CH2M
Kyle Block
Project Manager
18 Tremont Street
Suite 700
Boston, MA 02108
O 1 617 626 7013
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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

July 29, 2015

Subject: Essex/Hope Jamestown Site
125 Blackstone Ave, Jamestown, NY 14701
Semiannual Self-Monitoring Report
January through June 2015
BPU Permit No. 26
CH2M HILL Project No. 660760

Dear Mr. Saar:

This submittal represents the January through June 2015 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. This letter also provides official notification that Operations and Maintenance activities previously operated by URS were transferred to CH2M HILL (CH2M) in April 2015. CH2M will continue to operate the Essex/Hope Jamestown system and will submit semiannual reports to the Jamestown Board of Public Utilities in accordance with the Industrial Waste Discharge Permit requirements (Permit Number 26, attached) for the foreseeable future.

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, with further details shown on Table 1 (attached), are as follows:

- Concentrations of Total Toxic Organics (TTOs) in discharge to publicly owned treatment works (POTW) as measured monthly
- pH of discharge to POTW as measured monthly
- Flow rate of discharge to POTW as measured monthly
- Estimated daily average and maximum flow rates

No noncompliance events occurred during this reporting period. Acetone is also shown on Table 1, although it is not considered a TTO. Included in Table 1, for informational purposes only, is the total mass of acetone discharged to the POTW during the reporting period.

Monthly discharge flow totals for the reporting period ranged from 0 (nonoperational) to 173,419 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. Due to winter weather conditions and the inability to change out the carbon vessels, the system remained shut down from January through March. The system was restarted on March 17, 2015, upon completion of a carbon changeout. Also included as an attachment to this letter is the supporting Laboratory Certificates of Analysis for the reported concentrations of volatile organic compounds (VOCs). Effective May 21, 2015, the analytical laboratory changed from Pace Analytical Services, Inc., to TestAmerica Laboratories, Inc. (Edison). Both laboratories are certified by the New York State Department of Health.

As indicated above, this letter serves the purpose of transferring operations and maintenance and monitoring and reporting requirements outlined in Permit Number 26 from URS Corporation to CH2M. Additionally, we trust that this submittal satisfies our reporting obligation pursuant to 40 CFR 403.12.

Please feel free to contact me at 617-626-7013 you have any questions or comments regarding the Essex/Hope Jamestown Site.

Sincerely,
CH2M HILL

Kyle Block
Project Manager

c: Tim King (Dow)
Maurice Moore (NYSDEC)
Travis Pendry (CH2M HILL)
Rachel Vaughan (CH2M HILL)

Attachments: Table 1 January – June 2015 Post Carbon (Effluent) Monitoring Data
City of Jamestown Board of Public Utilities Industrial Wastewater Discharge Permit
Analytical Reports – April, May, and June 2015

TABLE 1

January - June 2015 Post Carbon (Effluent) Monitoring Data

Essex/Hope Site, Jamestown, New York

Reporting Requirements for Pre-Treated Discharge (System Effluent to POTW)	Units	Industrial Wastewater Discharge Permit #26 Limits	January	February	March	April	May	June
POTW Discharge Analytical Data								
Total TTOs	µg/L	2,130	System not in operation			2.1	15.9	150.3
Detected TTO Compounds	--	Report				Vinyl Chloride	Chloromethane, Vinyl Chloride	cis-1,2-Dichloroethene, Vinyl Chloride
pH	S.U.	5.5 to 10				7.40	7.07	6.70
						7.50	7.08	6.79
						7.20	7.08	6.81
						7.40	7.06	6.78
Acetone Discharged	lbs	No limits				52	43	8
POTW Discharge Flow Data								
Monthly Total Flow	gal	Report	System not in operation			173,419	170,187	110,965
Average Daily Flow	gal	Report				6,194	5,490	3,699
Maximum Daily Flow	gal	Report				7,432	6,588	4,439

Notes:

1. Jamestown BPU Industrial Wastewater Discharge Permit #26 effective 11/4/12 through 11/3/17.
2. TTO = Total Toxic Organics.
3. 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.
4. pH measurements recorded are concurrent with the time of each grab sample. Italicized measurements are approximate.
5. Maximum Daily Flow is estimated to be 20% greater than Average Daily Flow.
6. System carbon was changed out on March 17, 2015.

JAMESTOWN bpu BOARD OF PUBLIC UTILITIES

PO Box 700
Jamestown, NY 14702-0700
Phone (716) 661-1673
Fax (716) 661-1617

ELECTRIC
DISTRICT HEAT
WATER
WASTEWATER
SOLID WASTE

November 6, 2012

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

Dear Mr. Dowiak:

Please find enclosed a copy of your firm's renewed Industrial Waste Discharge Permit governing the wastewater discharge (s) from your facility to the Jamestown Publicly Owned Treatment Works (POTW). The effective dates of the permit are shown on the first page of the permit. This permit is subject to change should there be any additions and/or deletions made to the industrial pretreatment programs as established by the Environmental Protection Agency.

Please review your permit carefully as it may include changes from your previous permit. Should you have any questions or comments concerning your permit, please do not hesitate to contact this office.

Sincerely,

Michael V Saar, P.E.
Deputy General Manager

Michael V Saar, PE • Deputy General Manager
Phone (716) 661-1673

CITY OF JAMESTOWN
BOARD OF PUBLIC UTILITIES
INDUSTRIAL WASTEWATER DISCHARGE PERMIT

PERMIT NUMBER	26
INDUSTRY NAME	Essex Specialty Products, Inc
INDUSTRY ADDRESS	124 Blackstone Avenue, Jamestown
SIC NUMBER	Groundwater Remediation
DATE ISSUED	11/4/12
EXPIRATION DATE	11/3/17

Essex Specialty Products, Inc. as a Significant Industrial User (SIU) of the City of Jamestown Publicly Owned Treatment Works (POTW), is hereby issued an industrial wastewater discharge permit pursuant to Chapter 24A of the Jamestown City Code (Jamestown Sewer Use Ordinance) and also with any applicable provisions of federal or state law(s) or regulation(s). Said permit shall be effective for a period of five years from the date of issuance hereof.

This permit is granted in accordance with the application filed on March 12,1996 and notice of process modifications submitted on N/A and in conformity with the plans, specifications, semi-annual self monitoring reports, and other data submitted to the City in support of the above application, all of which are filed with and considered as part of this permit, together with the following named conditions and requirements:

Effective this 4th day of November , 2012
To expire the 3th day of November , 2017

Deputy General Manager - Board of Public Utilities

RIGHT OF ENTRY

The permittee shall allow duly authorized employees or representatives of the City to enter the permittee's premises for the purpose of inspection, observation, measurement, sampling, and testing in accordance with Article VIII of the Jamestown Sewer Use Ordinance.

SAMPLING MANHOLE REQUIREMENTS

If, in the opinion of the General Manager, there are not adequate facilities for the acquisition of representative samples and accurate flow measurements, the General Manager may require that a sampling manhole with flow measuring device be installed by the permittee at his expense. This sampling manhole shall be approved by this office before installation. The permittee shall be responsible for all maintenance of the sampling manhole and calibration of the monitoring equipment.

BOARD OF PUBLIC UTILITES MONITORING

Compliance with the Jamestown Sewer Use Ordinance will be monitored via wastewater discharge monitoring. The City of Jamestown will monitor each SIU four times per year. Results will be transmitted to each SIU.

SELF MONITORING

Essex Specialty Products, Inc. must conduct monthly self-monitoring and report results to the City in accordance with applicable federal and local regulations. Monthly reports are due each **August 1** (including months January through June) and **February 1** (including months July through December). Essex Specialty Products, Inc. must notify the City of any violation of its self-monitoring within 24 hours. Such notification shall include a phone call followed up by a letter. All permit limits set forth in this permit are enforceable effluent limitations.

MONITORING LOCATION
SAMPLING VALVE

PARAMETER	SAMPLE	LOCAL
	Monthly	LIMIT
		MG/L
PH (4 grabs)	X	5.5-10.0
TSS (comp)		350
OIL & GREASE		100
CADMIUM (comp)		0.30
CHROMIUM (comp)		4.00
COPPER (comp)		1.25
LEAD (comp)		0.30
NICKEL (comp)		0.90
SILVER (comp)		0.20
ZINC (comp)		3.00
CYANIDE (comp)		0.65
Volatile Organics (4 grabs)	X	2.13

Notes :

1. Samples should be taken as **composites** of at least 4 grab samples collected during a typical production day except for pH. Four separate samples must be taken and **individually analyzed for pH.**
2. All analysis shall be preformed by a New York State Department of Health Certified Environmental Laboratory.
3. All analysis shall be performed in accordance with the latest edition of the following references:
   a. Standard Methods for the Examination of Water and Wastewater
   b. Method for Chemical Analysis of Water and Wastes, USEPA, technology Transfer, 1983

PROHIBITED DISCHARGES

The following should not be introduced into the City Sewer system:

(1) Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21.
(2) Pollutants which will cause corrosive structural damage to the POTW, but in no case Discharges with pH lower than **5.5** or greater than **10.0**;
(3) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in Interference;
(4) Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a Discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW.
(5) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW Treatment Plant exceeds 40 deg.C (104 deg.F) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits.
(6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
(7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;
(8) Any trucked or hauled pollutants, except at discharge points designated by the POTW.
(9) The discharge of concentrated solutions without pretreatment is strictly prohibited. Any request to discharge such wastes must be submitted to this office and is subject to the approval of the General Manager on a case by case basis.
10) Any water or waste containing fats, wax, grease, oils, or oil products, whether emulsified or not, in excess of **100 mg/l**.

HAZARDOUS WASTE DISCHARGE NOTIFICATION

For discharges of listed and characteristic hazardous wastes which are not already reported in periodic self-monitoring reports and which exceed 15 kilograms per month, the regulations require that all industrial users notify USEPA, NYSDEC, and the City of Jamestown as to the constituents of these wastes and the anticipated discharge volume of such wastes on both a monthly and an annual basis.

CHANGE IN WASTEWATER DISCHARGE

All discharges authorized herein shall comply with the terms and conditions of this permit. Any industrial facility expansions, production increases, or process modifications which result in new, different, or increased discharges of pollutants must be reported by submission of a new industrial waste disposal questionnaire. This permit may be modified to specify and limit any pollutants not previously limited. The discharge of any pollutant more frequently than or at a level in excess of that specified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

RECORDKEEPING

The permittee shall retain all records of monitoring activities and results (whether or not required by this permit) for a minimum of 3 years. These records shall be made available for inspection and copying to duly authorized employees or representatives of the City. This period of retention shall be extended during any unresolved litigation.

PERMIT MODIFICATIONS

After sufficient notice to the permittee, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

(a) Violation of any terms or conditions of this permit.
(b) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
(c) If an effluent standard is established under any state or federal law for a pollutant which is present in the discharge and such standard or prohibition s more stringent that any limitation for such pollutant in this permit.

PERMIT TRANSFER

Sewer Use Permits are issued to a specific User for a specific operation. A wastewater discharge permit shall not be reassigned or, transferred, or sold to a new owner, new User, different premise, or a new or changed operation without the approval of the City. Any succeeding Owner or User shall also comply with the terms and conditions of the existing permit.

NOTICE OF NON-COMPLIANCE

The permittee shall notify the operator of the Jamestown Wastewater Treatment Plant **immediately,** by telephone (665-3980), so that the operator can take the necessary steps to prevent damage to the wastewater treatment process and equipment in the event the permittee:

(1) Does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit.
(2) Discharges or may discharge any wastewater which may cause a slug loading to the Jamestown Wastewater Treatment Plant. This includes wastewater which may cause pass through or interference with wastewater treatment plant operations.
(3) Discharges or may discharge any material or wastewater which is prohibited from discharge as described in the City of Jamestown Local Sewer Use Ordinance or this permit.

These non-complying discharges or possible discharges may be due to:

Breakdown of industrial wastewater pretreatment equipment;
Accidents caused by human error or negligence; or
Other causes, such as acts of nature.

The General Manager shall be notified by telephone within 24 hours, and in writing within five (5) days and said notification shall include the following pertinent information:

(1) A description of the non-complying discharge;
(2) Cause of non-compliance;
(3) Anticipated time the condition of non-compliance is expected to continue, or if such condition has been corrected, the duration of the period of non-compliance;
(4) Steps taken by the permittee to reduce and eliminate the non-complying discharge; and
(5) Steps to be taken by the permittee to prevent reoccurrence of the condition of non-compliance.

The permittee must also repeat sampling for all parameters exceeding discharge limitations and submit the results of the repeat analysis within thirty (30) days of the violation(s).

Nothing in this permit shall be construed to relieve the permittee from the penalties for non-compliance of this permit for any reason subject to Article (IX) (Penalties) of the Jamestown Sewer Ordinance.

SCHEDULE OF COMPLIANCE

The permittee shall comply with the following schedule if the present discharge does not conform to the effluent limitations described within this permit:

a. By _____ the permittee shall have a registered Professional Engineer contact this office.
b. By _____ the permittee shall complete an engineering report and submit it to this office.
c. By_____ the permittee shall complete final plans and specifications for pretreatment facilities and submit them to this office for review and approval.
d. By _____ the permittee shall start construction of its approved pretreatment facilities.
e. By _____ the permittee shall complete construction of the pretreatment facilities.
f. By _____ the permittee shall attain operational levels required to achieve the effluent limits specified within this permit.

CIVIL AND CRIMINAL PENALTIES

A permittee found violating applicable local, state or federal regulations may be subject to administrative penalties, civil action, and/or criminal prosecution. If administrative penalties are warranted, a fine in an amount not exceeding $1000.00 per day per violation may be assessed. If criminal penalties are assessed, a fine in an amount not exceeding $1,000.00 per violation per day may be assessed, imprisonment for not more than 6 months, or both. Any person violating applicable local, state or federal regulations that results in expense, loss or damage to the City and its property shall be liable for all costs.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

May 07, 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.: 30146519

Dear Mr. Dowiak:
Enclosed are the analytical results for sample(s) received by the laboratory on April 24, 2015. 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

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

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

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

Sample: PRE-CARB **Lab ID: 30146519001** Collected: 04/23/15 10:30 Received: 04/24/15 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV	Analytical Method: EPA 8260C							
Acetone	**18100**	ug/L	1000	100		05/05/15 19:04	67-64-1	
Benzene	**34.2**	ug/L	1.0	1		05/05/15 18:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/05/15 18:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/05/15 18:39	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/05/15 18:39	74-83-9	
2-Butanone (MEK)	**57.4**	ug/L	10.0	1		05/05/15 18:39	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/05/15 18:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/05/15 18:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/05/15 18:39	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/05/15 18:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/05/15 18:39	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/05/15 18:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/05/15 18:39	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 18:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 18:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 18:39	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/05/15 18:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/05/15 18:39	107-06-2	
1,1-Dichloroethene	**23.9**	ug/L	1.0	1		05/05/15 18:39	75-35-4	
cis-1,2-Dichloroethene	**6230**	ug/L	100	100		05/05/15 19:04	156-59-2	
trans-1,2-Dichloroethene	**142**	ug/L	1.0	1		05/05/15 18:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/05/15 18:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/05/15 18:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/05/15 18:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/05/15 18:39	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		05/05/15 18:39	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/05/15 18:39	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		05/05/15 18:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		05/05/15 18:39	108-10-1	
Styrene	ND	ug/L	1.0	1		05/05/15 18:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/05/15 18:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/05/15 18:39	127-18-4	
Toluene	ND	ug/L	1.0	1		05/05/15 18:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/05/15 18:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/05/15 18:39	79-00-5	
Trichloroethene	**4250**	ug/L	100	100		05/05/15 19:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/05/15 18:39	75-69-4	
Vinyl chloride	**879**	ug/L	100	100		05/05/15 19:04	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/05/15 18:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/05/15 18:39	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	84-113	1		05/05/15 18:39	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	84-124	1		05/05/15 18:39	17060-07-0	
Toluene-d8 (S)	105	%	79-118	1		05/05/15 18:39	2037-26-5	

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

Sample: PRIMARY-EFF **Lab ID: 30146519002** Collected: 04/23/15 10:35 Received: 04/24/15 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV	Analytical Method: EPA 8260C							
Acetone	**20800**	ug/L	5000	500		05/05/15 20:18	67-64-1	
Benzene	ND	ug/L	1.0	1		05/05/15 19:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/05/15 19:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/05/15 19:29	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/05/15 19:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		05/05/15 19:29	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/05/15 19:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/05/15 19:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/05/15 19:29	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/05/15 19:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/05/15 19:29	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/05/15 19:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/05/15 19:29	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 19:29	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 19:29	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 19:29	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/05/15 19:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/05/15 19:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/05/15 19:29	75-35-4	
cis-1,2-Dichloroethene	**13.6**	ug/L	1.0	1		05/05/15 19:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/05/15 19:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/05/15 19:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/05/15 19:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/05/15 19:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/05/15 19:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		05/05/15 19:29	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/05/15 19:29	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		05/05/15 19:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		05/05/15 19:29	108-10-1	
Styrene	ND	ug/L	1.0	1		05/05/15 19:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/05/15 19:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/05/15 19:29	127-18-4	
Toluene	ND	ug/L	1.0	1		05/05/15 19:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/05/15 19:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/05/15 19:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/05/15 19:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/05/15 19:29	75-69-4	
Vinyl chloride	**240**	ug/L	1.0	1		05/05/15 19:29	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/05/15 19:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/05/15 19:29	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	84-113	1		05/05/15 19:29	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	84-124	1		05/05/15 19:29	17060-07-0	
Toluene-d8 (S)	99	%	79-118	1		05/05/15 19:29	2037-26-5	

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

Sample: POST-CARB **Lab ID: 30146519003** Collected: 04/23/15 12:10 Received: 04/24/15 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV	Analytical Method: EPA 8260C							
Acetone	**36000**	ug/L	1000	100		05/05/15 21:08	67-64-1	
Benzene	ND	ug/L	1.0	1		05/05/15 20:43	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/05/15 20:43	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/05/15 20:43	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/05/15 20:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		05/05/15 20:43	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/05/15 20:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/05/15 20:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/05/15 20:43	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/05/15 20:43	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/05/15 20:43	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/05/15 20:43	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/05/15 20:43	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 20:43	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 20:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 20:43	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/05/15 20:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/05/15 20:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/05/15 20:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/05/15 20:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/05/15 20:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/05/15 20:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/05/15 20:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/05/15 20:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/05/15 20:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		05/05/15 20:43	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/05/15 20:43	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		05/05/15 20:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		05/05/15 20:43	108-10-1	
Styrene	ND	ug/L	1.0	1		05/05/15 20:43	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/05/15 20:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/05/15 20:43	127-18-4	
Toluene	ND	ug/L	1.0	1		05/05/15 20:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/05/15 20:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/05/15 20:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/05/15 20:43	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/05/15 20:43	75-69-4	
Vinyl chloride	**2.1**	ug/L	1.0	1		05/05/15 20:43	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/05/15 20:43	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/05/15 20:43	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	106	%	84-113	1		05/05/15 20:43	460-00-4	
1,2-Dichloroethane-d4 (S)	84	%	84-124	1		05/05/15 20:43	17060-07-0	
Toluene-d8 (S)	102	%	79-118	1		05/05/15 20:43	2037-26-5	

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ANALYTICAL RESULTS

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

Sample: TB-01 **Lab ID: 30146519004** Collected: 04/23/15 00:01 Received: 04/24/15 09:35 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		05/05/15 11:59	67-64-1	
Benzene	ND	ug/L	1.0	1		05/05/15 11:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/05/15 11:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/05/15 11:59	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/05/15 11:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		05/05/15 11:59	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/05/15 11:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/05/15 11:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/05/15 11:59	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/05/15 11:59	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/05/15 11:59	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/05/15 11:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/05/15 11:59	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 11:59	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 11:59	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/05/15 11:59	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/05/15 11:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/05/15 11:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/05/15 11:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/05/15 11:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/05/15 11:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/05/15 11:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/05/15 11:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/05/15 11:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/05/15 11:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		05/05/15 11:59	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/05/15 11:59	98-82-8	
Methylene Chloride	**4.4**	ug/L	1.0	1		05/05/15 11:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		05/05/15 11:59	108-10-1	
Styrene	ND	ug/L	1.0	1		05/05/15 11:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/05/15 11:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/05/15 11:59	127-18-4	
Toluene	ND	ug/L	1.0	1		05/05/15 11:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/05/15 11:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/05/15 11:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/05/15 11:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/05/15 11:59	75-69-4	
Vinyl chloride	ND	ug/L	1.0	1		05/05/15 11:59	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/05/15 11:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/05/15 11:59	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	84-113	1		05/05/15 11:59	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	84-124	1		05/05/15 11:59	17060-07-0	
Toluene-d8 (S)	104	%	79-118	1		05/05/15 11:59	2037-26-5	

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

QC Batch: MSV/23347 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30146519001, 30146519002, 30146519003, 30146519004

METHOD BLANK: 889226 Matrix: Water
Associated Lab Samples: 30146519001, 30146519002, 30146519003, 30146519004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	05/05/15 11:34	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/05/15 11:34	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/05/15 11:34	
1,1-Dichloroethane	ug/L	ND	1.0	05/05/15 11:34	
1,1-Dichloroethene	ug/L	ND	1.0	05/05/15 11:34	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/05/15 11:34	
1,2-Dichloroethane	ug/L	ND	1.0	05/05/15 11:34	
1,2-Dichloropropane	ug/L	ND	1.0	05/05/15 11:34	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/05/15 11:34	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/05/15 11:34	
2-Butanone (MEK)	ug/L	ND	10.0	05/05/15 11:34	
2-Hexanone	ug/L	ND	10.0	05/05/15 11:34	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	05/05/15 11:34	
Acetone	ug/L	ND	10.0	05/05/15 11:34	
Benzene	ug/L	ND	1.0	05/05/15 11:34	
Bromodichloromethane	ug/L	ND	1.0	05/05/15 11:34	
Bromoform	ug/L	ND	1.0	05/05/15 11:34	
Bromomethane	ug/L	ND	1.0	05/05/15 11:34	
Carbon disulfide	ug/L	ND	1.0	05/05/15 11:34	
Carbon tetrachloride	ug/L	ND	1.0	05/05/15 11:34	
Chlorobenzene	ug/L	ND	1.0	05/05/15 11:34	
Chloroethane	ug/L	ND	1.0	05/05/15 11:34	
Chloroform	ug/L	ND	1.0	05/05/15 11:34	
Chloromethane	ug/L	ND	1.0	05/05/15 11:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/05/15 11:34	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/05/15 11:34	
Dibromochloromethane	ug/L	ND	1.0	05/05/15 11:34	
Ethylbenzene	ug/L	ND	1.0	05/05/15 11:34	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	05/05/15 11:34	
m&p-Xylene	ug/L	ND	2.0	05/05/15 11:34	
Methylene Chloride	ug/L	ND	1.0	05/05/15 11:34	
o-Xylene	ug/L	ND	1.0	05/05/15 11:34	
Styrene	ug/L	ND	1.0	05/05/15 11:34	
Tetrachloroethene	ug/L	ND	1.0	05/05/15 11:34	
Toluene	ug/L	ND	1.0	05/05/15 11:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/05/15 11:34	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/05/15 11:34	
Trichloroethene	ug/L	ND	1.0	05/05/15 11:34	
Trichlorofluoromethane	ug/L	ND	1.0	05/05/15 11:34	
Vinyl chloride	ug/L	ND	1.0	05/05/15 11:34	
1,2-Dichloroethane-d4 (S)	%	93	84-124	05/05/15 11:34	

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

Pace Analytical Services, Inc.
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(724)850-5600

QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

METHOD BLANK: 889226 Matrix: Water
Associated Lab Samples: 30146519001, 30146519002, 30146519003, 30146519004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	97	84-113	05/05/15 11:34	
Toluene-d8 (S)	%	95	79-118	05/05/15 11:34	

LABORATORY CONTROL SAMPLE: 889227

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.8	99	62-130	
1,1,2,2-Tetrachloroethane	ug/L	20	17.8	89	74-115	
1,1,2-Trichloroethane	ug/L	20	18.8	94	73-121	
1,1-Dichloroethane	ug/L	20	20.0	100	64-125	
1,1-Dichloroethene	ug/L	20	19.6	98	58-126	
1,2-Dichlorobenzene	ug/L	20	18.7	93	76-117	
1,2-Dichloroethane	ug/L	20	19.5	98	66-124	
1,2-Dichloropropane	ug/L	20	19.1	95	66-119	
1,3-Dichlorobenzene	ug/L	20	18.6	93	73-116	
1,4-Dichlorobenzene	ug/L	20	18.7	94	75-119	
2-Butanone (MEK)	ug/L	20	18.1	90	69-126	
2-Hexanone	ug/L	20	18.7	94	53-118	
4-Methyl-2-pentanone (MIBK)	ug/L	20	18.2	91	68-124	
Acetone	ug/L	20	13.4	67	56-142	
Benzene	ug/L	20	20.8	104	69-123	
Bromodichloromethane	ug/L	20	18.7	93	64-120	
Bromoform	ug/L	20	13.3	66	56-133	
Bromomethane	ug/L	20	21.9	109	19-151	
Carbon disulfide	ug/L	20	19.3	96	53-173	
Carbon tetrachloride	ug/L	20	17.9	90	52-133	
Chlorobenzene	ug/L	20	19.8	99	72-121	
Chloroethane	ug/L	20	17.0	85	53-143	
Chloroform	ug/L	20	20.1	100	63-123	
Chloromethane	ug/L	20	17.6	88	48-139	
cis-1,2-Dichloroethene	ug/L	20	19.9	100	63-123	
cis-1,3-Dichloropropene	ug/L	20	16.7	83	65-121	
Dibromochloromethane	ug/L	20	16.5	83	58-132	
Ethylbenzene	ug/L	20	20.2	101	70-123	
Isopropylbenzene (Cumene)	ug/L	20	20.3	102	66-136	
m&p-Xylene	ug/L	40	41.5	104	71-124	
Methylene Chloride	ug/L	20	20.8	104	55-134	
o-Xylene	ug/L	20	19.6	98	69-118	
Styrene	ug/L	20	20.3	101	66-126	
Tetrachloroethene	ug/L	20	20.0	100	62-131	
Toluene	ug/L	20	20.8	104	73-123	
trans-1,2-Dichloroethene	ug/L	20	19.7	99	61-124	
trans-1,3-Dichloropropene	ug/L	20	16.0	80	70-111	
Trichloroethene	ug/L	20	19.5	97	66-125	

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/HOPE JAMESTOWN
Pace Project No.: 30146519

LABORATORY CONTROL SAMPLE: 889227

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	15.8	79	57-144	
Vinyl chloride	ug/L	20	13.9	70	58-131	
1,2-Dichloroethane-d4 (S)	%			90	84-124	
4-Bromofluorobenzene (S)	%			101	84-113	
Toluene-d8 (S)	%			99	79-118	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 889336 889337

Parameter	Units	30146516006 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	19.1	18.3	95	92	62-130	4	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.6	17.0	83	85	74-115	2	
1,1,2-Trichloroethane	ug/L	ND	20	20	17.6	16.6	88	83	73-121	6	
1,1-Dichloroethane	ug/L	ND	20	20	19.3	18.9	96	94	64-125	2	
1,1-Dichloroethene	ug/L	ND	20	20	18.3	18.2	92	91	58-126	1	
1,2-Dichlorobenzene	ug/L	ND	20	20	16.6	16.2	83	81	76-117	2	
1,2-Dichloroethane	ug/L	ND	20	20	17.9	17.1	89	86	66-124	4	
1,2-Dichloropropane	ug/L	ND	20	20	17.6	16.5	88	83	66-119	7	
1,3-Dichlorobenzene	ug/L	ND	20	20	16.6	16.1	83	81	73-116	3	
1,4-Dichlorobenzene	ug/L	ND	20	20	16.7	16.0	84	80	75-119	4	
2-Butanone (MEK)	ug/L	ND	20	20	20.2	17.6	101	88	69-126	14	
2-Hexanone	ug/L	ND	20	20	19.4	17.9	97	90	53-118	8	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	19.1	17.4	95	87	68-124	9	
Acetone	ug/L	ND	20	20	41.2	15.5	206	77	56-142	91	M1,R1
Benzene	ug/L	ND	20	20	18.9	18.0	95	90	69-123	5	
Bromodichloromethane	ug/L	ND	20	20	16.3	15.7	82	78	64-120	4	
Bromoform	ug/L	ND	20	20	11.8	11.4	59	57	56-133	4	
Bromomethane	ug/L	ND	20	20	18.3	21.0	92	105	19-151	14	
Carbon disulfide	ug/L	ND	20	20	23.5	22.2	117	111	53-173	6	
Carbon tetrachloride	ug/L	ND	20	20	17.1	16.4	85	82	52-133	4	
Chlorobenzene	ug/L	ND	20	20	18.3	17.2	91	86	72-121	6	
Chloroethane	ug/L	ND	20	20	19.0	18.5	95	92	53-143	3	
Chloroform	ug/L	ND	20	20	18.9	18.3	95	92	63-123	3	
Chloromethane	ug/L	ND	20	20	19.2	20.7	96	103	48-139	7	
cis-1,2-Dichloroethene	ug/L	ND	20	20	18.6	18.0	93	90	63-123	3	
cis-1,3-Dichloropropene	ug/L	ND	20	20	15.5	15.2	77	76	65-121	2	
Dibromochloromethane	ug/L	ND	20	20	14.9	14.8	74	74	58-132	1	
Ethylbenzene	ug/L	ND	20	20	18.8	17.2	94	86	70-123	9	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	18.6	18.0	93	90	66-136	3	
m&p-Xylene	ug/L	ND	40	40	37.5	35.0	94	88	71-124	7	
Methylene Chloride	ug/L	ND	20	20	19.8	19.2	99	96	55-134	3	
o-Xylene	ug/L	ND	20	20	17.5	16.7	88	83	69-118	5	
Styrene	ug/L	ND	20	20	16.5	15.4	83	77	66-126	7	
Tetrachloroethene	ug/L	ND	20	20	19.5	18.7	98	93	62-131	5	
Toluene	ug/L	ND	20	20	18.8	18.2	94	91	73-123	3	

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

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 889336 889337

Parameter	Units	30146516006 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	19.4	18.5	97	93	61-124	5	
trans-1,3-Dichloropropene	ug/L	ND	20	20	15.5	14.8	78	74	70-111	5	
Trichloroethene	ug/L	ND	20	20	18.2	17.5	91	87	66-125	4	
Trichlorofluoromethane	ug/L	ND	20	20	17.4	17.9	87	90	57-144	3	
Vinyl chloride	ug/L	ND	20	20	16.0	15.3	80	77	58-131	4	
1,2-Dichloroethane-d4 (S)	%						91	92	84-124		
4-Bromofluorobenzene (S)	%						101	100	84-113		
Toluene-d8 (S)	%						96	91	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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 decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ESSEX/HOPE JAMESTOWN
Pace Project No.: 30146519

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30146519001	**PRE-CARB**	EPA 8260C	MSV/23347		
30146519002	**PRIMARY-EFF**	EPA 8260C	MSV/23347		
30146519003	**POST-CARB**	EPA 8260C	MSV/23347		
30146519004	**TB-01**	EPA 8260C	MSV/23347		

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1839467

Section A Required Client Information:

Company: NRS/AECOM
Address: FOSTER PLAZA 6, 601 ANDERSEN DR. STE. 400, PITTSBURGH, PA 15220
Email To:
Phone: 412-503-4700 Fax: 412-503-4701
Requested Due Date/TAT: STANDARD

Section B Required Project Information:

Report To: MARK DOWIAK
Copy To: VALERIE SIBETO
Purchase Order No.: ~~41537~~ 41570166
Project Name: ESSEX/HOPE JAMESTOWN
Project Number: 41570166

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: NY

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N): VOCs 8260

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) VOCs 8260	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 30146519
1	PRE-CARB	WT	G			4.23.15	1030		3				X					X		001
2	PRIMARY-EFF						1035		3				X					X		002
3	POST-CARB						1040		3				X					X		003
4	POST-CARB						1110		3				X					X		
5	POST-CARB						1140		3				X					X		
6	POST-CARB						1210		3				X					X		
7	TB-01	WT	G			4.23.15	—		2				X					X		004
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
COMPOSITE FOUR (4)	[signature] / NRS	4.23.15	1245	[signature]	4.23.15	1245				
POST-CARB SAMPLES IN				[signature] Pace	4/24/15	0935	3.3	Y	N	Y
LAB AND REPORT AS										
POST-CARB COMPOSITE										

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: VALERIE SIBETO
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4.23.15

*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

Pace Analytical

Client Name: URS / AECom

Project # 30146519

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

Tracking #: 802339326755

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.: 3.4 °C Correction Factor: -0.1 °C Final Temp: 3.3 °C

Date and initials of person examining contents: Am 4/24/15

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: WT		
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, Phenols	☑Yes ☐No	Initial when completed Am / 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:** 4/27/15

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)

Pace Analytical

Project Number: 30146519

Client Name: URS / AECOM

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 N	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	WT													3										
006																								
007	WT													2										

SCURF Back (C016-4 15May2012).xls

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

May 29, 2015

Rachel Vaughan
CH2M
18 Tremont Street
Suite 700
Boston, MA 02108

RE: Project: Essex/Hope Jamestown
Pace Project No.: 30148056

Dear Rachel Vaughan:
Enclosed are the analytical results for sample(s) received by the laboratory on May 14, 2015. 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,

Penny Westrick for
Timothy Reed
timothy.reed@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project:	Essex/Hope Jamestown
Pace Project No.:	30148056

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

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

Sample: Pre-Carb **Lab ID: 30148056001** Collected: 05/13/15 14:40 Received: 05/14/15 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV	Analytical Method: EPA 8260C							
Acetone	**26600**	ug/L	1000	100		05/23/15 22:35	67-64-1	
Benzene	**37.9**	ug/L	1.0	1		05/23/15 22:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/23/15 22:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/23/15 22:10	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/23/15 22:10	74-83-9	
2-Butanone (MEK)	**83.0**	ug/L	10.0	1		05/23/15 22:10	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/23/15 22:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/23/15 22:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/23/15 22:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/23/15 22:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/23/15 22:10	67-66-3	
Chloromethane	**7.4**	ug/L	1.0	1		05/23/15 22:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/23/15 22:10	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 22:10	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 22:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 22:10	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/23/15 22:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/23/15 22:10	107-06-2	
1,1-Dichloroethene	**38.4**	ug/L	1.0	1		05/23/15 22:10	75-35-4	
cis-1,2-Dichloroethene	**11800**	ug/L	100	100		05/23/15 22:35	156-59-2	
trans-1,2-Dichloroethene	**221**	ug/L	1.0	1		05/23/15 22:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/23/15 22:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/23/15 22:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/23/15 22:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/23/15 22:10	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		05/23/15 22:10	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/23/15 22:10	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		05/23/15 22:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		05/23/15 22:10	108-10-1	
Styrene	ND	ug/L	1.0	1		05/23/15 22:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/23/15 22:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/23/15 22:10	127-18-4	
Toluene	**1.0**	ug/L	1.0	1		05/23/15 22:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/23/15 22:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/23/15 22:10	79-00-5	
Trichloroethene	**4470**	ug/L	100	100		05/23/15 22:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/23/15 22:10	75-69-4	
Vinyl chloride	**2020**	ug/L	100	100		05/23/15 22:35	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/23/15 22:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/23/15 22:10	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	105	%	84-113	1		05/23/15 22:10	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	84-124	1		05/23/15 22:10	17060-07-0	
Toluene-d8 (S)	94	%	79-118	1		05/23/15 22:10	2037-26-5	

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

Sample: Primary-EFF **Lab ID: 30148056002** Collected: 05/13/15 14:45 Received: 05/14/15 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV	Analytical Method: EPA 8260C							
Acetone	**38400**	ug/L	5000	500		05/23/15 23:25	67-64-1	
Benzene	ND	ug/L	1.0	1		05/23/15 23:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/23/15 23:00	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/23/15 23:00	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/23/15 23:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		05/23/15 23:00	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/23/15 23:00	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/23/15 23:00	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/23/15 23:00	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/23/15 23:00	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/23/15 23:00	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/23/15 23:00	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/23/15 23:00	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 23:00	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 23:00	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 23:00	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/23/15 23:00	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/23/15 23:00	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/23/15 23:00	75-35-4	
cis-1,2-Dichloroethene	**20.5**	ug/L	1.0	1		05/23/15 23:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/23/15 23:00	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/23/15 23:00	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/23/15 23:00	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/23/15 23:00	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/23/15 23:00	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		05/23/15 23:00	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/23/15 23:00	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		05/23/15 23:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		05/23/15 23:00	108-10-1	
Styrene	ND	ug/L	1.0	1		05/23/15 23:00	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/23/15 23:00	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/23/15 23:00	127-18-4	
Toluene	ND	ug/L	1.0	1		05/23/15 23:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/23/15 23:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/23/15 23:00	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/23/15 23:00	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/23/15 23:00	75-69-4	
Vinyl chloride	**1230**	ug/L	500	500		05/23/15 23:25	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/23/15 23:00	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/23/15 23:00	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	84-113	1		05/23/15 23:00	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	84-124	1		05/23/15 23:00	17060-07-0	
Toluene-d8 (S)	101	%	79-118	1		05/23/15 23:00	2037-26-5	

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ANALYTICAL RESULTS

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

Sample: Post-Carb **Lab ID: 30148056003** Collected: 05/13/15 14:50 Received: 05/14/15 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV	Analytical Method: EPA 8260C							
Acetone	**30200**	ug/L	5000	500		05/26/15 17:12	67-64-1	
Benzene	ND	ug/L	1.0	1		05/23/15 21:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/23/15 21:20	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/23/15 21:20	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/23/15 21:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		05/23/15 21:20	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/23/15 21:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/23/15 21:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/23/15 21:20	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/23/15 21:20	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/23/15 21:20	67-66-3	
Chloromethane	**7.4**	ug/L	1.0	1		05/23/15 21:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/23/15 21:20	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 21:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 21:20	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 21:20	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/23/15 21:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/23/15 21:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/23/15 21:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/23/15 21:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/23/15 21:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/23/15 21:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/23/15 21:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/23/15 21:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/23/15 21:20	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		05/23/15 21:20	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/23/15 21:20	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		05/23/15 21:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		05/23/15 21:20	108-10-1	
Styrene	ND	ug/L	1.0	1		05/23/15 21:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/23/15 21:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/23/15 21:20	127-18-4	
Toluene	ND	ug/L	1.0	1		05/23/15 21:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/23/15 21:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/23/15 21:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/23/15 21:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/23/15 21:20	75-69-4	
Vinyl chloride	**8.5**	ug/L	1.0	1		05/23/15 21:20	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/23/15 21:20	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/23/15 21:20	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	84-113	1		05/23/15 21:20	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	84-124	1		05/23/15 21:20	17060-07-0	
Toluene-d8 (S)	94	%	79-118	1		05/23/15 21:20	2037-26-5	

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ANALYTICAL RESULTS

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

Sample: TB-01 **Lab ID: 30148056006** Collected: 05/13/15 00:01 Received: 05/14/15 08:55 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		05/23/15 14:16	67-64-1	
Benzene	ND	ug/L	1.0	1		05/23/15 14:16	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/23/15 14:16	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/23/15 14:16	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/23/15 14:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		05/23/15 14:16	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/23/15 14:16	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/23/15 14:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/23/15 14:16	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/23/15 14:16	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/23/15 14:16	67-66-3	
Chloromethane	**7.3**	ug/L	1.0	1		05/23/15 14:16	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/23/15 14:16	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 14:16	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 14:16	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/23/15 14:16	106-46-7	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/23/15 14:16	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/23/15 14:16	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/23/15 14:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/23/15 14:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/23/15 14:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/23/15 14:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/23/15 14:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/23/15 14:16	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/23/15 14:16	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		05/23/15 14:16	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/23/15 14:16	98-82-8	
Methylene Chloride	ND	ug/L	1.0	1		05/23/15 14:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		05/23/15 14:16	108-10-1	
Styrene	ND	ug/L	1.0	1		05/23/15 14:16	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/23/15 14:16	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/23/15 14:16	127-18-4	
Toluene	ND	ug/L	1.0	1		05/23/15 14:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/23/15 14:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/23/15 14:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/23/15 14:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/23/15 14:16	75-69-4	
Vinyl chloride	ND	ug/L	1.0	1		05/23/15 14:16	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/23/15 14:16	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/23/15 14:16	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	84-113	1		05/23/15 14:16	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	84-124	1		05/23/15 14:16	17060-07-0	
Toluene-d8 (S)	92	%	79-118	1		05/23/15 14:16	2037-26-5	

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

QC Batch: MSV/23554 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30148056001, 30148056002, 30148056003, 30148056006

METHOD BLANK: 897890 Matrix: Water
Associated Lab Samples: 30148056001, 30148056002, 30148056003, 30148056006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	05/23/15 13:51	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/23/15 13:51	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/23/15 13:51	
1,1-Dichloroethane	ug/L	ND	1.0	05/23/15 13:51	
1,1-Dichloroethene	ug/L	ND	1.0	05/23/15 13:51	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/23/15 13:51	
1,2-Dichloroethane	ug/L	ND	1.0	05/23/15 13:51	
1,2-Dichloropropane	ug/L	ND	1.0	05/23/15 13:51	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/23/15 13:51	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/23/15 13:51	
2-Butanone (MEK)	ug/L	ND	10.0	05/23/15 13:51	
2-Hexanone	ug/L	ND	10.0	05/23/15 13:51	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	05/23/15 13:51	
Acetone	ug/L	ND	10.0	05/23/15 13:51	
Benzene	ug/L	ND	1.0	05/23/15 13:51	
Bromodichloromethane	ug/L	ND	1.0	05/23/15 13:51	
Bromoform	ug/L	ND	1.0	05/23/15 13:51	
Bromomethane	ug/L	ND	1.0	05/23/15 13:51	
Carbon disulfide	ug/L	ND	1.0	05/23/15 13:51	
Carbon tetrachloride	ug/L	ND	1.0	05/23/15 13:51	
Chlorobenzene	ug/L	ND	1.0	05/23/15 13:51	
Chloroethane	ug/L	ND	1.0	05/23/15 13:51	
Chloroform	ug/L	ND	1.0	05/23/15 13:51	
Chloromethane	ug/L	ND	1.0	05/23/15 13:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/23/15 13:51	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/23/15 13:51	
Dibromochloromethane	ug/L	ND	1.0	05/23/15 13:51	
Ethylbenzene	ug/L	ND	1.0	05/23/15 13:51	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	05/23/15 13:51	
m&p-Xylene	ug/L	ND	2.0	05/23/15 13:51	
Methylene Chloride	ug/L	ND	1.0	05/23/15 13:51	
o-Xylene	ug/L	ND	1.0	05/23/15 13:51	
Styrene	ug/L	ND	1.0	05/23/15 13:51	
Tetrachloroethene	ug/L	ND	1.0	05/23/15 13:51	
Toluene	ug/L	ND	1.0	05/23/15 13:51	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/23/15 13:51	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/23/15 13:51	
Trichloroethene	ug/L	ND	1.0	05/23/15 13:51	
Trichlorofluoromethane	ug/L	ND	1.0	05/23/15 13:51	
Vinyl chloride	ug/L	ND	1.0	05/23/15 13:51	
1,2-Dichloroethane-d4 (S)	%	109	84-124	05/23/15 13:51	

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

Pace Analytical Services, Inc.
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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

METHOD BLANK: 897890 Matrix: Water
Associated Lab Samples: 30148056001, 30148056002, 30148056003, 30148056006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4-Bromofluorobenzene (S)	%	91	84-113	05/23/15 13:51	
Toluene-d8 (S)	%	90	79-118	05/23/15 13:51	

LABORATORY CONTROL SAMPLE: 897891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	62-130	
1,1,2,2-Tetrachloroethane	ug/L	20	17.8	89	74-115	
1,1,2-Trichloroethane	ug/L	20	17.4	87	73-121	
1,1-Dichloroethane	ug/L	20	18.8	94	64-125	
1,1-Dichloroethene	ug/L	20	18.0	90	58-126	
1,2-Dichlorobenzene	ug/L	20	17.7	89	76-117	
1,2-Dichloroethane	ug/L	20	19.9	99	66-124	
1,2-Dichloropropane	ug/L	20	16.2	81	66-119	
1,3-Dichlorobenzene	ug/L	20	17.5	88	73-116	
1,4-Dichlorobenzene	ug/L	20	17.4	87	75-119	
2-Butanone (MEK)	ug/L	20	19.9	99	69-126	
2-Hexanone	ug/L	20	17.4	87	53-118	
4-Methyl-2-pentanone (MIBK)	ug/L	20	17.4	87	68-124	
Acetone	ug/L	20	12.3	61	56-142	
Benzene	ug/L	20	17.8	89	69-123	
Bromodichloromethane	ug/L	20	17.9	90	64-120	
Bromoform	ug/L	20	14.8	74	56-133	
Bromomethane	ug/L	20	22.7	113	19-151	
Carbon disulfide	ug/L	20	19.3	96	53-173	
Carbon tetrachloride	ug/L	20	17.5	87	52-133	
Chlorobenzene	ug/L	20	17.8	89	72-121	
Chloroethane	ug/L	20	19.4	97	53-143	
Chloroform	ug/L	20	20.0	100	63-123	
Chloromethane	ug/L	20	19.2	96	48-139	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	63-123	
cis-1,3-Dichloropropene	ug/L	20	17.7	88	65-121	
Dibromochloromethane	ug/L	20	16.6	83	58-132	
Ethylbenzene	ug/L	20	17.4	87	70-123	
Isopropylbenzene (Cumene)	ug/L	20	17.9	89	66-136	
m&p-Xylene	ug/L	40	35.7	89	71-124	
Methylene Chloride	ug/L	20	19.2	96	55-134	
o-Xylene	ug/L	20	16.8	84	69-118	
Styrene	ug/L	20	17.7	89	66-126	
Tetrachloroethene	ug/L	20	18.4	92	62-131	
Toluene	ug/L	20	17.6	88	73-123	
trans-1,2-Dichloroethene	ug/L	20	19.0	95	61-124	
trans-1,3-Dichloropropene	ug/L	20	17.5	88	70-111	
Trichloroethene	ug/L	20	17.4	87	66-125	

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.

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QUALITY CONTROL DATA

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

LABORATORY CONTROL SAMPLE: 897891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/L	20	20.3	101	57-144	
Vinyl chloride	ug/L	20	16.6	83	58-131	
1,2-Dichloroethane-d4 (S)	%			101	84-124	
4-Bromofluorobenzene (S)	%			104	84-113	
Toluene-d8 (S)	%			92	79-118	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 897983 897984

Parameter	Units	30148563001 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	1.0 U	20	20	19.0	20.4	95	102	62-130	7	
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	20	20	8.3	8.3	41	42	74-115	1	M1
1,1,2-Trichloroethane	ug/L	1.0 U	20	20	8.9	9.0	45	45	73-121	1	M1
1,1-Dichloroethane	ug/L	1.0 U	20	20	15.6	16.2	78	81	64-125	4	
1,1-Dichloroethene	ug/L	1.0 U	20	20	17.3	19.0	86	95	58-126	9	
1,2-Dichlorobenzene	ug/L	1.0 U	20	20	13.2	14.0	66	70	76-117	6	M1
1,2-Dichloroethane	ug/L	1.0 U	20	20	9.9	9.8	50	49	66-124	1	M1
1,2-Dichloropropane	ug/L	1.0 U	20	20	12.3	12.3	62	61	66-119	0	M1
1,3-Dichlorobenzene	ug/L	1.0 U	20	20	15.4	16.4	77	82	73-116	6	
1,4-Dichlorobenzene	ug/L	1.0 U	20	20	14.7	15.9	74	79	75-119	7	M1
2-Butanone (MEK)	ug/L	10.0 U	20	20	12.2	12.7	61	63	69-126	4	M1
2-Hexanone	ug/L	10.0 U	20	20	8.9J	9J	44	45	53-118		M1
4-Methyl-2-pentanone (MIBK)	ug/L	10.0 U	20	20	7.3J	7.5J	36	38	68-124		M1
Acetone	ug/L	10.0 U	20	20	2.9J	7.1J	14	35	56-142		M1
Benzene	ug/L	1.0 U	20	20	16.6	18.0	83	90	69-123	8	
Bromodichloromethane	ug/L	1.0 U	20	20	12.0	12.1	60	61	64-120	1	M1
Bromoform	ug/L	1.0 U	20	20	6.6	7.0	33	35	56-133	6	M1
Bromomethane	ug/L	1.0 U	20	20	15.3	18.8	76	94	19-151	21	
Carbon disulfide	ug/L	1.0 U	20	20	16.3	18.6	81	93	53-173	13	
Carbon tetrachloride	ug/L	1.0 U	20	20	18.0	19.6	90	98	52-133	8	
Chlorobenzene	ug/L	1.0 U	20	20	14.7	15.7	74	78	72-121	6	
Chloroethane	ug/L	1.0 U	20	20	19.2	21.3	96	106	53-143	10	
Chloroform	ug/L	1.0 U	20	20	15.2	15.8	76	79	63-123	4	
Chloromethane	ug/L	1.0 U	20	20	16.3	17.9	82	89	48-139	9	
cis-1,2-Dichloroethene	ug/L	1.0 U	20	20	14.1	14.4	70	72	63-123	2	
cis-1,3-Dichloropropene	ug/L	1.0 U	20	20	10.3	10.4	51	52	65-121	1	M1
Dibromochloromethane	ug/L	1.0 U	20	20	9.0	9.3	45	46	58-132	3	M1
Ethylbenzene	ug/L	1.0 U	20	20	16.7	18.0	84	90	70-123	8	
Isopropylbenzene (Cumene)	ug/L	1.0 U	20	20	19.0	21.1	95	105	66-136	10	
m&p-Xylene	ug/L	2.0 U	40	40	33.7	35.5	84	89	71-124	5	
Methylene Chloride	ug/L	1.0 U	20	20	12.8	12.8	64	64	55-134	0	
o-Xylene	ug/L	1.0 U	20	20	15.2	15.5	76	77	69-118	2	
Styrene	ug/L	1.0 U	20	20	13.9	14.5	70	73	66-126	4	
Tetrachloroethene	ug/L	1.0 U	20	20	22.3	24.5	111	123	62-131	9	
Toluene	ug/L	1.0 U	20	20	16.7	17.5	83	88	73-123	5	

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

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 897983 897984

Parameter	Units	30148563001 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	1.0 U	20	20	16.8	17.4	84	87	61-124	4	
trans-1,3-Dichloropropene	ug/L	1.0 U	20	20	8.7	8.8	43	44	70-111	1	M1
Trichloroethene	ug/L	1.0 U	20	20	18.1	20.0	90	100	66-125	10	
Trichlorofluoromethane	ug/L	1.0 U	20	20	19.3	23.1	97	116	57-144	18	
Vinyl chloride	ug/L	1.0 U	20	20	14.0	16.7	70	84	58-131	17	
1,2-Dichloroethane-d4 (S)	%						63	56	84-124		S0
4-Bromofluorobenzene (S)	%						109	107	84-113		
Toluene-d8 (S)	%						104	108	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.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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 decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Essex/Hope Jamestown
Pace Project No.: 30148056

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30148056001	**Pre-Carb**	EPA 8260C	MSV/23554		
30148056002	**Primary-EFF**	EPA 8260C	MSV/23554		
30148056003	**Post-Carb**	EPA 8260C	MSV/23554		
30148056006	**TB-01**	EPA 8260C	MSV/23554		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

30148058

Page: 1 of 1

1515763

Section A Required Client Information:

Company: CH2M
Address: 18 Tremont St. Suite 700, Boston, MA 02108
Email To:
Phone: 617-626-7013 Fax: 810-229-5071
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Kyle Block
Copy To: Rachel Vaughan, Travis Pendry
Purchase Order No.:
Project Name: Essex/Hope Jamestown
Project Number: 656686

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: NY

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): Analysis Test: VOCs 8260

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Pre-carb	WT	G			5-13-15	1440		3				X					X		001
2	Primary-Eff						1445													002
3	Post-carb						1450													003
4	Post-carb						1520													004
5	Post-carb						1550													~~005~~ 007
6	Post-carb						1620													~~006~~ 005
7	TB-01					—			2				~							~~007~~ 006
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Composite four (4) Post-carb samples in lab and report as Post-carb Composite	Tri Pendry	5-13-15	1705	Alyna R. Muchmay / Pace	5/14/15	0955	4.8	Y	Y	Y

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Travis Pendry
SIGNATURE of SAMPLER: Tri Pendry
DATE Signed (MM/DD/YY): 5-13-15

*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

MJS

Sample Condition Upon Receipt

Pace Analytical

Client Name: CH2M

Project # 30148056

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

Tracking #: 780150821144

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.: 5.1 °C Correction Factor: -0.3 °C Final Temp: 4.8 °C

Date and initials of person examining contents: ARM 5/14/15

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. ARM 5/14/15
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: WT		
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, Phenols	☑Yes ☐No	Initial when completed ARM / 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:** 5-15-15

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)

Pace Analytical

Project Number: 30148056

Client Name: CH2M

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 N	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	WT													3										
002	WT													3										
003	WT													12										
004	WT													2										

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Edison
777 New Durham Road
Edison, NJ 08817
Tel: (732)549-3900

TestAmerica Job ID: 460-96403-1
Client Project/Site: Essex/Hope Jamestown 656686

For:
CH2M Hill Constructors, Inc.
18 Tremont St
Suite 700
Boston, Massachusetts 02108

Attn: Mr. Kyle Block

Authorized for release by:
6/24/2015 4:33:46 PM
Shalini Isaac, Project Management Assistant II
shalini.isaac@testamericainc.com

Designee for

Kristin DeGraw, Project Manager II
(732)593-2555
kristin.degraw@testamericainc.com

Table of Contents

Definitions/Glossary

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 460-96403-1

Laboratory: TestAmerica Edison

Narrative

CASE NARRATIVE

Client: CH2M Hill Constructors, Inc.

Project: Essex/Hope Jamestown 656686

Report Number: 460-96403-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 6/12/2015 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.8º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

VOLATILE ORGANICS
Samples Pre-Carb (460-96403-1), Primary-EFF (460-96403-2) and Post-Carb composite (460-96403-7) were analyzed for Volatile organics in accordance with EPA SW-846 Methods 8260C. The samples were analyzed on 06/23/2015 and 06/24/2015.

The continuing calibration verification (CCV) analyzed in batch 460-306505 was outside the method criteria for the following analyte: Chloromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Trichloroethene failed the recovery criteria low for the MS of sample 460-96764-1 in batch 460-306603. The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Samples Pre-Carb (460-96403-1)[5X], Pre-Carb (460-96403-1)[50X], Primary-EFF (460-96403-2)[50X] and Post-Carb composite (460-96403-7)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The following sample was diluted to bring the concentration of target analytes within the calibration range: Pre-Carb (460-96403-1). Elevated reporting limits (RLs) are provided.

No other difficulties were encountered during the Volatile organics analysis.

Job ID: 460-96403-1 (Continued)

Laboratory: TestAmerica Edison (Continued)

All other quality control parameters were within the acceptance limits.

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Client Sample ID: Pre-Carb — Lab Sample ID: 460-96403-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	34		5.0	1.7	ug/L	5		8260C	Total/NA
1,2-Dichloroethene, trans-	28		5.0	0.90	ug/L	5		8260C	Total/NA
2-Butanone (MEK)	230		50	11	ug/L	5		8260C	Total/NA
Benzene	50		5.0	0.45	ug/L	5		8260C	Total/NA
Toluene	1.3	J	5.0	1.3	ug/L	5		8260C	Total/NA
Vinyl chloride	2000		5.0	0.30	ug/L	5		8260C	Total/NA
1,2-Dichloroethene, cis- - DL	11000	D	50	13	ug/L	50		8260C	Total/NA
Acetone - DL	46000	D	500	54	ug/L	50		8260C	Total/NA
Trichloroethene - DL	9300	D	50	11	ug/L	50		8260C	Total/NA

Client Sample ID: Primary-EFF — Lab Sample ID: 460-96403-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.8		1.0	0.34	ug/L	1		8260C	Total/NA
1,2-Dichloroethene, trans-	1.3		1.0	0.18	ug/L	1		8260C	Total/NA
2-Butanone (MEK)	77		10	2.2	ug/L	1		8260C	Total/NA
Benzene	0.34	J	1.0	0.090	ug/L	1		8260C	Total/NA
Trichloroethene	44		1.0	0.22	ug/L	1		8260C	Total/NA
1,2-Dichloroethene, cis- - DL	950	D	50	13	ug/L	50		8260C	Total/NA
Acetone - DL	42000	D	500	54	ug/L	50		8260C	Total/NA
Vinyl chloride - DL	1900	D	50	3.0	ug/L	50		8260C	Total/NA

Client Sample ID: Post-Carb composite — Lab Sample ID: 460-96403-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichloroethene, cis-	0.30	J	1.0	0.26	ug/L	1		8260C	Total/NA
Vinyl chloride	150		1.0	0.060	ug/L	1		8260C	Total/NA
Acetone - DL	8300	D	100	11	ug/L	10		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Client Sample ID: Pre-Carb

Date Collected: 06/11/15 12:15
Date Received: 06/12/15 10:00

Lab Sample ID: 460-96403-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.4	U	5.0	1.4	ug/L			06/23/15 21:59	5
1,1,2,2-Tetrachloroethane	0.95	U	5.0	0.95	ug/L			06/23/15 21:59	5
1,1,2-Trichloroethane	0.40	U	5.0	0.40	ug/L			06/23/15 21:59	5
1,1-Dichloroethane	1.2	U	5.0	1.2	ug/L			06/23/15 21:59	5
1,1-Dichloroethene	**34**		5.0	1.7	ug/L			06/23/15 21:59	5
1,2-Dichlorobenzene	1.1	U	5.0	1.1	ug/L			06/23/15 21:59	5
1,2-Dichloroethane	1.3	U	5.0	1.3	ug/L			06/23/15 21:59	5
1,2-Dichloroethene, trans-	**28**		5.0	0.90	ug/L			06/23/15 21:59	5
1,2-Dichloropropane	0.90	U	5.0	0.90	ug/L			06/23/15 21:59	5
1,3-Dichlorobenzene	1.7	U	25	1.7	ug/L			06/23/15 21:59	5
1,3-Dichloropropene, cis-	0.80	U	5.0	0.80	ug/L			06/23/15 21:59	5
1,3-Dichloropropene, trans-	0.95	U	5.0	0.95	ug/L			06/23/15 21:59	5
1,4-Dichlorobenzene	1.7	U	5.0	1.7	ug/L			06/23/15 21:59	5
2-Butanone (MEK)	**230**		50	11	ug/L			06/23/15 21:59	5
2-Hexanone	3.6	U	50	3.6	ug/L			06/23/15 21:59	5
4-Methyl-2-pentanone (MIBK)	3.2	U	50	3.2	ug/L			06/23/15 21:59	5
Benzene	**50**		5.0	0.45	ug/L			06/23/15 21:59	5
Bromochloromethane	1.5	U	5.0	1.5	ug/L			06/23/15 21:59	5
Bromodichloromethane	0.75	U	5.0	0.75	ug/L			06/23/15 21:59	5
Bromoform	0.90	U	5.0	0.90	ug/L			06/23/15 21:59	5
Bromomethane	0.90	U	5.0	0.90	ug/L			06/23/15 21:59	5
Carbon disulfide	1.1	U	5.0	1.1	ug/L			06/23/15 21:59	5
Carbon tetrachloride	1.7	U	5.0	1.7	ug/L			06/23/15 21:59	5
Chlorobenzene	1.2	U	5.0	1.2	ug/L			06/23/15 21:59	5
Chloroethane	1.9	U	5.0	1.9	ug/L			06/23/15 21:59	5
Chloroform	1.1	U	5.0	1.1	ug/L			06/23/15 21:59	5
Chloromethane	1.1	U	5.0	1.1	ug/L			06/23/15 21:59	5
Dibromochloromethane	1.1	U	5.0	1.1	ug/L			06/23/15 21:59	5
Ethylbenzene	1.5	U	5.0	1.5	ug/L			06/23/15 21:59	5
Isopropylbenzene	1.6	U	5.0	1.6	ug/L			06/23/15 21:59	5
Methylene Chloride	1.1	U	5.0	1.1	ug/L			06/23/15 21:59	5
m-Xylene & p-Xylene	1.4	U	50	1.4	ug/L			06/23/15 21:59	5
o-Xylene	1.6	U	5.0	1.6	ug/L			06/23/15 21:59	5
Styrene	0.85	U	5.0	0.85	ug/L			06/23/15 21:59	5
Tetrachloroethene	0.60	U	5.0	0.60	ug/L			06/23/15 21:59	5
Toluene	**1.3**	**J**	5.0	1.3	ug/L			06/23/15 21:59	5
Trichlorofluoromethane	0.75	U	5.0	0.75	ug/L			06/23/15 21:59	5
Vinyl chloride	**2000**		5.0	0.30	ug/L			06/23/15 21:59	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*06/23/15 21:59*	*5*
4-Bromofluorobenzene	*108*		*64 - 135*		*06/23/15 21:59*	*5*
Dibromofluoromethane (Surr)	*102*		*72 - 137*		*06/23/15 21:59*	*5*
Toluene-d8 (Surr)	*97*		*70 - 130*		*06/23/15 21:59*	*5*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethene, cis-	**11000**	**D**	50	13	ug/L			06/23/15 21:09	50
Acetone	**46000**	**D**	500	54	ug/L			06/23/15 21:09	50
Trichloroethene	**9300**	**D**	50	11	ug/L			06/23/15 21:09	50

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99	D	70 - 130		06/23/15 21:09	50
4-Bromofluorobenzene	106	D	64 - 135		06/23/15 21:09	50
Dibromofluoromethane (Surr)	102	D	72 - 137		06/23/15 21:09	50
Toluene-d8 (Surr)	97	D	70 - 130		06/23/15 21:09	50

Client Sample ID: Primary-EFF

Lab Sample ID: 460-96403-2

Date Collected: 06/11/15 12:20

Matrix: Water

Date Received: 06/12/15 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.28	U	1.0	0.28	ug/L			06/23/15 22:24	1
1,1,2,2-Tetrachloroethane	0.19	U	1.0	0.19	ug/L			06/23/15 22:24	1
1,1,2-Trichloroethane	0.080	U	1.0	0.080	ug/L			06/23/15 22:24	1
1,1-Dichloroethane	0.24	U	1.0	0.24	ug/L			06/23/15 22:24	1
1,1-Dichloroethene	**1.8**		1.0	0.34	ug/L			06/23/15 22:24	1
1,2-Dichlorobenzene	0.22	U	1.0	0.22	ug/L			06/23/15 22:24	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/23/15 22:24	1
1,2-Dichloroethene, trans-	**1.3**		1.0	0.18	ug/L			06/23/15 22:24	1
1,2-Dichloropropane	0.18	U	1.0	0.18	ug/L			06/23/15 22:24	1
1,3-Dichlorobenzene	0.33	U	5.0	0.33	ug/L			06/23/15 22:24	1
1,3-Dichloropropene, cis-	0.16	U	1.0	0.16	ug/L			06/23/15 22:24	1
1,3-Dichloropropene, trans-	0.19	U	1.0	0.19	ug/L			06/23/15 22:24	1
1,4-Dichlorobenzene	0.33	U	1.0	0.33	ug/L			06/23/15 22:24	1
2-Butanone (MEK)	**77**		10	2.2	ug/L			06/23/15 22:24	1
2-Hexanone	0.72	U	10	0.72	ug/L			06/23/15 22:24	1
4-Methyl-2-pentanone (MIBK)	0.63	U	10	0.63	ug/L			06/23/15 22:24	1
Benzene	**0.34**	**J**	1.0	0.090	ug/L			06/23/15 22:24	1
Bromochloromethane	0.30	U	1.0	0.30	ug/L			06/23/15 22:24	1
Bromodichloromethane	0.15	U	1.0	0.15	ug/L			06/23/15 22:24	1
Bromoform	0.18	U	1.0	0.18	ug/L			06/23/15 22:24	1
Bromomethane	0.18	U	1.0	0.18	ug/L			06/23/15 22:24	1
Carbon disulfide	0.22	U	1.0	0.22	ug/L			06/23/15 22:24	1
Carbon tetrachloride	0.33	U	1.0	0.33	ug/L			06/23/15 22:24	1
Chlorobenzene	0.24	U	1.0	0.24	ug/L			06/23/15 22:24	1
Chloroethane	0.37	U	1.0	0.37	ug/L			06/23/15 22:24	1
Chloroform	0.22	U	1.0	0.22	ug/L			06/23/15 22:24	1
Chloromethane	0.22	U	1.0	0.22	ug/L			06/23/15 22:24	1
Dibromochloromethane	0.22	U	1.0	0.22	ug/L			06/23/15 22:24	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			06/23/15 22:24	1
Isopropylbenzene	0.32	U	1.0	0.32	ug/L			06/23/15 22:24	1
Methylene Chloride	0.21	U	1.0	0.21	ug/L			06/23/15 22:24	1
m-Xylene & p-Xylene	0.28	U	10	0.28	ug/L			06/23/15 22:24	1
o-Xylene	0.32	U	1.0	0.32	ug/L			06/23/15 22:24	1
Styrene	0.17	U	1.0	0.17	ug/L			06/23/15 22:24	1
Tetrachloroethene	0.12	U	1.0	0.12	ug/L			06/23/15 22:24	1
Toluene	0.25	U	1.0	0.25	ug/L			06/23/15 22:24	1
Trichloroethene	**44**		1.0	0.22	ug/L			06/23/15 22:24	1
Trichlorofluoromethane	0.15	U	1.0	0.15	ug/L			06/23/15 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		06/23/15 22:24	1
4-Bromofluorobenzene	108		64 - 135		06/23/15 22:24	1
Dibromofluoromethane (Surr)	104		72 - 137		06/23/15 22:24	1
Toluene-d8 (Surr)	97		70 - 130		06/23/15 22:24	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethene, cis-	**950**	**D**	50	13	ug/L			06/24/15 11:05	50
Acetone	**42000**	**D**	500	54	ug/L			06/24/15 11:05	50
Vinyl chloride	**1900**	**D**	50	3.0	ug/L			06/24/15 11:05	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*	*D*	*70 - 130*		*06/24/15 11:05*	*50*
4-Bromofluorobenzene	*108*	*D*	*64 - 135*		*06/24/15 11:05*	*50*
Dibromofluoromethane (Surr)	*103*	*D*	*72 - 137*		*06/24/15 11:05*	*50*
Toluene-d8 (Surr)	*97*	*D*	*70 - 130*		*06/24/15 11:05*	*50*

Client Sample ID: Post-Carb composite

Lab Sample ID: 460-96403-7

Date Collected: 06/11/15 13:55

Matrix: Water

Date Received: 06/12/15 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.28	U	1.0	0.28	ug/L			06/23/15 20:44	1
1,1,2,2-Tetrachloroethane	0.19	U	1.0	0.19	ug/L			06/23/15 20:44	1
1,1,2-Trichloroethane	0.080	U	1.0	0.080	ug/L			06/23/15 20:44	1
1,1-Dichloroethane	0.24	U	1.0	0.24	ug/L			06/23/15 20:44	1
1,1-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/23/15 20:44	1
1,2-Dichlorobenzene	0.22	U	1.0	0.22	ug/L			06/23/15 20:44	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/23/15 20:44	1
1,2-Dichloroethene, cis-	**0.30**	**J**	1.0	0.26	ug/L			06/23/15 20:44	1
1,2-Dichloroethene, trans-	0.18	U	1.0	0.18	ug/L			06/23/15 20:44	1
1,2-Dichloropropane	0.18	U	1.0	0.18	ug/L			06/23/15 20:44	1
1,3-Dichlorobenzene	0.33	U	5.0	0.33	ug/L			06/23/15 20:44	1
1,3-Dichloropropene, cis-	0.16	U	1.0	0.16	ug/L			06/23/15 20:44	1
1,3-Dichloropropene, trans-	0.19	U	1.0	0.19	ug/L			06/23/15 20:44	1
1,4-Dichlorobenzene	0.33	U	1.0	0.33	ug/L			06/23/15 20:44	1
2-Butanone (MEK)	2.2	U	10	2.2	ug/L			06/23/15 20:44	1
2-Hexanone	0.72	U	10	0.72	ug/L			06/23/15 20:44	1
4-Methyl-2-pentanone (MIBK)	0.63	U	10	0.63	ug/L			06/23/15 20:44	1
Benzene	0.090	U	1.0	0.090	ug/L			06/23/15 20:44	1
Bromochloromethane	0.30	U	1.0	0.30	ug/L			06/23/15 20:44	1
Bromodichloromethane	0.15	U	1.0	0.15	ug/L			06/23/15 20:44	1
Bromoform	0.18	U	1.0	0.18	ug/L			06/23/15 20:44	1
Bromomethane	0.18	U	1.0	0.18	ug/L			06/23/15 20:44	1
Carbon disulfide	0.22	U	1.0	0.22	ug/L			06/23/15 20:44	1
Carbon tetrachloride	0.33	U	1.0	0.33	ug/L			06/23/15 20:44	1
Chlorobenzene	0.24	U	1.0	0.24	ug/L			06/23/15 20:44	1
Chloroethane	0.37	U	1.0	0.37	ug/L			06/23/15 20:44	1
Chloroform	0.22	U	1.0	0.22	ug/L			06/23/15 20:44	1
Chloromethane	0.22	U	1.0	0.22	ug/L			06/23/15 20:44	1
Dibromochloromethane	0.22	U	1.0	0.22	ug/L			06/23/15 20:44	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			06/23/15 20:44	1
Isopropylbenzene	0.32	U	1.0	0.32	ug/L			06/23/15 20:44	1
Methylene Chloride	0.21	U	1.0	0.21	ug/L			06/23/15 20:44	1
m-Xylene & p-Xylene	0.28	U	10	0.28	ug/L			06/23/15 20:44	1
o-Xylene	0.32	U	1.0	0.32	ug/L			06/23/15 20:44	1
Styrene	0.17	U	1.0	0.17	ug/L			06/23/15 20:44	1
Tetrachloroethene	0.12	U	1.0	0.12	ug/L			06/23/15 20:44	1
Toluene	0.25	U	1.0	0.25	ug/L			06/23/15 20:44	1
Trichloroethene	0.22	U	1.0	0.22	ug/L			06/23/15 20:44	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Client Sample ID: Post-Carb composite

Lab Sample ID: 460-96403-7
Date Collected: 06/11/15 13:55
Matrix: Water
Date Received: 06/12/15 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	0.15	U	1.0	0.15	ug/L			06/23/15 20:44	1
Vinyl chloride	**150**		1.0	0.060	ug/L			06/23/15 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*06/23/15 20:44*	*1*
4-Bromofluorobenzene	*105*		*64 - 135*		*06/23/15 20:44*	*1*
Dibromofluoromethane (Surr)	*104*		*72 - 137*		*06/23/15 20:44*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*06/23/15 20:44*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**8300**	**D**	100	11	ug/L			06/24/15 10:40	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*	*D*	*70 - 130*		*06/24/15 10:40*	*10*
4-Bromofluorobenzene	*107*	*D*	*64 - 135*		*06/24/15 10:40*	*10*
Dibromofluoromethane (Surr)	*103*	*D*	*72 - 137*		*06/24/15 10:40*	*10*
Toluene-d8 (Surr)	*97*	*D*	*70 - 130*		*06/24/15 10:40*	*10*

Surrogate Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(64-135)	(72-137)	(70-130)
460-96403-1	Pre-Carb	99	108	102	97
460-96403-1 - DL	Pre-Carb	99 D	106 D	102 D	97 D
460-96403-2	Primary-EFF	102	108	104	97
460-96403-2 - DL	Primary-EFF	99 D	108 D	103 D	97 D
460-96403-7	Post-Carb composite	99	105	104	97
460-96403-7 - DL	Post-Carb composite	100 D	107 D	103 D	97 D
460-96403-7 MS	Post-Carb composite	97	106	101	96
460-96403-7 MSD	Post-Carb composite	99	107	102	98
460-96764-A-1 MS	Matrix Spike	98	107	102	96
460-96764-A-1 MSD	Matrix Spike Duplicate	99	107	103	96
LCS 460-306505/3	Lab Control Sample	98	105	101	97
LCS 460-306603/4	Lab Control Sample	104	111	108	101
MB 460-306505/7	Method Blank	101	107	103	97
MB 460-306603/7	Method Blank	98	110	102	96

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-306505/7
Matrix: Water
Analysis Batch: 306505

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.28	U	1.0	0.28	ug/L			06/23/15 20:18	1
1,1,2,2-Tetrachloroethane	0.19	U	1.0	0.19	ug/L			06/23/15 20:18	1
1,1,2-Trichloroethane	0.080	U	1.0	0.080	ug/L			06/23/15 20:18	1
1,1-Dichloroethane	0.24	U	1.0	0.24	ug/L			06/23/15 20:18	1
1,1-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/23/15 20:18	1
1,2-Dichlorobenzene	0.22	U	1.0	0.22	ug/L			06/23/15 20:18	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/23/15 20:18	1
1,2-Dichloroethene, cis-	0.26	U	1.0	0.26	ug/L			06/23/15 20:18	1
1,2-Dichloroethene, trans-	0.18	U	1.0	0.18	ug/L			06/23/15 20:18	1
1,2-Dichloropropane	0.18	U	1.0	0.18	ug/L			06/23/15 20:18	1
1,3-Dichlorobenzene	0.33	U	5.0	0.33	ug/L			06/23/15 20:18	1
1,3-Dichloropropene, cis-	0.16	U	1.0	0.16	ug/L			06/23/15 20:18	1
1,3-Dichloropropene, trans-	0.19	U	1.0	0.19	ug/L			06/23/15 20:18	1
1,4-Dichlorobenzene	0.33	U	1.0	0.33	ug/L			06/23/15 20:18	1
2-Butanone (MEK)	2.2	U	10	2.2	ug/L			06/23/15 20:18	1
2-Hexanone	0.72	U	10	0.72	ug/L			06/23/15 20:18	1
4-Methyl-2-pentanone (MIBK)	0.63	U	10	0.63	ug/L			06/23/15 20:18	1
Acetone	1.1	U	10	1.1	ug/L			06/23/15 20:18	1
Benzene	0.090	U	1.0	0.090	ug/L			06/23/15 20:18	1
Bromochloromethane	0.30	U	1.0	0.30	ug/L			06/23/15 20:18	1
Bromodichloromethane	0.15	U	1.0	0.15	ug/L			06/23/15 20:18	1
Bromoform	0.18	U	1.0	0.18	ug/L			06/23/15 20:18	1
Bromomethane	0.18	U	1.0	0.18	ug/L			06/23/15 20:18	1
Carbon disulfide	0.22	U	1.0	0.22	ug/L			06/23/15 20:18	1
Carbon tetrachloride	0.33	U	1.0	0.33	ug/L			06/23/15 20:18	1
Chlorobenzene	0.24	U	1.0	0.24	ug/L			06/23/15 20:18	1
Chloroethane	0.37	U	1.0	0.37	ug/L			06/23/15 20:18	1
Chloroform	0.22	U	1.0	0.22	ug/L			06/23/15 20:18	1
Chloromethane	0.22	U	1.0	0.22	ug/L			06/23/15 20:18	1
Dibromochloromethane	0.22	U	1.0	0.22	ug/L			06/23/15 20:18	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			06/23/15 20:18	1
Isopropylbenzene	0.32	U	1.0	0.32	ug/L			06/23/15 20:18	1
Methylene Chloride	0.21	U	1.0	0.21	ug/L			06/23/15 20:18	1
m-Xylene & p-Xylene	0.28	U	10	0.28	ug/L			06/23/15 20:18	1
o-Xylene	0.32	U	1.0	0.32	ug/L			06/23/15 20:18	1
Styrene	0.17	U	1.0	0.17	ug/L			06/23/15 20:18	1
Tetrachloroethene	0.12	U	1.0	0.12	ug/L			06/23/15 20:18	1
Toluene	0.25	U	1.0	0.25	ug/L			06/23/15 20:18	1
Trichloroethene	0.22	U	1.0	0.22	ug/L			06/23/15 20:18	1
Trichlorofluoromethane	0.15	U	1.0	0.15	ug/L			06/23/15 20:18	1
Vinyl chloride	0.060	U	1.0	0.060	ug/L			06/23/15 20:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*06/23/15 20:18*	*1*
4-Bromofluorobenzene	*107*		*64 - 135*		*06/23/15 20:18*	*1*
Dibromofluoromethane (Surr)	*103*		*72 - 137*		*06/23/15 20:18*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*06/23/15 20:18*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 460-306505/3
Matrix: Water
Analysis Batch: 306505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	20.0	19.0		ug/L		95	73 - 134
1,1,2,2-Tetrachloroethane	20.0	19.2		ug/L		96	55 - 133
1,1,2-Trichloroethane	20.0	18.3		ug/L		92	68 - 121
1,1-Dichloroethane	20.0	19.6		ug/L		98	75 - 126
1,1-Dichloroethene	20.0	20.5		ug/L		103	71 - 123
1,2-Dichlorobenzene	20.0	19.2		ug/L		96	81 - 120
1,2-Dichloroethane	20.0	19.5		ug/L		97	75 - 127
1,2-Dichloroethene, cis-	20.0	20.3		ug/L		102	78 - 121
1,2-Dichloroethene, trans-	20.0	19.2		ug/L		96	79 - 120
1,2-Dichloropropane	20.0	19.9		ug/L		100	70 - 120
1,3-Dichlorobenzene	20.0	18.4		ug/L		92	75 - 120
1,3-Dichloropropene, cis-	20.0	19.0		ug/L		95	71 - 120
1,3-Dichloropropene, trans-	20.0	19.1		ug/L		95	71 - 123
1,4-Dichlorobenzene	20.0	18.5		ug/L		93	75 - 120
2-Butanone (MEK)	100	94.4		ug/L		94	52 - 140
2-Hexanone	100	88.4		ug/L		88	49 - 131
4-Methyl-2-pentanone (MIBK)	100	91.6		ug/L		92	56 - 132
Acetone	100	90.5		ug/L		90	26 - 150
Benzene	20.0	18.7		ug/L		93	69 - 125
Bromochloromethane	20.0	20.6		ug/L		103	70 - 134
Bromodichloromethane	20.0	18.9		ug/L		94	72 - 123
Bromoform	20.0	18.4		ug/L		92	50 - 134
Bromomethane	20.0	16.1		ug/L		81	27 - 150
Carbon disulfide	20.0	19.2		ug/L		96	61 - 126
Carbon tetrachloride	20.0	19.4		ug/L		97	58 - 150
Chlorobenzene	20.0	19.5		ug/L		98	77 - 120
Chloroethane	20.0	15.6		ug/L		78	58 - 145
Chloroform	20.0	19.6		ug/L		98	81 - 122
Chloromethane	20.0	15.4		ug/L		77	43 - 145
Dibromochloromethane	20.0	18.6		ug/L		93	63 - 131
Ethylbenzene	20.0	19.2		ug/L		96	74 - 120
Isopropylbenzene	20.0	19.6		ug/L		98	74 - 127
Methylene Chloride	20.0	19.6		ug/L		98	76 - 123
m-Xylene & p-Xylene	20.0	19.2		ug/L		96	78 - 119
o-Xylene	20.0	19.0		ug/L		95	79 - 120
Styrene	20.0	19.3		ug/L		96	76 - 120
Tetrachloroethene	20.0	20.5		ug/L		102	70 - 136
Toluene	20.0	18.9		ug/L		94	78 - 120
Trichloroethene	20.0	19.9		ug/L		99	74 - 120
Trichlorofluoromethane	20.0	20.9		ug/L		104	65 - 142
Vinyl chloride	20.0	18.0		ug/L		90	56 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene	*105*		*64 - 135*
Dibromofluoromethane (Surr)	*101*		*72 - 137*
Toluene-d8 (Surr)	*97*		*70 - 130*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 460-96403-7 MS
Matrix: Water
Analysis Batch: 306505

Client Sample ID: Post-Carb composite
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	0.28	U	200	184		ug/L		92	73 - 134
1,1,2,2-Tetrachloroethane	0.19	U	200	176		ug/L		88	55 - 133
1,1,2-Trichloroethane	0.080	U	200	179		ug/L		89	68 - 121
1,1-Dichloroethane	0.24	U	200	191		ug/L		96	75 - 126
1,1-Dichloroethene	0.34	U	200	196		ug/L		98	71 - 123
1,2-Dichlorobenzene	0.22	U	200	184		ug/L		92	81 - 120
1,2-Dichloroethane	0.25	U	200	185		ug/L		93	75 - 127
1,2-Dichloroethene, cis-	0.30	J	200	206		ug/L		103	78 - 121
1,2-Dichloroethene, trans-	0.18	U	200	184		ug/L		92	79 - 120
1,2-Dichloropropane	0.18	U	200	195		ug/L		97	70 - 120
1,3-Dichlorobenzene	0.33	U	200	179		ug/L		89	75 - 120
1,3-Dichloropropene, cis-	0.16	U	200	180		ug/L		90	71 - 120
1,3-Dichloropropene, trans-	0.19	U	200	180		ug/L		90	71 - 123
1,4-Dichlorobenzene	0.33	U	200	177		ug/L		89	75 - 120
2-Butanone (MEK)	2.2	U	1000	933		ug/L		93	52 - 140
2-Hexanone	0.72	U	1000	887		ug/L		89	49 - 131
4-Methyl-2-pentanone (MIBK)	0.63	U	1000	941		ug/L		94	56 - 132
Acetone	8600	E	1000	9640	4	ug/L		100	26 - 150
Benzene	0.090	U	200	181		ug/L		90	69 - 125
Bromochloromethane	0.30	U	200	195		ug/L		98	70 - 134
Bromodichloromethane	0.15	U	200	179		ug/L		90	72 - 123
Bromoform	0.18	U	200	174		ug/L		87	50 - 134
Bromomethane	0.18	U	200	161		ug/L		80	27 - 150
Carbon disulfide	0.22	U	200	186		ug/L		93	61 - 126
Carbon tetrachloride	0.33	U	200	191		ug/L		95	58 - 150
Chlorobenzene	0.24	U	200	188		ug/L		94	77 - 120
Chloroethane	0.37	U	200	273		ug/L		136	58 - 145
Chloroform	0.22	U	200	185		ug/L		93	81 - 122
Chloromethane	0.22	U	200	162		ug/L		81	43 - 145
Dibromochloromethane	0.22	U	200	175		ug/L		88	63 - 131
Ethylbenzene	0.30	U	200	188		ug/L		94	74 - 120
Isopropylbenzene	0.32	U	200	192		ug/L		96	74 - 127
Methylene Chloride	0.21	U	200	185		ug/L		93	76 - 123
m-Xylene & p-Xylene	0.28	U	200	184		ug/L		92	78 - 119
o-Xylene	0.32	U	200	183		ug/L		92	79 - 120
Styrene	0.17	U	200	185		ug/L		92	76 - 120
Tetrachloroethene	0.12	U	200	200		ug/L		100	70 - 136
Toluene	0.25	U	200	184		ug/L		92	78 - 120
Trichloroethene	0.22	U	200	204		ug/L		102	74 - 120
Trichlorofluoromethane	0.15	U	200	192		ug/L		96	65 - 142
Vinyl chloride	150		200	313		ug/L		81	56 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene	*106*		*64 - 135*
Dibromofluoromethane (Surr)	*101*		*72 - 137*
Toluene-d8 (Surr)	*96*		*70 - 130*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 460-96403-7 MSD
Matrix: Water
Analysis Batch: 306505

Client Sample ID: Post-Carb composite
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.28	U	200	181		ug/L		91	73 - 134	1	30
1,1,2,2-Tetrachloroethane	0.19	U	200	174		ug/L		87	55 - 133	1	30
1,1,2-Trichloroethane	0.080	U	200	178		ug/L		89	68 - 121	0	30
1,1-Dichloroethane	0.24	U	200	190		ug/L		95	75 - 126	1	30
1,1-Dichloroethene	0.34	U	200	193		ug/L		97	71 - 123	1	30
1,2-Dichlorobenzene	0.22	U	200	184		ug/L		92	81 - 120	0	30
1,2-Dichloroethane	0.25	U	200	183		ug/L		91	75 - 127	1	30
1,2-Dichloroethene, cis-	0.30	J	200	196		ug/L		98	78 - 121	5	30
1,2-Dichloroethene, trans-	0.18	U	200	180		ug/L		90	79 - 120	2	30
1,2-Dichloropropane	0.18	U	200	191		ug/L		95	70 - 120	2	30
1,3-Dichlorobenzene	0.33	U	200	180		ug/L		90	75 - 120	1	30
1,3-Dichloropropene, cis-	0.16	U	200	176		ug/L		88	71 - 120	2	30
1,3-Dichloropropene, trans-	0.19	U	200	175		ug/L		87	71 - 123	3	30
1,4-Dichlorobenzene	0.33	U	200	178		ug/L		89	75 - 120	0	30
2-Butanone (MEK)	2.2	U	1000	924		ug/L		92	52 - 140	1	30
2-Hexanone	0.72	U	1000	876		ug/L		88	49 - 131	1	30
4-Methyl-2-pentanone (MIBK)	0.63	U	1000	934		ug/L		93	56 - 132	1	30
Acetone	8600	E	1000	9320	4	ug/L		68	26 - 150	3	30
Benzene	0.090	U	200	178		ug/L		89	69 - 125	1	30
Bromochloromethane	0.30	U	200	194		ug/L		97	70 - 134	0	30
Bromodichloromethane	0.15	U	200	181		ug/L		90	72 - 123	1	30
Bromoform	0.18	U	200	168		ug/L		84	50 - 134	3	30
Bromomethane	0.18	U	200	175		ug/L		88	27 - 150	9	30
Carbon disulfide	0.22	U	200	184		ug/L		92	61 - 126	1	30
Carbon tetrachloride	0.33	U	200	185		ug/L		92	58 - 150	3	30
Chlorobenzene	0.24	U	200	185		ug/L		93	77 - 120	2	30
Chloroethane	0.37	U	200	268		ug/L		134	58 - 145	2	30
Chloroform	0.22	U	200	184		ug/L		92	81 - 122	1	30
Chloromethane	0.22	U	200	160		ug/L		80	43 - 145	2	30
Dibromochloromethane	0.22	U	200	175		ug/L		87	63 - 131	0	30
Ethylbenzene	0.30	U	200	186		ug/L		93	74 - 120	1	30
Isopropylbenzene	0.32	U	200	189		ug/L		95	74 - 127	1	30
Methylene Chloride	0.21	U	200	184		ug/L		92	76 - 123	1	30
m-Xylene & p-Xylene	0.28	U	200	185		ug/L		92	78 - 119	0	30
o-Xylene	0.32	U	200	183		ug/L		92	79 - 120	0	30
Styrene	0.17	U	200	184		ug/L		92	76 - 120	0	30
Tetrachloroethene	0.12	U	200	201		ug/L		101	70 - 136	1	30
Toluene	0.25	U	200	181		ug/L		90	78 - 120	2	30
Trichloroethene	0.22	U	200	197		ug/L		99	74 - 120	3	30
Trichlorofluoromethane	0.15	U	200	187		ug/L		93	65 - 142	3	30
Vinyl chloride	150		200	297		ug/L		73	56 - 137	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene	*107*		*64 - 135*
Dibromofluoromethane (Surr)	*102*		*72 - 137*
Toluene-d8 (Surr)	*98*		*70 - 130*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 460-306603/7
Matrix: Water
Analysis Batch: 306603

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.28	U	1.0	0.28	ug/L			06/24/15 09:50	1
1,1,2,2-Tetrachloroethane	0.19	U	1.0	0.19	ug/L			06/24/15 09:50	1
1,1,2-Trichloroethane	0.080	U	1.0	0.080	ug/L			06/24/15 09:50	1
1,1-Dichloroethane	0.24	U	1.0	0.24	ug/L			06/24/15 09:50	1
1,1-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/24/15 09:50	1
1,2-Dichlorobenzene	0.22	U	1.0	0.22	ug/L			06/24/15 09:50	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/24/15 09:50	1
1,2-Dichloroethene, cis-	0.26	U	1.0	0.26	ug/L			06/24/15 09:50	1
1,2-Dichloroethene, trans-	0.18	U	1.0	0.18	ug/L			06/24/15 09:50	1
1,2-Dichloropropane	0.18	U	1.0	0.18	ug/L			06/24/15 09:50	1
1,3-Dichlorobenzene	0.33	U	5.0	0.33	ug/L			06/24/15 09:50	1
1,3-Dichloropropene, cis-	0.16	U	1.0	0.16	ug/L			06/24/15 09:50	1
1,3-Dichloropropene, trans-	0.19	U	1.0	0.19	ug/L			06/24/15 09:50	1
1,4-Dichlorobenzene	0.33	U	1.0	0.33	ug/L			06/24/15 09:50	1
2-Butanone (MEK)	2.2	U	10	2.2	ug/L			06/24/15 09:50	1
2-Hexanone	0.72	U	10	0.72	ug/L			06/24/15 09:50	1
4-Methyl-2-pentanone (MIBK)	0.63	U	10	0.63	ug/L			06/24/15 09:50	1
Acetone	1.1	U	10	1.1	ug/L			06/24/15 09:50	1
Benzene	0.090	U	1.0	0.090	ug/L			06/24/15 09:50	1
Bromochloromethane	0.30	U	1.0	0.30	ug/L			06/24/15 09:50	1
Bromodichloromethane	0.15	U	1.0	0.15	ug/L			06/24/15 09:50	1
Bromoform	0.18	U	1.0	0.18	ug/L			06/24/15 09:50	1
Bromomethane	0.18	U	1.0	0.18	ug/L			06/24/15 09:50	1
Carbon disulfide	0.22	U	1.0	0.22	ug/L			06/24/15 09:50	1
Carbon tetrachloride	0.33	U	1.0	0.33	ug/L			06/24/15 09:50	1
Chlorobenzene	0.24	U	1.0	0.24	ug/L			06/24/15 09:50	1
Chloroethane	0.37	U	1.0	0.37	ug/L			06/24/15 09:50	1
Chloroform	0.22	U	1.0	0.22	ug/L			06/24/15 09:50	1
Chloromethane	0.22	U	1.0	0.22	ug/L			06/24/15 09:50	1
Dibromochloromethane	0.22	U	1.0	0.22	ug/L			06/24/15 09:50	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			06/24/15 09:50	1
Isopropylbenzene	0.32	U	1.0	0.32	ug/L			06/24/15 09:50	1
Methylene Chloride	0.21	U	1.0	0.21	ug/L			06/24/15 09:50	1
m-Xylene & p-Xylene	0.28	U	10	0.28	ug/L			06/24/15 09:50	1
o-Xylene	0.32	U	1.0	0.32	ug/L			06/24/15 09:50	1
Styrene	0.17	U	1.0	0.17	ug/L			06/24/15 09:50	1
Tetrachloroethene	0.12	U	1.0	0.12	ug/L			06/24/15 09:50	1
Toluene	0.25	U	1.0	0.25	ug/L			06/24/15 09:50	1
Trichloroethene	0.22	U	1.0	0.22	ug/L			06/24/15 09:50	1
Trichlorofluoromethane	0.15	U	1.0	0.15	ug/L			06/24/15 09:50	1
Vinyl chloride	0.060	U	1.0	0.060	ug/L			06/24/15 09:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*06/24/15 09:50*	*1*
4-Bromofluorobenzene	*110*		*64 - 135*		*06/24/15 09:50*	*1*
Dibromofluoromethane (Surr)	*102*		*72 - 137*		*06/24/15 09:50*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*06/24/15 09:50*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 460-306603/4
Matrix: Water
Analysis Batch: 306603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	20.0	18.7		ug/L		94	73 - 134
1,1,2,2-Tetrachloroethane	20.0	19.4		ug/L		97	55 - 133
1,1,2-Trichloroethane	20.0	19.6		ug/L		98	68 - 121
1,1-Dichloroethane	20.0	20.6		ug/L		103	75 - 126
1,1-Dichloroethene	20.0	19.0		ug/L		95	71 - 123
1,2-Dichlorobenzene	20.0	20.4		ug/L		102	81 - 120
1,2-Dichloroethane	20.0	20.7		ug/L		103	75 - 127
1,2-Dichloroethene, cis-	20.0	21.3		ug/L		107	78 - 121
1,2-Dichloroethene, trans-	20.0	19.4		ug/L		97	79 - 120
1,2-Dichloropropane	20.0	21.1		ug/L		105	70 - 120
1,3-Dichlorobenzene	20.0	19.5		ug/L		98	75 - 120
1,3-Dichloropropene, cis-	20.0	19.9		ug/L		100	71 - 120
1,3-Dichloropropene, trans-	20.0	19.8		ug/L		99	71 - 123
1,4-Dichlorobenzene	20.0	19.5		ug/L		97	75 - 120
2-Butanone (MEK)	100	125		ug/L		125	52 - 140
2-Hexanone	100	110		ug/L		110	49 - 131
4-Methyl-2-pentanone (MIBK)	100	102		ug/L		102	56 - 132
Acetone	100	143		ug/L		143	26 - 150
Benzene	20.0	19.8		ug/L		99	69 - 125
Bromochloromethane	20.0	21.4		ug/L		107	70 - 134
Bromodichloromethane	20.0	19.2		ug/L		96	72 - 123
Bromoform	20.0	18.9		ug/L		95	50 - 134
Bromomethane	20.0	19.7		ug/L		99	27 - 150
Carbon disulfide	20.0	19.0		ug/L		95	61 - 126
Carbon tetrachloride	20.0	18.2		ug/L		91	58 - 150
Chlorobenzene	20.0	20.4		ug/L		102	77 - 120
Chloroethane	20.0	20.9		ug/L		104	58 - 145
Chloroform	20.0	20.3		ug/L		101	81 - 122
Chloromethane	20.0	16.1		ug/L		81	43 - 145
Dibromochloromethane	20.0	19.1		ug/L		95	63 - 131
Ethylbenzene	20.0	19.5		ug/L		98	74 - 120
Isopropylbenzene	20.0	19.8		ug/L		99	74 - 127
Methylene Chloride	20.0	21.2		ug/L		106	76 - 123
m-Xylene & p-Xylene	20.0	19.6		ug/L		98	78 - 119
o-Xylene	20.0	20.1		ug/L		101	79 - 120
Styrene	20.0	19.9		ug/L		99	76 - 120
Tetrachloroethene	20.0	20.5		ug/L		102	70 - 136
Toluene	20.0	19.5		ug/L		97	78 - 120
Trichloroethene	20.0	20.3		ug/L		102	74 - 120
Trichlorofluoromethane	20.0	16.4		ug/L		82	65 - 142
Vinyl chloride	20.0	16.2		ug/L		81	56 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*
4-Bromofluorobenzene	*111*		*64 - 135*
Dibromofluoromethane (Surr)	*108*		*72 - 137*
Toluene-d8 (Surr)	*101*		*70 - 130*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 460-96764-A-1 MS
Matrix: Water
Analysis Batch: 306603

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	0.76	J	20.0	19.3		ug/L		93	73 - 134
1,1,2,2-Tetrachloroethane	0.19	U	20.0	17.9		ug/L		90	55 - 133
1,1,2-Trichloroethane	0.080	U	20.0	18.5		ug/L		92	68 - 121
1,1-Dichloroethane	0.24	U	20.0	20.2		ug/L		101	75 - 126
1,1-Dichloroethene	0.34	U	20.0	20.0		ug/L		100	71 - 123
1,2-Dichlorobenzene	0.22	U	20.0	19.4		ug/L		97	81 - 120
1,2-Dichloroethane	0.25	U	20.0	19.2		ug/L		96	75 - 127
1,2-Dichloroethene, cis-	0.72	J	20.0	21.1		ug/L		102	78 - 121
1,2-Dichloroethene, trans-	0.18	U	20.0	19.1		ug/L		95	79 - 120
1,2-Dichloropropane	0.18	U	20.0	20.0		ug/L		100	70 - 120
1,3-Dichlorobenzene	0.33	U	20.0	18.5		ug/L		92	75 - 120
1,3-Dichloropropene, cis-	0.16	U	20.0	18.6		ug/L		93	71 - 120
1,3-Dichloropropene, trans-	0.19	U	20.0	18.2		ug/L		91	71 - 123
1,4-Dichlorobenzene	0.33	U	20.0	18.3		ug/L		92	75 - 120
2-Butanone (MEK)	2.2	U	100	97.3		ug/L		97	52 - 140
2-Hexanone	0.72	U	100	92.8		ug/L		93	49 - 131
4-Methyl-2-pentanone (MIBK)	0.63	U	100	98.7		ug/L		99	56 - 132
Acetone	1.1	U	100	88.7		ug/L		89	26 - 150
Benzene	0.090	U	20.0	18.8		ug/L		94	69 - 125
Bromochloromethane	0.30	U	20.0	20.8		ug/L		104	70 - 134
Bromodichloromethane	0.15	U	20.0	18.9		ug/L		94	72 - 123
Bromoform	0.18	U	20.0	17.6		ug/L		88	50 - 134
Bromomethane	0.18	U	20.0	18.2		ug/L		91	27 - 150
Carbon disulfide	0.22	U	20.0	19.4		ug/L		97	61 - 126
Carbon tetrachloride	0.33	U	20.0	18.8		ug/L		94	58 - 150
Chlorobenzene	0.24	U	20.0	19.8		ug/L		99	77 - 120
Chloroethane	0.37	U	20.0	19.1		ug/L		95	58 - 145
Chloroform	0.22	U	20.0	19.7		ug/L		98	81 - 122
Chloromethane	0.22	U	20.0	14.6		ug/L		73	43 - 145
Dibromochloromethane	0.22	U	20.0	18.4		ug/L		92	63 - 131
Ethylbenzene	0.30	U	20.0	19.5		ug/L		97	74 - 120
Isopropylbenzene	0.32	U	20.0	19.6		ug/L		98	74 - 127
Methylene Chloride	0.21	U	20.0	19.7		ug/L		98	76 - 123
m-Xylene & p-Xylene	0.28	U	20.0	19.5		ug/L		98	78 - 119
o-Xylene	0.32	U	20.0	19.2		ug/L		96	79 - 120
Styrene	0.17	U	20.0	19.2		ug/L		96	76 - 120
Tetrachloroethene	42		20.0	57.9		ug/L		77	70 - 136
Toluene	0.25	U	20.0	18.8		ug/L		94	78 - 120
Trichloroethene	52	F1	20.0	66.6	F1	ug/L		71	74 - 120
Trichlorofluoromethane	0.15	U	20.0	17.3		ug/L		87	65 - 142
Vinyl chloride	0.060	U	20.0	16.4		ug/L		82	56 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene	*107*		*64 - 135*
Dibromofluoromethane (Surr)	*102*		*72 - 137*
Toluene-d8 (Surr)	*96*		*70 - 130*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 460-96764-A-1 MSD
Matrix: Water
Analysis Batch: 306603

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.76	J	20.0	20.8		ug/L		100	73 - 134	7	30
1,1,2,2-Tetrachloroethane	0.19	U	20.0	19.7		ug/L		99	55 - 133	9	30
1,1,2-Trichloroethane	0.080	U	20.0	20.2		ug/L		101	68 - 121	9	30
1,1-Dichloroethane	0.24	U	20.0	21.4		ug/L		107	75 - 126	6	30
1,1-Dichloroethene	0.34	U	20.0	21.3		ug/L		106	71 - 123	6	30
1,2-Dichlorobenzene	0.22	U	20.0	20.9		ug/L		104	81 - 120	7	30
1,2-Dichloroethane	0.25	U	20.0	20.5		ug/L		102	75 - 127	6	30
1,2-Dichloroethene, cis-	0.72	J	20.0	22.6		ug/L		110	78 - 121	7	30
1,2-Dichloroethene, trans-	0.18	U	20.0	20.5		ug/L		102	79 - 120	7	30
1,2-Dichloropropane	0.18	U	20.0	21.6		ug/L		108	70 - 120	8	30
1,3-Dichlorobenzene	0.33	U	20.0	20.1		ug/L		100	75 - 120	8	30
1,3-Dichloropropene, cis-	0.16	U	20.0	19.9		ug/L		100	71 - 120	7	30
1,3-Dichloropropene, trans-	0.19	U	20.0	19.8		ug/L		99	71 - 123	9	30
1,4-Dichlorobenzene	0.33	U	20.0	20.1		ug/L		100	75 - 120	9	30
2-Butanone (MEK)	2.2	U	100	105		ug/L		105	52 - 140	8	30
2-Hexanone	0.72	U	100	103		ug/L		103	49 - 131	10	30
4-Methyl-2-pentanone (MIBK)	0.63	U	100	107		ug/L		107	56 - 132	9	30
Acetone	1.1	U	100	92.9		ug/L		93	26 - 150	5	30
Benzene	0.090	U	20.0	20.3		ug/L		101	69 - 125	7	30
Bromochloromethane	0.30	U	20.0	22.0		ug/L		110	70 - 134	6	30
Bromodichloromethane	0.15	U	20.0	20.5		ug/L		102	72 - 123	8	30
Bromoform	0.18	U	20.0	19.1		ug/L		95	50 - 134	8	30
Bromomethane	0.18	U	20.0	21.4		ug/L		107	27 - 150	16	30
Carbon disulfide	0.22	U	20.0	20.1		ug/L		101	61 - 126	4	30
Carbon tetrachloride	0.33	U	20.0	20.3		ug/L		102	58 - 150	8	30
Chlorobenzene	0.24	U	20.0	21.3		ug/L		107	77 - 120	7	30
Chloroethane	0.37	U	20.0	18.9		ug/L		95	58 - 145	1	30
Chloroform	0.22	U	20.0	21.1		ug/L		105	81 - 122	7	30
Chloromethane	0.22	U	20.0	15.6		ug/L		78	43 - 145	6	30
Dibromochloromethane	0.22	U	20.0	19.7		ug/L		98	63 - 131	7	30
Ethylbenzene	0.30	U	20.0	21.1		ug/L		106	74 - 120	8	30
Isopropylbenzene	0.32	U	20.0	21.0		ug/L		105	74 - 127	7	30
Methylene Chloride	0.21	U	20.0	20.9		ug/L		105	76 - 123	6	30
m-Xylene & p-Xylene	0.28	U	20.0	20.6		ug/L		103	78 - 119	5	30
o-Xylene	0.32	U	20.0	20.7		ug/L		103	79 - 120	8	30
Styrene	0.17	U	20.0	20.5		ug/L		103	76 - 120	7	30
Tetrachloroethene	42		20.0	59.9		ug/L		87	70 - 136	3	30
Toluene	0.25	U	20.0	20.2		ug/L		101	78 - 120	8	30
Trichloroethene	52	F1	20.0	68.5		ug/L		81	74 - 120	3	30
Trichlorofluoromethane	0.15	U	20.0	17.6		ug/L		88	65 - 142	2	30
Vinyl chloride	0.060	U	20.0	16.7		ug/L		83	56 - 137	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene	*107*		*64 - 135*
Dibromofluoromethane (Surr)	*103*		*72 - 137*
Toluene-d8 (Surr)	*96*		*70 - 130*

QC Association Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

GC/MS VOA

Analysis Batch: 306505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-96403-1 - DL	Pre-Carb	Total/NA	Water	8260C	
460-96403-1	Pre-Carb	Total/NA	Water	8260C	
460-96403-2	Primary-EFF	Total/NA	Water	8260C	
460-96403-7	Post-Carb composite	Total/NA	Water	8260C	
460-96403-7 MS	Post-Carb composite	Total/NA	Water	8260C	
460-96403-7 MSD	Post-Carb composite	Total/NA	Water	8260C	
LCS 460-306505/3	Lab Control Sample	Total/NA	Water	8260C	
MB 460-306505/7	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 306603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-96403-2 - DL	Primary-EFF	Total/NA	Water	8260C	
460-96403-7 - DL	Post-Carb composite	Total/NA	Water	8260C	
460-96764-A-1 MS	Matrix Spike	Total/NA	Water	8260C	
460-96764-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
LCS 460-306603/4	Lab Control Sample	Total/NA	Water	8260C	
MB 460-306603/7	Method Blank	Total/NA	Water	8260C	

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Client Sample ID: Pre-Carb
Lab Sample ID: 460-96403-1
Date Collected: 06/11/15 12:15
Matrix: Water
Date Received: 06/12/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C	DL	50	306505	06/23/15 21:09	AAT	TAL EDI
Total/NA	Analysis	8260C		5	306505	06/23/15 21:59	AAT	TAL EDI

Client Sample ID: Primary-EFF
Lab Sample ID: 460-96403-2
Date Collected: 06/11/15 12:20
Matrix: Water
Date Received: 06/12/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	306505	06/23/15 22:24	AAT	TAL EDI
Total/NA	Analysis	8260C	DL	50	306603	06/24/15 11:05	SZD	TAL EDI

Client Sample ID: Post-Carb composite
Lab Sample ID: 460-96403-7
Date Collected: 06/11/15 13:55
Matrix: Water
Date Received: 06/12/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	306505	06/23/15 20:44	AAT	TAL EDI
Total/NA	Analysis	8260C	DL	10	306603	06/24/15 10:40	SZD	TAL EDI

Laboratory References:

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Certification Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Laboratory: TestAmerica Edison

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11452	03-31-16

Method Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Sample Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Essex/Hope Jamestown 656686

TestAmerica Job ID: 460-96403-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-96403-1	Pre-Carb	Water	06/11/15 12:15	06/12/15 10:00
460-96403-2	Primary-EFF	Water	06/11/15 12:20	06/12/15 10:00
460-96403-7	Post-Carb composite	Water	06/11/15 13:55	06/12/15 10:00

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANA

460-96403 Chain of Custody

urham Road
N Jersey 08817
2) 549-3900 Fax: (732) 549-3679

Page 1 of 1

Name (for report and invoice) Kyle Block	Samplers Name (Printed) Travis Pendry	Site/Project Identification Essex/Hope Jamestown 656686
Company CH2M	P. O. #	State (Location of site): NJ: ☐ NY: ☑ Other:
		Regulatory Program:
Address 18 Tremont Street, Suite 700	Analysis Turnaround Time: Standard ☑	LAB USE ONLY Project No:
City Boston State MA 02108	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	Job No: 96403
Phone 617-626-7013 Fax 810-229-5071		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	VOCs 8260	Sample Numbers
Pre-carb	6-11-15	1215	W	3	X	1
Primary-EFF	↓	1220	↓	↓	↓	2
Post-carb		1225				3
Post-carb		1255				4
Post-carb		1325				5
Post-carb		1355				6
						7 comp.

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH Soil:

6 = Other _____, 7 = Other _____ Water: 1, 2

Special Instructions: Composite four (4) post-carb samples in lab and report as post-carb composite.

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
Travis Pendry	CH2M	6-11-15 1445	1)	
2) Fed Ex		6/12/15 1000	2) Sean Lyons	Edison
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

TAL - 0016 (0814)

Massachusetts (M-NJ312), North Carolina (No. 578)

3.8/5.8 °C IR#5 COC# 769468

6/24/2015

TestAmerica Edison
Receipt Temperature and pH Log

Job Number: 96403

Number of Coolers: 1 IR Gun # 5

Cooler Temperatures

	RAW	CORRECTED		RAW	CORRECTED		RAW	CORRECTED
Cooler #1:	3.8 °C	5.8 °C	Cooler #4:	°C	°C	Cooler #7:	°C	°C
Cooler #2:	°C	°C	Cooler #5:	°C	°C	Cooler #8:	°C	°C
Cooler #3:	°C	°C	Cooler #6:	°C	°C	Cooler #9:	°C	°C

TALS Sample Number	Ammonia (pH<2)	COD (pH<2)	Nitrate Nitrite (pH<2)	Metals* (pH<2)	Hardness (pH<2)	Pest (pH 5-9)	EPH or QAM (pH<2)	Phenols (pH<2)	Sulfide (pH>9)	TKN (pH<2)	TOC (pH<2)	Total Cyanide (pH>12)	Total Phos (pH<2)	Other	Other

If pH adjustments are required record the information below:

Sample No(s). adjusted: _____

Preservative Name/Conc.: _____ Volume of Preservative used (ml): _____

Lot # of Preservative(s): _____ Expiration Date: _____

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted.

**Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.*

Initials: [illegible] Date: 6/12/15

EDS-WI-038, Rev 4, 06/09/2014

Login Sample Receipt Checklist

Client: CH2M Hill Constructors, Inc.

Job Number: 460-96403-1

Login Number: 96403
List Number: 1
Creator: Hall, Alonzo

List Source: TestAmerica Edison

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.8° C IR #5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	lab to composite
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.