initials of person

examining contents: SRA 11-15-14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>wt</u>	
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review:

Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Project Number:

Client Name:

[illegible]

December 08, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30135287

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on November 26, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

Sample: GP-3D		Lab ID: 30135287001	Collected: 11/25/14 09:10	Received: 11/26/14 10:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		12/04/14 18:22	67-64-1	M5
Benzene	ND	ug/L	1.0	1		12/04/14 18:22	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 18:22	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		12/04/14 18:22	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		12/04/14 18:22	74-83-9	L3,M5
2-Butanone (MEK)	ND	ug/L	10.0	1		12/04/14 18:22	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 18:22	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 18:22	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 18:22	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		12/04/14 18:22	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		12/04/14 18:22	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		12/04/14 18:22	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 18:22	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 18:22	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 18:22	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 18:22	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 18:22	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 18:22	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	1.0	1		12/04/14 18:22	75-35-4	M5
cis-1,2-Dichloroethene	8.8	ug/L	1.0	1		12/04/14 18:22	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/14 18:22	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 18:22	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 18:22	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 18:22	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 18:22	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		12/04/14 18:22	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 18:22	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 18:22	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 18:22	108-10-1	M5
Styrene	ND	ug/L	1.0	1		12/04/14 18:22	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 18:22	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 18:22	127-18-4	M5
Toluene	ND	ug/L	1.0	1		12/04/14 18:22	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 18:22	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 18:22	79-00-5	M5
Trichloroethene	2.9	ug/L	1.0	1		12/04/14 18:22	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 18:22	75-69-4	M5
Vinyl chloride	78.8	ug/L	1.0	1		12/04/14 18:22	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 18:22	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		12/04/14 18:22	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	101	%	84-113	1		12/04/14 18:22	460-00-4	M5
1,2-Dichloroethane-d4 (S)	112	%	84-124	1		12/04/14 18:22	17060-07-0	M5
Toluene-d8 (S)	97	%	79-118	1		12/04/14 18:22	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

Sample: GP-2D		Lab ID: 30135287002	Collected: 11/25/14 09:30	Received: 11/26/14 10:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		12/04/14 18:47	67-64-1	M5
Benzene	88.3	ug/L	1.0	1		12/04/14 18:47	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 18:47	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		12/04/14 18:47	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		12/04/14 18:47	74-83-9	L3,M5
2-Butanone (MEK)	ND	ug/L	10.0	1		12/04/14 18:47	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 18:47	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 18:47	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 18:47	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		12/04/14 18:47	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		12/04/14 18:47	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		12/04/14 18:47	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 18:47	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 18:47	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 18:47	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 18:47	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 18:47	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 18:47	107-06-2	M5
1,1-Dichloroethene	16.5	ug/L	1.0	1		12/04/14 18:47	75-35-4	M5
cis-1,2-Dichloroethene	1780	ug/L	50.0	50		12/05/14 07:55	156-59-2	M5
trans-1,2-Dichloroethene	127	ug/L	1.0	1		12/04/14 18:47	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 18:47	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 18:47	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 18:47	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 18:47	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		12/04/14 18:47	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 18:47	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 18:47	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 18:47	108-10-1	M5
Styrene	ND	ug/L	1.0	1		12/04/14 18:47	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 18:47	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 18:47	127-18-4	M5
Toluene	4.6	ug/L	1.0	1		12/04/14 18:47	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 18:47	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 18:47	79-00-5	M5
Trichloroethene	2170	ug/L	50.0	50		12/05/14 07:55	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 18:47	75-69-4	M5
Vinyl chloride	365	ug/L	1.0	1		12/04/14 18:47	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 18:47	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		12/04/14 18:47	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	104	%	84-113	1		12/04/14 18:47	460-00-4	M5
1,2-Dichloroethane-d4 (S)	106	%	84-124	1		12/04/14 18:47	17060-07-0	M5
Toluene-d8 (S)	102	%	79-118	1		12/04/14 18:47	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

Sample: TB-01		Lab ID: 30135287003	Collected: 11/25/14 00:01	Received: 11/26/14 10:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		12/04/14 12:13	67-64-1	M5
Benzene	ND ug/L		1.0	1		12/04/14 12:13	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		12/04/14 12:13	75-27-4	M5
Bromoform	ND ug/L		1.0	1		12/04/14 12:13	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		12/04/14 12:13	74-83-9	L3,M5
2-Butanone (MEK)	ND ug/L		10.0	1		12/04/14 12:13	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		12/04/14 12:13	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		12/04/14 12:13	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		12/04/14 12:13	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		12/04/14 12:13	75-00-3	M5
Chloroform	ND ug/L		1.0	1		12/04/14 12:13	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		12/04/14 12:13	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		12/04/14 12:13	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		12/04/14 12:13	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		12/04/14 12:13	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		12/04/14 12:13	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		12/04/14 12:13	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		12/04/14 12:13	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		12/04/14 12:13	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		12/04/14 12:13	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		12/04/14 12:13	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		12/04/14 12:13	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		12/04/14 12:13	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		12/04/14 12:13	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		12/04/14 12:13	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		12/04/14 12:13	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		12/04/14 12:13	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		12/04/14 12:13	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		12/04/14 12:13	108-10-1	M5
Styrene	ND ug/L		1.0	1		12/04/14 12:13	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		12/04/14 12:13	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		12/04/14 12:13	127-18-4	M5
Toluene	ND ug/L		1.0	1		12/04/14 12:13	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		12/04/14 12:13	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		12/04/14 12:13	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		12/04/14 12:13	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		12/04/14 12:13	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		12/04/14 12:13	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		12/04/14 12:13	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		12/04/14 12:13	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	106 %		84-113	1		12/04/14 12:13	460-00-4	M5
1,2-Dichloroethane-d4 (S)	109 %		84-124	1		12/04/14 12:13	17060-07-0	M5
Toluene-d8 (S)	96 %		79-118	1		12/04/14 12:13	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

QC Batch: MSV/21777 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30135287001, 30135287002, 30135287003

METHOD BLANK: 825351 Matrix: Water

Associated Lab Samples: 30135287001, 30135287002, 30135287003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,1-Dichloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,1-Dichloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	12/04/14 11:48	M5
1,2-Dichloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,2-Dichloropropane	ug/L	ND	1.0	12/04/14 11:48	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	12/04/14 11:48	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	12/04/14 11:48	M5
2-Butanone (MEK)	ug/L	ND	10.0	12/04/14 11:48	M5
2-Hexanone	ug/L	ND	10.0	12/04/14 11:48	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	12/04/14 11:48	M5
Acetone	ug/L	ND	10.0	12/04/14 11:48	M5
Benzene	ug/L	ND	1.0	12/04/14 11:48	M5
Bromodichloromethane	ug/L	ND	1.0	12/04/14 11:48	M5
Bromoform	ug/L	ND	1.0	12/04/14 11:48	M5
Bromomethane	ug/L	ND	1.0	12/04/14 11:48	M5
Carbon disulfide	ug/L	ND	1.0	12/04/14 11:48	M5
Carbon tetrachloride	ug/L	ND	1.0	12/04/14 11:48	M5
Chlorobenzene	ug/L	ND	1.0	12/04/14 11:48	M5
Chloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
Chloroform	ug/L	ND	1.0	12/04/14 11:48	M5
Chloromethane	ug/L	ND	1.0	12/04/14 11:48	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/04/14 11:48	M5
Dibromochloromethane	ug/L	ND	1.0	12/04/14 11:48	M5
Ethylbenzene	ug/L	ND	1.0	12/04/14 11:48	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	12/04/14 11:48	M5
m&p-Xylene	ug/L	ND	2.0	12/04/14 11:48	M5
Methylene Chloride	ug/L	ND	1.0	12/04/14 11:48	M5
o-Xylene	ug/L	ND	1.0	12/04/14 11:48	M5
Styrene	ug/L	ND	1.0	12/04/14 11:48	M5
Tetrachloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
Toluene	ug/L	ND	1.0	12/04/14 11:48	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/04/14 11:48	M5
Trichloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
Trichlorofluoromethane	ug/L	ND	1.0	12/04/14 11:48	M5
Vinyl chloride	ug/L	ND	1.0	12/04/14 11:48	M5
1,2-Dichloroethane-d4 (S)	%	117	84-124	12/04/14 11:48	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

METHOD BLANK: 825351

Matrix: Water

Associated Lab Samples: 30135287001, 30135287002, 30135287003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	101	84-113	12/04/14 11:48	M5
Toluene-d8 (S)	%	96	79-118	12/04/14 11:48	M5

LABORATORY CONTROL SAMPLE: 825352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.1	110	62-130	M5
1,1,2,2-Tetrachloroethane	ug/L	20	19.1	96	74-115	M5
1,1,2-Trichloroethane	ug/L	20	19.9	99	73-121	M5
1,1-Dichloroethane	ug/L	20	19.8	99	64-125	M5
1,1-Dichloroethene	ug/L	20	18.5	92	58-126	M5
1,2-Dichlorobenzene	ug/L	20	19.4	97	76-117	M5
1,2-Dichloroethane	ug/L	20	21.6	108	66-124	M5
1,2-Dichloropropane	ug/L	20	18.3	91	66-119	M5
1,3-Dichlorobenzene	ug/L	20	18.8	94	73-116	M5
1,4-Dichlorobenzene	ug/L	20	18.8	94	75-119	M5
2-Butanone (MEK)	ug/L	20	15.9	79	69-126	M5
2-Hexanone	ug/L	20	16.4	82	53-118	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	16.7	84	68-124	M5
Acetone	ug/L	20	17.2	86	56-142	M5
Benzene	ug/L	20	18.5	92	69-123	M5
Bromodichloromethane	ug/L	20	20.2	101	64-120	M5
Bromoform	ug/L	20	23.3	117	56-133	M5
Bromomethane	ug/L	20	34.6	173	19-151	L0,M5
Carbon disulfide	ug/L	20	21.6	108	53-173	M5
Carbon tetrachloride	ug/L	20	22.0	110	52-133	M5
Chlorobenzene	ug/L	20	19.1	96	72-121	M5
Chloroethane	ug/L	20	16.6	83	53-143	M5
Chloroform	ug/L	20	21.4	107	63-123	M5
Chloromethane	ug/L	20	17.8	89	48-139	M5
cis-1,2-Dichloroethene	ug/L	20	19.8	99	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	20.4	102	65-121	M5
Dibromochloromethane	ug/L	20	21.9	109	58-132	M5
Ethylbenzene	ug/L	20	19.1	95	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	21.5	107	66-136	M5
m&p-Xylene	ug/L	40	37.6	94	71-124	M5
Methylene Chloride	ug/L	20	18.7	94	55-134	M5
o-Xylene	ug/L	20	18.4	92	69-118	M5
Styrene	ug/L	20	18.8	94	66-126	M5
Tetrachloroethene	ug/L	20	20.5	103	62-131	M5
Toluene	ug/L	20	19.3	97	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	19.5	97	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	20.3	101	70-111	M5
Trichloroethene	ug/L	20	19.2	96	66-125	M5

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

LABORATORY CONTROL SAMPLE: 825352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	21.8	109	57-144	M5
Vinyl chloride	ug/L	20	19.9	99	58-131	M5
1,2-Dichloroethane-d4 (S)	%			107	84-124	M5
4-Bromofluorobenzene (S)	%			105	84-113	M5
Toluene-d8 (S)	%			96	79-118	M5

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/21777

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

ANALYTE QUALIFIERS

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.

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135287

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30135287001	GP-3D	EPA 8260C	MSV/21777		
30135287002	GP-2D	EPA 8260C	MSV/21777		
30135287003	TB-01	EPA 8260C	MSV/21777		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A

Required Client Information:

Company: **URS CORP**
 Address: **FOSTER PLAZA 6**
681 ANDERSON DR STE 400
PITTSBURGH, PA 15220
 Email To: _____
 Project Name: **ESSEX/HOPE JAMESTOWN**
 Project Number: **41569123.40000**
 Requested Due Date/TAT: **STANDARD**

Section B

Required Project Information:

Report To: **MARK DOWIAK**
 Copy To: **VALERIE SIBETO**
 Purchase Order No.: **41569123**
 Project Name: **ESSEX/HOPE JAMESTOWN**
 Project Number: **41569123.40000**

Section C

Invoice Information:

Company Name: _____
 Address: _____
 Pace Quote Reference: _____
 Pace Project Manager: _____
 Pace Profile #: _____

Page: _____ of _____

1568162

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location
 STATE: **NY**

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Analysis Test	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB							
1	GP-3D	DW Drinking Water	WT G	11/25/14 0910	11/25/14 0910	3	3	Unpreserved		X		001
2	GP-2D	WT Water	WT G	11/25/14 0930	11/25/14 0930	3	3	HCl		X		002
3	TB-01	SL Soil/Solid	WT G	11/25/14	11/25/14	2	2	HNO ₃		X		003
4		OL Oil						NaOH				
5		WP Wipe						Na ₂ O ₃				
6		AR Air						Na ₂ O ₃				
7		TS Tissue						HCl				
8		OT Other						HNO ₃				
9								Unpreserved				
10								H ₂ SO ₄				
11								HCl				
12								NaOH				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							Temp in °C	Received on	Ice (Y/N)	Custody
2014 ANNUAL PHP STAMPING AND SUPPLEMENTAL RESIDUAL INVESTIGATIONS	Valerie Sibeto / URS	11-25-14		Valerie Sibeto / URS	11-25-14		3.7	✓	✓	N

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **DEAN CARONE**
 SIGNATURE of SAMPLER: **BC**
 DATE Signed (MM/DD/YY): **11/25/14**

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007



Sample Condition Upon Receipt

Client Name: URS corp

Project # 30135287

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 9023 39326788

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap _____ Bubble Bags _____ None _____ Other Ziploc

Thermometer Used 8 Type of Ice: Wet Blue None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 3.8 °C Correction Factor: -0.1 °C Final Temp: 3.7 °C

Date and Initials of person
examining contents: ARM 11/26/14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☒ Yes ☐ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☐ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: VOA coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed: <u>ARM</u> Lot # of added preservative: _____
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Rachel Christman

Date: 11/26/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Project Number: 30135287

Client Name: _____

[illegible]

July 22, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30123815

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on June 28, 2014. 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,



Jacquelyn Collins for
Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

Sample: RW-3S		Lab ID: 30123815001	Collected: 06/27/14 11:40	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/10/14 15:42	67-64-1	
Benzene	5.4	ug/L	1.0	1		07/10/14 15:42	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/10/14 15:42	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/10/14 15:42	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/10/14 15:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/10/14 15:42	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/10/14 15:42	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/10/14 15:42	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/10/14 15:42	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/10/14 15:42	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/10/14 15:42	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/10/14 15:42	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/10/14 15:42	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 15:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 15:42	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 15:42	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/10/14 15:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/10/14 15:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		07/10/14 15:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		07/10/14 15:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		07/10/14 15:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/10/14 15:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 15:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 15:42	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/10/14 15:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/10/14 15:42	591-78-6	
Isopropylbenzene (Cumene)	2.9	ug/L	1.0	1		07/10/14 15:42	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/10/14 15:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/10/14 15:42	108-10-1	
Styrene	ND	ug/L	5.0	1		07/10/14 15:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/10/14 15:42	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/10/14 15:42	127-18-4	
Toluene	ND	ug/L	5.0	1		07/10/14 15:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/10/14 15:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/10/14 15:42	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		07/10/14 15:42	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/10/14 15:42	75-69-4	
Vinyl chloride	ND	ug/L	1.0	1		07/10/14 15:42	75-01-4	
m&p-Xylene	9.9	ug/L	5.0	1		07/10/14 15:42	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/10/14 15:42	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	85-115	1		07/10/14 15:42	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	77-119	1		07/10/14 15:42	17060-07-0	
Toluene-d8 (S)	96	%	85-115	1		07/10/14 15:42	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

Sample: RW-2D		Lab ID: 30123815002	Collected: 06/27/14 11:50	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/10/14 16:54	67-64-1	
Benzene	8.8	ug/L	1.0	1		07/10/14 16:54	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/10/14 16:54	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/10/14 16:54	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/10/14 16:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/10/14 16:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/10/14 16:54	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/10/14 16:54	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/10/14 16:54	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/10/14 16:54	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/10/14 16:54	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/10/14 16:54	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/10/14 16:54	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:54	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/10/14 16:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/10/14 16:54	107-06-2	
1,1-Dichloroethene	21.5	ug/L	5.0	1		07/10/14 16:54	75-35-4	
cis-1,2-Dichloroethene	4070	ug/L	100	20		07/10/14 17:18	156-59-2	
trans-1,2-Dichloroethene	89.9	ug/L	5.0	1		07/10/14 16:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/10/14 16:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 16:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 16:54	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/10/14 16:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/10/14 16:54	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/10/14 16:54	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/10/14 16:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/10/14 16:54	108-10-1	
Styrene	ND	ug/L	5.0	1		07/10/14 16:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/10/14 16:54	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/10/14 16:54	127-18-4	
Toluene	ND	ug/L	5.0	1		07/10/14 16:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/10/14 16:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/10/14 16:54	79-00-5	
Trichloroethene	2260	ug/L	100	20		07/10/14 17:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/10/14 16:54	75-69-4	
Vinyl chloride	532	ug/L	20.0	20		07/10/14 17:18	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/10/14 16:54	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/10/14 16:54	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	85-115	1		07/10/14 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	77-119	1		07/10/14 16:54	17060-07-0	
Toluene-d8 (S)	97	%	85-115	1		07/10/14 16:54	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

Sample: RW-2S		Lab ID: 30123815003	Collected: 06/27/14 12:00	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/10/14 16:06	67-64-1	
Benzene	ND	ug/L	1.0	1		07/10/14 16:06	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/10/14 16:06	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/10/14 16:06	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/10/14 16:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/10/14 16:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/10/14 16:06	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/10/14 16:06	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/10/14 16:06	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/10/14 16:06	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/10/14 16:06	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/10/14 16:06	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/10/14 16:06	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:06	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/10/14 16:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/10/14 16:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		07/10/14 16:06	75-35-4	
cis-1,2-Dichloroethene	20.0	ug/L	5.0	1		07/10/14 16:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		07/10/14 16:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/10/14 16:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 16:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 16:06	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/10/14 16:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/10/14 16:06	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/10/14 16:06	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/10/14 16:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/10/14 16:06	108-10-1	
Styrene	ND	ug/L	5.0	1		07/10/14 16:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/10/14 16:06	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/10/14 16:06	127-18-4	
Toluene	ND	ug/L	5.0	1		07/10/14 16:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/10/14 16:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/10/14 16:06	79-00-5	
Trichloroethene	10.8	ug/L	5.0	1		07/10/14 16:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/10/14 16:06	75-69-4	
Vinyl chloride	ND	ug/L	1.0	1		07/10/14 16:06	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/10/14 16:06	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/10/14 16:06	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	85-115	1		07/10/14 16:06	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	77-119	1		07/10/14 16:06	17060-07-0	
Toluene-d8 (S)	96	%	85-115	1		07/10/14 16:06	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

Sample: RW-1S		Lab ID: 30123815004	Collected: 06/27/14 12:10	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/10/14 16:29	67-64-1	
Benzene	ND	ug/L	1.0	1		07/10/14 16:29	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/10/14 16:29	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/10/14 16:29	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/10/14 16:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/10/14 16:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/10/14 16:29	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/10/14 16:29	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/10/14 16:29	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/10/14 16:29	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/10/14 16:29	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/10/14 16:29	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/10/14 16:29	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:29	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:29	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 16:29	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/10/14 16:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/10/14 16:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		07/10/14 16:29	75-35-4	
cis-1,2-Dichloroethene	173	ug/L	5.0	1		07/10/14 16:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		07/10/14 16:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/10/14 16:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 16:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 16:29	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/10/14 16:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/10/14 16:29	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/10/14 16:29	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/10/14 16:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/10/14 16:29	108-10-1	
Styrene	ND	ug/L	5.0	1		07/10/14 16:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/10/14 16:29	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/10/14 16:29	127-18-4	
Toluene	ND	ug/L	5.0	1		07/10/14 16:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/10/14 16:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/10/14 16:29	79-00-5	
Trichloroethene	58.8	ug/L	5.0	1		07/10/14 16:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/10/14 16:29	75-69-4	
Vinyl chloride	10.1	ug/L	1.0	1		07/10/14 16:29	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/10/14 16:29	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/10/14 16:29	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	85-115	1		07/10/14 16:29	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	77-119	1		07/10/14 16:29	17060-07-0	
Toluene-d8 (S)	99	%	85-115	1		07/10/14 16:29	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

Sample: TB-01		Lab ID: 30123815005	Collected: 06/27/14 00:01	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND ug/L		10.0	1		07/10/14 11:37	67-64-1	
Benzene	ND ug/L		1.0	1		07/10/14 11:37	71-43-2	
Bromodichloromethane	ND ug/L		5.0	1		07/10/14 11:37	75-27-4	
Bromoform	ND ug/L		5.0	1		07/10/14 11:37	75-25-2	
Bromomethane	ND ug/L		5.0	1		07/10/14 11:37	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		07/10/14 11:37	78-93-3	
Carbon disulfide	ND ug/L		5.0	1		07/10/14 11:37	75-15-0	
Carbon tetrachloride	ND ug/L		5.0	1		07/10/14 11:37	56-23-5	
Chlorobenzene	ND ug/L		5.0	1		07/10/14 11:37	108-90-7	
Chloroethane	ND ug/L		5.0	1		07/10/14 11:37	75-00-3	
Chloroform	ND ug/L		5.0	1		07/10/14 11:37	67-66-3	
Chloromethane	ND ug/L		5.0	1		07/10/14 11:37	74-87-3	
Dibromochloromethane	ND ug/L		5.0	1		07/10/14 11:37	124-48-1	
1,2-Dichlorobenzene	ND ug/L		5.0	1		07/10/14 11:37	95-50-1	
1,3-Dichlorobenzene	ND ug/L		5.0	1		07/10/14 11:37	541-73-1	
1,4-Dichlorobenzene	ND ug/L		5.0	1		07/10/14 11:37	106-46-7	
1,1-Dichloroethane	ND ug/L		5.0	1		07/10/14 11:37	75-34-3	
1,2-Dichloroethane	ND ug/L		5.0	1		07/10/14 11:37	107-06-2	
1,1-Dichloroethene	ND ug/L		5.0	1		07/10/14 11:37	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		5.0	1		07/10/14 11:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	1		07/10/14 11:37	156-60-5	
1,2-Dichloropropane	ND ug/L		5.0	1		07/10/14 11:37	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		5.0	1		07/10/14 11:37	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		5.0	1		07/10/14 11:37	10061-02-6	
Ethylbenzene	ND ug/L		5.0	1		07/10/14 11:37	100-41-4	
2-Hexanone	ND ug/L		10.0	1		07/10/14 11:37	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		07/10/14 11:37	98-82-8	
Methylene Chloride	ND ug/L		5.0	1		07/10/14 11:37	75-09-2	B,C9
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		07/10/14 11:37	108-10-1	
Styrene	ND ug/L		5.0	1		07/10/14 11:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		5.0	1		07/10/14 11:37	79-34-5	
Tetrachloroethene	ND ug/L		5.0	1		07/10/14 11:37	127-18-4	
Toluene	ND ug/L		5.0	1		07/10/14 11:37	108-88-3	
1,1,1-Trichloroethane	ND ug/L		5.0	1		07/10/14 11:37	71-55-6	
1,1,2-Trichloroethane	ND ug/L		5.0	1		07/10/14 11:37	79-00-5	
Trichloroethene	ND ug/L		5.0	1		07/10/14 11:37	79-01-6	
Trichlorofluoromethane	ND ug/L		5.0	1		07/10/14 11:37	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		07/10/14 11:37	75-01-4	
m&p-Xylene	ND ug/L		5.0	1		07/10/14 11:37	179601-23-1	
o-Xylene	ND ug/L		5.0	1		07/10/14 11:37	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98 %		85-115	1		07/10/14 11:37	460-00-4	
1,2-Dichloroethane-d4 (S)	106 %		77-119	1		07/10/14 11:37	17060-07-0	
Toluene-d8 (S)	96 %		85-115	1		07/10/14 11:37	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

QC Batch: MSV/20249 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV
Associated Lab Samples: 30123815001, 30123815002, 30123815003, 30123815004, 30123815005

METHOD BLANK: 755876 Matrix: Water
Associated Lab Samples: 30123815001, 30123815002, 30123815003, 30123815004, 30123815005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,1-Dichloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,1-Dichloroethene	ug/L	ND	1.0	07/10/14 10:24	
1,2-Dichlorobenzene	ug/L	ND	1.0	07/10/14 10:24	
1,2-Dichloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,2-Dichloropropane	ug/L	ND	1.0	07/10/14 10:24	
1,3-Dichlorobenzene	ug/L	ND	1.0	07/10/14 10:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/10/14 10:24	
2-Butanone (MEK)	ug/L	ND	10.0	07/10/14 10:24	
2-Hexanone	ug/L	ND	10.0	07/10/14 10:24	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/10/14 10:24	
Acetone	ug/L	ND	10.0	07/10/14 10:24	
Benzene	ug/L	ND	1.0	07/10/14 10:24	
Bromodichloromethane	ug/L	ND	1.0	07/10/14 10:24	
Bromoform	ug/L	ND	1.0	07/10/14 10:24	
Bromomethane	ug/L	ND	1.0	07/10/14 10:24	
Carbon disulfide	ug/L	ND	1.0	07/10/14 10:24	
Carbon tetrachloride	ug/L	ND	1.0	07/10/14 10:24	
Chlorobenzene	ug/L	ND	1.0	07/10/14 10:24	
Chloroethane	ug/L	ND	1.0	07/10/14 10:24	
Chloroform	ug/L	ND	1.0	07/10/14 10:24	
Chloromethane	ug/L	ND	1.0	07/10/14 10:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/10/14 10:24	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/10/14 10:24	
Dibromochloromethane	ug/L	ND	1.0	07/10/14 10:24	
Ethylbenzene	ug/L	ND	1.0	07/10/14 10:24	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	07/10/14 10:24	
m&p-Xylene	ug/L	ND	2.0	07/10/14 10:24	
Methylene Chloride	ug/L	1.2	1.0	07/10/14 10:24	B,C9
o-Xylene	ug/L	ND	1.0	07/10/14 10:24	
Styrene	ug/L	ND	1.0	07/10/14 10:24	
Tetrachloroethene	ug/L	ND	1.0	07/10/14 10:24	
Toluene	ug/L	ND	1.0	07/10/14 10:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/10/14 10:24	
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/10/14 10:24	
Trichloroethene	ug/L	ND	1.0	07/10/14 10:24	
Trichlorofluoromethane	ug/L	ND	1.0	07/10/14 10:24	
Vinyl chloride	ug/L	ND	1.0	07/10/14 10:24	
1,2-Dichloroethane-d4 (S)	%	106	77-119	07/10/14 10:24	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

METHOD BLANK: 755876

Matrix: Water

Associated Lab Samples: 30123815001, 30123815002, 30123815003, 30123815004, 30123815005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	99	85-115	07/10/14 10:24	
Toluene-d8 (S)	%	100	85-115	07/10/14 10:24	

LABORATORY CONTROL SAMPLE: 755877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.2	96	62-125	
1,1,2,2-Tetrachloroethane	ug/L	20	16.5	83	61-117	
1,1,2-Trichloroethane	ug/L	20	19.8	99	72-119	
1,1-Dichloroethane	ug/L	20	17.8	89	63-123	
1,1-Dichloroethene	ug/L	20	16.6	83	57-127	
1,2-Dichlorobenzene	ug/L	20	17.2	86	70-116	
1,2-Dichloroethane	ug/L	20	18.1	90	62-125	
1,2-Dichloropropane	ug/L	20	16.9	85	69-115	
1,3-Dichlorobenzene	ug/L	20	16.6	83	71-118	
1,4-Dichlorobenzene	ug/L	20	17.7	89	67-119	
2-Butanone (MEK)	ug/L	20	21.7	109	48-136	
2-Hexanone	ug/L	20	17.8	89	52-130	
4-Methyl-2-pentanone (MIBK)	ug/L	20	19.9	99	57-124	
Acetone	ug/L	20	23.5	118	49-138	
Benzene	ug/L	20	16.6	83	66-122	
Bromodichloromethane	ug/L	20	17.2	86	63-118	
Bromoform	ug/L	20	20.9	104	46-130	
Bromomethane	ug/L	20	13.8	69	10-175	
Carbon disulfide	ug/L	20	27.5	137	59-142	
Carbon tetrachloride	ug/L	20	19.2	96	55-126	
Chlorobenzene	ug/L	20	19.0	95	70-121	
Chloroethane	ug/L	20	21.4	107	24-161	
Chloroform	ug/L	20	17.7	89	62-126	
Chloromethane	ug/L	20	20.1	101	37-147	
cis-1,2-Dichloroethene	ug/L	20	17.5	87	64-121	
cis-1,3-Dichloropropene	ug/L	20	15.7	79	64-118	
Dibromochloromethane	ug/L	20	20.1	101	60-120	
Ethylbenzene	ug/L	20	18.6	93	69-119	
Isopropylbenzene (Cumene)	ug/L	20	16.9	84	68-126	
m&p-Xylene	ug/L	40	36.0	90	70-124	
Methylene Chloride	ug/L	20	18.1	90	59-128	
o-Xylene	ug/L	20	18.1	91	67-123	
Styrene	ug/L	20	18.7	93	67-146	
Tetrachloroethene	ug/L	20	18.7	94	62-125	
Toluene	ug/L	20	18.1	91	72-115	
trans-1,2-Dichloroethene	ug/L	20	17.2	86	59-122	
trans-1,3-Dichloropropene	ug/L	20	16.1	80	64-120	
Trichloroethene	ug/L	20	19.5	97	62-125	

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

LABORATORY CONTROL SAMPLE: 755877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	23.2	116	54-158	
Vinyl chloride	ug/L	20	20.9	104	52-145	
1,2-Dichloroethane-d4 (S)	%			102	77-119	
4-Bromofluorobenzene (S)	%			101	85-115	
Toluene-d8 (S)	%			102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 756092

756093

Parameter	Units	30123743001		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Result	Spike Conc.	Result	% Rec	Result	% Rec	Result	Limits	Limits		
1,1,1-Trichloroethane	ug/L	ND	20	20	25.8	25.6	129	128	62-125	1	M0				
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.7	16.7	83	84	61-117	0					
1,1,2-Trichloroethane	ug/L	ND	20	20	20.9	20.0	105	100	72-119	4					
1,1-Dichloroethane	ug/L	ND	20	20	23.8	23.5	119	118	63-123	1					
1,1-Dichloroethene	ug/L	ND	20	20	24.2	24.3	121	121	57-127	0					
1,2-Dichlorobenzene	ug/L	ND	20	20	18.0	18.1	90	91	70-116	1					
1,2-Dichloroethane	ug/L	ND	20	20	22.9	22.7	115	114	62-125	1					
1,2-Dichloropropane	ug/L	ND	20	20	20.3	19.5	102	98	69-115	4					
1,3-Dichlorobenzene	ug/L	ND	20	20	17.5	17.2	88	86	71-118	2					
1,4-Dichlorobenzene	ug/L	ND	20	20	18.7	18.3	93	91	67-119	2					
2-Butanone (MEK)	ug/L	ND	20	20	20.8	20.8	104	104	48-136	0					
2-Hexanone	ug/L	ND	20	20	14.8	14.8	74	74	52-130	0					
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	16.8	17.8	84	89	57-124	6					
Acetone	ug/L	ND	20	20	21.4	22.4	107	112	49-138	5					
Benzene	ug/L	ND	20	20	20.7	20.4	104	102	66-122	1					
Bromodichloromethane	ug/L	ND	20	20	19.4	19.6	97	98	63-118	1					
Bromoform	ug/L	ND	20	20	20.8	20.6	104	103	46-130	1					
Bromomethane	ug/L	ND	20	20	13.0	15.0	65	75	10-175	14					
Carbon disulfide	ug/L	ND	20	20	25.2	27.8	126	139	59-142	10					
Carbon tetrachloride	ug/L	ND	20	20	26.5	26.0	132	130	55-126	2	M0				
Chlorobenzene	ug/L	ND	20	20	21.4	21.2	107	106	70-121	1					
Chloroethane	ug/L	ND	20	20	25.7	25.7	128	128	24-161	0					
Chloroform	ug/L	74.4	20	20	97.9	98.5	117	120	62-126	1					
Chloromethane	ug/L	ND	20	20	22.7	23.1	114	116	37-147	2					
cis-1,2-Dichloroethene	ug/L	ND	20	20	23.3	22.9	116	114	64-121	2					
cis-1,3-Dichloropropene	ug/L	ND	20	20	19.2	18.6	96	93	64-118	3					
Dibromochloromethane	ug/L	ND	20	20	21.5	21.3	107	107	60-120	1					
Ethylbenzene	ug/L	ND	20	20	20.7	21.0	103	105	69-119	1					
Isopropylbenzene (Cumene)	ug/L	ND	20	20	19.1	19.3	96	96	68-126	1					
m&p-Xylene	ug/L	ND	40	40	41.8	40.7	104	102	70-124	3					
Methylene Chloride	ug/L	ND	20	20	22.0	21.9	110	110	59-128	0					
o-Xylene	ug/L	ND	20	20	20.1	19.6	100	98	67-123	2					
Styrene	ug/L	ND	20	20	20.7	19.8	103	99	67-146	5					
Tetrachloroethene	ug/L	ND	20	20	23.5	23.3	117	117	62-125	1					
Toluene	ug/L	ND	20	20	20.5	20.9	103	105	72-115	2					

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 756092 756093											
Parameter	Units	30123743001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
trans-1,2-Dichloroethene	ug/L	ND	20	20	23.7	23.8	119	119	59-122	0	
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.7	18.7	93	93	64-120	0	
Trichloroethene	ug/L	ND	20	20	22.5	22.7	112	114	62-125	1	
Trichlorofluoromethane	ug/L	ND	20	20	30.5	32.1	152	160	54-158	5	M0
Vinyl chloride	ug/L	ND	20	20	24.6	25.5	123	128	52-145	4	
1,2-Dichloroethane-d4 (S)	%						97	103	77-119		
4-Bromofluorobenzene (S)	%						97	96	85-115		
Toluene-d8 (S)	%						95	95	85-115		

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QUALIFIERS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

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.

PQL - Practical Quantitation 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.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

C9 Common Laboratory Contaminant.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123815

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30123815001	RW-3S	EPA 8260B	MSV/20249		
30123815002	RW-2D	EPA 8260B	MSV/20249		
30123815003	RW-2S	EPA 8260B	MSV/20249		
30123815004	RW-1S	EPA 8260B	MSV/20249		
30123815005	TB-01	EPA 8260B	MSV/20249		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

30123815

Client Name: URS

Project # _____

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1802339326593

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other ZIP10CS

Thermometer Used _____ Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 2.7 °C Correction Factor: -0.1 °C Final Temp: 2.6 °C

Date and Initials of person

examining contents: ARM 6/28/14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>	
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>ARM</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☐ No ☐ N/A	14.
Headspace in VOA Vials (>6mm):	☒ Yes ☐ No ☐ N/A	15. <u>1 Trip Blank</u>
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):	_____	

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

30123815

Project Number:

Client Name: URD

[illegible]

December 08, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30135169

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on November 25, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

Sample: RW-1S		Lab ID: 30135169001	Collected: 11/24/14 13:00	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		12/04/14 00:42	67-64-1	
Benzene	ND	ug/L	1.0	1		12/04/14 00:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 00:42	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/04/14 00:42	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/04/14 00:42	74-83-9	M1
2-Butanone (MEK)	ND	ug/L	10.0	1		12/04/14 00:42	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 00:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 00:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 00:42	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/04/14 00:42	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/04/14 00:42	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/04/14 00:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 00:42	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 00:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 00:42	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 00:42	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 00:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 00:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/04/14 00:42	75-35-4	
cis-1,2-Dichloroethene	43.8	ug/L	1.0	1		12/04/14 00:42	156-59-2	M1
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/14 00:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 00:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 00:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 00:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 00:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		12/04/14 00:42	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 00:42	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 00:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 00:42	108-10-1	
Styrene	ND	ug/L	1.0	1		12/04/14 00:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 00:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 00:42	127-18-4	
Toluene	ND	ug/L	1.0	1		12/04/14 00:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 00:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 00:42	79-00-5	
Trichloroethene	18.8	ug/L	1.0	1		12/04/14 00:42	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 00:42	75-69-4	M1
Vinyl chloride	2.4	ug/L	1.0	1		12/04/14 00:42	75-01-4	M1
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 00:42	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/04/14 00:42	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	107	%	84-113	1		12/04/14 00:42	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	84-124	1		12/04/14 00:42	17060-07-0	
Toluene-d8 (S)	91	%	79-118	1		12/04/14 00:42	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

Sample: RW-2S		Lab ID: 30135169002	Collected: 11/24/14 13:10	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		12/04/14 01:06	67-64-1	
Benzene	ND	ug/L	1.0	1		12/04/14 01:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 01:06	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/04/14 01:06	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/04/14 01:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		12/04/14 01:06	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 01:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 01:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 01:06	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/04/14 01:06	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/04/14 01:06	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/04/14 01:06	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 01:06	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:06	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 01:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 01:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/04/14 01:06	75-35-4	
cis-1,2-Dichloroethene	31.2	ug/L	1.0	1		12/04/14 01:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/14 01:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 01:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 01:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 01:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 01:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		12/04/14 01:06	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 01:06	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 01:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 01:06	108-10-1	
Styrene	ND	ug/L	1.0	1		12/04/14 01:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 01:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 01:06	127-18-4	
Toluene	ND	ug/L	1.0	1		12/04/14 01:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 01:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 01:06	79-00-5	
Trichloroethene	7.3	ug/L	1.0	1		12/04/14 01:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 01:06	75-69-4	
Vinyl chloride	2.9	ug/L	1.0	1		12/04/14 01:06	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 01:06	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/04/14 01:06	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	108	%	84-113	1		12/04/14 01:06	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	84-124	1		12/04/14 01:06	17060-07-0	
Toluene-d8 (S)	97	%	79-118	1		12/04/14 01:06	2037-26-5	

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

Sample: RW-2D		Lab ID: 30135169003	Collected: 11/24/14 13:15	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		12/04/14 01:56	67-64-1	
Benzene	9.8	ug/L	1.0	1		12/04/14 01:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 01:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/04/14 01:56	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/04/14 01:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		12/04/14 01:56	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 01:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 01:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 01:56	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/04/14 01:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/04/14 01:56	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/04/14 01:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 01:56	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:56	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:56	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:56	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 01:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 01:56	107-06-2	
1,1-Dichloroethene	25.0	ug/L	1.0	1		12/04/14 01:56	75-35-4	
cis-1,2-Dichloroethene	4400	ug/L	50.0	50		12/04/14 02:20	156-59-2	
trans-1,2-Dichloroethene	126	ug/L	1.0	1		12/04/14 01:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 01:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 01:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 01:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 01:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		12/04/14 01:56	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 01:56	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 01:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 01:56	108-10-1	
Styrene	ND	ug/L	1.0	1		12/04/14 01:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 01:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 01:56	127-18-4	
Toluene	1.2	ug/L	1.0	1		12/04/14 01:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 01:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 01:56	79-00-5	
Trichloroethene	2580	ug/L	50.0	50		12/04/14 02:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 01:56	75-69-4	
Vinyl chloride	626	ug/L	50.0	50		12/04/14 02:20	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 01:56	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/04/14 01:56	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	109	%	84-113	1		12/04/14 01:56	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	84-124	1		12/04/14 01:56	17060-07-0	
Toluene-d8 (S)	100	%	79-118	1		12/04/14 01:56	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

Sample: RW-3S		Lab ID: 30135169004	Collected: 11/24/14 13:20	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		12/04/14 01:31	67-64-1	
Benzene	4.2	ug/L	1.0	1		12/04/14 01:31	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 01:31	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/04/14 01:31	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/04/14 01:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		12/04/14 01:31	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 01:31	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 01:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 01:31	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/04/14 01:31	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/04/14 01:31	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/04/14 01:31	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 01:31	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 01:31	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 01:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 01:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/04/14 01:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/14 01:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/14 01:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 01:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 01:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 01:31	10061-02-6	
Ethylbenzene	3.7	ug/L	1.0	1		12/04/14 01:31	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		12/04/14 01:31	591-78-6	
Isopropylbenzene (Cumene)	7.9	ug/L	1.0	1		12/04/14 01:31	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 01:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 01:31	108-10-1	
Styrene	ND	ug/L	1.0	1		12/04/14 01:31	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 01:31	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 01:31	127-18-4	
Toluene	ND	ug/L	1.0	1		12/04/14 01:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 01:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 01:31	79-00-5	
Trichloroethene	1.2	ug/L	1.0	1		12/04/14 01:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 01:31	75-69-4	
Vinyl chloride	ND	ug/L	1.0	1		12/04/14 01:31	75-01-4	
m&p-Xylene	11.9	ug/L	2.0	1		12/04/14 01:31	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/04/14 01:31	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	109	%	84-113	1		12/04/14 01:31	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	84-124	1		12/04/14 01:31	17060-07-0	
Toluene-d8 (S)	100	%	79-118	1		12/04/14 01:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

Sample: RW-6D		Lab ID: 30135169005	Collected: 11/24/14 13:30	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	138000	ug/L	10000	1000		12/04/14 03:34	67-64-1	
Benzene	110	ug/L	1.0	1		12/04/14 02:45	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 02:45	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/04/14 02:45	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/04/14 02:45	74-83-9	
2-Butanone (MEK)	634	ug/L	10.0	1		12/04/14 02:45	78-93-3	1c,E
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 02:45	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 02:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 02:45	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/04/14 02:45	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/04/14 02:45	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/04/14 02:45	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 02:45	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 02:45	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 02:45	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 02:45	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 02:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 02:45	107-06-2	
1,1-Dichloroethene	110	ug/L	1.0	1		12/04/14 02:45	75-35-4	
cis-1,2-Dichloroethene	25100	ug/L	100	100		12/04/14 03:09	156-59-2	
trans-1,2-Dichloroethene	438	ug/L	1.0	1		12/04/14 02:45	156-60-5	1c,E
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 02:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 02:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 02:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 02:45	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		12/04/14 02:45	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 02:45	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 02:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 02:45	108-10-1	
Styrene	ND	ug/L	1.0	1		12/04/14 02:45	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 02:45	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 02:45	127-18-4	
Toluene	2.3	ug/L	1.0	1		12/04/14 02:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 02:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 02:45	79-00-5	
Trichloroethene	17100	ug/L	100	100		12/04/14 03:09	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 02:45	75-69-4	
Vinyl chloride	5520	ug/L	100	100		12/04/14 03:09	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 02:45	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/04/14 02:45	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	107	%	84-113	1		12/04/14 02:45	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	84-124	1		12/04/14 02:45	17060-07-0	
Toluene-d8 (S)	96	%	79-118	1		12/04/14 02:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

Sample: TB-01		Lab ID: 30135169006	Collected: 11/24/14 00:01	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		12/03/14 19:46	67-64-1	
Benzene	ND ug/L		1.0	1		12/03/14 19:46	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		12/03/14 19:46	75-27-4	
Bromoform	ND ug/L		1.0	1		12/03/14 19:46	75-25-2	
Bromomethane	ND ug/L		1.0	1		12/03/14 19:46	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		12/03/14 19:46	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		12/03/14 19:46	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		12/03/14 19:46	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		12/03/14 19:46	108-90-7	
Chloroethane	ND ug/L		1.0	1		12/03/14 19:46	75-00-3	
Chloroform	ND ug/L		1.0	1		12/03/14 19:46	67-66-3	
Chloromethane	ND ug/L		1.0	1		12/03/14 19:46	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		12/03/14 19:46	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		12/03/14 19:46	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		12/03/14 19:46	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		12/03/14 19:46	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		12/03/14 19:46	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		12/03/14 19:46	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		12/03/14 19:46	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		12/03/14 19:46	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		12/03/14 19:46	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		12/03/14 19:46	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		12/03/14 19:46	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		12/03/14 19:46	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		12/03/14 19:46	100-41-4	
2-Hexanone	ND ug/L		10.0	1		12/03/14 19:46	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		12/03/14 19:46	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		12/03/14 19:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		12/03/14 19:46	108-10-1	
Styrene	ND ug/L		1.0	1		12/03/14 19:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		12/03/14 19:46	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		12/03/14 19:46	127-18-4	
Toluene	ND ug/L		1.0	1		12/03/14 19:46	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		12/03/14 19:46	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		12/03/14 19:46	79-00-5	
Trichloroethene	ND ug/L		1.0	1		12/03/14 19:46	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		12/03/14 19:46	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		12/03/14 19:46	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		12/03/14 19:46	179601-23-1	
o-Xylene	ND ug/L		1.0	1		12/03/14 19:46	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104 %		84-113	1		12/03/14 19:46	460-00-4	
1,2-Dichloroethane-d4 (S)	119 %		84-124	1		12/03/14 19:46	17060-07-0	
Toluene-d8 (S)	98 %		79-118	1		12/03/14 19:46	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

QC Batch:	MSV/21768	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 8260C	Analysis Description:	8260C MSV
Associated Lab Samples: 30135169001, 30135169002, 30135169003, 30135169004, 30135169005, 30135169006			

METHOD BLANK:	824791	Matrix:	Water
Associated Lab Samples: 30135169001, 30135169002, 30135169003, 30135169004, 30135169005, 30135169006			

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	12/03/14 19:22	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/03/14 19:22	
1,1,2-Trichloroethane	ug/L	ND	1.0	12/03/14 19:22	
1,1-Dichloroethane	ug/L	ND	1.0	12/03/14 19:22	
1,1-Dichloroethene	ug/L	ND	1.0	12/03/14 19:22	
1,2-Dichlorobenzene	ug/L	ND	1.0	12/03/14 19:22	
1,2-Dichloroethane	ug/L	ND	1.0	12/03/14 19:22	
1,2-Dichloropropane	ug/L	ND	1.0	12/03/14 19:22	
1,3-Dichlorobenzene	ug/L	ND	1.0	12/03/14 19:22	
1,4-Dichlorobenzene	ug/L	ND	1.0	12/03/14 19:22	
2-Butanone (MEK)	ug/L	ND	10.0	12/03/14 19:22	
2-Hexanone	ug/L	ND	10.0	12/03/14 19:22	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	12/03/14 19:22	
Acetone	ug/L	ND	10.0	12/03/14 19:22	
Benzene	ug/L	ND	1.0	12/03/14 19:22	
Bromodichloromethane	ug/L	ND	1.0	12/03/14 19:22	
Bromoform	ug/L	ND	1.0	12/03/14 19:22	
Bromomethane	ug/L	ND	1.0	12/03/14 19:22	
Carbon disulfide	ug/L	ND	1.0	12/03/14 19:22	
Carbon tetrachloride	ug/L	ND	1.0	12/03/14 19:22	
Chlorobenzene	ug/L	ND	1.0	12/03/14 19:22	
Chloroethane	ug/L	ND	1.0	12/03/14 19:22	
Chloroform	ug/L	ND	1.0	12/03/14 19:22	
Chloromethane	ug/L	ND	1.0	12/03/14 19:22	
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/03/14 19:22	
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/03/14 19:22	
Dibromochloromethane	ug/L	ND	1.0	12/03/14 19:22	
Ethylbenzene	ug/L	ND	1.0	12/03/14 19:22	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	12/03/14 19:22	
m&p-Xylene	ug/L	ND	2.0	12/03/14 19:22	
Methylene Chloride	ug/L	ND	1.0	12/03/14 19:22	
o-Xylene	ug/L	ND	1.0	12/03/14 19:22	
Styrene	ug/L	ND	1.0	12/03/14 19:22	
Tetrachloroethene	ug/L	ND	1.0	12/03/14 19:22	
Toluene	ug/L	ND	1.0	12/03/14 19:22	
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/03/14 19:22	
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/03/14 19:22	
Trichloroethene	ug/L	ND	1.0	12/03/14 19:22	
Trichlorofluoromethane	ug/L	ND	1.0	12/03/14 19:22	
Vinyl chloride	ug/L	ND	1.0	12/03/14 19:22	
1,2-Dichloroethane-d4 (S)	%	114	84-124	12/03/14 19:22	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

METHOD BLANK: 824791

Matrix: Water

Associated Lab Samples: 30135169001, 30135169002, 30135169003, 30135169004, 30135169005, 30135169006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	106	84-113	12/03/14 19:22	
Toluene-d8 (S)	%	101	79-118	12/03/14 19:22	

LABORATORY CONTROL SAMPLE: 824792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	23.0	115	62-130	
1,1,2,2-Tetrachloroethane	ug/L	20	19.6	98	74-115	
1,1,2-Trichloroethane	ug/L	20	20.2	101	73-121	
1,1-Dichloroethane	ug/L	20	20.6	103	64-125	
1,1-Dichloroethene	ug/L	20	19.6	98	58-126	
1,2-Dichlorobenzene	ug/L	20	20.3	101	76-117	
1,2-Dichloroethane	ug/L	20	23.0	115	66-124	
1,2-Dichloropropane	ug/L	20	18.6	93	66-119	
1,3-Dichlorobenzene	ug/L	20	20.3	101	73-116	
1,4-Dichlorobenzene	ug/L	20	19.6	98	75-119	
2-Butanone (MEK)	ug/L	20	16.7	84	69-126	
2-Hexanone	ug/L	20	17.3	86	53-118	
4-Methyl-2-pentanone (MIBK)	ug/L	20	17.3	87	68-124	
Acetone	ug/L	20	22.8	114	56-142	
Benzene	ug/L	20	20.3	102	69-123	
Bromodichloromethane	ug/L	20	22.5	112	64-120	
Bromoform	ug/L	20	23.1	116	56-133	
Bromomethane	ug/L	20	25.4	127	19-151	
Carbon disulfide	ug/L	20	16.9	84	53-173	
Carbon tetrachloride	ug/L	20	23.5	118	52-133	
Chlorobenzene	ug/L	20	20.0	100	72-121	
Chloroethane	ug/L	20	16.8	84	53-143	
Chloroform	ug/L	20	22.9	114	63-123	
Chloromethane	ug/L	20	14.2	71	48-139	
cis-1,2-Dichloroethene	ug/L	20	20.7	104	63-123	
cis-1,3-Dichloropropene	ug/L	20	18.4	92	65-121	
Dibromochloromethane	ug/L	20	23.9	119	58-132	
Ethylbenzene	ug/L	20	19.7	98	70-123	
Isopropylbenzene (Cumene)	ug/L	20	21.8	109	66-136	
m&p-Xylene	ug/L	40	38.5	96	71-124	
Methylene Chloride	ug/L	20	19.8	99	55-134	
o-Xylene	ug/L	20	18.6	93	69-118	
Styrene	ug/L	20	19.6	98	66-126	
Tetrachloroethene	ug/L	20	20.3	102	62-131	
Toluene	ug/L	20	19.6	98	73-123	
trans-1,2-Dichloroethene	ug/L	20	20.5	102	61-124	
trans-1,3-Dichloropropene	ug/L	20	18.2	91	70-111	
Trichloroethene	ug/L	20	20.2	101	66-125	

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

LABORATORY CONTROL SAMPLE: 824792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	19.9	99	57-144	
Vinyl chloride	ug/L	20	16.0	80	58-131	
1,2-Dichloroethane-d4 (S)	%			112	84-124	
4-Bromofluorobenzene (S)	%			105	84-113	
Toluene-d8 (S)	%			95	79-118	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 824793

824794

Parameter	Units	30135169001		MS	MSD	MS		MSD	% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
1,1,1-Trichloroethane	ug/L	ND	20	20	20	24.1	25.5	121	127	62-130	6	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20	20.4	19.4	102	97	74-115	5	
1,1,2-Trichloroethane	ug/L	ND	20	20	20	21.3	21.1	107	105	73-121	1	
1,1-Dichloroethane	ug/L	ND	20	20	20	21.7	21.3	108	107	64-125	2	
1,1-Dichloroethene	ug/L	ND	20	20	20	22.4	23.1	112	116	58-126	3	
1,2-Dichlorobenzene	ug/L	ND	20	20	20	20.7	20.1	103	101	76-117	3	
1,2-Dichloroethane	ug/L	ND	20	20	20	24.0	22.8	120	114	66-124	5	
1,2-Dichloropropane	ug/L	ND	20	20	20	20.1	20.1	101	101	66-119	0	
1,3-Dichlorobenzene	ug/L	ND	20	20	20	20.5	20.1	103	101	73-116	2	
1,4-Dichlorobenzene	ug/L	ND	20	20	20	20.4	20.0	102	100	75-119	2	
2-Butanone (MEK)	ug/L	ND	20	20	20	17.6	16.1	88	80	69-126	9	
2-Hexanone	ug/L	ND	20	20	20	14.1	12.5	70	63	53-118	12	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	20	14.9	14.2	74	71	68-124	5	
Acetone	ug/L	ND	20	20	20	27.7	25.4	139	127	56-142	9	
Benzene	ug/L	ND	20	20	20	21.5	20.7	107	103	69-123	4	
Bromodichloromethane	ug/L	ND	20	20	20	22.4	22.4	112	112	64-120	0	
Bromoform	ug/L	ND	20	20	20	23.6	21.8	118	109	56-133	8	
Bromomethane	ug/L	ND	20	20	20	30.7	31.8	153	159	19-151	3 M1	
Carbon disulfide	ug/L	ND	20	20	20	22.0	22.2	110	111	53-173	1	
Carbon tetrachloride	ug/L	ND	20	20	20	25.1	24.2	126	121	52-133	4	
Chlorobenzene	ug/L	ND	20	20	20	20.4	19.7	102	98	72-121	4	
Chloroethane	ug/L	ND	20	20	20	24.0	25.7	120	128	53-143	7	
Chloroform	ug/L	ND	20	20	20	23.8	23.6	119	118	63-123	1	
Chloromethane	ug/L	ND	20	20	20	19.6	23.4	98	117	48-139	18	
cis-1,2-Dichloroethene	ug/L	43.8	20	20	20	72.7	71.8	144	140	63-123	1 M1	
cis-1,3-Dichloropropene	ug/L	ND	20	20	20	20.7	20.3	104	102	65-121	2	
Dibromochloromethane	ug/L	ND	20	20	20	23.5	23.6	117	118	58-132	1	
Ethylbenzene	ug/L	ND	20	20	20	20.6	20.0	103	100	70-123	3	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	20	23.6	23.2	118	116	66-136	2	
m&p-Xylene	ug/L	ND	40	40	40	40.9	40.6	102	101	71-124	1	
Methylene Chloride	ug/L	ND	20	20	20	18.7	20.1	93	101	55-134	7	
o-Xylene	ug/L	ND	20	20	20	19.4	18.0	97	90	69-118	7	
Styrene	ug/L	ND	20	20	20	19.3	18.5	97	92	66-126	5	
Tetrachloroethene	ug/L	ND	20	20	20	21.6	20.9	108	104	62-131	4	
Toluene	ug/L	ND	20	20	20	20.7	20.2	103	101	73-123	2	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 824793 824794											
Parameter	Units	30135169001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
trans-1,2-Dichloroethene	ug/L	ND	20	20	22.5	22.9	113	114	61-124	2	
trans-1,3-Dichloropropene	ug/L	ND	20	20	20.9	20.6	104	103	70-111	1	
Trichloroethene	ug/L	18.8	20	20	41.1	38.0	111	96	66-125	8	
Trichlorofluoromethane	ug/L	ND	20	20	27.9	30.8	140	154	57-144	10	M1
Vinyl chloride	ug/L	2.4	20	20	28.4	30.1	130	138	58-131	6	M1
1,2-Dichloroethane-d4 (S)	%						112	105	84-124		
4-Bromofluorobenzene (S)	%						101	101	84-113		
Toluene-d8 (S)	%						96	94	79-118		

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QUALIFIERS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

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.

PQL - Practical Quantitation 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.

ANALYTE QUALIFIERS

1c	Analyte was diluted out when analyzed at dilution due to the high concentration of other analytes in the sample and matrix heterogeneity.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135169

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30135169001	RW-1S	EPA 8260C	MSV/21768		
30135169002	RW-2S	EPA 8260C	MSV/21768		
30135169003	RW-2D	EPA 8260C	MSV/21768		
30135169004	RW-3S	EPA 8260C	MSV/21768		
30135169005	RW-6D	EPA 8260C	MSV/21768		
30135169006	TB-01	EPA 8260C	MSV/21768		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A

Required Client Information:

Company: **URS CORP**
 Address: **FOSTER PLAZA 601 ANDERSON DR. STE. 400 PITTSBURGH, PA 15220**
 Email To:

Section B

Required Project Information:

Report To: **MARK DOWIAK**
 Copy To: **VALERIE SIBETO**
 Purchase Order No.: **41569831**
 Project Name: **ESSEX/HOPE JAMESTOWN**
 Project Number: **41569831**

Section C

Invoice Information:

Attention:
 Company Name:
 Address:
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

Page: **1** of **1**
1568161
REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER
 Site Location: **NY**
 STATE:

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test ↑	V/N ↑	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME			DATE	TIME	DATE	TIME	DATE	TIME	DATE					
1	RW-1S	Drinking Water WT	WT G	11-24-14	1300		3											601	
2	RW-2S	Waste Water WW			1310		3											062	
3	RW-2D	Product P			1315		3											003	
4	RW-3S	Soil/Solid SL			1320		3											004	
5	RW-6D	Oil OL			1330		3											005	
6	TB-01	Wipe WP			11-24-14		2											006	
7		Air AR																	
8		Tissue TS																	
9		Other OT																	
10																			
11																			
12																			
ADDITIONAL COMMENTS: 2014 SEMI-ANNUAL RECOVERY WELL SAMPLING- 4TH QTR 2014																			
RELINQUISHED BY / AFFILIATION: Valerie Sibeto DATE: 11-24-14																			
ACCEPTED BY / AFFILIATION: Valerie Sibeto DATE: 11-25-14 0955																			
SAMPLE CONDITIONS: Temp in °C Ice (Y/N) Custody (Y/N) Samples Intact (Y/N)																			
SAMPLER NAME AND SIGNATURE: VALERIE SIBETO DATE SIGNED: 11-24-14																			
PRINT NAME OF SAMPLER: Valerie Sibeto DATE SIGNED: 11-24-14																			
SIGNATURE OF SAMPLER: Valerie Sibeto DATE SIGNED: 11-24-14																			



Sample Condition Upon Receipt

Client Name: WRS Corp

Project # 30135169

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8023 6932 6791

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used #6 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 1.2 °C Correction Factor: 0.0 °C Final Temp: 1.2 °C

Date and Initials of person

examining contents: SRA 11-25-14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>wt</u>		
All containers needing preservation have been checked,	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>SRA</u> Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 11/26/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

[illegible]

July 28, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: Essex Jamestown
Pace Project No.: 30125464

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on July 22, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Essex Jamestown

Pace Project No.: 30125464

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex Jamestown

Pace Project No.: 30125464

Sample: RW-6D		Lab ID: 30125464001		Collected: 07/21/14 14:45		Received: 07/22/14 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV		Analytical Method: EPA 8260B							
Acetone	125000	ug/L	10000	1000		07/25/14 13:55	67-64-1		
Benzene	26.4	ug/L	1.0	1		07/24/14 13:40	71-43-2		
Bromodichloromethane	ND	ug/L	5.0	1		07/24/14 13:40	75-27-4		
Bromoform	ND	ug/L	5.0	1		07/24/14 13:40	75-25-2		
Bromomethane	ND	ug/L	5.0	1		07/24/14 13:40	74-83-9		
2-Butanone (MEK)	824	ug/L	200	20		07/25/14 13:30	78-93-3		
Carbon disulfide	ND	ug/L	5.0	1		07/24/14 13:40	75-15-0		
Carbon tetrachloride	ND	ug/L	5.0	1		07/24/14 13:40	56-23-5		
Chlorobenzene	ND	ug/L	5.0	1		07/24/14 13:40	108-90-7		
Chloroethane	ND	ug/L	5.0	1		07/24/14 13:40	75-00-3		
Chloroform	ND	ug/L	5.0	1		07/24/14 13:40	67-66-3		
Chloromethane	ND	ug/L	5.0	1		07/24/14 13:40	74-87-3		
Dibromochloromethane	ND	ug/L	5.0	1		07/24/14 13:40	124-48-1		
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 13:40	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 13:40	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 13:40	106-46-7		
1,1-Dichloroethane	ND	ug/L	5.0	1		07/24/14 13:40	75-34-3		
1,2-Dichloroethane	ND	ug/L	5.0	1		07/24/14 13:40	107-06-2		
1,1-Dichloroethene	47.1	ug/L	5.0	1		07/24/14 13:40	75-35-4		
cis-1,2-Dichloroethene	21000	ug/L	500	100		07/24/14 14:05	156-59-2		
trans-1,2-Dichloroethene	179	ug/L	5.0	1		07/24/14 13:40	156-60-5		
1,2-Dichloropropane	ND	ug/L	5.0	1		07/24/14 13:40	78-87-5		
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/24/14 13:40	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/24/14 13:40	10061-02-6		
Ethylbenzene	ND	ug/L	5.0	1		07/24/14 13:40	100-41-4		
2-Hexanone	ND	ug/L	10.0	1		07/24/14 13:40	591-78-6		
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/24/14 13:40	98-82-8		
Methylene Chloride	ND	ug/L	5.0	1		07/24/14 13:40	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/24/14 13:40	108-10-1		
Styrene	ND	ug/L	5.0	1		07/24/14 13:40	100-42-5		
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/24/14 13:40	79-34-5		
Tetrachloroethene	ND	ug/L	5.0	1		07/24/14 13:40	127-18-4		
Toluene	ND	ug/L	5.0	1		07/24/14 13:40	108-88-3		
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/24/14 13:40	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/24/14 13:40	79-00-5		
Trichloroethene	1990	ug/L	100	20		07/25/14 13:30	79-01-6		
Trichlorofluoromethane	ND	ug/L	5.0	1		07/24/14 13:40	75-69-4		
Vinyl chloride	3940	ug/L	20.0	20		07/25/14 13:30	75-01-4		
m&p-Xylene	ND	ug/L	5.0	1		07/24/14 13:40	179601-23-1		
o-Xylene	ND	ug/L	5.0	1		07/24/14 13:40	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	100	%	85-115	1		07/24/14 13:40	460-00-4		
1,2-Dichloroethane-d4 (S)	91	%	77-119	1		07/24/14 13:40	17060-07-0		
Toluene-d8 (S)	99	%	85-115	1		07/24/14 13:40	2037-26-5		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex Jamestown

Pace Project No.: 30125464

QC Batch: MSV/20421

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260 MSV

Associated Lab Samples: 30125464001

METHOD BLANK: 763671

Matrix: Water

Associated Lab Samples: 30125464001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,1-Dichloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,1-Dichloroethene	ug/L	ND	1.0	07/24/14 11:39	
1,2-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:39	
1,2-Dichloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,2-Dichloropropane	ug/L	ND	1.0	07/24/14 11:39	
1,3-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:39	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:39	
2-Butanone (MEK)	ug/L	ND	10.0	07/24/14 11:39	
2-Hexanone	ug/L	ND	10.0	07/24/14 11:39	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/24/14 11:39	
Acetone	ug/L	ND	10.0	07/24/14 11:39	
Benzene	ug/L	ND	1.0	07/24/14 11:39	
Bromodichloromethane	ug/L	ND	1.0	07/24/14 11:39	
Bromoform	ug/L	ND	1.0	07/24/14 11:39	
Bromomethane	ug/L	ND	1.0	07/24/14 11:39	
Carbon disulfide	ug/L	ND	1.0	07/24/14 11:39	
Carbon tetrachloride	ug/L	ND	1.0	07/24/14 11:39	
Chlorobenzene	ug/L	ND	1.0	07/24/14 11:39	
Chloroethane	ug/L	ND	1.0	07/24/14 11:39	
Chloroform	ug/L	ND	1.0	07/24/14 11:39	
Chloromethane	ug/L	ND	1.0	07/24/14 11:39	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:39	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/24/14 11:39	
Dibromochloromethane	ug/L	ND	1.0	07/24/14 11:39	
Ethylbenzene	ug/L	ND	1.0	07/24/14 11:39	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	07/24/14 11:39	
m&p-Xylene	ug/L	ND	2.0	07/24/14 11:39	
Methylene Chloride	ug/L	ND	1.0	07/24/14 11:39	
o-Xylene	ug/L	ND	1.0	07/24/14 11:39	
Styrene	ug/L	ND	1.0	07/24/14 11:39	
Tetrachloroethene	ug/L	ND	1.0	07/24/14 11:39	
Toluene	ug/L	ND	1.0	07/24/14 11:39	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:39	
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/24/14 11:39	
Trichloroethene	ug/L	ND	1.0	07/24/14 11:39	
Trichlorofluoromethane	ug/L	ND	1.0	07/24/14 11:39	
Vinyl chloride	ug/L	ND	1.0	07/24/14 11:39	
1,2-Dichloroethane-d4 (S)	%	101	77-119	07/24/14 11:39	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex Jamestown

Pace Project No.: 30125464

METHOD BLANK: 763671

Matrix: Water

Associated Lab Samples: 30125464001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	90	85-115	07/24/14 11:39	
Toluene-d8 (S)	%	100	85-115	07/24/14 11:39	

LABORATORY CONTROL SAMPLE: 763672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	101	62-125	
1,1,2,2-Tetrachloroethane	ug/L	20	18.0	90	61-117	
1,1,2-Trichloroethane	ug/L	20	19.1	95	72-119	
1,1-Dichloroethane	ug/L	20	20.3	102	63-123	
1,1-Dichloroethene	ug/L	20	19.7	98	57-127	
1,2-Dichlorobenzene	ug/L	20	18.2	91	70-116	
1,2-Dichloroethane	ug/L	20	21.1	105	62-125	
1,2-Dichloropropane	ug/L	20	18.9	95	69-115	
1,3-Dichlorobenzene	ug/L	20	18.4	92	71-118	
1,4-Dichlorobenzene	ug/L	20	17.7	89	67-119	
2-Butanone (MEK)	ug/L	20	21.0	105	48-136	
2-Hexanone	ug/L	20	21.1	105	52-130	
4-Methyl-2-pentanone (MIBK)	ug/L	20	23.9	119	57-124	
Acetone	ug/L	20	19.1	95	49-138	
Benzene	ug/L	20	18.2	91	66-122	
Bromodichloromethane	ug/L	20	19.5	97	63-118	
Bromoform	ug/L	20	19.2	96	46-130	
Bromomethane	ug/L	20	15.0	75	10-175	
Carbon disulfide	ug/L	20	22.6	113	59-142	
Carbon tetrachloride	ug/L	20	14.4	72	55-126	
Chlorobenzene	ug/L	20	18.9	94	70-121	
Chloroethane	ug/L	20	18.7	93	24-161	
Chloroform	ug/L	20	18.9	94	62-126	
Chloromethane	ug/L	20	17.6	88	37-147	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	64-121	
cis-1,3-Dichloropropene	ug/L	20	19.4	97	64-118	
Dibromochloromethane	ug/L	20	16.0	80	60-120	
Ethylbenzene	ug/L	20	18.9	94	69-119	
Isopropylbenzene (Cumene)	ug/L	20	20.2	101	68-126	
m&p-Xylene	ug/L	40	37.3	93	70-124	
Methylene Chloride	ug/L	20	21.2	106	59-128	
o-Xylene	ug/L	20	17.8	89	67-123	
Styrene	ug/L	20	15.9	80	67-146	
Tetrachloroethene	ug/L	20	18.2	91	62-125	
Toluene	ug/L	20	19.2	96	72-115	
trans-1,2-Dichloroethene	ug/L	20	20.1	100	59-122	
trans-1,3-Dichloropropene	ug/L	20	19.3	96	64-120	
Trichloroethene	ug/L	20	19.1	96	62-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex Jamestown

Pace Project No.: 30125464

LABORATORY CONTROL SAMPLE: 763672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	18.3	91	54-158	
Vinyl chloride	ug/L	20	22.0	110	52-145	
1,2-Dichloroethane-d4 (S)	%			106	77-119	
4-Bromofluorobenzene (S)	%			95	85-115	
Toluene-d8 (S)	%			95	85-115	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Essex Jamestown

Pace Project No.: 30125464

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/20421

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Essex Jamestown

Pace Project No.: 30125464

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30125464001	RW-6D	EPA 8260B	MSV/20421		

REPORT OF LABORATORY ANALYSIS

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	URS Corp	Report To:	MARK DOWIAK	Attention:	
Address:	681 ANDERSEN DR. FOSTER PLAZA C-157C-100 PITTSBURGH, PA 15220	Copy To:	VALERIE SIBERO	Company Name:	
				Address:	
		Purchase Order No.:	41569831	Pace Quote Reference:	
		Project Name:	ESSEX JAMESTOWN	Pace Project Manager:	
		Project Number:	41569831	Pace Profile #:	
Phone:	412-503-4300 / 412-503-4701				
Requested Due Date/TAT:	STANDARD				

Page: of

1835767

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location
 STATE: NY

[illegible]



Sample Condition Upon Receipt

Client Name: URS

Project # 30125464

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 80239326847

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used 1 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 0.2 °C Correction Factor: -0.1 °C Final Temp: 0.1 °C

Date and Initials of person
examining contents: 7/22/14 ARM

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☐ Yes ☒ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☒ No ☐ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>	
All containers needing preservation have been checked.	☐ Yes ☒ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>ARM</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☒ No ☐ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☐ Yes ☒ No ☐ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☒ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review:

Date:

7-23-14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Project Number: 30125464
Client Name: UKS

[illegible]

APPENDIX C

SEMI-ANNUAL BPU REPORTS



August 20, 2014

Mr. Michael V. Saar, P.E.
Water Resources Manager
Division of Wastewater/Solid Waste
Jamestown Board of Public Utilities
P.O. Box 700
Jamestown, NY 14702-0700

**Subject: Essex/Hope Site
Semi-Annual Self Monitoring Report
January through June 2014
BPU Permit No. 26
URS Project No. 41569831**

Dear Mr. Saar:

This submittal represents the January through June 2014 monitoring report in accordance with the City of Jamestown Board of Public Utilities Industrial Wastewater Discharge Permit Number 26 for the Essex Specialty Products, Inc facility referenced above. For reporting purposes, Essex Specialty Products, Inc., is classified as a Significant Industrial User subject to Categorical Pretreatment Standards. As such, this report has been developed in accordance with the requirements of 40 CFR 403.12(e).

Specific requirements included in this report as shown on Table 1 are as follows:

- Concentrations of Total Toxic Organics (TTOs) in discharge to POTW as measured monthly. Note: The Baseline Monitoring conducted for the discharge identified volatile organic compounds (VOCs) as approximately 98% of the influent TTO component. Non-volatile components historically were not a major component of chemical usage at the site. Based on these conditions, the permit requires sampling of VOCs to measure TTO concentration.
- pH of discharge to POTW as measured monthly.
- Flow rate of discharge to POTW as measured monthly.
- Estimated daily average and maximum flow rates.

This Semi-Annual Report contains system influent and effluent data for January through June 2014. No noncompliance events occurred during this reporting period. The groundwater treatment system remained shut down for most of the first half of 2014 due to major operations and maintenance activities including groundwater treatment system transfer pump repair, water line repairs, plant heating system repairs, and a broken carbon vessel. Table 1 summarizes the monthly discharge rates, and the total TTOs and constituents detected in the discharge to the POTW for each month. In addition to the permit requirements, Table 1 includes the total mass of Acetone discharged to the POTW during the reporting period. Discharge flow rates for the reporting period were 169,486 to 151,415 gallons for March and June, respectively. The daily average flow rates shown on Table 1 were estimated based upon the total volume of water discharged per month. Daily maximum flow rates were estimated to be 20 percent greater than daily averages. The supporting Laboratory Certificates of Analysis for the reported concentrations of VOCs are also attached.

We trust that this submittal satisfies our reporting obligation pursuant to 40 CFR 403.12. If you have any questions or require additional information, please contact me at (412) 503-4672.

Sincerely,
URS

A handwritten signature in black ink that reads "Mark Dowiak / URS". The signature is written in a cursive, flowing style.

Mark Dowiak, P.E.
Project Manager

Attachment

cc: Tim King (Dow)
Maurice Moore (NYSDEC)
Valerie Sibeto (URS)

Table 1

**January - June 2014
Post Carbon (Effluent) Monitoring Data
Essex/Hope Site
Jamestown, NY**

Reporting Requirements for Pre-Treated Discharge (System Effluent to POTW)	Industrial Wastewater Discharge Permit #26 Limits	January	February	March	April	May	June
POTW Discharge Analytical Data							
Total TTOs (µg/L)	2,130 µg/L (TTO)			NS			195
Detected TTO Compounds	Report			NS			cis-1,2-DCE and Vinyl Chloride
pH (Standard Units)	5.5 to 10			NS			7.01
				NS			7.01
				NS			7.00
				NS			7.00
Acetone Discharged (lbs)	Not applicable/No limits			0.0			0.0
POTW Discharge Flow Data							
Monthly Total Flow (gallons)	Report			169,486			151,415
Average Daily Flow (gallons)	Report			6,053			4,884
Maximum Daily Flow (gallons)	Report			7,264			5,861

Notes:

Jamestown BPU Industrial Wastewater Discharge Permit #26 effective 11/4/12 through 11/3/17.

Maximum Daily Flow is estimated to be 20% greater than Average Daily Flow.

VOCs sample is a laboratory prepared composite of 4 grab samples collected from the pre-treatment system discharge to the POTW at 30 minute intervals.

pH measurements recorded are concurrent with the time of each grab sample. Italicized measurements are approximate.

TTO = Total Toxic Organics

The system was shut down much of the first half for major O&M activities including transfer pump repairs, water line repairs, plant heating system repairs, and a broken carbon vessel.

The return to normal operations of the system commenced on June 5, 2014 and RW-6D commenced operations on June 27, 2014.

March sample was to be collected in the beginning of April, however, the system required a shut down due to a damaged carbon vessel therefore, no sample was collected.

NS = Not Sampled

July 22, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30123816

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on June 28, 2014. 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.

Report reissued 7/22/14 to include the results that were not appearing in the initial report.

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

Sincerely,



Jacquelyn Collins for
Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

Sample: PRE-CARB		Lab ID: 30123816001	Collected: 06/27/14 09:50	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/10/14 17:43	67-64-1	
Benzene	4.2	ug/L	1.0	1		07/10/14 17:43	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/10/14 17:43	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/10/14 17:43	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/10/14 17:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/10/14 17:43	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/10/14 17:43	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/10/14 17:43	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/10/14 17:43	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/10/14 17:43	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/10/14 17:43	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/10/14 17:43	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/10/14 17:43	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 17:43	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 17:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 17:43	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/10/14 17:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/10/14 17:43	107-06-2	
1,1-Dichloroethene	9.0	ug/L	5.0	1		07/10/14 17:43	75-35-4	
cis-1,2-Dichloroethene	1680	ug/L	250	50		07/10/14 18:07	156-59-2	
trans-1,2-Dichloroethene	15.0	ug/L	5.0	1		07/10/14 17:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/10/14 17:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 17:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 17:43	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/10/14 17:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/10/14 17:43	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/10/14 17:43	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/10/14 17:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/10/14 17:43	108-10-1	
Styrene	ND	ug/L	5.0	1		07/10/14 17:43	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/10/14 17:43	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/10/14 17:43	127-18-4	
Toluene	ND	ug/L	5.0	1		07/10/14 17:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/10/14 17:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/10/14 17:43	79-00-5	
Trichloroethene	1120	ug/L	250	50		07/10/14 18:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/10/14 17:43	75-69-4	
Vinyl chloride	292	ug/L	1.0	1		07/10/14 17:43	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/10/14 17:43	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/10/14 17:43	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	85-115	1		07/10/14 17:43	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	77-119	1		07/10/14 17:43	17060-07-0	
Toluene-d8 (S)	97	%	85-115	1		07/10/14 17:43	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

Sample: PRIMARY-EFF		Lab ID: 30123816002	Collected: 06/27/14 09:55	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/10/14 18:31	67-64-1	
Benzene	ND	ug/L	1.0	1		07/10/14 18:31	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/10/14 18:31	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/10/14 18:31	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/10/14 18:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/10/14 18:31	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/10/14 18:31	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/10/14 18:31	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/10/14 18:31	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/10/14 18:31	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/10/14 18:31	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/10/14 18:31	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/10/14 18:31	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 18:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 18:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 18:31	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/10/14 18:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/10/14 18:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		07/10/14 18:31	75-35-4	
cis-1,2-Dichloroethene	471	ug/L	250	50		07/10/14 18:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		07/10/14 18:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/10/14 18:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 18:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 18:31	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/10/14 18:31	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/10/14 18:31	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/10/14 18:31	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/10/14 18:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/10/14 18:31	108-10-1	
Styrene	ND	ug/L	5.0	1		07/10/14 18:31	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/10/14 18:31	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/10/14 18:31	127-18-4	
Toluene	ND	ug/L	5.0	1		07/10/14 18:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/10/14 18:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/10/14 18:31	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		07/10/14 18:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/10/14 18:31	75-69-4	
Vinyl chloride	226	ug/L	1.0	1		07/10/14 18:31	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/10/14 18:31	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/10/14 18:31	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	85-115	1		07/10/14 18:31	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	77-119	1		07/10/14 18:31	17060-07-0	
Toluene-d8 (S)	92	%	85-115	1		07/10/14 18:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

Sample: POST-CARB		Lab ID: 30123816003	Collected: 06/27/14 10:00	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/10/14 19:20	67-64-1	
Benzene	ND	ug/L	1.0	1		07/10/14 19:20	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/10/14 19:20	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/10/14 19:20	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/10/14 19:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/10/14 19:20	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/10/14 19:20	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/10/14 19:20	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/10/14 19:20	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/10/14 19:20	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/10/14 19:20	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/10/14 19:20	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/10/14 19:20	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 19:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 19:20	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/10/14 19:20	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/10/14 19:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/10/14 19:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		07/10/14 19:20	75-35-4	
cis-1,2-Dichloroethene	9.0	ug/L	5.0	1		07/10/14 19:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		07/10/14 19:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/10/14 19:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 19:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/10/14 19:20	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/10/14 19:20	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/10/14 19:20	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/10/14 19:20	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/10/14 19:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/10/14 19:20	108-10-1	
Styrene	ND	ug/L	5.0	1		07/10/14 19:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/10/14 19:20	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/10/14 19:20	127-18-4	
Toluene	ND	ug/L	5.0	1		07/10/14 19:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/10/14 19:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/10/14 19:20	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		07/10/14 19:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/10/14 19:20	75-69-4	
Vinyl chloride	186	ug/L	1.0	1		07/10/14 19:20	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/10/14 19:20	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/10/14 19:20	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	85-115	1		07/10/14 19:20	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	77-119	1		07/10/14 19:20	17060-07-0	
Toluene-d8 (S)	98	%	85-115	1		07/10/14 19:20	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

Sample: TB-01		Lab ID: 30123816007	Collected: 06/27/14 00:01	Received: 06/28/14 10:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND ug/L		10.0	1		07/10/14 12:02	67-64-1	
Benzene	ND ug/L		1.0	1		07/10/14 12:02	71-43-2	
Bromodichloromethane	ND ug/L		5.0	1		07/10/14 12:02	75-27-4	
Bromoform	ND ug/L		5.0	1		07/10/14 12:02	75-25-2	
Bromomethane	ND ug/L		5.0	1		07/10/14 12:02	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		07/10/14 12:02	78-93-3	
Carbon disulfide	ND ug/L		5.0	1		07/10/14 12:02	75-15-0	
Carbon tetrachloride	ND ug/L		5.0	1		07/10/14 12:02	56-23-5	
Chlorobenzene	ND ug/L		5.0	1		07/10/14 12:02	108-90-7	
Chloroethane	ND ug/L		5.0	1		07/10/14 12:02	75-00-3	
Chloroform	ND ug/L		5.0	1		07/10/14 12:02	67-66-3	
Chloromethane	ND ug/L		5.0	1		07/10/14 12:02	74-87-3	
Dibromochloromethane	ND ug/L		5.0	1		07/10/14 12:02	124-48-1	
1,2-Dichlorobenzene	ND ug/L		5.0	1		07/10/14 12:02	95-50-1	
1,3-Dichlorobenzene	ND ug/L		5.0	1		07/10/14 12:02	541-73-1	
1,4-Dichlorobenzene	ND ug/L		5.0	1		07/10/14 12:02	106-46-7	
1,1-Dichloroethane	ND ug/L		5.0	1		07/10/14 12:02	75-34-3	
1,2-Dichloroethane	ND ug/L		5.0	1		07/10/14 12:02	107-06-2	
1,1-Dichloroethene	ND ug/L		5.0	1		07/10/14 12:02	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		5.0	1		07/10/14 12:02	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	1		07/10/14 12:02	156-60-5	
1,2-Dichloropropane	ND ug/L		5.0	1		07/10/14 12:02	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		5.0	1		07/10/14 12:02	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		5.0	1		07/10/14 12:02	10061-02-6	
Ethylbenzene	ND ug/L		5.0	1		07/10/14 12:02	100-41-4	
2-Hexanone	ND ug/L		10.0	1		07/10/14 12:02	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		07/10/14 12:02	98-82-8	
Methylene Chloride	ND ug/L		5.0	1		07/10/14 12:02	75-09-2	B
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		07/10/14 12:02	108-10-1	
Styrene	ND ug/L		5.0	1		07/10/14 12:02	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		5.0	1		07/10/14 12:02	79-34-5	
Tetrachloroethene	ND ug/L		5.0	1		07/10/14 12:02	127-18-4	
Toluene	ND ug/L		5.0	1		07/10/14 12:02	108-88-3	
1,1,1-Trichloroethane	ND ug/L		5.0	1		07/10/14 12:02	71-55-6	
1,1,2-Trichloroethane	ND ug/L		5.0	1		07/10/14 12:02	79-00-5	
Trichloroethene	ND ug/L		5.0	1		07/10/14 12:02	79-01-6	
Trichlorofluoromethane	ND ug/L		5.0	1		07/10/14 12:02	75-69-4	
Vinyl chloride	ND ug/L		1.0	1		07/10/14 12:02	75-01-4	
m&p-Xylene	ND ug/L		5.0	1		07/10/14 12:02	179601-23-1	
o-Xylene	ND ug/L		5.0	1		07/10/14 12:02	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98 %		85-115	1		07/10/14 12:02	460-00-4	
1,2-Dichloroethane-d4 (S)	106 %		77-119	1		07/10/14 12:02	17060-07-0	
Toluene-d8 (S)	97 %		85-115	1		07/10/14 12:02	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

QC Batch: MSV/20249 Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B Analysis Description: 8260 MSV

Associated Lab Samples: 30123816001, 30123816002, 30123816003, 30123816007

METHOD BLANK: 755876

Matrix: Water

Associated Lab Samples: 30123816001, 30123816002, 30123816003, 30123816007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,1-Dichloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,1-Dichloroethene	ug/L	ND	1.0	07/10/14 10:24	
1,2-Dichlorobenzene	ug/L	ND	1.0	07/10/14 10:24	
1,2-Dichloroethane	ug/L	ND	1.0	07/10/14 10:24	
1,2-Dichloropropane	ug/L	ND	1.0	07/10/14 10:24	
1,3-Dichlorobenzene	ug/L	ND	1.0	07/10/14 10:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/10/14 10:24	
2-Butanone (MEK)	ug/L	ND	10.0	07/10/14 10:24	
2-Hexanone	ug/L	ND	10.0	07/10/14 10:24	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/10/14 10:24	
Acetone	ug/L	ND	10.0	07/10/14 10:24	
Benzene	ug/L	ND	1.0	07/10/14 10:24	
Bromodichloromethane	ug/L	ND	1.0	07/10/14 10:24	
Bromoform	ug/L	ND	1.0	07/10/14 10:24	
Bromomethane	ug/L	ND	1.0	07/10/14 10:24	
Carbon disulfide	ug/L	ND	1.0	07/10/14 10:24	
Carbon tetrachloride	ug/L	ND	1.0	07/10/14 10:24	
Chlorobenzene	ug/L	ND	1.0	07/10/14 10:24	
Chloroethane	ug/L	ND	1.0	07/10/14 10:24	
Chloroform	ug/L	ND	1.0	07/10/14 10:24	
Chloromethane	ug/L	ND	1.0	07/10/14 10:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/10/14 10:24	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/10/14 10:24	
Dibromochloromethane	ug/L	ND	1.0	07/10/14 10:24	
Ethylbenzene	ug/L	ND	1.0	07/10/14 10:24	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	07/10/14 10:24	
m&p-Xylene	ug/L	ND	2.0	07/10/14 10:24	
Methylene Chloride	ug/L	1.2	1.0	07/10/14 10:24	B,C9
o-Xylene	ug/L	ND	1.0	07/10/14 10:24	
Styrene	ug/L	ND	1.0	07/10/14 10:24	
Tetrachloroethene	ug/L	ND	1.0	07/10/14 10:24	
Toluene	ug/L	ND	1.0	07/10/14 10:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/10/14 10:24	
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/10/14 10:24	
Trichloroethene	ug/L	ND	1.0	07/10/14 10:24	
Trichlorofluoromethane	ug/L	ND	1.0	07/10/14 10:24	
Vinyl chloride	ug/L	ND	1.0	07/10/14 10:24	
1,2-Dichloroethane-d4 (S)	%	106	77-119	07/10/14 10:24	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

METHOD BLANK: 755876

Matrix: Water

Associated Lab Samples: 30123816001, 30123816002, 30123816003, 30123816007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	99	85-115	07/10/14 10:24	
Toluene-d8 (S)	%	100	85-115	07/10/14 10:24	

LABORATORY CONTROL SAMPLE: 755877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.2	96	62-125	
1,1,2,2-Tetrachloroethane	ug/L	20	16.5	83	61-117	
1,1,2-Trichloroethane	ug/L	20	19.8	99	72-119	
1,1-Dichloroethane	ug/L	20	17.8	89	63-123	
1,1-Dichloroethene	ug/L	20	16.6	83	57-127	
1,2-Dichlorobenzene	ug/L	20	17.2	86	70-116	
1,2-Dichloroethane	ug/L	20	18.1	90	62-125	
1,2-Dichloropropane	ug/L	20	16.9	85	69-115	
1,3-Dichlorobenzene	ug/L	20	16.6	83	71-118	
1,4-Dichlorobenzene	ug/L	20	17.7	89	67-119	
2-Butanone (MEK)	ug/L	20	21.7	109	48-136	
2-Hexanone	ug/L	20	17.8	89	52-130	
4-Methyl-2-pentanone (MIBK)	ug/L	20	19.9	99	57-124	
Acetone	ug/L	20	23.5	118	49-138	
Benzene	ug/L	20	16.6	83	66-122	
Bromodichloromethane	ug/L	20	17.2	86	63-118	
Bromoform	ug/L	20	20.9	104	46-130	
Bromomethane	ug/L	20	13.8	69	10-175	
Carbon disulfide	ug/L	20	27.5	137	59-142	
Carbon tetrachloride	ug/L	20	19.2	96	55-126	
Chlorobenzene	ug/L	20	19.0	95	70-121	
Chloroethane	ug/L	20	21.4	107	24-161	
Chloroform	ug/L	20	17.7	89	62-126	
Chloromethane	ug/L	20	20.1	101	37-147	
cis-1,2-Dichloroethene	ug/L	20	17.5	87	64-121	
cis-1,3-Dichloropropene	ug/L	20	15.7	79	64-118	
Dibromochloromethane	ug/L	20	20.1	101	60-120	
Ethylbenzene	ug/L	20	18.6	93	69-119	
Isopropylbenzene (Cumene)	ug/L	20	16.9	84	68-126	
m&p-Xylene	ug/L	40	36.0	90	70-124	
Methylene Chloride	ug/L	20	18.1	90	59-128	
o-Xylene	ug/L	20	18.1	91	67-123	
Styrene	ug/L	20	18.7	93	67-146	
Tetrachloroethene	ug/L	20	18.7	94	62-125	
Toluene	ug/L	20	18.1	91	72-115	
trans-1,2-Dichloroethene	ug/L	20	17.2	86	59-122	
trans-1,3-Dichloropropene	ug/L	20	16.1	80	64-120	
Trichloroethene	ug/L	20	19.5	97	62-125	

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

LABORATORY CONTROL SAMPLE: 755877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	23.2	116	54-158	
Vinyl chloride	ug/L	20	20.9	104	52-145	
1,2-Dichloroethane-d4 (S)	%			102	77-119	
4-Bromofluorobenzene (S)	%			101	85-115	
Toluene-d8 (S)	%			102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 756092

756093

Parameter	Units	30123743001		MS		MSD		MS		MSD		% Rec		RPD	Qual
		Result	Conc.	Spike Conc.	Result	Spike Conc.	Result	% Rec	Result	% Rec	Result	% Rec	Limits		
1,1,1-Trichloroethane	ug/L	ND	20	20	25.8	25.6	129	128	62-125	1	M0				
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.7	16.7	83	84	61-117	0					
1,1,2-Trichloroethane	ug/L	ND	20	20	20.9	20.0	105	100	72-119	4					
1,1-Dichloroethane	ug/L	ND	20	20	23.8	23.5	119	118	63-123	1					
1,1-Dichloroethene	ug/L	ND	20	20	24.2	24.3	121	121	57-127	0					
1,2-Dichlorobenzene	ug/L	ND	20	20	18.0	18.1	90	91	70-116	1					
1,2-Dichloroethane	ug/L	ND	20	20	22.9	22.7	115	114	62-125	1					
1,2-Dichloropropane	ug/L	ND	20	20	20.3	19.5	102	98	69-115	4					
1,3-Dichlorobenzene	ug/L	ND	20	20	17.5	17.2	88	86	71-118	2					
1,4-Dichlorobenzene	ug/L	ND	20	20	18.7	18.3	93	91	67-119	2					
2-Butanone (MEK)	ug/L	ND	20	20	20.8	20.8	104	104	48-136	0					
2-Hexanone	ug/L	ND	20	20	14.8	14.8	74	74	52-130	0					
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	16.8	17.8	84	89	57-124	6					
Acetone	ug/L	ND	20	20	21.4	22.4	107	112	49-138	5					
Benzene	ug/L	ND	20	20	20.7	20.4	104	102	66-122	1					
Bromodichloromethane	ug/L	ND	20	20	19.4	19.6	97	98	63-118	1					
Bromoform	ug/L	ND	20	20	20.8	20.6	104	103	46-130	1					
Bromomethane	ug/L	ND	20	20	13.0	15.0	65	75	10-175	14					
Carbon disulfide	ug/L	ND	20	20	25.2	27.8	126	139	59-142	10					
Carbon tetrachloride	ug/L	ND	20	20	26.5	26.0	132	130	55-126	2	M0				
Chlorobenzene	ug/L	ND	20	20	21.4	21.2	107	106	70-121	1					
Chloroethane	ug/L	ND	20	20	25.7	25.7	128	128	24-161	0					
Chloroform	ug/L	74.4	20	20	97.9	98.5	117	120	62-126	1					
Chloromethane	ug/L	ND	20	20	22.7	23.1	114	116	37-147	2					
cis-1,2-Dichloroethene	ug/L	ND	20	20	23.3	22.9	116	114	64-121	2					
cis-1,3-Dichloropropene	ug/L	ND	20	20	19.2	18.6	96	93	64-118	3					
Dibromochloromethane	ug/L	ND	20	20	21.5	21.3	107	107	60-120	1					
Ethylbenzene	ug/L	ND	20	20	20.7	21.0	103	105	69-119	1					
Isopropylbenzene (Cumene)	ug/L	ND	20	20	19.1	19.3	96	96	68-126	1					
m&p-Xylene	ug/L	ND	40	40	41.8	40.7	104	102	70-124	3					
Methylene Chloride	ug/L	ND	20	20	22.0	21.9	110	110	59-128	0					
o-Xylene	ug/L	ND	20	20	20.1	19.6	100	98	67-123	2					
Styrene	ug/L	ND	20	20	20.7	19.8	103	99	67-146	5					
Tetrachloroethene	ug/L	ND	20	20	23.5	23.3	117	117	62-125	1					
Toluene	ug/L	ND	20	20	20.5	20.9	103	105	72-115	2					

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 756092 756093											
Parameter	Units	30123743001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
trans-1,2-Dichloroethene	ug/L	ND	20	20	23.7	23.8	119	119	59-122	0	
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.7	18.7	93	93	64-120	0	
Trichloroethene	ug/L	ND	20	20	22.5	22.7	112	114	62-125	1	
Trichlorofluoromethane	ug/L	ND	20	20	30.5	32.1	152	160	54-158	5	M0
Vinyl chloride	ug/L	ND	20	20	24.6	25.5	123	128	52-145	4	
1,2-Dichloroethane-d4 (S)	%						97	103	77-119		
4-Bromofluorobenzene (S)	%						97	96	85-115		
Toluene-d8 (S)	%						95	95	85-115		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

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.

PQL - Practical Quantitation 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.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

C9 Common Laboratory Contaminant.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30123816

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30123816001	PRE-CARB	EPA 8260B	MSV/20249		
30123816002	PRIMARY-EFF	EPA 8260B	MSV/20249		
30123816003	POST-CARB	EPA 8260B	MSV/20249		
30123816007	TB-01	EPA 8260B	MSV/20249		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	URS CORP	Report To:	MARK DOWIAK	Attention:	
Address:	FOSTER PLAZA B, STE 400 601 ANDERSEN DR PITTSBURGH PA 15220	Copy To:	VALEKIE SIBETO	Company Name:	
Email To:		Purchase Order No.:	41569831	Address:	
Phone:	412-503-4300	Project Name:	ESSEX/HOPE JAMES STANN	Pace Quote Reference:	
Requested Due Date/TAT:	STANDARD	Project Number:	41569831.10000	Pace Project Manager:	
				Pace Profile #:	

Page:	1	of	1
1710436			
REGULATORY AGENCY			
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER			
Site Location		STATE:	
NY			

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
				COMPOSITE START	COMPOSITE END/GRAB						
1	PRE-CARB	DW Drinking Water	WTG	DATE	TIME	DATE	TIME	Unpreserved			
2	PRIMARY-EFF	WT Water		6/27/14	0950			H ₂ SO ₄			
3	POST-CARB	WW Waste Water			0955			HNO ₃			
4	POST-CARB	P Product			1000			NaOH			
5	POST-CARB	SL Soil/Solid			1030			HCl			
6	POST-CARB	OL Oil			1100			Na ₂ S ₂ O ₃			
7	TB-OI	WP Wipe			1130			Other			
8		AR Air									
9		TS Tissue									
10		OT Other									
11											
12											

ADDITIONAL COMMENTS				RELINQUISHED BY / AFFILIATION				DATE				TIME				ACCEPTED BY / AFFILIATION				DATE				TIME				SAMPLE CONDITIONS			
COMPOSITE FOUR (4)				Valerie Sibeto				6/27/14				1600				Valerie Sibeto				6/27/14				1600				Y N Y			
POST-CARB SAMPLES																															
IN LAB AND REPORT																															
AS POST-CARB COMPOSITE																															

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:		DATE Signed (MM/DD/YY):	
VALERIE SIBETO		6/27/14	
SIGNATURE of SAMPLER:			

Temp in °C
Sealed Cooler (Y/N)
Custody (Y/N)
Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



Sample Condition Upon Receipt

30123816

Client Name: URS

Project # _____

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 80239326593

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None ☒ Other Ziploc

Thermometer Used 6 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 2.7 °C Correction Factor: -0.1 °C Final Temp: 2.6 °C

Date and Initials of person

examining contents: ARM 6/28/14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☐ N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>ARM</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☐ No ☐ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 6/28/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Project Number:

Client Name: _____

[illegible]



February 25, 2015

Mr. Michael V. Saar, P.E.
Water Resources Manager
Division of Wastewater/Solid Waste
Jamestown Board of Public Utilities
P.O. Box 700
Jamestown, NY 14702-0700

**Subject: Essex/Hope Site
Semi-Annual Self Monitoring Report
July through December 2014
BPU Permit No. 26
URS Project No. 41570166**

Dear Mr. Saar:

This submittal represents the July through December 2014 monitoring report in accordance with the City of Jamestown Board of Public Utilities Industrial Wastewater Discharge Permit Number 26 for the Essex Specialty Products, Inc facility referenced above. For reporting purposes, Essex Specialty Products, Inc., is classified as a Significant Industrial User subject to Categorical Pretreatment Standards. As such, this report has been developed in accordance with the requirements of 40 CFR 403.12(e).

Specific requirements included in this report as shown on Table 1 are as follows:

- Concentrations of Total Toxic Organics (TTOs) in discharge to POTW as measured monthly. Note: The Baseline Monitoring conducted for the discharge identified volatile organic compounds (VOCs) as approximately 98% of the influent TTO component. Non-volatile components historically were not a major component of chemical usage at the site. Based on these conditions, the permit requires sampling of VOCs to measure TTO concentration.
- pH of discharge to POTW as measured monthly.
- Flow rate of discharge to POTW as measured monthly.
- Estimated daily average and maximum flow rates.

URS Corporation
Foster Plaza 6, Suite 400
681 Andersen Drive
Pittsburgh, PA 15220
Tel: 412-503-4700
Fax: 412-503-4701
www.urscorp.com

This Semi-Annual Report contains system influent and effluent data for July through December 2014. No noncompliance events occurred during this reporting period. Table 1 summarizes the monthly discharge rates, and the total TTOs and constituents detected in the discharge to the POTW for each month. In addition to the permit requirements, Table 1 includes the total mass of Acetone discharged to the POTW during the reporting period. Discharge flow rates for the reporting period ranged from 119,497 to 201,286 gallons. The daily average flow rates shown on Table 1 were estimated based upon the total volume of water discharged per month. Daily maximum flow rates were estimated to be 20 percent greater than daily averages. The supporting Laboratory Certificates of Analysis for the reported concentrations of VOCs are also attached.

We trust that this submittal satisfies our reporting obligation pursuant to 40 CFR 403.12. If you have any questions or require additional information, please contact me at (412) 503-4672.

Sincerely,
URS


Mark Dowiak, P.E.
Project Manager

Attachment

cc: Tim King (Dow)
Maurice Moore (NYSDEC)
Valerie Sibeto (URS)

Table 1
July - December 2014
Post Carbon (Effluent) Monitoring Data
Essex/Hope Site
Jamestown, NY

Reporting Requirements for Pre-Treated Discharge (System Effluent to POTW)	Industrial Wastewater Discharge Permit #26 Limits	July	August	September	October	November	December
POTW Discharge Analytical Data							
Total TTOs (µg/L)	2,130 µg/L (TTO)	192	410	333	2	200	376
Detected TTO Compounds	Report	cis-1,2-DCE, Vinyl Chloride	cis-1,2-DCE, Vinyl Chloride	cis-1,2-DCE, Methylene Chloride, Vinyl Chloride	Vinyl Chloride	cis-1,2-DCE, Vinyl Chloride	cis-1,2-DCE, Vinyl Chloride
pH (Standard Units)	5.5 to 10	7.00	7.00	7.00	7.20	6.58	7.00
		7.40	6.90	7.20	7.40	6.71	7.20
		6.80	6.90	6.90	7.40	6.78	6.80
		7.00	7.01	7.00	7.20	6.86	7.00
Acetone Discharged (lbs)	Not applicable/No limits	0.0	6.1	0.0	19.4	37.0	11.7
POTW Discharge Flow Data							
Monthly Total Flow (gallons)	Report	147,207	161,077	201,286	119,497	147,717	151,553
Average Daily Flow (gallons)	Report	4,749	5,196	6,710	3,855	4,924	4,889
Maximum Daily Flow (gallons)	Report	5,698	6,235	8,051	4,626	5,909	5,867

Notes:

Jamestown BPU Industrial Wastewater Discharge Permit #26 effective 11/4/12 through 11/3/17.

Maximum Daily Flow is estimated to be 20% greater than Average Daily Flow.

VOCs sample is a laboratory prepared composite of 4 grab samples collected from the pre-treatment system discharge to the POTW at 30 minute intervals.

pH measurements recorded are concurrent with the time of each grab sample. Italicized measurements are approximate.

TTO = Total Toxic Organics

The system was shut down much of the first half for major O&M activities including transfer pump repairs, water line repairs, plant heating system repairs, and a broken carbon vessel.

The return to normal operations of the system commenced on June 5, 2014 and RW-6D commenced operations on June 27, 2014.

March sample was to be collected in the beginning of April, however, the system required a shut down due to a damaged carbon vessel therefore, no sample was collected.

System carbon was changed out on October 7, 2014.

July 28, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: Essex Jamestown
Pace Project No.: 30125463

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on July 22, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Essex Jamestown

Pace Project No.: 30125463

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

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ANALYTICAL RESULTS

Project: Essex Jamestown

Pace Project No.: 30125463

Sample: PRE-CARB		Lab ID: 30125463001	Collected: 07/21/14 13:00	Received: 07/22/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	670	ug/L	100	10		07/24/14 21:33	67-64-1	
Benzene	4.4	ug/L	1.0	1		07/24/14 21:08	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/24/14 21:08	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/24/14 21:08	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/24/14 21:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/24/14 21:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/24/14 21:08	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/24/14 21:08	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/24/14 21:08	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/24/14 21:08	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/24/14 21:08	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/24/14 21:08	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/24/14 21:08	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 21:08	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 21:08	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 21:08	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/24/14 21:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/24/14 21:08	107-06-2	
1,1-Dichloroethene	8.2	ug/L	5.0	1		07/24/14 21:08	75-35-4	
cis-1,2-Dichloroethene	2000	ug/L	50.0	10		07/24/14 21:33	156-59-2	
trans-1,2-Dichloroethene	24.9	ug/L	5.0	1		07/24/14 21:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/24/14 21:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/24/14 21:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/24/14 21:08	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/24/14 21:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/24/14 21:08	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/24/14 21:08	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/24/14 21:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/24/14 21:08	108-10-1	
Styrene	ND	ug/L	5.0	1		07/24/14 21:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/24/14 21:08	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/24/14 21:08	127-18-4	
Toluene	ND	ug/L	5.0	1		07/24/14 21:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/24/14 21:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/24/14 21:08	79-00-5	
Trichloroethene	1000	ug/L	50.0	10		07/24/14 21:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/24/14 21:08	75-69-4	
Vinyl chloride	372	ug/L	10.0	10		07/24/14 21:33	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/24/14 21:08	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/24/14 21:08	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	85-115	1		07/24/14 21:08	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	77-119	1		07/24/14 21:08	17060-07-0	
Toluene-d8 (S)	98	%	85-115	1		07/24/14 21:08	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex Jamestown

Pace Project No.: 30125463

Sample: PRIMARY-EFF		Lab ID: 30125463002	Collected: 07/21/14 13:05	Received: 07/22/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/24/14 21:58	67-64-1	
Benzene	ND	ug/L	1.0	1		07/24/14 21:58	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/24/14 21:58	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/24/14 21:58	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/24/14 21:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/24/14 21:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/24/14 21:58	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/24/14 21:58	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/24/14 21:58	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/24/14 21:58	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/24/14 21:58	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/24/14 21:58	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/24/14 21:58	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 21:58	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 21:58	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 21:58	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/24/14 21:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/24/14 21:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		07/24/14 21:58	75-35-4	
cis-1,2-Dichloroethene	636	ug/L	50.0	10		07/24/14 22:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		07/24/14 21:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/24/14 21:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/24/14 21:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/24/14 21:58	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/24/14 21:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/24/14 21:58	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/24/14 21:58	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/24/14 21:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/24/14 21:58	108-10-1	
Styrene	ND	ug/L	5.0	1		07/24/14 21:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/24/14 21:58	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/24/14 21:58	127-18-4	
Toluene	ND	ug/L	5.0	1		07/24/14 21:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/24/14 21:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/24/14 21:58	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		07/24/14 21:58	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/24/14 21:58	75-69-4	
Vinyl chloride	90.3	ug/L	1.0	1		07/24/14 21:58	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/24/14 21:58	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/24/14 21:58	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	94	%	85-115	1		07/24/14 21:58	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	77-119	1		07/24/14 21:58	17060-07-0	
Toluene-d8 (S)	100	%	85-115	1		07/24/14 21:58	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex Jamestown

Pace Project No.: 30125463

Sample: POST-CARB		Lab ID: 30125463003	Collected: 07/21/14 14:40	Received: 07/22/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B						
Acetone	ND	ug/L	10.0	1		07/24/14 20:43	67-64-1	
Benzene	ND	ug/L	1.0	1		07/24/14 20:43	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		07/24/14 20:43	75-27-4	
Bromoform	ND	ug/L	5.0	1		07/24/14 20:43	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/24/14 20:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/24/14 20:43	78-93-3	
Carbon disulfide	ND	ug/L	5.0	1		07/24/14 20:43	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		07/24/14 20:43	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		07/24/14 20:43	108-90-7	
Chloroethane	ND	ug/L	5.0	1		07/24/14 20:43	75-00-3	
Chloroform	ND	ug/L	5.0	1		07/24/14 20:43	67-66-3	
Chloromethane	ND	ug/L	5.0	1		07/24/14 20:43	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	1		07/24/14 20:43	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 20:43	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 20:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		07/24/14 20:43	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	1		07/24/14 20:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1		07/24/14 20:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		07/24/14 20:43	75-35-4	
cis-1,2-Dichloroethene	10.1	ug/L	5.0	1		07/24/14 20:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		07/24/14 20:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		07/24/14 20:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		07/24/14 20:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		07/24/14 20:43	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1		07/24/14 20:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		07/24/14 20:43	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		07/24/14 20:43	98-82-8	
Methylene Chloride	ND	ug/L	5.0	1		07/24/14 20:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/24/14 20:43	108-10-1	
Styrene	ND	ug/L	5.0	1		07/24/14 20:43	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		07/24/14 20:43	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		07/24/14 20:43	127-18-4	
Toluene	ND	ug/L	5.0	1		07/24/14 20:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		07/24/14 20:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		07/24/14 20:43	79-00-5	
Trichloroethene	ND	ug/L	5.0	1		07/24/14 20:43	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		07/24/14 20:43	75-69-4	
Vinyl chloride	182	ug/L	1.0	1		07/24/14 20:43	75-01-4	
m&p-Xylene	ND	ug/L	5.0	1		07/24/14 20:43	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		07/24/14 20:43	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	92	%	85-115	1		07/24/14 20:43	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	77-119	1		07/24/14 20:43	17060-07-0	
Toluene-d8 (S)	96	%	85-115	1		07/24/14 20:43	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex Jamestown

Pace Project No.: 30125463

Sample: TB-01		Lab ID: 30125463004		Collected: 07/21/14 00:01		Received: 07/22/14 09:30		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260B							
Acetone	ND ug/L	10.0	1			07/24/14 20:19	67-64-1		
Benzene	ND ug/L	1.0	1			07/24/14 20:19	71-43-2		
Bromodichloromethane	ND ug/L	5.0	1			07/24/14 20:19	75-27-4		
Bromoform	ND ug/L	5.0	1			07/24/14 20:19	75-25-2		
Bromomethane	ND ug/L	5.0	1			07/24/14 20:19	74-83-9		
2-Butanone (MEK)	ND ug/L	10.0	1			07/24/14 20:19	78-93-3		
Carbon disulfide	ND ug/L	5.0	1			07/24/14 20:19	75-15-0		
Carbon tetrachloride	ND ug/L	5.0	1			07/24/14 20:19	56-23-5		
Chlorobenzene	ND ug/L	5.0	1			07/24/14 20:19	108-90-7		
Chloroethane	ND ug/L	5.0	1			07/24/14 20:19	75-00-3		
Chloroform	ND ug/L	5.0	1			07/24/14 20:19	67-66-3		
Chloromethane	ND ug/L	5.0	1			07/24/14 20:19	74-87-3		
Dibromochloromethane	ND ug/L	5.0	1			07/24/14 20:19	124-48-1		
1,2-Dichlorobenzene	ND ug/L	5.0	1			07/24/14 20:19	95-50-1		
1,3-Dichlorobenzene	ND ug/L	5.0	1			07/24/14 20:19	541-73-1		
1,4-Dichlorobenzene	ND ug/L	5.0	1			07/24/14 20:19	106-46-7		
1,1-Dichloroethane	ND ug/L	5.0	1			07/24/14 20:19	75-34-3		
1,2-Dichloroethane	ND ug/L	5.0	1			07/24/14 20:19	107-06-2		
1,1-Dichloroethene	ND ug/L	5.0	1			07/24/14 20:19	75-35-4		
cis-1,2-Dichloroethene	ND ug/L	5.0	1			07/24/14 20:19	156-59-2		
trans-1,2-Dichloroethene	ND ug/L	5.0	1			07/24/14 20:19	156-60-5		
1,2-Dichloropropane	ND ug/L	5.0	1			07/24/14 20:19	78-87-5		
cis-1,3-Dichloropropene	ND ug/L	5.0	1			07/24/14 20:19	10061-01-5		
trans-1,3-Dichloropropene	ND ug/L	5.0	1			07/24/14 20:19	10061-02-6		
Ethylbenzene	ND ug/L	5.0	1			07/24/14 20:19	100-41-4		
2-Hexanone	ND ug/L	10.0	1			07/24/14 20:19	591-78-6		
Isopropylbenzene (Cumene)	ND ug/L	1.0	1			07/24/14 20:19	98-82-8		
Methylene Chloride	ND ug/L	5.0	1			07/24/14 20:19	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND ug/L	10.0	1			07/24/14 20:19	108-10-1		
Styrene	ND ug/L	5.0	1			07/24/14 20:19	100-42-5		
1,1,2,2-Tetrachloroethane	ND ug/L	5.0	1			07/24/14 20:19	79-34-5		
Tetrachloroethene	ND ug/L	5.0	1			07/24/14 20:19	127-18-4		
Toluene	ND ug/L	5.0	1			07/24/14 20:19	108-88-3		
1,1,1-Trichloroethane	ND ug/L	5.0	1			07/24/14 20:19	71-55-6		
1,1,2-Trichloroethane	ND ug/L	5.0	1			07/24/14 20:19	79-00-5		
Trichloroethene	ND ug/L	5.0	1			07/24/14 20:19	79-01-6		
Trichlorofluoromethane	ND ug/L	5.0	1			07/24/14 20:19	75-69-4		
Vinyl chloride	ND ug/L	1.0	1			07/24/14 20:19	75-01-4		
m&p-Xylene	ND ug/L	5.0	1			07/24/14 20:19	179601-23-1		
o-Xylene	ND ug/L	5.0	1			07/24/14 20:19	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	93 %	85-115	1			07/24/14 20:19	460-00-4		
1,2-Dichloroethane-d4 (S)	99 %	77-119	1			07/24/14 20:19	17060-07-0		
Toluene-d8 (S)	97 %	85-115	1			07/24/14 20:19	2037-26-5		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex Jamestown

Pace Project No.: 30125463

QC Batch: MSV/20421 Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B Analysis Description: 8260 MSV

Associated Lab Samples: 30125463001, 30125463002, 30125463003, 30125463004

METHOD BLANK: 763671

Matrix: Water

Associated Lab Samples: 30125463001, 30125463002, 30125463003, 30125463004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,1-Dichloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,1-Dichloroethene	ug/L	ND	1.0	07/24/14 11:39	
1,2-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:39	
1,2-Dichloroethane	ug/L	ND	1.0	07/24/14 11:39	
1,2-Dichloropropane	ug/L	ND	1.0	07/24/14 11:39	
1,3-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:39	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:39	
2-Butanone (MEK)	ug/L	ND	10.0	07/24/14 11:39	
2-Hexanone	ug/L	ND	10.0	07/24/14 11:39	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/24/14 11:39	
Acetone	ug/L	ND	10.0	07/24/14 11:39	
Benzene	ug/L	ND	1.0	07/24/14 11:39	
Bromodichloromethane	ug/L	ND	1.0	07/24/14 11:39	
Bromoform	ug/L	ND	1.0	07/24/14 11:39	
Bromomethane	ug/L	ND	1.0	07/24/14 11:39	
Carbon disulfide	ug/L	ND	1.0	07/24/14 11:39	
Carbon tetrachloride	ug/L	ND	1.0	07/24/14 11:39	
Chlorobenzene	ug/L	ND	1.0	07/24/14 11:39	
Chloroethane	ug/L	ND	1.0	07/24/14 11:39	
Chloroform	ug/L	ND	1.0	07/24/14 11:39	
Chloromethane	ug/L	ND	1.0	07/24/14 11:39	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:39	
cis-1,3-Dichloropropene	ug/L	ND	1.0	07/24/14 11:39	
Dibromochloromethane	ug/L	ND	1.0	07/24/14 11:39	
Ethylbenzene	ug/L	ND	1.0	07/24/14 11:39	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	07/24/14 11:39	
m&p-Xylene	ug/L	ND	2.0	07/24/14 11:39	
Methylene Chloride	ug/L	ND	1.0	07/24/14 11:39	
o-Xylene	ug/L	ND	1.0	07/24/14 11:39	
Styrene	ug/L	ND	1.0	07/24/14 11:39	
Tetrachloroethene	ug/L	ND	1.0	07/24/14 11:39	
Toluene	ug/L	ND	1.0	07/24/14 11:39	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:39	
trans-1,3-Dichloropropene	ug/L	ND	1.0	07/24/14 11:39	
Trichloroethene	ug/L	ND	1.0	07/24/14 11:39	
Trichlorofluoromethane	ug/L	ND	1.0	07/24/14 11:39	
Vinyl chloride	ug/L	ND	1.0	07/24/14 11:39	
1,2-Dichloroethane-d4 (S)	%	101	77-119	07/24/14 11:39	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex Jamestown

Pace Project No.: 30125463

METHOD BLANK: 763671

Matrix: Water

Associated Lab Samples: 30125463001, 30125463002, 30125463003, 30125463004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	90	85-115	07/24/14 11:39	
Toluene-d8 (S)	%	100	85-115	07/24/14 11:39	

LABORATORY CONTROL SAMPLE: 763672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	101	62-125	
1,1,2,2-Tetrachloroethane	ug/L	20	18.0	90	61-117	
1,1,2-Trichloroethane	ug/L	20	19.1	95	72-119	
1,1-Dichloroethane	ug/L	20	20.3	102	63-123	
1,1-Dichloroethene	ug/L	20	19.7	98	57-127	
1,2-Dichlorobenzene	ug/L	20	18.2	91	70-116	
1,2-Dichloroethane	ug/L	20	21.1	105	62-125	
1,2-Dichloropropane	ug/L	20	18.9	95	69-115	
1,3-Dichlorobenzene	ug/L	20	18.4	92	71-118	
1,4-Dichlorobenzene	ug/L	20	17.7	89	67-119	
2-Butanone (MEK)	ug/L	20	21.0	105	48-136	
2-Hexanone	ug/L	20	21.1	105	52-130	
4-Methyl-2-pentanone (MIBK)	ug/L	20	23.9	119	57-124	
Acetone	ug/L	20	19.1	95	49-138	
Benzene	ug/L	20	18.2	91	66-122	
Bromodichloromethane	ug/L	20	19.5	97	63-118	
Bromoform	ug/L	20	19.2	96	46-130	
Bromomethane	ug/L	20	15.0	75	10-175	
Carbon disulfide	ug/L	20	22.6	113	59-142	
Carbon tetrachloride	ug/L	20	14.4	72	55-126	
Chlorobenzene	ug/L	20	18.9	94	70-121	
Chloroethane	ug/L	20	18.7	93	24-161	
Chloroform	ug/L	20	18.9	94	62-126	
Chloromethane	ug/L	20	17.6	88	37-147	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	64-121	
cis-1,3-Dichloropropene	ug/L	20	19.4	97	64-118	
Dibromochloromethane	ug/L	20	16.0	80	60-120	
Ethylbenzene	ug/L	20	18.9	94	69-119	
Isopropylbenzene (Cumene)	ug/L	20	20.2	101	68-126	
m&p-Xylene	ug/L	40	37.3	93	70-124	
Methylene Chloride	ug/L	20	21.2	106	59-128	
o-Xylene	ug/L	20	17.8	89	67-123	
Styrene	ug/L	20	15.9	80	67-146	
Tetrachloroethene	ug/L	20	18.2	91	62-125	
Toluene	ug/L	20	19.2	96	72-115	
trans-1,2-Dichloroethene	ug/L	20	20.1	100	59-122	
trans-1,3-Dichloropropene	ug/L	20	19.3	96	64-120	
Trichloroethene	ug/L	20	19.1	96	62-125	

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QUALITY CONTROL DATA

Project: Essex Jamestown

Pace Project No.: 30125463

LABORATORY CONTROL SAMPLE: 763672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	18.3	91	54-158	
Vinyl chloride	ug/L	20	22.0	110	52-145	
1,2-Dichloroethane-d4 (S)	%			106	77-119	
4-Bromofluorobenzene (S)	%			95	85-115	
Toluene-d8 (S)	%			95	85-115	

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QUALIFIERS

Project: Essex Jamestown
Pace Project No.: 30125463

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/20421

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Essex Jamestown

Pace Project No.: 30125463

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30125463001	PRE-CARB	EPA 8260B	MSV/20421		
30125463002	PRIMARY-EFF	EPA 8260B	MSV/20421		
30125463003	POST-CARB	EPA 8260B	MSV/20421		
30125463004	TB-01	EPA 8260B	MSV/20421		

REPORT OF LABORATORY ANALYSIS

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ITEM #	Section D Required Client Information		Matrix Codes MATRIX / CODE		SAMPLE TYPE (G=GRAB C=COMP)		COLLECTED		SAMPLE TEMP AT COLLECTION		Preservatives		Requested Analysis Filtered (Y/N)		Pace Project No./ Lab I.D.	
	SAMPLE ID (A-Z, 0-9 / -)	Sample IDs MUST BE UNIQUE	Matrix Codes DW WT WW P SL OL WP AR TS OT	COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	DATE	TIME	# OF CONTAINERS	Analysis Test		Y/N	Residual Chlorine (Y/N)	30125463	
											Unpreserved	H ₂ SO ₄				
1	PRE-CARB					7/21/14	1300			3						
2	PRIMARY - EFF						1305			3						
3	POST-CARB						1310			3						
4	POST-CARB						1340			3						
5	POST-CARB						1410			3						
6	POST-CARB						1440			3						
7	TB-01					7/21/14	-			2						
8																
9																
10																
11																
12																
ADDITIONAL COMMENTS																
RELINQUISHED BY / AFFILIATION																
DATE																
TIME																
ACCEPTED BY / AFFILIATION																
DATE																
TIME																
SAMPLE CONDITIONS																
Received on																
Ice (Y/N)																
Custody																
(Y/N)																
Sealed Cooler																
(Y/N)																
Samples Intact																
(Y/N)																



Sample Condition Upon Receipt

Client Name: URD

Project # 30125463

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8003 3932 6847

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used 7 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 0.2 °C Correction Factor: -0.1 °C Final Temp: 0.1 °C

Date and Initials of person

ARM 7/22/14
examining contents:

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>	
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>ARM</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 7-23/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Project Number: _____

Client Name: URS

[illegible]

September 04, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30127639

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on August 20, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

Sample: PRE-CARB		Lab ID: 30127639001	Collected: 08/19/14 10:00	Received: 08/20/14 11:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	9770	ug/L	1000	100		08/26/14 13:42	67-64-1	
Benzene	5.0	ug/L	1.0	1		08/25/14 16:54	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		08/25/14 16:54	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		08/25/14 16:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/25/14 16:54	75-25-2	
Bromomethane	ND	ug/L	1.0	1		08/25/14 16:54	74-83-9	
2-Butanone (MEK)	29.1	ug/L	10.0	1		08/25/14 16:54	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		08/25/14 16:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		08/25/14 16:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		08/25/14 16:54	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/25/14 16:54	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/25/14 16:54	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/25/14 16:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		08/25/14 16:54	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 16:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 16:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 16:54	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		08/25/14 16:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/25/14 16:54	107-06-2	
1,2-Dichloroethene (Total)	2160	ug/L	20.0	10		08/25/14 17:19	540-59-0	
1,1-Dichloroethene	6.5	ug/L	1.0	1		08/25/14 16:54	75-35-4	
cis-1,2-Dichloroethene	2130	ug/L	10.0	10		08/25/14 17:19	156-59-2	
trans-1,2-Dichloroethene	26.8	ug/L	1.0	1		08/25/14 16:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		08/25/14 16:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		08/25/14 16:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		08/25/14 16:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		08/25/14 16:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		08/25/14 16:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	1		08/25/14 16:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		08/25/14 16:54	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		08/25/14 16:54	1634-04-4	
Styrene	ND	ug/L	1.0	1		08/25/14 16:54	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		08/25/14 16:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/25/14 16:54	127-18-4	
Toluene	ND	ug/L	1.0	1		08/25/14 16:54	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		08/25/14 16:54	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/25/14 16:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/25/14 16:54	79-00-5	
Trichloroethene	474	ug/L	10.0	10		08/25/14 17:19	79-01-6	
Vinyl chloride	494	ug/L	10.0	10		08/25/14 17:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/25/14 16:54	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		08/25/14 16:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		08/25/14 16:54	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	85-115	1		08/25/14 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	77-119	1		08/25/14 16:54	17060-07-0	
Toluene-d8 (S)	106	%	85-115	1		08/25/14 16:54	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

Sample: PRIMARY-EFF		Lab ID: 30127639002	Collected: 08/19/14 10:05	Received: 08/20/14 11:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	10600	ug/L	1000	100		08/26/14 14:07	67-64-1	
Benzene	ND	ug/L	1.0	1		08/25/14 17:44	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		08/25/14 17:44	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		08/25/14 17:44	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/25/14 17:44	75-25-2	
Bromomethane	ND	ug/L	1.0	1		08/25/14 17:44	74-83-9	
2-Butanone (MEK)	16.0	ug/L	10.0	1		08/25/14 17:44	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		08/25/14 17:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		08/25/14 17:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		08/25/14 17:44	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/25/14 17:44	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/25/14 17:44	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/25/14 17:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		08/25/14 17:44	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 17:44	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 17:44	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 17:44	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		08/25/14 17:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/25/14 17:44	107-06-2	
1,2-Dichloroethene (Total)	1330	ug/L	20.0	10		08/25/14 18:09	540-59-0	
1,1-Dichloroethene	2.3	ug/L	1.0	1		08/25/14 17:44	75-35-4	
cis-1,2-Dichloroethene	1320	ug/L	10.0	10		08/25/14 18:09	156-59-2	
trans-1,2-Dichloroethene	9.7	ug/L	1.0	1		08/25/14 17:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		08/25/14 17:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		08/25/14 17:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		08/25/14 17:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		08/25/14 17:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		08/25/14 17:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	1		08/25/14 17:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		08/25/14 17:44	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		08/25/14 17:44	1634-04-4	
Styrene	ND	ug/L	1.0	1		08/25/14 17:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		08/25/14 17:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/25/14 17:44	127-18-4	
Toluene	ND	ug/L	1.0	1		08/25/14 17:44	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		08/25/14 17:44	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/25/14 17:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/25/14 17:44	79-00-5	
Trichloroethene	18.9	ug/L	1.0	1		08/25/14 17:44	79-01-6	
Vinyl chloride	485	ug/L	10.0	10		08/25/14 18:09	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/25/14 17:44	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		08/25/14 17:44	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		08/25/14 17:44	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	107	%	85-115	1		08/25/14 17:44	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	77-119	1		08/25/14 17:44	17060-07-0	
Toluene-d8 (S)	101	%	85-115	1		08/25/14 17:44	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

Sample: POST-CARB		Lab ID: 30127639003	Collected: 08/19/14 11:45	Received: 08/20/14 11:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	4550 ug/L		200	20		08/26/14 14:32	67-64-1	
Benzene	ND ug/L		1.0	1		08/25/14 18:34	71-43-2	
Bromochloromethane	ND ug/L		1.0	1		08/25/14 18:34	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		08/25/14 18:34	75-27-4	
Bromoform	ND ug/L		1.0	1		08/25/14 18:34	75-25-2	
Bromomethane	ND ug/L		1.0	1		08/25/14 18:34	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		08/25/14 18:34	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		08/25/14 18:34	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		08/25/14 18:34	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		08/25/14 18:34	108-90-7	
Chloroethane	ND ug/L		1.0	1		08/25/14 18:34	75-00-3	
Chloroform	ND ug/L		1.0	1		08/25/14 18:34	67-66-3	
Chloromethane	ND ug/L		1.0	1		08/25/14 18:34	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		08/25/14 18:34	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		08/25/14 18:34	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		08/25/14 18:34	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		08/25/14 18:34	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		08/25/14 18:34	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		08/25/14 18:34	107-06-2	
1,2-Dichloroethene (Total)	15.8 ug/L		2.0	1		08/25/14 18:34	540-59-0	
1,1-Dichloroethene	ND ug/L		1.0	1		08/25/14 18:34	75-35-4	
cis-1,2-Dichloroethene	15.8 ug/L		1.0	1		08/25/14 18:34	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		08/25/14 18:34	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		08/25/14 18:34	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		08/25/14 18:34	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		08/25/14 18:34	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		08/25/14 18:34	100-41-4	
2-Hexanone	ND ug/L		10.0	1		08/25/14 18:34	591-78-6	
Methylene Chloride	ND ug/L		1.0	1		08/25/14 18:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		08/25/14 18:34	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	1		08/25/14 18:34	1634-04-4	
Styrene	ND ug/L		1.0	1		08/25/14 18:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	1		08/25/14 18:34	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		08/25/14 18:34	127-18-4	
Toluene	ND ug/L		1.0	1		08/25/14 18:34	108-88-3	
1,2,4-Trichlorobenzene	ND ug/L		1.0	1		08/25/14 18:34	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	1		08/25/14 18:34	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		08/25/14 18:34	79-00-5	
Trichloroethene	ND ug/L		1.0	1		08/25/14 18:34	79-01-6	
Vinyl chloride	394 ug/L		20.0	20		08/26/14 14:32	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		08/25/14 18:34	1330-20-7	
m&p-Xylene	ND ug/L		2.0	1		08/25/14 18:34	179601-23-1	
o-Xylene	ND ug/L		1.0	1		08/25/14 18:34	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95 %		85-115	1		08/25/14 18:34	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		77-119	1		08/25/14 18:34	17060-07-0	
Toluene-d8 (S)	104 %		85-115	1		08/25/14 18:34	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

Sample: TB-01		Lab ID: 30127639004	Collected: 08/19/14 00:01	Received: 08/20/14 11:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	49.5 ug/L		10.0	1		08/25/14 18:59	67-64-1	
Benzene	ND ug/L		1.0	1		08/25/14 18:59	71-43-2	
Bromochloromethane	ND ug/L		1.0	1		08/25/14 18:59	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		08/25/14 18:59	75-27-4	
Bromoform	ND ug/L		1.0	1		08/25/14 18:59	75-25-2	
Bromomethane	ND ug/L		1.0	1		08/25/14 18:59	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		08/25/14 18:59	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		08/25/14 18:59	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		08/25/14 18:59	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		08/25/14 18:59	108-90-7	
Chloroethane	ND ug/L		1.0	1		08/25/14 18:59	75-00-3	
Chloroform	ND ug/L		1.0	1		08/25/14 18:59	67-66-3	
Chloromethane	ND ug/L		1.0	1		08/25/14 18:59	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		08/25/14 18:59	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		08/25/14 18:59	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		08/25/14 18:59	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		08/25/14 18:59	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		08/25/14 18:59	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		08/25/14 18:59	107-06-2	
1,2-Dichloroethene (Total)	ND ug/L		2.0	1		08/25/14 18:59	540-59-0	
1,1-Dichloroethene	ND ug/L		1.0	1		08/25/14 18:59	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		08/25/14 18:59	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		08/25/14 18:59	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		08/25/14 18:59	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		08/25/14 18:59	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		08/25/14 18:59	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		08/25/14 18:59	100-41-4	
2-Hexanone	ND ug/L		10.0	1		08/25/14 18:59	591-78-6	
Methylene Chloride	ND ug/L		1.0	1		08/25/14 18:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		08/25/14 18:59	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	1		08/25/14 18:59	1634-04-4	
Styrene	ND ug/L		1.0	1		08/25/14 18:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		08/25/14 18:59	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		08/25/14 18:59	127-18-4	
Toluene	ND ug/L		1.0	1		08/25/14 18:59	108-88-3	
1,2,4-Trichlorobenzene	ND ug/L		1.0	1		08/25/14 18:59	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	1		08/25/14 18:59	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		08/25/14 18:59	79-00-5	
Trichloroethene	ND ug/L		1.0	1		08/25/14 18:59	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		08/25/14 18:59	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		08/25/14 18:59	1330-20-7	
m&p-Xylene	ND ug/L		2.0	1		08/25/14 18:59	179601-23-1	
o-Xylene	ND ug/L		1.0	1		08/25/14 18:59	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101 %		85-115	1		08/25/14 18:59	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		77-119	1		08/25/14 18:59	17060-07-0	
Toluene-d8 (S)	108 %		85-115	1		08/25/14 18:59	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

QC Batch: MSV/20742 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30127639001, 30127639002, 30127639003, 30127639004

METHOD BLANK: 777488 Matrix: Water
Associated Lab Samples: 30127639001, 30127639002, 30127639003, 30127639004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/25/14 12:44	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/25/14 12:44	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/25/14 12:44	
1,1-Dichloroethane	ug/L	ND	1.0	08/25/14 12:44	
1,1-Dichloroethene	ug/L	ND	1.0	08/25/14 12:44	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	08/25/14 12:44	
1,2-Dichlorobenzene	ug/L	ND	1.0	08/25/14 12:44	
1,2-Dichloroethane	ug/L	ND	1.0	08/25/14 12:44	
1,2-Dichloropropane	ug/L	ND	1.0	08/25/14 12:44	
1,3-Dichlorobenzene	ug/L	ND	1.0	08/25/14 12:44	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/25/14 12:44	
2-Butanone (MEK)	ug/L	ND	10.0	08/25/14 12:44	
2-Hexanone	ug/L	ND	10.0	08/25/14 12:44	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	08/25/14 12:44	
Acetone	ug/L	ND	10.0	08/25/14 12:44	
Benzene	ug/L	ND	1.0	08/25/14 12:44	
Bromochloromethane	ug/L	ND	1.0	08/25/14 12:44	
Bromodichloromethane	ug/L	ND	1.0	08/25/14 12:44	
Bromoform	ug/L	ND	1.0	08/25/14 12:44	
Bromomethane	ug/L	ND	1.0	08/25/14 12:44	
Carbon disulfide	ug/L	ND	1.0	08/25/14 12:44	
Carbon tetrachloride	ug/L	ND	1.0	08/25/14 12:44	
Chlorobenzene	ug/L	ND	1.0	08/25/14 12:44	
Chloroethane	ug/L	ND	1.0	08/25/14 12:44	
Chloroform	ug/L	ND	1.0	08/25/14 12:44	
Chloromethane	ug/L	ND	1.0	08/25/14 12:44	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/25/14 12:44	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/25/14 12:44	
Dibromochloromethane	ug/L	ND	1.0	08/25/14 12:44	
Ethylbenzene	ug/L	ND	1.0	08/25/14 12:44	
m&p-Xylene	ug/L	ND	2.0	08/25/14 12:44	
Methyl-tert-butyl ether	ug/L	ND	1.0	08/25/14 12:44	
Methylene Chloride	ug/L	ND	1.0	08/25/14 12:44	
o-Xylene	ug/L	ND	1.0	08/25/14 12:44	
Styrene	ug/L	ND	1.0	08/25/14 12:44	
Tetrachloroethene	ug/L	ND	1.0	08/25/14 12:44	
Toluene	ug/L	ND	1.0	08/25/14 12:44	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/25/14 12:44	
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/25/14 12:44	
Trichloroethene	ug/L	ND	1.0	08/25/14 12:44	
Vinyl chloride	ug/L	ND	1.0	08/25/14 12:44	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

METHOD BLANK: 777488

Matrix: Water

Associated Lab Samples: 30127639001, 30127639002, 30127639003, 30127639004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Xylene (Total)	ug/L	ND	3.0	08/25/14 12:44	
1,2-Dichloroethane-d4 (S)	%	117	77-119	08/25/14 12:44	
4-Bromofluorobenzene (S)	%	106	85-115	08/25/14 12:44	
Toluene-d8 (S)	%	101	85-115	08/25/14 12:44	

LABORATORY CONTROL SAMPLE: 777489

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.9	104	62-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	97	61-117	
1,1,2-Trichloroethane	ug/L	20	21.3	107	72-119	
1,1-Dichloroethane	ug/L	20	22.7	113	63-123	
1,1-Dichloroethene	ug/L	20	21.5	107	57-127	
1,2,4-Trichlorobenzene	ug/L	20	30.2	151	52-138	L5
1,2-Dichlorobenzene	ug/L	20	23.4	117	70-116	L5
1,2-Dichloroethane	ug/L	20	22.0	110	62-125	
1,2-Dichloropropane	ug/L	20	22.4	112	69-115	
1,3-Dichlorobenzene	ug/L	20	22.7	113	71-118	
1,4-Dichlorobenzene	ug/L	20	23.4	117	67-119	
2-Butanone (MEK)	ug/L	20	17.8	89	48-136	
2-Hexanone	ug/L	20	18.1	90	52-130	
4-Methyl-2-pentanone (MIBK)	ug/L	20	19.1	96	57-124	
Acetone	ug/L	20	17.2	86	49-138	
Benzene	ug/L	20	23.8	119	66-122	
Bromochloromethane	ug/L	20	21.7	108	61-126	
Bromodichloromethane	ug/L	20	22.1	111	63-118	
Bromoform	ug/L	20	22.3	111	46-130	
Bromomethane	ug/L	20	18.6	93	10-175	
Carbon disulfide	ug/L	20	22.9	115	59-142	
Carbon tetrachloride	ug/L	20	20.0	100	55-126	
Chlorobenzene	ug/L	20	23.7	119	70-121	
Chloroethane	ug/L	20	27.7	138	24-161	
Chloroform	ug/L	20	22.5	112	62-126	
Chloromethane	ug/L	20	21.8	109	37-147	
cis-1,2-Dichloroethene	ug/L	20	21.6	108	64-121	
cis-1,3-Dichloropropene	ug/L	20	24.9	125	64-118	L5
Dibromochloromethane	ug/L	20	22.9	115	60-120	
Ethylbenzene	ug/L	20	23.4	117	69-119	
m&p-Xylene	ug/L	40	48.3	121	70-124	
Methyl-tert-butyl ether	ug/L	20	20.4	102	58-131	
Methylene Chloride	ug/L	20	21.5	107	59-128	
o-Xylene	ug/L	20	22.9	114	67-123	
Styrene	ug/L	20	24.2	121	67-146	
Tetrachloroethene	ug/L	20	20.7	104	62-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

LABORATORY CONTROL SAMPLE: 777489

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	20	23.5	117	72-115	L5
trans-1,2-Dichloroethene	ug/L	20	21.1	105	59-122	
trans-1,3-Dichloropropene	ug/L	20	23.6	118	64-120	
Trichloroethene	ug/L	20	23.0	115	62-125	
Vinyl chloride	ug/L	20	24.5	123	52-145	
Xylene (Total)	ug/L	60	71.2	119	70-123	
1,2-Dichloroethane-d4 (S)	%			109	77-119	
4-Bromofluorobenzene (S)	%			88	85-115	
Toluene-d8 (S)	%			96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 777490 777491

Parameter	Units	30127342002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	15.2	15.6	76	78	62-125	2	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.8	20.5	99	103	61-117	4	
1,1,2-Trichloroethane	ug/L	ND	20	20	19.0	20.5	95	102	72-119	7	
1,1-Dichloroethane	ug/L	ND	20	20	17.1	17.9	85	90	63-123	5	
1,1-Dichloroethene	ug/L	ND	20	20	18.3	19.9	92	99	57-127	8	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	19.8	19.0	99	95	52-138	4	
1,2-Dichlorobenzene	ug/L	ND	20	20	19.3	19.2	96	96	70-116	0	
1,2-Dichloroethane	ug/L	ND	20	20	16.1	17.3	80	87	62-125	8	
1,2-Dichloropropane	ug/L	ND	20	20	17.8	18.5	89	93	69-115	4	
1,3-Dichlorobenzene	ug/L	ND	20	20	17.7	19.3	88	96	71-118	9	
1,4-Dichlorobenzene	ug/L	ND	20	20	18.8	18.7	94	94	67-119	0	
2-Butanone (MEK)	ug/L	ND	20	20	18.2	18.1	91	91	48-136	1	
2-Hexanone	ug/L	ND	20	20	20.6	20.3	103	101	52-130	2	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	21.3	21.0	107	105	57-124	2	
Acetone	ug/L	ND	20	20	18.6	18.3	93	91	49-138	2	
Benzene	ug/L	ND	20	20	18.8	19.8	94	99	66-122	5	
Bromochloromethane	ug/L	ND	20	20	18.1	19.5	90	97	61-126	7	
Bromodichloromethane	ug/L	ND	20	20	15.7	16.5	78	83	63-118	5	
Bromoform	ug/L	ND	20	20	17.2	17.6	86	88	46-130	2	
Bromomethane	ug/L	ND	20	20	39.3	30.5	197	152	10-175	25	M0
Carbon disulfide	ug/L	ND	20	20	24.0	25.0	120	125	59-142	4	
Carbon tetrachloride	ug/L	ND	20	20	15.6	15.8	78	79	55-126	1	
Chlorobenzene	ug/L	ND	20	20	18.9	20.3	94	102	70-121	7	
Chloroethane	ug/L	ND	20	20	30.1	32.0	150	160	24-161	6	
Chloroform	ug/L	ND	20	20	16.1	17.5	81	88	62-126	8	
Chloromethane	ug/L	ND	20	20	24.6	23.9	123	119	37-147	3	
cis-1,2-Dichloroethene	ug/L	ND	20	20	15.3	16.2	76	81	64-121	6	
cis-1,3-Dichloropropene	ug/L	ND	20	20	16.8	18.3	84	91	64-118	8	
Dibromochloromethane	ug/L	ND	20	20	16.9	17.2	84	86	60-120	2	
Ethylbenzene	ug/L	ND	20	20	18.9	20.3	95	102	69-119	7	
m&p-Xylene	ug/L	ND	40	40	38.5	40.7	96	102	70-124	5	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 777490 777491											
Parameter	Units	30127342002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Methyl-tert-butyl ether	ug/L	ND	20	20	18.0	18.2	90	91	58-131	1	
Methylene Chloride	ug/L	ND	20	20	14.3	15.3	72	77	59-128	7	
o-Xylene	ug/L	ND	20	20	18.4	18.7	92	94	67-123	2	
Styrene	ug/L	ND	20	20	18.6	19.5	93	97	67-146	4	
Tetrachloroethene	ug/L	ND	20	20	19.2	19.4	96	97	62-125	1	
Toluene	ug/L	ND	20	20	18.8	20.0	94	100	72-115	6	
trans-1,2-Dichloroethene	ug/L	ND	20	20	15.0	15.2	75	76	59-122	2	
trans-1,3-Dichloropropene	ug/L	ND	20	20	16.3	18.2	82	91	64-120	11	
Trichloroethene	ug/L	ND	20	20	18.2	19.8	91	99	62-125	8	
Vinyl chloride	ug/L	ND	20	20	26.7	26.1	133	130	52-145	2	
Xylene (Total)	ug/L	ND	60	60	56.9	59.4	95	99	70-123	4	
1,2-Dichloroethane-d4 (S)	%						95	102	77-119		
4-Bromofluorobenzene (S)	%						99	91	85-115		
Toluene-d8 (S)	%						100	98	85-115		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

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.

PQL - Practical Quantitation 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.

ANALYTE QUALIFIERS

L5 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30127639

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30127639001	PRE-CARB	EPA 8260C	MSV/20742		
30127639002	PRIMARY-EFF	EPA 8260C	MSV/20742		
30127639003	POST-CARB	EPA 8260C	MSV/20742		
30127639004	TB-01	EPA 8260C	MSV/20742		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	URS CORP	Report To:	MARK DOWIAK	Attention:	
Address:	681 ANDERSON DR FOSTER PARK 6, STS 400 PITTSBURGH, PA 15220	Copy To:	VALENCIE SIBETO	Company Name:	
Email To:		Purchase Order No.:	41569831	Address:	
Phone:	412-503-4700	Project Name:	ESSEX/HOTE JAMIS/DOWN	Pace Project Reference:	
Requested Due Date/TAT:	STANDARD	Project Number:	41569831	Pace Project Manager:	
				Pace Profile #:	

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1568159

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location
STATE: NY

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)											
				COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME												
1	PRE-CARB	DW	WTG	8.19.14	1000	3	3	Unpreserved													
2	PRIMARY-EFF	Water	WT	8.19.14	1005	3	3	HCl													
3	POST-CARB	Waste Water	WW	8.19.14	1015	3	3	NaOH													
4	POST-CARB	Product	P	8.19.14	1045	3	3	Na ₂ S ₂ O ₃													
5	POST-CARB	Soil/Solid	SL	8.19.14	1115	3	3	HNO ₃													
6	POST-CARB	Oil	OL	8.19.14	1145	3	3	H ₂ SO ₄													
7	TB-01	Wipe	WP	8.19.14	—	2	2	Unpreserved													
8		Air	AR																		
9		Tissue	TS																		
10		Other	OT																		
11																					
12																					

30127639

Pace Project No./ Lab I.D.

Residual Chlorine (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							Received on	Custody	Sealed Cooler	Samples Intact
COMPOSITE FOUR (4)	URS	8.19.14	~1300	URS	8.19.14	~1300				
POST-CARB SAMPLES										
IN LMS AND REPORT AS										
POST-CARB COMPOSITE										

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on	Custody	Samples Intact
PRINT Name of SAMPLER: VALENCIE SIBETO		4.5	Y	N	Y
SIGNATURE of SAMPLER: [Signature]		8.20.14	1100		
DATE Signed (MM/DD/YY): 8.19.14					



Sample Condition Upon Receipt

Client Name: URS Corp

Project # 30127639

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 873981019703

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap Bubble Bags _____ None _____ Other _____

Thermometer Used 8 Type of Ice: Wet Blue None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 4.6 °C Correction Factor: -0.1 °C Final Temp: 4.5 °C

Temp should be above freezing to 6°C

Comments:

Date and Initials of person

examining contents: AML
8-20-14

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>AML</u> Lot # of added preservative _____
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☒ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 8/22/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

30127639

page 2



Project Number: URS Corp
Client Name: URS Corp

Item No.	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.L)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
001	001																							
002	002																							
003	003																							
004	004																							

8/20/14

October 03, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: 41569181/Essex-Hope Jamestown
Pace Project No.: 30129935

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on September 19, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

Sample: PRE-CARB		Lab ID: 30129935001	Collected: 09/18/14 12:30	Received: 09/19/14 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	13500	ug/L	1000	100		10/02/14 22:28	67-64-1	M5
Benzene	11.9	ug/L	1.0	1		10/02/14 21:35	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		10/02/14 21:35	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		10/02/14 21:35	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		10/02/14 21:35	74-83-9	M5
2-Butanone (MEK)	42.2	ug/L	10.0	1		10/02/14 21:35	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		10/02/14 21:35	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		10/02/14 21:35	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		10/02/14 21:35	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		10/02/14 21:35	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		10/02/14 21:35	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		10/02/14 21:35	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		10/02/14 21:35	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 21:35	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 21:35	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 21:35	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		10/02/14 21:35	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		10/02/14 21:35	107-06-2	M5
1,1-Dichloroethene	14.7	ug/L	1.0	1		10/02/14 21:35	75-35-4	M5
cis-1,2-Dichloroethene	3960	ug/L	10.0	10		10/02/14 22:02	156-59-2	M5
trans-1,2-Dichloroethene	60.0	ug/L	1.0	1		10/02/14 21:35	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		10/02/14 21:35	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/02/14 21:35	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/02/14 21:35	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		10/02/14 21:35	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		10/02/14 21:35	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		10/02/14 21:35	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		10/02/14 21:35	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/02/14 21:35	108-10-1	M5
Styrene	ND	ug/L	1.0	1		10/02/14 21:35	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/02/14 21:35	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		10/02/14 21:35	127-18-4	M5
Toluene	ND	ug/L	1.0	1		10/02/14 21:35	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/02/14 21:35	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/02/14 21:35	79-00-5	M5
Trichloroethene	1850	ug/L	10.0	10		10/02/14 22:02	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		10/02/14 21:35	75-69-4	M5
Vinyl chloride	536	ug/L	10.0	10		10/02/14 22:02	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		10/02/14 21:35	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		10/02/14 21:35	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	102	%	85-115	1		10/02/14 21:35	460-00-4	M5
1,2-Dichloroethane-d4 (S)	99	%	77-119	1		10/02/14 21:35	17060-07-0	M5
Toluene-d8 (S)	99	%	85-115	1		10/02/14 21:35	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

Sample: PRIMARY-EFF		Lab ID: 30129935002	Collected: 09/18/14 12:35	Received: 09/19/14 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	1410 ug/L		100	10		10/02/14 20:42	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/02/14 20:16	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/02/14 20:16	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/02/14 20:16	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/02/14 20:16	74-83-9	M5
2-Butanone (MEK)	10.9 ug/L		10.0	1		10/02/14 20:16	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/02/14 20:16	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/02/14 20:16	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/02/14 20:16	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/02/14 20:16	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/02/14 20:16	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/02/14 20:16	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		10/02/14 20:16	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/02/14 20:16	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/02/14 20:16	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/02/14 20:16	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/02/14 20:16	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/02/14 20:16	107-06-2	M5
1,1-Dichloroethene	3.8 ug/L		1.0	1		10/02/14 20:16	75-35-4	M5
cis-1,2-Dichloroethene	1990 ug/L		10.0	10		10/02/14 20:42	156-59-2	M5
trans-1,2-Dichloroethene	6.6 ug/L		1.0	1		10/02/14 20:16	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/02/14 20:16	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/02/14 20:16	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/02/14 20:16	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/02/14 20:16	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/02/14 20:16	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/02/14 20:16	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		10/02/14 20:16	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/02/14 20:16	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/02/14 20:16	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/02/14 20:16	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/02/14 20:16	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/02/14 20:16	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/02/14 20:16	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/02/14 20:16	79-00-5	M5
Trichloroethene	15.8 ug/L		1.0	1		10/02/14 20:16	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/02/14 20:16	75-69-4	M5
Vinyl chloride	532 ug/L		10.0	10		10/02/14 20:42	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/02/14 20:16	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/02/14 20:16	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	100 %		85-115	1		10/02/14 20:16	460-00-4	M5
1,2-Dichloroethane-d4 (S)	98 %		77-119	1		10/02/14 20:16	17060-07-0	M5
Toluene-d8 (S)	98 %		85-115	1		10/02/14 20:16	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

Sample: POST-CARB		Lab ID: 30129935003	Collected: 09/18/14 14:10	Received: 09/19/14 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND	ug/L	10.0	1		10/02/14 22:55	67-64-1	M5
Benzene	ND	ug/L	1.0	1		10/02/14 22:55	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		10/02/14 22:55	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		10/02/14 22:55	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		10/02/14 22:55	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	10.0	1		10/02/14 22:55	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		10/02/14 22:55	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		10/02/14 22:55	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		10/02/14 22:55	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		10/02/14 22:55	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		10/02/14 22:55	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		10/02/14 22:55	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		10/02/14 22:55	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 22:55	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 22:55	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 22:55	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		10/02/14 22:55	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		10/02/14 22:55	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	1.0	1		10/02/14 22:55	75-35-4	M5
cis-1,2-Dichloroethene	28.0	ug/L	1.0	1		10/02/14 22:55	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 22:55	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		10/02/14 22:55	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/02/14 22:55	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/02/14 22:55	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		10/02/14 22:55	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		10/02/14 22:55	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		10/02/14 22:55	98-82-8	M5
Methylene Chloride	1.4	ug/L	1.0	1		10/02/14 22:55	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/02/14 22:55	108-10-1	M5
Styrene	ND	ug/L	1.0	1		10/02/14 22:55	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/02/14 22:55	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		10/02/14 22:55	127-18-4	M5
Toluene	ND	ug/L	1.0	1		10/02/14 22:55	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/02/14 22:55	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/02/14 22:55	79-00-5	M5
Trichloroethene	ND	ug/L	1.0	1		10/02/14 22:55	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		10/02/14 22:55	75-69-4	M5
Vinyl chloride	304	ug/L	1.0	1		10/02/14 22:55	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		10/02/14 22:55	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		10/02/14 22:55	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	102	%	85-115	1		10/02/14 22:55	460-00-4	M5
1,2-Dichloroethane-d4 (S)	95	%	77-119	1		10/02/14 22:55	17060-07-0	M5
Toluene-d8 (S)	98	%	85-115	1		10/02/14 22:55	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

Sample: TB-01		Lab ID: 30129935004	Collected: 09/18/14 00:01	Received: 09/19/14 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		10/02/14 18:56	67-64-1	M5
Benzene	ND ug/L		1.0	1		10/02/14 18:56	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		10/02/14 18:56	75-27-4	M5
Bromoform	ND ug/L		1.0	1		10/02/14 18:56	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		10/02/14 18:56	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		10/02/14 18:56	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		10/02/14 18:56	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		10/02/14 18:56	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		10/02/14 18:56	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		10/02/14 18:56	75-00-3	M5
Chloroform	ND ug/L		1.0	1		10/02/14 18:56	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		10/02/14 18:56	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		10/02/14 18:56	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/02/14 18:56	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/02/14 18:56	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/02/14 18:56	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		10/02/14 18:56	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		10/02/14 18:56	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		10/02/14 18:56	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/14 18:56	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/14 18:56	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		10/02/14 18:56	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/02/14 18:56	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/02/14 18:56	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		10/02/14 18:56	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		10/02/14 18:56	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/02/14 18:56	98-82-8	M5
Methylene Chloride	1.4 ug/L		1.0	1		10/02/14 18:56	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/02/14 18:56	108-10-1	M5
Styrene	ND ug/L		1.0	1		10/02/14 18:56	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/02/14 18:56	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		10/02/14 18:56	127-18-4	M5
Toluene	ND ug/L		1.0	1		10/02/14 18:56	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/02/14 18:56	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/02/14 18:56	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		10/02/14 18:56	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		10/02/14 18:56	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		10/02/14 18:56	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		10/02/14 18:56	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		10/02/14 18:56	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	99 %		85-115	1		10/02/14 18:56	460-00-4	M5
1,2-Dichloroethane-d4 (S)	99 %		77-119	1		10/02/14 18:56	17060-07-0	M5
Toluene-d8 (S)	99 %		85-115	1		10/02/14 18:56	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

QC Batch: MSV/21143 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30129935001, 30129935002, 30129935003, 30129935004

METHOD BLANK: 796228 Matrix: Water
Associated Lab Samples: 30129935001, 30129935002, 30129935003, 30129935004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/02/14 12:44	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/02/14 12:44	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	10/02/14 12:44	M5
1,1-Dichloroethane	ug/L	ND	1.0	10/02/14 12:44	M5
1,1-Dichloroethene	ug/L	ND	1.0	10/02/14 12:44	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	10/02/14 12:44	M5
1,2-Dichloroethane	ug/L	ND	1.0	10/02/14 12:44	M5
1,2-Dichloropropane	ug/L	ND	1.0	10/02/14 12:44	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	10/02/14 12:44	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	10/02/14 12:44	M5
2-Butanone (MEK)	ug/L	ND	10.0	10/02/14 12:44	M5
2-Hexanone	ug/L	ND	10.0	10/02/14 12:44	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/02/14 12:44	M5
Acetone	ug/L	ND	10.0	10/02/14 12:44	M5
Benzene	ug/L	ND	1.0	10/02/14 12:44	M5
Bromodichloromethane	ug/L	ND	1.0	10/02/14 12:44	M5
Bromoform	ug/L	ND	1.0	10/02/14 12:44	M5
Bromomethane	ug/L	ND	1.0	10/02/14 12:44	M5
Carbon disulfide	ug/L	ND	1.0	10/02/14 12:44	M5
Carbon tetrachloride	ug/L	ND	1.0	10/02/14 12:44	M5
Chlorobenzene	ug/L	ND	1.0	10/02/14 12:44	M5
Chloroethane	ug/L	ND	1.0	10/02/14 12:44	M5
Chloroform	ug/L	ND	1.0	10/02/14 12:44	M5
Chloromethane	ug/L	ND	1.0	10/02/14 12:44	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 12:44	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/02/14 12:44	M5
Dibromochloromethane	ug/L	ND	1.0	10/02/14 12:44	M5
Ethylbenzene	ug/L	ND	1.0	10/02/14 12:44	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/02/14 12:44	M5
m&p-Xylene	ug/L	ND	2.0	10/02/14 12:44	M5
Methylene Chloride	ug/L	ND	1.0	10/02/14 12:44	M5
o-Xylene	ug/L	ND	1.0	10/02/14 12:44	M5
Styrene	ug/L	ND	1.0	10/02/14 12:44	M5
Tetrachloroethene	ug/L	ND	1.0	10/02/14 12:44	M5
Toluene	ug/L	ND	1.0	10/02/14 12:44	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 12:44	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/02/14 12:44	M5
Trichloroethene	ug/L	ND	1.0	10/02/14 12:44	M5
Trichlorofluoromethane	ug/L	ND	1.0	10/02/14 12:44	M5
Vinyl chloride	ug/L	ND	1.0	10/02/14 12:44	M5
1,2-Dichloroethane-d4 (S)	%	100	77-119	10/02/14 12:44	M5

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

METHOD BLANK: 796228

Matrix: Water

Associated Lab Samples: 30129935001, 30129935002, 30129935003, 30129935004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	97	85-115	10/02/14 12:44	M5
Toluene-d8 (S)	%	99	85-115	10/02/14 12:44	M5

LABORATORY CONTROL SAMPLE: 796229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.1	95	62-125	M5
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	92	61-117	M5
1,1,2-Trichloroethane	ug/L	20	18.4	92	72-119	M5
1,1-Dichloroethane	ug/L	20	18.4	92	63-123	M5
1,1-Dichloroethene	ug/L	20	17.5	87	57-127	M5
1,2-Dichlorobenzene	ug/L	20	18.5	92	70-116	M5
1,2-Dichloroethane	ug/L	20	18.5	92	62-125	M5
1,2-Dichloropropane	ug/L	20	17.8	89	69-115	M5
1,3-Dichlorobenzene	ug/L	20	18.2	91	71-118	M5
1,4-Dichlorobenzene	ug/L	20	18.4	92	67-119	M5
2-Butanone (MEK)	ug/L	20	20.1	101	48-136	M5
2-Hexanone	ug/L	20	16.7	84	52-130	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	18.5	92	57-124	M5
Acetone	ug/L	20	18.5	92	49-138	M5
Benzene	ug/L	20	18.3	92	66-122	M5
Bromodichloromethane	ug/L	20	17.9	90	63-118	M5
Bromoform	ug/L	20	18.3	92	46-130	M5
Bromomethane	ug/L	20	21.7	108	10-175	M5
Carbon disulfide	ug/L	20	19.8	99	59-142	M5
Carbon tetrachloride	ug/L	20	18.4	92	55-126	M5
Chlorobenzene	ug/L	20	18.2	91	70-121	M5
Chloroethane	ug/L	20	16.8	84	24-161	M5
Chloroform	ug/L	20	17.9	90	62-126	M5
Chloromethane	ug/L	20	19.0	95	37-147	M5
cis-1,2-Dichloroethene	ug/L	20	18.1	91	64-121	M5
cis-1,3-Dichloropropene	ug/L	20	17.5	87	64-118	M5
Dibromochloromethane	ug/L	20	18.3	92	60-120	M5
Ethylbenzene	ug/L	20	18.1	91	69-119	M5
Isopropylbenzene (Cumene)	ug/L	20	19.7	99	68-126	M5
m&p-Xylene	ug/L	40	35.6	89	70-124	M5
Methylene Chloride	ug/L	20	18.6	93	59-128	M5
o-Xylene	ug/L	20	18.3	91	67-123	M5
Styrene	ug/L	20	19.9	100	67-146	M5
Tetrachloroethene	ug/L	20	17.9	89	62-125	M5
Toluene	ug/L	20	18.2	91	72-115	M5
trans-1,2-Dichloroethene	ug/L	20	17.8	89	59-122	M5
trans-1,3-Dichloropropene	ug/L	20	17.1	85	64-120	M5
Trichloroethene	ug/L	20	17.3	86	62-125	M5

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

LABORATORY CONTROL SAMPLE: 796229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	17.2	86	54-158	M5
Vinyl chloride	ug/L	20	17.1	86	52-145	M5
1,2-Dichloroethane-d4 (S)	%			98	77-119	M5
4-Bromofluorobenzene (S)	%			97	85-115	M5
Toluene-d8 (S)	%			97	85-115	M5

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/21143

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

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 41569181/Essex-Hope Jamestown

Pace Project No.: 30129935

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30129935001	PRE-CARB	EPA 8260C	MSV/21143		
30129935002	PRIMARY-EFF	EPA 8260C	MSV/21143		
30129935003	POST-CARB	EPA 8260C	MSV/21143		
30129935004	TB-01	EPA 8260C	MSV/21143		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A Required Client Information: Company: URS CORP Address: FOSTER PLAZA 6 681 ANDERSON DR. STE. 400 PITTSBURGH, PA 15220 Email To: _____		Section B Required Project Information: Report To: MARK DOMAK Copy To: VALERIE SIBETO Purchase Order No.: 41569831 Project Name: ESSEX/HORR JAMESTOWN Project Number: 41569831		Section C Invoice Information: Attention: _____ Company Name: _____ Address: _____ Pace Quote Reference: _____ Pace Project Manager: _____ Pace Profile #: _____	
Phone: 412-503-4700 Fax: 412-503-4701 Requested Due Date/TAT: STANDARD		Regulatory Agency: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____		Site Location: NY STATE: _____	

Page: _____ of _____
1740919

ITEM #	Section D Required Client Information	Matrix Codes MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Temp in °C	Received on	Custody Sealed Cooler	Samples Intact
				DATE	TIME								
1	PRE-CARB	DW Drinking Water	WTG	9.18.14	1230		3	Unpreserved					
2	PRIMARY-EFF	WT Water			1235		3	H ₂ SO ₄					
3	POST-CARB	WW Waste Water			1240		3	HCl					
4	POST-CARB	P Product			1310		3	NaOH					
5	POST-CARB	SL Soil/Solid			1340		3	Na ₂ O ₃					
6	POST-CARB	OL Oil			1410		3	HNO ₃					
7	TR-01	WP Wipe	WTG	9.18.14	—		2	Other					
8		AR Air											
9		TS Tissue											
10		OT Other											
11													
12													
ADDITIONAL COMMENTS: COMPOSITE FOR (4) POST-CARB SAMPLES IN LAB AND REPORT AS POST-CARB COMPOSITE													
RELINQUISHED BY / AFFILIATION: Valerie Sibeto/URS DATE: 9.18.14 TIME: 1500 ACCEPTED BY / AFFILIATION: Alma K. Muchman DATE: 9.18.14 TIME: 094529													
SAMPLE CONDITIONS: Y N Y													
SAMPLER NAME AND SIGNATURE: VALERIE SIBETO DATE SIGNED: 9.18.14 PRINT NAME OF SAMPLER: Valerie DATE SIGNED: 9.18.14 SIGNATURE OF SAMPLER: _____													

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



Sample Condition Upon Receipt

Client Name: URS

Project # 30129935

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 873981019714

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other Ziploc

Thermometer Used 8 Type of Ice: Wet Blue None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 2.9 °C Correction Factor: 0.0 °C Final Temp: 2.9 °C

Date and Initials of person
examining contents: AKM 9/14/14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☐ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☐ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☐ N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	☐ Yes ☐ No	Initial when completed <u>AKM</u> Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☐ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 9-22-14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

[illegible]

November 04, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: Essex-Hope Jamestown
Pace Project No.: 30132384

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

Sample: PRE-CARB		Lab ID: 30132384001	Collected: 10/20/14 10:35	Received: 10/21/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	10400	ug/L	1000	100		11/01/14 01:21	67-64-1	
Benzene	22.2	ug/L	1.0	1		11/01/14 00:31	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/14 00:31	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/01/14 00:31	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/01/14 00:31	74-83-9	
2-Butanone (MEK)	52.4	ug/L	10.0	1		11/01/14 00:31	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/01/14 00:31	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/14 00:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/14 00:31	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/01/14 00:31	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/14 00:31	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/01/14 00:31	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/14 00:31	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/14 00:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/01/14 00:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/14 00:31	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/14 00:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/14 00:31	107-06-2	
1,1-Dichloroethene	17.2	ug/L	1.0	1		11/01/14 00:31	75-35-4	
cis-1,2-Dichloroethene	5280	ug/L	100	100		11/01/14 01:21	156-59-2	
trans-1,2-Dichloroethene	23.8	ug/L	1.0	1		11/01/14 00:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/01/14 00:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/01/14 00:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/01/14 00:31	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/01/14 00:31	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		11/01/14 00:31	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/01/14 00:31	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		11/01/14 00:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/01/14 00:31	108-10-1	
Styrene	ND	ug/L	1.0	1		11/01/14 00:31	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/14 00:31	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/14 00:31	127-18-4	
Toluene	ND	ug/L	1.0	1		11/01/14 00:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/14 00:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/14 00:31	79-00-5	
Trichloroethene	2900	ug/L	10.0	10		11/01/14 00:56	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/14 00:31	75-69-4	
Vinyl chloride	736	ug/L	10.0	10		11/01/14 00:56	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/01/14 00:31	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/01/14 00:31	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	84-113	1		11/01/14 00:31	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	84-124	1		11/01/14 00:31	17060-07-0	
Toluene-d8 (S)	98	%	79-118	1		11/01/14 00:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

Sample: PRIMARY EFF		Lab ID: 30132384002	Collected: 10/20/14 10:40	Received: 10/21/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	20300 ug/L		500	50		11/03/14 21:41	67-64-1	E
Benzene	ND ug/L		1.0	1		10/31/14 23:41	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		10/31/14 23:41	75-27-4	
Bromoform	ND ug/L		1.0	1		10/31/14 23:41	75-25-2	
Bromomethane	ND ug/L		1.0	1		10/31/14 23:41	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		10/31/14 23:41	78-93-3	
Carbon disulfide	1.5 ug/L		1.0	1		10/31/14 23:41	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		10/31/14 23:41	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		10/31/14 23:41	108-90-7	
Chloroethane	ND ug/L		1.0	1		10/31/14 23:41	75-00-3	
Chloroform	ND ug/L		1.0	1		10/31/14 23:41	67-66-3	
Chloromethane	ND ug/L		1.0	1		10/31/14 23:41	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		10/31/14 23:41	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/31/14 23:41	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/31/14 23:41	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/31/14 23:41	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		10/31/14 23:41	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/31/14 23:41	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		10/31/14 23:41	75-35-4	
cis-1,2-Dichloroethene	7.8 ug/L		1.0	1		10/31/14 23:41	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/31/14 23:41	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		10/31/14 23:41	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/31/14 23:41	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/31/14 23:41	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		10/31/14 23:41	100-41-4	
2-Hexanone	ND ug/L		10.0	1		10/31/14 23:41	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/31/14 23:41	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		10/31/14 23:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/31/14 23:41	108-10-1	
Styrene	ND ug/L		1.0	1		10/31/14 23:41	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/31/14 23:41	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		10/31/14 23:41	127-18-4	
Toluene	ND ug/L		1.0	1		10/31/14 23:41	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/31/14 23:41	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/31/14 23:41	79-00-5	
Trichloroethene	ND ug/L		1.0	1		10/31/14 23:41	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		10/31/14 23:41	75-69-4	
Vinyl chloride	104 ug/L		1.0	1		10/31/14 23:41	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		10/31/14 23:41	179601-23-1	
o-Xylene	ND ug/L		1.0	1		10/31/14 23:41	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102 %		84-113	1		10/31/14 23:41	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %		84-124	1		10/31/14 23:41	17060-07-0	
Toluene-d8 (S)	97 %		79-118	1		10/31/14 23:41	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

Sample: POST-CARB		Lab ID: 30132384003	Collected: 10/20/14 12:15	Received: 10/21/14 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	21500 ug/L		500	50		11/03/14 21:16	67-64-1	E
Benzene	ND ug/L		1.0	1		10/31/14 19:57	71-43-2	
Bromodichloromethane	ND ug/L		1.0	1		10/31/14 19:57	75-27-4	
Bromoform	ND ug/L		1.0	1		10/31/14 19:57	75-25-2	
Bromomethane	ND ug/L		1.0	1		10/31/14 19:57	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		10/31/14 19:57	78-93-3	
Carbon disulfide	ND ug/L		1.0	1		10/31/14 19:57	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		10/31/14 19:57	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		10/31/14 19:57	108-90-7	
Chloroethane	ND ug/L		1.0	1		10/31/14 19:57	75-00-3	
Chloroform	ND ug/L		1.0	1		10/31/14 19:57	67-66-3	
Chloromethane	ND ug/L		1.0	1		10/31/14 19:57	74-87-3	
Dibromochloromethane	ND ug/L		1.0	1		10/31/14 19:57	124-48-1	
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/31/14 19:57	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/31/14 19:57	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/31/14 19:57	106-46-7	
1,1-Dichloroethane	ND ug/L		1.0	1		10/31/14 19:57	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/31/14 19:57	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	1		10/31/14 19:57	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/31/14 19:57	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/31/14 19:57	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		10/31/14 19:57	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/31/14 19:57	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/31/14 19:57	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		10/31/14 19:57	100-41-4	
2-Hexanone	ND ug/L		10.0	1		10/31/14 19:57	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/31/14 19:57	98-82-8	
Methylene Chloride	ND ug/L		1.0	1		10/31/14 19:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/31/14 19:57	108-10-1	
Styrene	ND ug/L		1.0	1		10/31/14 19:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/31/14 19:57	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		10/31/14 19:57	127-18-4	
Toluene	ND ug/L		1.0	1		10/31/14 19:57	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/31/14 19:57	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/31/14 19:57	79-00-5	
Trichloroethene	ND ug/L		1.0	1		10/31/14 19:57	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		10/31/14 19:57	75-69-4	
Vinyl chloride	1.5 ug/L		1.0	1		10/31/14 19:57	75-01-4	
m&p-Xylene	ND ug/L		2.0	1		10/31/14 19:57	179601-23-1	
o-Xylene	ND ug/L		1.0	1		10/31/14 19:57	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100 %		84-113	1		10/31/14 19:57	460-00-4	
1,2-Dichloroethane-d4 (S)	104 %		84-124	1		10/31/14 19:57	17060-07-0	
Toluene-d8 (S)	93 %		79-118	1		10/31/14 19:57	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

Sample: TB-01		Lab ID: 30132384004		Collected: 10/20/14 00:01		Received: 10/21/14 09:30		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C							
Acetone	ND ug/L	10.0	1			10/31/14 19:07	67-64-1		
Benzene	ND ug/L	1.0	1			10/31/14 19:07	71-43-2		
Bromodichloromethane	ND ug/L	1.0	1			10/31/14 19:07	75-27-4		
Bromoform	ND ug/L	1.0	1			10/31/14 19:07	75-25-2		
Bromomethane	ND ug/L	1.0	1			10/31/14 19:07	74-83-9		
2-Butanone (MEK)	ND ug/L	10.0	1			10/31/14 19:07	78-93-3		
Carbon disulfide	ND ug/L	1.0	1			10/31/14 19:07	75-15-0		
Carbon tetrachloride	ND ug/L	1.0	1			10/31/14 19:07	56-23-5		
Chlorobenzene	ND ug/L	1.0	1			10/31/14 19:07	108-90-7		
Chloroethane	ND ug/L	1.0	1			10/31/14 19:07	75-00-3		
Chloroform	ND ug/L	1.0	1			10/31/14 19:07	67-66-3		
Chloromethane	ND ug/L	1.0	1			10/31/14 19:07	74-87-3		
Dibromochloromethane	ND ug/L	1.0	1			10/31/14 19:07	124-48-1		
1,2-Dichlorobenzene	ND ug/L	1.0	1			10/31/14 19:07	95-50-1		
1,3-Dichlorobenzene	ND ug/L	1.0	1			10/31/14 19:07	541-73-1		
1,4-Dichlorobenzene	ND ug/L	1.0	1			10/31/14 19:07	106-46-7		
1,1-Dichloroethane	ND ug/L	1.0	1			10/31/14 19:07	75-34-3		
1,2-Dichloroethane	ND ug/L	1.0	1			10/31/14 19:07	107-06-2		
1,1-Dichloroethene	ND ug/L	1.0	1			10/31/14 19:07	75-35-4		
cis-1,2-Dichloroethene	ND ug/L	1.0	1			10/31/14 19:07	156-59-2		
trans-1,2-Dichloroethene	ND ug/L	1.0	1			10/31/14 19:07	156-60-5		
1,2-Dichloropropane	ND ug/L	1.0	1			10/31/14 19:07	78-87-5		
cis-1,3-Dichloropropene	ND ug/L	1.0	1			10/31/14 19:07	10061-01-5		
trans-1,3-Dichloropropene	ND ug/L	1.0	1			10/31/14 19:07	10061-02-6		
Ethylbenzene	ND ug/L	1.0	1			10/31/14 19:07	100-41-4		
2-Hexanone	ND ug/L	10.0	1			10/31/14 19:07	591-78-6		
Isopropylbenzene (Cumene)	ND ug/L	1.0	1			10/31/14 19:07	98-82-8		
Methylene Chloride	ND ug/L	1.0	1			10/31/14 19:07	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND ug/L	10.0	1			10/31/14 19:07	108-10-1		
Styrene	ND ug/L	1.0	1			10/31/14 19:07	100-42-5		
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1			10/31/14 19:07	79-34-5		
Tetrachloroethene	ND ug/L	1.0	1			10/31/14 19:07	127-18-4		
Toluene	ND ug/L	1.0	1			10/31/14 19:07	108-88-3		
1,1,1-Trichloroethane	ND ug/L	1.0	1			10/31/14 19:07	71-55-6		
1,1,2-Trichloroethane	ND ug/L	1.0	1			10/31/14 19:07	79-00-5		
Trichloroethene	ND ug/L	1.0	1			10/31/14 19:07	79-01-6		
Trichlorofluoromethane	ND ug/L	1.0	1			10/31/14 19:07	75-69-4		
Vinyl chloride	ND ug/L	1.0	1			10/31/14 19:07	75-01-4		
m&p-Xylene	ND ug/L	2.0	1			10/31/14 19:07	179601-23-1		
o-Xylene	ND ug/L	1.0	1			10/31/14 19:07	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	99 %	84-113	1			10/31/14 19:07	460-00-4		
1,2-Dichloroethane-d4 (S)	100 %	84-124	1			10/31/14 19:07	17060-07-0		
Toluene-d8 (S)	95 %	79-118	1			10/31/14 19:07	2037-26-5		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown
Pace Project No.: 30132384

QC Batch: MSV/21456 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30132384001, 30132384002, 30132384003, 30132384004

METHOD BLANK: 810662 Matrix: Water
Associated Lab Samples: 30132384001, 30132384002, 30132384003, 30132384004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/14 18:42	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/14 18:42	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/14 18:42	
1,1-Dichloroethane	ug/L	ND	1.0	10/31/14 18:42	
1,1-Dichloroethene	ug/L	ND	1.0	10/31/14 18:42	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/31/14 18:42	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/14 18:42	
1,2-Dichloropropane	ug/L	ND	1.0	10/31/14 18:42	
1,3-Dichlorobenzene	ug/L	ND	1.0	10/31/14 18:42	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/14 18:42	
2-Butanone (MEK)	ug/L	ND	10.0	10/31/14 18:42	
2-Hexanone	ug/L	ND	10.0	10/31/14 18:42	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/31/14 18:42	
Acetone	ug/L	ND	10.0	10/31/14 18:42	
Benzene	ug/L	ND	1.0	10/31/14 18:42	
Bromodichloromethane	ug/L	ND	1.0	10/31/14 18:42	
Bromoform	ug/L	ND	1.0	10/31/14 18:42	
Bromomethane	ug/L	ND	1.0	10/31/14 18:42	
Carbon disulfide	ug/L	ND	1.0	10/31/14 18:42	
Carbon tetrachloride	ug/L	ND	1.0	10/31/14 18:42	
Chlorobenzene	ug/L	ND	1.0	10/31/14 18:42	
Chloroethane	ug/L	ND	1.0	10/31/14 18:42	
Chloroform	ug/L	ND	1.0	10/31/14 18:42	
Chloromethane	ug/L	ND	1.0	10/31/14 18:42	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/14 18:42	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/31/14 18:42	
Dibromochloromethane	ug/L	ND	1.0	10/31/14 18:42	
Ethylbenzene	ug/L	ND	1.0	10/31/14 18:42	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/31/14 18:42	
m&p-Xylene	ug/L	ND	2.0	10/31/14 18:42	
Methylene Chloride	ug/L	ND	1.0	10/31/14 18:42	
o-Xylene	ug/L	ND	1.0	10/31/14 18:42	
Styrene	ug/L	ND	1.0	10/31/14 18:42	
Tetrachloroethene	ug/L	ND	1.0	10/31/14 18:42	
Toluene	ug/L	ND	1.0	10/31/14 18:42	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/14 18:42	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/31/14 18:42	
Trichloroethene	ug/L	ND	1.0	10/31/14 18:42	
Trichlorofluoromethane	ug/L	ND	1.0	10/31/14 18:42	
Vinyl chloride	ug/L	ND	1.0	10/31/14 18:42	
1,2-Dichloroethane-d4 (S)	%	95	84-124	10/31/14 18:42	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

METHOD BLANK: 810662

Matrix: Water

Associated Lab Samples: 30132384001, 30132384002, 30132384003, 30132384004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	100	84-113	10/31/14 18:42	
Toluene-d8 (S)	%	96	79-118	10/31/14 18:42	

LABORATORY CONTROL SAMPLE: 810663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	15.8	79	62-130	
1,1,2,2-Tetrachloroethane	ug/L	20	17.1	85	74-115	
1,1,2-Trichloroethane	ug/L	20	16.1	80	73-121	
1,1-Dichloroethane	ug/L	20	14.2	71	64-125	
1,1-Dichloroethene	ug/L	20	13.5	68	58-126	
1,2-Dichlorobenzene	ug/L	20	16.8	84	76-117	
1,2-Dichloroethane	ug/L	20	15.6	78	66-124	
1,2-Dichloropropane	ug/L	20	16.0	80	66-119	
1,3-Dichlorobenzene	ug/L	20	17.0	85	73-116	
1,4-Dichlorobenzene	ug/L	20	16.8	84	75-119	
2-Butanone (MEK)	ug/L	20	15.7	78	69-126	
2-Hexanone	ug/L	20	14.1	70	53-118	
4-Methyl-2-pentanone (MIBK)	ug/L	20	15.6	78	68-124	
Acetone	ug/L	20	7J	35	56-142	L0
Benzene	ug/L	20	15.3	76	69-123	
Bromodichloromethane	ug/L	20	14.9	74	64-120	
Bromoform	ug/L	20	15.8	79	56-133	
Bromomethane	ug/L	20	10.2	51	19-151	
Carbon disulfide	ug/L	20	18.9	94	53-173	
Carbon tetrachloride	ug/L	20	14.8	74	52-133	
Chlorobenzene	ug/L	20	16.5	82	72-121	
Chloroethane	ug/L	20	17.1	86	53-143	
Chloroform	ug/L	20	15.5	77	63-123	
Chloromethane	ug/L	20	13.6	68	48-139	
cis-1,2-Dichloroethene	ug/L	20	16.0	80	63-123	
cis-1,3-Dichloropropene	ug/L	20	17.2	86	65-121	
Dibromochloromethane	ug/L	20	15.7	78	58-132	
Ethylbenzene	ug/L	20	17.8	89	70-123	
Isopropylbenzene (Cumene)	ug/L	20	21.2	106	66-136	
m&p-Xylene	ug/L	40	39.8	100	71-124	
Methylene Chloride	ug/L	20	13.1	66	55-134	
o-Xylene	ug/L	20	17.2	86	69-118	
Styrene	ug/L	20	17.4	87	66-126	
Tetrachloroethene	ug/L	20	16.7	84	62-131	
Toluene	ug/L	20	16.4	82	73-123	
trans-1,2-Dichloroethene	ug/L	20	14.5	72	61-124	
trans-1,3-Dichloropropene	ug/L	20	16.7	83	70-111	
Trichloroethene	ug/L	20	14.9	74	66-125	

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

LABORATORY CONTROL SAMPLE: 810663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	15.9	80	57-144	
Vinyl chloride	ug/L	20	17.2	86	58-131	
1,2-Dichloroethane-d4 (S)	%			93	84-124	
4-Bromofluorobenzene (S)	%			103	84-113	
Toluene-d8 (S)	%			97	79-118	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 811586 811587

Parameter	Units	30132498001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	15.6	15.9	78	80	62-130	2	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	13.7	13.4	69	67	74-115	3	M0
1,1,2-Trichloroethane	ug/L	ND	20	20	17.4	17.0	87	85	73-121	2	
1,1-Dichloroethane	ug/L	ND	20	20	13.3	13.4	67	67	64-125	1	
1,1-Dichloroethene	ug/L	ND	20	20	11.0	11.1	55	55	58-126	1	M0
1,2-Dichlorobenzene	ug/L	ND	20	20	19.5	19.4	98	97	76-117	1	
1,2-Dichloroethane	ug/L	ND	20	20	16.0	16.1	80	80	66-124	0	
1,2-Dichloropropane	ug/L	ND	20	20	14.7	14.6	74	73	66-119	1	
1,3-Dichlorobenzene	ug/L	ND	20	20	19.2	19.2	96	96	73-116	0	
1,4-Dichlorobenzene	ug/L	ND	20	20	19.1	19.4	95	97	75-119	2	
2-Butanone (MEK)	ug/L	ND	20	20	14.6	14.2	73	71	69-126	3	
2-Hexanone	ug/L	ND	20	20	13.1	12.6	65	63	53-118	3	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	14.1	13.8	70	69	68-124	2	
Acetone	ug/L	ND	20	20	7.2J	5.9J	36	29	56-142		M0
Benzene	ug/L	ND	20	20	13.3	13.4	66	67	69-123	1	M0
Bromodichloromethane	ug/L	ND	20	20	16.0	15.5	80	77	64-120	3	
Bromoform	ug/L	ND	20	20	19.5	19.0	98	95	56-133	3	
Bromomethane	ug/L	ND	20	20	23.6	25.2	118	126	19-151	7	
Carbon disulfide	ug/L	ND	20	20	16.5	16.0	82	80	53-173	3	
Carbon tetrachloride	ug/L	ND	20	20	13.2	14.0	66	70	52-133	6	
Chlorobenzene	ug/L	ND	20	20	17.7	17.8	88	89	72-121	1	
Chloroethane	ug/L	ND	20	20	20.6	19.7	103	99	53-143	4	
Chloroform	ug/L	ND	20	20	15.9	15.9	79	79	63-123	0	
Chloromethane	ug/L	ND	20	20	19.4	19.2	97	96	48-139	1	
cis-1,2-Dichloroethene	ug/L	ND	20	20	14.5	15.0	73	75	63-123	3	
cis-1,3-Dichloropropene	ug/L	ND	20	20	16.9	17.0	84	85	65-121	1	
Dibromochloromethane	ug/L	ND	20	20	17.4	17.5	87	88	58-132	1	
Ethylbenzene	ug/L	ND	20	20	19.1	18.6	96	93	70-123	3	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	22.5	22.6	112	113	66-136	0	
m&p-Xylene	ug/L	ND	40	40	41.3	42.3	103	106	71-124	2	
Methylene Chloride	ug/L	ND	20	20	11.3	11.4	57	57	55-134	1	
o-Xylene	ug/L	ND	20	20	18.1	18.3	91	91	69-118	1	
Styrene	ug/L	ND	20	20	19.1	19.3	95	96	66-126	1	
Tetrachloroethene	ug/L	ND	20	20	15.5	16.2	78	81	62-131	4	
Toluene	ug/L	ND	20	20	15.0	15.3	75	77	73-123	2	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 811586 811587											
Parameter	Units	30132498001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
trans-1,2-Dichloroethene	ug/L	ND	20	20	12.6	12.7	63	64	61-124	1	
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.7	16.9	88	85	70-111	4	
Trichloroethene	ug/L	ND	20	20	18.6	19.2	93	96	66-125	3	
Trichlorofluoromethane	ug/L	ND	20	20	22.3	22.6	111	113	57-144	1	
Vinyl chloride	ug/L	ND	20	20	20.7	20.6	104	103	58-131	1	
1,2-Dichloroethane-d4 (S)	%						101	101	84-124		
4-Bromofluorobenzene (S)	%						103	101	84-113		
Toluene-d8 (S)	%						93	95	79-118		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

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.

PQL - Practical Quantitation 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.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

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

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Essex-Hope Jamestown

Pace Project No.: 30132384

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30132384001	PRE-CARB	EPA 8260C	MSV/21456		
30132384002	PRIMARY EFF	EPA 8260C	MSV/21456		
30132384003	POST-CARB	EPA 8260C	MSV/21456		
30132384004	TB-01	EPA 8260C	MSV/21456		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Client Name: URS Corp

Project #

30132384

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8023 3932 6836

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used #8 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 4.8 °C Correction Factor: -0.1 °C Final Temp: 4.7 °C

Date and Initials of person

examining contents: SRA 10-21-14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>wt</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>SRA</u> Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review:

Date:

10/23/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Client Name: _____

~~WKS 0c1rP 2384 WKS~~

VEN/0121141

[illegible]

December 08, 2014

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30135173

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on November 25, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ACCLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

Sample: PRE-CARB		Lab ID: 30135173001	Collected: 11/24/14 10:50	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	37000	ug/L	1000	100		12/04/14 16:19	67-64-1	M5
Benzene	25.7	ug/L	1.0	1		12/04/14 15:30	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 15:30	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		12/04/14 15:30	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		12/04/14 15:30	74-83-9	L3,M5
2-Butanone (MEK)	175	ug/L	10.0	1		12/04/14 15:30	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 15:30	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 15:30	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 15:30	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		12/04/14 15:30	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		12/04/14 15:30	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		12/04/14 15:30	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 15:30	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 15:30	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 15:30	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 15:30	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 15:30	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 15:30	107-06-2	M5
1,1-Dichloroethene	31.2	ug/L	1.0	1		12/04/14 15:30	75-35-4	M5
cis-1,2-Dichloroethene	11500	ug/L	100	100		12/04/14 16:19	156-59-2	M5
trans-1,2-Dichloroethene	84.9	ug/L	1.0	1		12/04/14 15:30	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 15:30	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 15:30	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 15:30	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 15:30	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		12/04/14 15:30	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 15:30	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 15:30	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 15:30	108-10-1	M5
Styrene	ND	ug/L	1.0	1		12/04/14 15:30	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 15:30	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 15:30	127-18-4	M5
Toluene	ND	ug/L	1.0	1		12/04/14 15:30	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 15:30	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 15:30	79-00-5	M5
Trichloroethene	3490	ug/L	10.0	10		12/04/14 15:55	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 15:30	75-69-4	M5
Vinyl chloride	1380	ug/L	10.0	10		12/04/14 15:55	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 15:30	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		12/04/14 15:30	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	105	%	84-113	1		12/04/14 15:30	460-00-4	M5
1,2-Dichloroethane-d4 (S)	111	%	84-124	1		12/04/14 15:30	17060-07-0	M5
Toluene-d8 (S)	97	%	79-118	1		12/04/14 15:30	2037-26-5	M5

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

Sample: PRIMARY-EFF		Lab ID: 30135173002	Collected: 11/24/14 10:55	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	36200	ug/L	5000	500		12/05/14 12:09	67-64-1	M5
Benzene	ND	ug/L	1.0	1		12/04/14 16:44	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 16:44	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		12/04/14 16:44	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		12/04/14 16:44	74-83-9	L3,M5
2-Butanone (MEK)	91.2	ug/L	10.0	1		12/04/14 16:44	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 16:44	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 16:44	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 16:44	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		12/04/14 16:44	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		12/04/14 16:44	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		12/04/14 16:44	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 16:44	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 16:44	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 16:44	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 16:44	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 16:44	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 16:44	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	1.0	1		12/04/14 16:44	75-35-4	M5
cis-1,2-Dichloroethene	555	ug/L	50.0	50		12/04/14 17:09	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/14 16:44	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 16:44	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 16:44	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 16:44	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 16:44	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		12/04/14 16:44	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 16:44	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 16:44	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 16:44	108-10-1	M5
Styrene	ND	ug/L	1.0	1		12/04/14 16:44	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 16:44	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 16:44	127-18-4	M5
Toluene	ND	ug/L	1.0	1		12/04/14 16:44	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 16:44	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 16:44	79-00-5	M5
Trichloroethene	6.9	ug/L	1.0	1		12/04/14 16:44	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 16:44	75-69-4	M5
Vinyl chloride	1080	ug/L	50.0	50		12/04/14 17:09	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 16:44	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		12/04/14 16:44	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	110	%	84-113	1		12/04/14 16:44	460-00-4	M5
1,2-Dichloroethane-d4 (S)	114	%	84-124	1		12/04/14 16:44	17060-07-0	M5
Toluene-d8 (S)	106	%	79-118	1		12/04/14 16:44	2037-26-5	M5

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

Sample: POST-CARB		Lab ID: 30135173003	Collected: 11/24/14 12:30	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	36000	ug/L	5000	500		12/05/14 08:44	67-64-1	M5
Benzene	ND	ug/L	1.0	1		12/04/14 17:33	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		12/04/14 17:33	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		12/04/14 17:33	75-25-2	M5
Bromomethane	ND	ug/L	1.0	1		12/04/14 17:33	74-83-9	L3,M5
2-Butanone (MEK)	ND	ug/L	10.0	1		12/04/14 17:33	78-93-3	M5
Carbon disulfide	ND	ug/L	1.0	1		12/04/14 17:33	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		12/04/14 17:33	56-23-5	M5
Chlorobenzene	ND	ug/L	1.0	1		12/04/14 17:33	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		12/04/14 17:33	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		12/04/14 17:33	67-66-3	M5
Chloromethane	ND	ug/L	1.0	1		12/04/14 17:33	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		12/04/14 17:33	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 17:33	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 17:33	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/04/14 17:33	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		12/04/14 17:33	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		12/04/14 17:33	107-06-2	M5
1,1-Dichloroethene	ND	ug/L	1.0	1		12/04/14 17:33	75-35-4	M5
cis-1,2-Dichloroethene	1.3	ug/L	1.0	1		12/04/14 17:33	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/04/14 17:33	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		12/04/14 17:33	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 17:33	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/04/14 17:33	10061-02-6	M5
Ethylbenzene	ND	ug/L	1.0	1		12/04/14 17:33	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		12/04/14 17:33	591-78-6	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/04/14 17:33	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		12/04/14 17:33	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/04/14 17:33	108-10-1	M5
Styrene	ND	ug/L	1.0	1		12/04/14 17:33	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/04/14 17:33	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		12/04/14 17:33	127-18-4	M5
Toluene	ND	ug/L	1.0	1		12/04/14 17:33	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/04/14 17:33	71-55-6	M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/04/14 17:33	79-00-5	M5
Trichloroethene	ND	ug/L	1.0	1		12/04/14 17:33	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		12/04/14 17:33	75-69-4	M5
Vinyl chloride	199	ug/L	1.0	1		12/04/14 17:33	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		12/04/14 17:33	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		12/04/14 17:33	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	107	%	84-113	1		12/04/14 17:33	460-00-4	M5
1,2-Dichloroethane-d4 (S)	115	%	84-124	1		12/04/14 17:33	17060-07-0	M5
Toluene-d8 (S)	96	%	79-118	1		12/04/14 17:33	2037-26-5	M5

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

Sample: TB-01		Lab ID: 30135173004	Collected: 11/24/14 00:01	Received: 11/25/14 09:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		12/04/14 12:38	67-64-1	M5
Benzene	ND ug/L		1.0	1		12/04/14 12:38	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		12/04/14 12:38	75-27-4	M5
Bromoform	ND ug/L		1.0	1		12/04/14 12:38	75-25-2	M5
Bromomethane	ND ug/L		1.0	1		12/04/14 12:38	74-83-9	L3,M5
2-Butanone (MEK)	ND ug/L		10.0	1		12/04/14 12:38	78-93-3	M5
Carbon disulfide	ND ug/L		1.0	1		12/04/14 12:38	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		12/04/14 12:38	56-23-5	M5
Chlorobenzene	ND ug/L		1.0	1		12/04/14 12:38	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		12/04/14 12:38	75-00-3	M5
Chloroform	ND ug/L		1.0	1		12/04/14 12:38	67-66-3	M5
Chloromethane	ND ug/L		1.0	1		12/04/14 12:38	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		12/04/14 12:38	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		12/04/14 12:38	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		12/04/14 12:38	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		12/04/14 12:38	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		12/04/14 12:38	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		12/04/14 12:38	107-06-2	M5
1,1-Dichloroethene	ND ug/L		1.0	1		12/04/14 12:38	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		12/04/14 12:38	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		12/04/14 12:38	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		12/04/14 12:38	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		12/04/14 12:38	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		12/04/14 12:38	10061-02-6	M5
Ethylbenzene	ND ug/L		1.0	1		12/04/14 12:38	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		12/04/14 12:38	591-78-6	M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		12/04/14 12:38	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		12/04/14 12:38	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		12/04/14 12:38	108-10-1	M5
Styrene	ND ug/L		1.0	1		12/04/14 12:38	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		12/04/14 12:38	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		12/04/14 12:38	127-18-4	M5
Toluene	ND ug/L		1.0	1		12/04/14 12:38	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		12/04/14 12:38	71-55-6	M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		12/04/14 12:38	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		12/04/14 12:38	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		12/04/14 12:38	75-69-4	M5
Vinyl chloride	ND ug/L		1.0	1		12/04/14 12:38	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		12/04/14 12:38	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		12/04/14 12:38	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	109 %		84-113	1		12/04/14 12:38	460-00-4	M5
1,2-Dichloroethane-d4 (S)	114 %		84-124	1		12/04/14 12:38	17060-07-0	M5
Toluene-d8 (S)	97 %		79-118	1		12/04/14 12:38	2037-26-5	M5

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

QC Batch:	MSV/21777	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 8260C	Analysis Description:	8260C MSV
Associated Lab Samples:	30135173001, 30135173002, 30135173003, 30135173004		

METHOD BLANK:	825351	Matrix:	Water
Associated Lab Samples:	30135173001, 30135173002, 30135173003, 30135173004		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,1-Dichloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,1-Dichloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	12/04/14 11:48	M5
1,2-Dichloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
1,2-Dichloropropane	ug/L	ND	1.0	12/04/14 11:48	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	12/04/14 11:48	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	12/04/14 11:48	M5
2-Butanone (MEK)	ug/L	ND	10.0	12/04/14 11:48	M5
2-Hexanone	ug/L	ND	10.0	12/04/14 11:48	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	12/04/14 11:48	M5
Acetone	ug/L	ND	10.0	12/04/14 11:48	M5
Benzene	ug/L	ND	1.0	12/04/14 11:48	M5
Bromodichloromethane	ug/L	ND	1.0	12/04/14 11:48	M5
Bromoform	ug/L	ND	1.0	12/04/14 11:48	M5
Bromomethane	ug/L	ND	1.0	12/04/14 11:48	M5
Carbon disulfide	ug/L	ND	1.0	12/04/14 11:48	M5
Carbon tetrachloride	ug/L	ND	1.0	12/04/14 11:48	M5
Chlorobenzene	ug/L	ND	1.0	12/04/14 11:48	M5
Chloroethane	ug/L	ND	1.0	12/04/14 11:48	M5
Chloroform	ug/L	ND	1.0	12/04/14 11:48	M5
Chloromethane	ug/L	ND	1.0	12/04/14 11:48	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/04/14 11:48	M5
Dibromochloromethane	ug/L	ND	1.0	12/04/14 11:48	M5
Ethylbenzene	ug/L	ND	1.0	12/04/14 11:48	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	12/04/14 11:48	M5
m&p-Xylene	ug/L	ND	2.0	12/04/14 11:48	M5
Methylene Chloride	ug/L	ND	1.0	12/04/14 11:48	M5
o-Xylene	ug/L	ND	1.0	12/04/14 11:48	M5
Styrene	ug/L	ND	1.0	12/04/14 11:48	M5
Tetrachloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
Toluene	ug/L	ND	1.0	12/04/14 11:48	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/04/14 11:48	M5
Trichloroethene	ug/L	ND	1.0	12/04/14 11:48	M5
Trichlorofluoromethane	ug/L	ND	1.0	12/04/14 11:48	M5
Vinyl chloride	ug/L	ND	1.0	12/04/14 11:48	M5
1,2-Dichloroethane-d4 (S)	%	117	84-124	12/04/14 11:48	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

METHOD BLANK: 825351

Matrix: Water

Associated Lab Samples: 30135173001, 30135173002, 30135173003, 30135173004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	101	84-113	12/04/14 11:48	M5
Toluene-d8 (S)	%	96	79-118	12/04/14 11:48	M5

LABORATORY CONTROL SAMPLE: 825352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.1	110	62-130	M5
1,1,2,2-Tetrachloroethane	ug/L	20	19.1	96	74-115	M5
1,1,2-Trichloroethane	ug/L	20	19.9	99	73-121	M5
1,1-Dichloroethane	ug/L	20	19.8	99	64-125	M5
1,1-Dichloroethene	ug/L	20	18.5	92	58-126	M5
1,2-Dichlorobenzene	ug/L	20	19.4	97	76-117	M5
1,2-Dichloroethane	ug/L	20	21.6	108	66-124	M5
1,2-Dichloropropane	ug/L	20	18.3	91	66-119	M5
1,3-Dichlorobenzene	ug/L	20	18.8	94	73-116	M5
1,4-Dichlorobenzene	ug/L	20	18.8	94	75-119	M5
2-Butanone (MEK)	ug/L	20	15.9	79	69-126	M5
2-Hexanone	ug/L	20	16.4	82	53-118	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	16.7	84	68-124	M5
Acetone	ug/L	20	17.2	86	56-142	M5
Benzene	ug/L	20	18.5	92	69-123	M5
Bromodichloromethane	ug/L	20	20.2	101	64-120	M5
Bromoform	ug/L	20	23.3	117	56-133	M5
Bromomethane	ug/L	20	34.6	173	19-151	L0,M5
Carbon disulfide	ug/L	20	21.6	108	53-173	M5
Carbon tetrachloride	ug/L	20	22.0	110	52-133	M5
Chlorobenzene	ug/L	20	19.1	96	72-121	M5
Chloroethane	ug/L	20	16.6	83	53-143	M5
Chloroform	ug/L	20	21.4	107	63-123	M5
Chloromethane	ug/L	20	17.8	89	48-139	M5
cis-1,2-Dichloroethene	ug/L	20	19.8	99	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	20.4	102	65-121	M5
Dibromochloromethane	ug/L	20	21.9	109	58-132	M5
Ethylbenzene	ug/L	20	19.1	95	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	21.5	107	66-136	M5
m&p-Xylene	ug/L	40	37.6	94	71-124	M5
Methylene Chloride	ug/L	20	18.7	94	55-134	M5
o-Xylene	ug/L	20	18.4	92	69-118	M5
Styrene	ug/L	20	18.8	94	66-126	M5
Tetrachloroethene	ug/L	20	20.5	103	62-131	M5
Toluene	ug/L	20	19.3	97	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	19.5	97	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	20.3	101	70-111	M5
Trichloroethene	ug/L	20	19.2	96	66-125	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

LABORATORY CONTROL SAMPLE: 825352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	21.8	109	57-144	M5
Vinyl chloride	ug/L	20	19.9	99	58-131	M5
1,2-Dichloroethane-d4 (S)	%			107	84-124	M5
4-Bromofluorobenzene (S)	%			105	84-113	M5
Toluene-d8 (S)	%			96	79-118	M5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/21777

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

ANALYTE QUALIFIERS

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.

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ESSEX/HOPE JAMESTOWN

Pace Project No.: 30135173

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30135173001	PRE-CARB	EPA 8260C	MSV/21777		
30135173002	PRIMARY-EFF	EPA 8260C	MSV/21777		
30135173003	POST-CARB	EPA 8260C	MSV/21777		
30135173004	TB-01	EPA 8260C	MSV/21777		

REPORT OF LABORATORY ANALYSIS

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	URS CORP	Report To:	MARK DOWIAK	Attention:	
Address:	FOSTER PURAN 6 601 ANDERSON DR. STE 400 PITTSBURGH, PA, 15220	Copy To:	VALERIE SIBETO	Company Name:	
Email To:		Purchase Order No.:	41569831	Address:	
Phone:	412-503-4700	Project Name:	ESSEX/HOPE JAMESTOWN	Pace Quote Reference:	
Requested Due Date/TAT:	STANDARD	Project Number:	41569831.10000	Pace Project Manager:	
				Pace Profile #:	
				Site Location STATE: NY	
				REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER	
				1811440	

[illegible]



Sample Condition Upon Receipt

Client Name: WPS Corp

Project #

30135173

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8023 3932 6799

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____

Thermometer Used #6 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 0.6 °C Correction Factor: 0.0 °C Final Temp: 0.6 °C

Date and Initials of person

examining contents: SRA 11-25

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>wt</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>SRA</u> Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 11/25/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Project Number:

Client Name: GRS Corp

[illegible]

January 06, 2015

Mr. Mark Dowiak
URS Corporation
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

RE: Project: Essex-Hope Jamestown
Pace Project No.: 30137467

Dear Mr. Dowiak:

Enclosed are the analytical results for sample(s) received by the laboratory on December 23, 2014. 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,



Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

cc: Ms. Valerie Sibeto, URS Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Essex-Hope Jamestown

Pace Project No.: 30137467

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ACLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: PA014572014-4

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown

Pace Project No.: 30137467

Sample: PRE-CARB		Lab ID: 30137467001	Collected: 12/22/14 12:05	Received: 12/23/14 11:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	34000 ug/L		1000	100		01/05/15 19:40	67-64-1	M5
Benzene	32.9 ug/L		1.0	1		01/05/15 19:13	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		01/05/15 19:13	75-27-4	M5
Bromoform	ND ug/L		1.0	1		01/05/15 19:13	75-25-2	L3,M5
Bromomethane	ND ug/L		1.0	1		01/05/15 19:13	74-83-9	M5
2-Butanone (MEK)	140 ug/L		10.0	1		01/05/15 19:13	78-93-3	L2,M5
Carbon disulfide	ND ug/L		1.0	1		01/05/15 19:13	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		01/05/15 19:13	56-23-5	L3,M5
Chlorobenzene	ND ug/L		1.0	1		01/05/15 19:13	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		01/05/15 19:13	75-00-3	M5
Chloroform	ND ug/L		1.0	1		01/05/15 19:13	67-66-3	L3,M5
Chloromethane	ND ug/L		1.0	1		01/05/15 19:13	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		01/05/15 19:13	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		01/05/15 19:13	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		01/05/15 19:13	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		01/05/15 19:13	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		01/05/15 19:13	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		01/05/15 19:13	107-06-2	L3,M5
1,1-Dichloroethene	35.8 ug/L		1.0	1		01/05/15 19:13	75-35-4	M5
cis-1,2-Dichloroethene	10400 ug/L		100	100		01/05/15 19:40	156-59-2	M5
trans-1,2-Dichloroethene	353 ug/L		1.0	1		01/05/15 19:13	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		01/05/15 19:13	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		01/05/15 19:13	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		01/05/15 19:13	10061-02-6	L3,M5
Ethylbenzene	ND ug/L		1.0	1		01/05/15 19:13	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		01/05/15 19:13	591-78-6	L2,M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		01/05/15 19:13	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		01/05/15 19:13	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		01/05/15 19:13	108-10-1	L2,M5
Styrene	ND ug/L		1.0	1		01/05/15 19:13	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		01/05/15 19:13	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		01/05/15 19:13	127-18-4	M5
Toluene	ND ug/L		1.0	1		01/05/15 19:13	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		01/05/15 19:13	71-55-6	L3,M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		01/05/15 19:13	79-00-5	M5
Trichloroethene	4450 ug/L		100	100		01/05/15 19:40	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		01/05/15 19:13	75-69-4	L3,M5
Vinyl chloride	1390 ug/L		100	100		01/05/15 19:40	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		01/05/15 19:13	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		01/05/15 19:13	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	99 %		84-113	1		01/05/15 19:13	460-00-4	M5
1,2-Dichloroethane-d4 (S)	107 %		84-124	1		01/05/15 19:13	17060-07-0	M5
Toluene-d8 (S)	94 %		79-118	1		01/05/15 19:13	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown

Pace Project No.: 30137467

Sample: PRIMARY-EFF		Lab ID: 30137467002	Collected: 12/22/14 12:10	Received: 12/23/14 11:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	23400	ug/L	5000	500		01/05/15 20:59	67-64-1	M5
Benzene	ND	ug/L	1.0	1		01/05/15 20:06	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		01/05/15 20:06	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		01/05/15 20:06	75-25-2	L3,M5
Bromomethane	ND	ug/L	1.0	1		01/05/15 20:06	74-83-9	M5
2-Butanone (MEK)	74.8	ug/L	10.0	1		01/05/15 20:06	78-93-3	L2,M5
Carbon disulfide	ND	ug/L	1.0	1		01/05/15 20:06	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		01/05/15 20:06	56-23-5	L3,M5
Chlorobenzene	ND	ug/L	1.0	1		01/05/15 20:06	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		01/05/15 20:06	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		01/05/15 20:06	67-66-3	L3,M5
Chloromethane	ND	ug/L	1.0	1		01/05/15 20:06	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		01/05/15 20:06	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		01/05/15 20:06	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		01/05/15 20:06	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		01/05/15 20:06	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		01/05/15 20:06	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		01/05/15 20:06	107-06-2	L3,M5
1,1-Dichloroethene	ND	ug/L	1.0	1		01/05/15 20:06	75-35-4	M5
cis-1,2-Dichloroethene	1890	ug/L	50.0	50		01/05/15 20:32	156-59-2	M5
trans-1,2-Dichloroethene	12.9	ug/L	1.0	1		01/05/15 20:06	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		01/05/15 20:06	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/05/15 20:06	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/05/15 20:06	10061-02-6	L3,M5
Ethylbenzene	ND	ug/L	1.0	1		01/05/15 20:06	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		01/05/15 20:06	591-78-6	L2,M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		01/05/15 20:06	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		01/05/15 20:06	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		01/05/15 20:06	108-10-1	L2,M5
Styrene	ND	ug/L	1.0	1		01/05/15 20:06	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/05/15 20:06	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		01/05/15 20:06	127-18-4	M5
Toluene	ND	ug/L	1.0	1		01/05/15 20:06	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/05/15 20:06	71-55-6	L3,M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/05/15 20:06	79-00-5	M5
Trichloroethene	8.6	ug/L	1.0	1		01/05/15 20:06	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		01/05/15 20:06	75-69-4	L3,M5
Vinyl chloride	1200	ug/L	50.0	50		01/05/15 20:32	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		01/05/15 20:06	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		01/05/15 20:06	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	102	%	84-113	1		01/05/15 20:06	460-00-4	M5
1,2-Dichloroethane-d4 (S)	113	%	84-124	1		01/05/15 20:06	17060-07-0	M5
Toluene-d8 (S)	91	%	79-118	1		01/05/15 20:06	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown

Pace Project No.: 30137467

Sample: POST-CARB		Lab ID: 30137467003	Collected: 12/22/14 13:45	Received: 12/23/14 11:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	14300	ug/L	1000	100		01/05/15 21:52	67-64-1	M5
Benzene	ND	ug/L	1.0	1		01/05/15 21:25	71-43-2	M5
Bromodichloromethane	ND	ug/L	1.0	1		01/05/15 21:25	75-27-4	M5
Bromoform	ND	ug/L	1.0	1		01/05/15 21:25	75-25-2	L3,M5
Bromomethane	ND	ug/L	1.0	1		01/05/15 21:25	74-83-9	M5
2-Butanone (MEK)	ND	ug/L	10.0	1		01/05/15 21:25	78-93-3	L2,M5
Carbon disulfide	ND	ug/L	1.0	1		01/05/15 21:25	75-15-0	M5
Carbon tetrachloride	ND	ug/L	1.0	1		01/05/15 21:25	56-23-5	L3,M5
Chlorobenzene	ND	ug/L	1.0	1		01/05/15 21:25	108-90-7	M5
Chloroethane	ND	ug/L	1.0	1		01/05/15 21:25	75-00-3	M5
Chloroform	ND	ug/L	1.0	1		01/05/15 21:25	67-66-3	L3,M5
Chloromethane	ND	ug/L	1.0	1		01/05/15 21:25	74-87-3	M5
Dibromochloromethane	ND	ug/L	1.0	1		01/05/15 21:25	124-48-1	M5
1,2-Dichlorobenzene	ND	ug/L	1.0	1		01/05/15 21:25	95-50-1	M5
1,3-Dichlorobenzene	ND	ug/L	1.0	1		01/05/15 21:25	541-73-1	M5
1,4-Dichlorobenzene	ND	ug/L	1.0	1		01/05/15 21:25	106-46-7	M5
1,1-Dichloroethane	ND	ug/L	1.0	1		01/05/15 21:25	75-34-3	M5
1,2-Dichloroethane	ND	ug/L	1.0	1		01/05/15 21:25	107-06-2	L3,M5
1,1-Dichloroethene	ND	ug/L	1.0	1		01/05/15 21:25	75-35-4	M5
cis-1,2-Dichloroethene	1.5	ug/L	1.0	1		01/05/15 21:25	156-59-2	M5
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/05/15 21:25	156-60-5	M5
1,2-Dichloropropane	ND	ug/L	1.0	1		01/05/15 21:25	78-87-5	M5
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/05/15 21:25	10061-01-5	M5
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/05/15 21:25	10061-02-6	L3,M5
Ethylbenzene	ND	ug/L	1.0	1		01/05/15 21:25	100-41-4	M5
2-Hexanone	ND	ug/L	10.0	1		01/05/15 21:25	591-78-6	L2,M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		01/05/15 21:25	98-82-8	M5
Methylene Chloride	ND	ug/L	1.0	1		01/05/15 21:25	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		01/05/15 21:25	108-10-1	L2,M5
Styrene	ND	ug/L	1.0	1		01/05/15 21:25	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/05/15 21:25	79-34-5	M5
Tetrachloroethene	ND	ug/L	1.0	1		01/05/15 21:25	127-18-4	M5
Toluene	ND	ug/L	1.0	1		01/05/15 21:25	108-88-3	M5
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/05/15 21:25	71-55-6	L3,M5
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/05/15 21:25	79-00-5	M5
Trichloroethene	ND	ug/L	1.0	1		01/05/15 21:25	79-01-6	M5
Trichlorofluoromethane	ND	ug/L	1.0	1		01/05/15 21:25	75-69-4	L3,M5
Vinyl chloride	374	ug/L	1.0	1		01/05/15 21:25	75-01-4	M5
m&p-Xylene	ND	ug/L	2.0	1		01/05/15 21:25	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	1		01/05/15 21:25	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	103	%	84-113	1		01/05/15 21:25	460-00-4	M5
1,2-Dichloroethane-d4 (S)	115	%	84-124	1		01/05/15 21:25	17060-07-0	M5
Toluene-d8 (S)	93	%	79-118	1		01/05/15 21:25	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Essex-Hope Jamestown
Pace Project No.: 30137467

Sample: TB-01		Lab ID: 30137467004	Collected: 12/22/14 00:01	Received: 12/23/14 11:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV		Analytical Method: EPA 8260C						
Acetone	ND ug/L		10.0	1		01/05/15 12:09	67-64-1	M5
Benzene	ND ug/L		1.0	1		01/05/15 12:09	71-43-2	M5
Bromodichloromethane	ND ug/L		1.0	1		01/05/15 12:09	75-27-4	M5
Bromoform	ND ug/L		1.0	1		01/05/15 12:09	75-25-2	L3,M5
Bromomethane	ND ug/L		1.0	1		01/05/15 12:09	74-83-9	M5
2-Butanone (MEK)	ND ug/L		10.0	1		01/05/15 12:09	78-93-3	L2,M5
Carbon disulfide	ND ug/L		1.0	1		01/05/15 12:09	75-15-0	M5
Carbon tetrachloride	ND ug/L		1.0	1		01/05/15 12:09	56-23-5	L3,M5
Chlorobenzene	ND ug/L		1.0	1		01/05/15 12:09	108-90-7	M5
Chloroethane	ND ug/L		1.0	1		01/05/15 12:09	75-00-3	M5
Chloroform	4.2 ug/L		1.0	1		01/05/15 12:09	67-66-3	L1,M5
Chloromethane	ND ug/L		1.0	1		01/05/15 12:09	74-87-3	M5
Dibromochloromethane	ND ug/L		1.0	1		01/05/15 12:09	124-48-1	M5
1,2-Dichlorobenzene	ND ug/L		1.0	1		01/05/15 12:09	95-50-1	M5
1,3-Dichlorobenzene	ND ug/L		1.0	1		01/05/15 12:09	541-73-1	M5
1,4-Dichlorobenzene	ND ug/L		1.0	1		01/05/15 12:09	106-46-7	M5
1,1-Dichloroethane	ND ug/L		1.0	1		01/05/15 12:09	75-34-3	M5
1,2-Dichloroethane	ND ug/L		1.0	1		01/05/15 12:09	107-06-2	L3,M5
1,1-Dichloroethene	ND ug/L		1.0	1		01/05/15 12:09	75-35-4	M5
cis-1,2-Dichloroethene	ND ug/L		1.0	1		01/05/15 12:09	156-59-2	M5
trans-1,2-Dichloroethene	ND ug/L		1.0	1		01/05/15 12:09	156-60-5	M5
1,2-Dichloropropane	ND ug/L		1.0	1		01/05/15 12:09	78-87-5	M5
cis-1,3-Dichloropropene	ND ug/L		1.0	1		01/05/15 12:09	10061-01-5	M5
trans-1,3-Dichloropropene	ND ug/L		1.0	1		01/05/15 12:09	10061-02-6	L3,M5
Ethylbenzene	ND ug/L		1.0	1		01/05/15 12:09	100-41-4	M5
2-Hexanone	ND ug/L		10.0	1		01/05/15 12:09	591-78-6	L2,M5
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		01/05/15 12:09	98-82-8	M5
Methylene Chloride	ND ug/L		1.0	1		01/05/15 12:09	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		01/05/15 12:09	108-10-1	L2,M5
Styrene	ND ug/L		1.0	1		01/05/15 12:09	100-42-5	M5
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		01/05/15 12:09	79-34-5	M5
Tetrachloroethene	ND ug/L		1.0	1		01/05/15 12:09	127-18-4	M5
Toluene	ND ug/L		1.0	1		01/05/15 12:09	108-88-3	M5
1,1,1-Trichloroethane	ND ug/L		1.0	1		01/05/15 12:09	71-55-6	L3,M5
1,1,2-Trichloroethane	ND ug/L		1.0	1		01/05/15 12:09	79-00-5	M5
Trichloroethene	ND ug/L		1.0	1		01/05/15 12:09	79-01-6	M5
Trichlorofluoromethane	ND ug/L		1.0	1		01/05/15 12:09	75-69-4	L3,M5
Vinyl chloride	ND ug/L		1.0	1		01/05/15 12:09	75-01-4	M5
m&p-Xylene	ND ug/L		2.0	1		01/05/15 12:09	179601-23-1	M5
o-Xylene	ND ug/L		1.0	1		01/05/15 12:09	95-47-6	M5
Surrogates								
4-Bromofluorobenzene (S)	109 %		84-113	1		01/05/15 12:09	460-00-4	M5
1,2-Dichloroethane-d4 (S)	121 %		84-124	1		01/05/15 12:09	17060-07-0	M5
Toluene-d8 (S)	97 %		79-118	1		01/05/15 12:09	2037-26-5	M5

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown
Pace Project No.: 30137467

QC Batch: MSV/22097 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30137467001, 30137467002, 30137467003, 30137467004

METHOD BLANK: 838493 Matrix: Water
Associated Lab Samples: 30137467001, 30137467002, 30137467003, 30137467004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/05/15 11:43	M5
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/05/15 11:43	M5
1,1,2-Trichloroethane	ug/L	ND	1.0	01/05/15 11:43	M5
1,1-Dichloroethane	ug/L	ND	1.0	01/05/15 11:43	M5
1,1-Dichloroethene	ug/L	ND	1.0	01/05/15 11:43	M5
1,2-Dichlorobenzene	ug/L	ND	1.0	01/05/15 11:43	M5
1,2-Dichloroethane	ug/L	ND	1.0	01/05/15 11:43	M5
1,2-Dichloropropane	ug/L	ND	1.0	01/05/15 11:43	M5
1,3-Dichlorobenzene	ug/L	ND	1.0	01/05/15 11:43	M5
1,4-Dichlorobenzene	ug/L	ND	1.0	01/05/15 11:43	M5
2-Butanone (MEK)	ug/L	ND	10.0	01/05/15 11:43	M5
2-Hexanone	ug/L	ND	10.0	01/05/15 11:43	M5
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	01/05/15 11:43	M5
Acetone	ug/L	ND	10.0	01/05/15 11:43	M5
Benzene	ug/L	ND	1.0	01/05/15 11:43	M5
Bromodichloromethane	ug/L	ND	1.0	01/05/15 11:43	M5
Bromoform	ug/L	ND	1.0	01/05/15 11:43	M5
Bromomethane	ug/L	ND	1.0	01/05/15 11:43	M5
Carbon disulfide	ug/L	ND	1.0	01/05/15 11:43	M5
Carbon tetrachloride	ug/L	ND	1.0	01/05/15 11:43	M5
Chlorobenzene	ug/L	ND	1.0	01/05/15 11:43	M5
Chloroethane	ug/L	ND	1.0	01/05/15 11:43	M5
Chloroform	ug/L	ND	1.0	01/05/15 11:43	M5
Chloromethane	ug/L	ND	1.0	01/05/15 11:43	M5
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/05/15 11:43	M5
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/05/15 11:43	M5
Dibromochloromethane	ug/L	ND	1.0	01/05/15 11:43	M5
Ethylbenzene	ug/L	ND	1.0	01/05/15 11:43	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	01/05/15 11:43	M5
m&p-Xylene	ug/L	ND	2.0	01/05/15 11:43	M5
Methylene Chloride	ug/L	ND	1.0	01/05/15 11:43	M5
o-Xylene	ug/L	ND	1.0	01/05/15 11:43	M5
Styrene	ug/L	ND	1.0	01/05/15 11:43	M5
Tetrachloroethene	ug/L	ND	1.0	01/05/15 11:43	M5
Toluene	ug/L	ND	1.0	01/05/15 11:43	M5
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/05/15 11:43	M5
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/05/15 11:43	M5
Trichloroethene	ug/L	ND	1.0	01/05/15 11:43	M5
Trichlorofluoromethane	ug/L	ND	1.0	01/05/15 11:43	M5
Vinyl chloride	ug/L	ND	1.0	01/05/15 11:43	M5
1,2-Dichloroethane-d4 (S)	%	114	84-124	01/05/15 11:43	M5

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown

Pace Project No.: 30137467

METHOD BLANK: 838493

Matrix: Water

Associated Lab Samples: 30137467001, 30137467002, 30137467003, 30137467004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	104	84-113	01/05/15 11:43	M5
Toluene-d8 (S)	%	95	79-118	01/05/15 11:43	M5

LABORATORY CONTROL SAMPLE: 838494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	27.9	139	62-130	L0,M5
1,1,2,2-Tetrachloroethane	ug/L	20	17.6	88	74-115	M5
1,1,2-Trichloroethane	ug/L	20	20.9	105	73-121	M5
1,1-Dichloroethane	ug/L	20	21.0	105	64-125	M5
1,1-Dichloroethene	ug/L	20	20.9	105	58-126	M5
1,2-Dichlorobenzene	ug/L	20	20.3	102	76-117	M5
1,2-Dichloroethane	ug/L	20	25.1	126	66-124	L0,M5
1,2-Dichloropropane	ug/L	20	17.0	85	66-119	M5
1,3-Dichlorobenzene	ug/L	20	19.5	98	73-116	M5
1,4-Dichlorobenzene	ug/L	20	20.5	102	75-119	M5
2-Butanone (MEK)	ug/L	20	13.1	65	69-126	L0,M5
2-Hexanone	ug/L	20	10.4	52	53-118	L0,M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	10.8	54	68-124	L0,M5
Acetone	ug/L	20	15.5	78	56-142	M5
Benzene	ug/L	20	19.2	96	69-123	M5
Bromodichloromethane	ug/L	20	23.2	116	64-120	M5
Bromoform	ug/L	20	28.3	142	56-133	L0,M5
Bromomethane	ug/L	20	22.3	111	19-151	M5
Carbon disulfide	ug/L	20	21.5	107	53-173	M5
Carbon tetrachloride	ug/L	20	27.4	137	52-133	L0,M5
Chlorobenzene	ug/L	20	21.7	108	72-121	M5
Chloroethane	ug/L	20	23.3	116	53-143	M5
Chloroform	ug/L	20	25.0	125	63-123	L0,M5
Chloromethane	ug/L	20	14.1	71	48-139	M5
cis-1,2-Dichloroethene	ug/L	20	21.0	105	63-123	M5
cis-1,3-Dichloropropene	ug/L	20	21.2	106	65-121	M5
Dibromochloromethane	ug/L	20	25.8	129	58-132	M5
Ethylbenzene	ug/L	20	19.6	98	70-123	M5
Isopropylbenzene (Cumene)	ug/L	20	21.4	107	66-136	M5
m&p-Xylene	ug/L	40	40.9	102	71-124	M5
Methylene Chloride	ug/L	20	16.6	83	55-134	M5
o-Xylene	ug/L	20	18.9	95	69-118	M5
Styrene	ug/L	20	20.4	102	66-126	M5
Tetrachloroethene	ug/L	20	22.9	115	62-131	M5
Toluene	ug/L	20	19.8	99	73-123	M5
trans-1,2-Dichloroethene	ug/L	20	19.5	97	61-124	M5
trans-1,3-Dichloropropene	ug/L	20	22.3	112	70-111	L0,M5
Trichloroethene	ug/L	20	21.2	106	66-125	M5

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QUALITY CONTROL DATA

Project: Essex-Hope Jamestown

Pace Project No.: 30137467

LABORATORY CONTROL SAMPLE: 838494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	30.2	151	57-144	L0,M5
Vinyl chloride	ug/L	20	19.9	99	58-131	M5
1,2-Dichloroethane-d4 (S)	%			112	84-124	M5
4-Bromofluorobenzene (S)	%			106	84-113	M5
Toluene-d8 (S)	%			98	79-118	M5

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Essex-Hope Jamestown
Pace Project No.: 30137467

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.

PQL - Practical Quantitation 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.

BATCH QUALIFIERS

Batch: MSV/22097

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

ANALYTE QUALIFIERS

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

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

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.

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Essex-Hope Jamestown

Pace Project No.: 30137467

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30137467001	PRE-CARB	EPA 8260C	MSV/22097		
30137467002	PRIMARY-EFF	EPA 8260C	MSV/22097		
30137467003	POST-CARB	EPA 8260C	MSV/22097		
30137467004	TB-01	EPA 8260C	MSV/22097		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: URS CORP	Report To: MARK DOWAL	Company Name:	Attention:		
Address: FOSTER PLAZA 6	Copy To: VALERIE SIBERTO	Address:	REGULATORY AGENCY		
City: PHILADELPHIA, PA 19106	Purchase Order No.: 41569831	City:	GROUND WATER ☐ DRINKING WATER ☐		
State: PA	Project Name: ESSEX/HOPE JAMES TOWN	State:	UST ☐ RCRA ☐ OTHER ☐		
Zip: 19106	Project Number: 41569831	Zip:	Site Location		
Requested Due Date/TAT:		Requested Due Date/TAT:	STATE:		

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1715633

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	Temp in °C	Received on	Custody	Sealed Cooler	Samples Intact
				COMPOSITE START	COMPOSITE END/GRAB													
1	PRE-CARB	WTG	WTG	12/21/17	12/21/17	12/21/17	12:05											
2	PRIMARY-EFF	WTG	WTG	12/21/17	12/21/17	12/21/17	12:10											
3	POST-CARB	WTG	WTG	12/21/17	12/21/17	12/21/17	12:15											
4	POST-CARB	WTG	WTG	12/21/17	12/21/17	12/21/17	12:15											
5	POST-CARB	WTG	WTG	12/21/17	12/21/17	12/21/17	13:15											
6	POST-CARB	WTG	WTG	12/21/17	12/21/17	12/21/17	13:45											
7	TB-01	WTG	WTG	12/21/17	12/21/17	12/21/17	-											
8																		
9																		
10																		
11																		
12																		
ADDITIONAL COMMENTS: COMPOSITE FOUR (4) POST-CARB SAMPLES IN LAB AND REPORT AS POST-CARB COMPOSITES																		
SAMPLER NAME AND SIGNATURE: VALERIE SIBERTO PRINT Name of SAMPLER: VALERIE SIBERTO SIGNATURE of SAMPLER: Valerie DATE Signed (MM/DD/YY): 12.22.17																		

ORIGINAL



Sample Condition Upon Receipt

Client Name: URS corp

Project # 30137467

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 802339326177

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

Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other Ziploc

Thermometer Used 7 Type of Ice: Wet Blue None ☒ Samples on ice, cooling process has begun

Cooler Temp.: Observed Temp.: 0.6 °C Correction Factor: -0.1 °C Final Temp: 0.5 °C

Date and Initials of person

ARM 12/23/14
examining contents:

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed <u>ARM</u>
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	Lot # of added preservative
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	14.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	15.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	16.
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 12/24/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Project Number:

Client Name: _____

Face Analytical

[illegible]

APPENDIX D
SUPPLEMENTAL SITE GROUNDWATER INVESTIGATIONS PLAN AND
DIRECT-PUSH GROUNDWATER SAMPLING LOGS

2014 Phase II RA Site Investigations
Sampling and Analyses Plan Summary
GROUNDWATER
DOW ESSEX/HOPE SITE

TABLE 1
Draft
4/16/2015

Site Area and Sampling Objective	Sample Method	Sample Locations (See Figures 1 and 2)	Sample Depths, ft BGS	Analyses-VOCs- EPA SW 8260	NOTES (All sample locations shall be field-checked prior to sampling)	Comments
Shallow Groundwater Zone- North Area and West Building /UST Area						
Assess extent of VOCs onsite and offsite	Test Boring-Direct-push	11	10-15 ft BGS	11	See DP TBS listed below	
	Recovery Wells (existing)	3	discharge line port	3	See recovery wells listed below	
	Monitoring Wells (existing)	27	5-15 ft BGS	27	See monitoring wells listed below	Sample existing MWs as part of annual monitoring.
	Monitoring Wells (proposed)	2	~10-20 ft BGS (screen interval)	2	MW's-30S and -31S, West Bldg	
Deep Groundwater Zone- North Area						
Assess extent of VOCs onsite and offsite	Test Boring-Direct-push	9	30-40 ft BGS	9	See DP TBS listed below	
	Recovery Wells (existing)	2	discharge line port	2	See recovery wells listed below	
	Monitoring Wells (existing)	18	30-40 feet BGS (est.)	18	See monitoring wells listed below	Sample existing MWs as part of annual monitoring.
		GW	SUBTOTAL	72		

SHALLOW GROUNDWATER ZONE			DEEP GROUNDWATER ZONE		
Monitoring Wells- Shallow	Recovery Wells Shallow	Direct-Push- Shallow	Monitoring Wells- Deep	Recovery Wells Deep	Direct-Push- Deep
MW-1	RW-1S	TB-300S- CPM	MW-7D	RW-2D	TB-301D- JM
MW-2	RW-2S	TB-301S-JM	MW-8	RW-6D	TB-302D- H&H
MW-6	RW-3S	TB-302S- H&H	MW-14D		TB-303D- H&H
MW-7		TB-303S- H&H	MW-15D		TB-304D- Hope
MW-10		TB-304S- Hope	MW-16D		TB-306D- H&H
MW-11		TB-305S- H&H	MW-19D		TB-308D- H&H
MW-12		TB-306S- H&H	MW-21D		TB-311D- Hope
MW-13		TB-307S- City	MW-22D		TB-312D- Hope
MW-14S		TB-308S- H&H	MW-23D		TB-313D- Hope
MW-15S		TB-309S- City	MW-25D		
MW-16S		TB-310S- H&H	GP-2D		
MW-17			GP-3D		
MW-18			PZ-5D		
MW-19S			PZ-7D		
MW-20			PZ-11D		
MW-23S			VP-5D		
MW-24S			VP-6D		
MW-25S			VP-7D		
MW-26S					
MW-27S					
MW-28S					
MW-29S					
HW-2					
HW-6					
HW-8					
HW-9					
PZ-5S					
MW-30S (proposed- West BL)					
MW-31S (proposed- West BL)					
			NOTES: CPM- onsite property JM- Johnson Machine H&H- H&H Metals Hope- Hope's Windows City- City of Jamestown		

SURVEY DATA

N. HOOVLER

DOW-JAMESTOWN-10-09-14.txt
411, 9994.922925, 10712.897476, 1275.634854, TB-307S
412, 10053.346636, 10495.246360, 1277.463252, TB-301S-and-D
413, 10025.981099, 10731.836083, 1275.652182, PK-NAIL
414, 10141.098912, 10716.321872, 1277.193857, TB-306S-and-D
415, 10211.766998, 10715.677641, 1277.698771, TB-305S
416, 10233.297991, 10731.754734, 1275.799094, TOP-BANK
417, 10177.498411, 10744.582249, 1277.418518, TOP-BANK
418, 10055.129746, 10799.430771, 1276.834753, TB-308S-and-D
419, 10066.606499, 10815.909952, 1275.743970, TOP-BANK
420, 10083.361843, 10799.036832, 1275.913151, TOP-BANK
421, 10058.588985, 10829.903458, 1275.504894, TOP-BANK
422, 10035.775163, 10987.783563, 1273.763920, TB-309S
423, 10057.593716, 10993.053592, 1273.557123, TOP-BANK
424, 10043.627963, 10553.036760, 1277.335313, PK-NAIL
425, 10166.551678, 10537.729369, 1279.038563, TB-302S-and-D
426, 10290.633533, 10589.360785, 1274.721279, TB-303S-and-D
427, 10149.271685, 10312.004395, 1278.645160, TB-313D
428, 10133.820291, 10386.233199, 1278.940576, TB-304S-and-D
429, 10093.238951, 10170.678270, 1279.435457, TB-311D
430, 10097.653636, 10247.220326, 1279.173503, TB-312D
431, 9796.130930, 10114.605134, 1280.697714, TRAV-PT
432, 9708.079958, 10408.964073, 1279.590572, WATER-VALVE
433, 9759.173791, 10385.929846, 1280.372860, TB-315S
434, 9859.893453, 10452.987158, 1278.702162, TB-314D
435, 10025.140142, 10901.902143, 1274.098445, TRAV-PT
436, 10052.309650, 10860.853481, 1274.884658, TOP-BANK
437, 10052.370134, 10932.195662, 1273.928714, TOP-BANK
438, 9790.548835, 10007.407526, 1280.738046, TB-300S
439, 9790.037590, 10160.483173, 1280.802887, MW-30-TOP-PVC
440, 9790.268845, 10160.450735, 1281.093248, MW-30-TOP-LID
441, 9768.490790, 10181.086281, 1280.628765, MW-31S-TOP-PVC
442, 9768.402687, 10181.095047, 1280.973317, MW-31S-TOP-LID

} MWs 30/31



Sample ID TB-3005
Sample Type GW

Sampled By:
EM

Laboratory: PAGE

Weather/Temperature: 60's mostly cloudy

SAMPLE COLLECTION STARTED @ 9:00 → 9:10
(310A VIALS)

Very low yield - Initially strong grey (SILT) amt of silt decreased w/ pumping sample still had fair amt of turbidity (cloudy)

[illegible]

(1 cup full)

* bubbling through sample cup*



Sample ID TR-301D
Sample Type GW

Sampled By: EM

Laboratory:
PACE

Sample Description:

Additional Comments/Observations:

[illegible]



Sample and/or Purge Method: <i>Low flow / Peristaltic</i>	Sample Date & Time: <i>10/02/14 1457</i>	Sampled By: <i>EM</i>
Sample Depth/Well Depth: <i>16 - 20'</i>	PID (ppm) Headspace: <i>NA</i>	Laboratory: <i>PACE</i>
Weather/Temperature: <i>60's p. cloudy</i>		
<u>Sample Description:</u> <i>Sampled from 1457 → 1515</i> <i>sample cloudy → opaque; light grey slt.</i>		
<u>Additional Comments/Observations:</u> <i>Skipped readings - terrible flow → no flow</i>		

Well Purging Data:

[illegible]



Sample and/or Purge Method: Low Flow / Peristaltic	Sample Date & Time: 10/02/14 @ 1555	Sampled By: EM
Sample Depth/Well Depth: 36' - 40'	PID (ppm) Headspace: NA	Laboratory: PACE

Sample Description:

Sediment too thick to purge fill 1/2 tubing pull it up repeat.

[illegible]



Sample ID TB-3035
Sample Type GW

Sampled By: EM

Laboratory:
PACE

Weather/Temperature: 50's cloudy

Began sampling @ 1050

Initial H₂O med brown opaque.

[illegible]



Sample ID TB-303D
Sample Type GW

Sampled By:
EM

Laboratory:
PACE

Weather/Temperature: 50's cloudy

Sample Description:

sampled from 1135-1154
sample med. grey opaque $\frac{1}{2}$ thick.

Additional Comments/Observations:

Very thick grey opaque
Sample fizzed when came in contact w/ acid.

Well Purging Data:

[illegible]



Sample ID TB-3045
Sample Type GW

Sampled By: EM

Laboratory:
PACF

Sample Description:

Int
cloudy to ~~orange~~ sampled from 835-837
Med brown.

Additional Comments/Observations:

Initial water is med. brown opaque.

Well Purging Data:

[illegible]



Sample ID TB-304D
Sample Type GW

Sampled By: EM

Laboratory:
PACE

BROWNISH GRAY CLOUDY,

Additional Comments/Observations:

Well Purging Data:

[illegible]



SAMPLE LOG SHEET

Project Name Essex/Hope Jonestown Sample ID TB-3055
Project Number 41569831 Sample Type GW

Sample and/or Purge Method: <u>Low Flow/Peristaltic</u>	Sample Date & Time: <u>10/02/14 @ 153</u>	Sampled By: <u>EM</u>
Sample Depth/Well Depth:	PID (ppm) Headspace: <u>NA</u>	Laboratory: <u>PACE</u>

Weather/Temperature: 50's p. cloudy

Sample Description:

Begin sampling @ 953 → 1002

Additional Comments/Observations:

Initial water opaque - med brown
Filled 2/3 of sample cup before rate slowed.

Well Purging Data:

Time		DTW (ft-bgs)	Volume (gal)	pH	Temp (°C)	Cond (ms/cm)	DO (mg/L)	ORP (mV)
From	To							
934	940		(0.5)	7.20	15.79	0.386	7.63	30.6
942	944			7.22	15.88	0.387	8.52	30.4
944	946			7.24	15.96	0.387	9.16	32.1
946	948			7.28	16.04	0.387	9.68	30.9
948	950			7.30	16.14	0.387	10.27	36.7
							*bubbling through sample cup.	



Sample ID TB-3065
Sample Type GW

Sample Date & Time:
10/02/14 0830

Sampled By: EM

Sample Depth/Well Depth:
36' - 40'

PID (ppm) Headspace: NA

Laboratory:
PACE

Weather/Temperature: 50's p. cloudy

Sample Description:

light grey opaque
sampled from 0830-0840

Additional Comments/Observations:

Difficulties w/ flow due to excessive sediment

Well Purging Data:

[illegible]



Sample ID TB-3075
Sample Type GW

Sampled By: EM

Laboratory: PACE

Sample Description:

SAMPLED FROM 11.5Z - 12Z SAMPLE MED BROWN CLOUDY TO OPAQUE,

Additional Comments/Observations:

initially very thick opaque med brown,

Well Purging Data:

[illegible]



Sample ID TB-3085
Sample Type GW

Sampled By: EM

Laboratory:
PACE

Sample Description:
med brown cloudy to opaque
flow remained steady throughout.
SAMPLED 1409 - 1412

Initially Very Thick opaque med brown silt.

[illegible]



Sample ID 311 D
Sample Type GW

Sampled By: Em

Laboratory:
PACE

Sample Description:

Additional Comments/Observations:

[illegible]



Sample ID TB-312D
Sample Type GW

Sampled By:	EM

Laboratory:
PACE

Sample Description:

Additional Comments/Observations:

Well Purging Data:

[illegible]



Sample and/or Purge Method: Low Flow / Peristaltic	Sample Date & Time: 10/03/14 @ 1010	Sampled By: EM
Sample Depth/Well Depth: 36' - 40'	PID (ppm) Headspace: NA	Laboratory: PACE

grey opaque thick
sampled from 1010 1020

difficulty w/ flow too thick

[illegible]



Sample ID TB-314 D
Sample Type GW

Sampled By:	EM

Laboratory:
PACE

Sample Description:

Additional Comments/Observations:	

[illegible]



Sample ID TB-3155
Sample Type GW

Sampled By: EM

Laboratory:
PACE

Sample Description:

Additional Comments/Observations:

Well Purging Data:

[illegible]

APPENDIX E
INSPECTION LOG FOR 159 HOPKINS AVENUE SSDS

		Client Name: ESP/Dow Task: 2014 Residential Vent System Inspection	INSPECTION LOG
URS Inspector(s): Mark Dowiak <i>M. Dowiak</i>	Site: Jamestown, NY Residence- 159 Hopkins Avenue	Contract No. URS 41569831	
Occupants: John Lawler and wife Diane			
Date: 11/11/2014			
Vent System Description:	Exterior mounted RADONAWAY GP-501 fan, max 4.2 wci static pressure, with exhaust vent to roofline 1 – Exterior on/off switch 1 – 3" PVC manifolded air line connecting all suction cavities 4 – Suction cavities – strategic spacing at four corners of basement 1 – U-tube manometer – suction riser		
Property/Basement Conditions:	Outside yard area visibly clean, no physical disturbances noted. Basement cluttered/dirty. Concrete floor intact.		
Vent System Condition:	Piping in good condition. Floor seals at piping intact, no visible leaks. No additional cracks or holes evident in concrete floor. Outside riser pipe and blower in good condition. Blower running.		
Vacuum gages (s)	Pressure, inches	Notes:	
Suction riser manometer-	0.8		
Attachments:	N/A		

