412 Mt. Kemble Avenue
Downtown Building - 1st Floor
Morristown, NJ 07960
United States
T +1.973.267.0555
F +1.973.267.3555
www.jacobs.com

July 28, 2022

Michael V. Saar, PE
Water Resources Manager
Division of Wastewater/Solid Waste
City of Jamestown Board of Public Utilities
PO Box 700
Jamestown, NY 14702-0700

Subject: Semiannual Self-Monitoring Report for January through June 2022
Essex-Hope Jamestown Site, 125 Blackstone Avenue, Jamestown, New York 14701
City of Jamestown Board of Public Utilities Industrial Wastewater Discharge Permit No. 26

Dear Mr. Saar,

Jacobs prepared this Semiannual Self-Monitoring Report on behalf of the Essex Specialty Products LLC facility in Jamestown, New York (Essex-Hope site), which is classified as a Significant Industrial User subject to Categorical Pretreatment Standards. This report was prepared in accordance with *Code of Federal Regulations,* Title 40 Part 403.12(e) (40 CFR403.12(e)), and the requirements set forth in the City of Jamestown Board of Public Utilities Industrial Wastewater Discharge Permit No. 26 (renewed on November 4, 2017, and included as Attachment 1). This report summarizes groundwater treatment operations and metrics completed between January 1 and June 30, 2022. Table 1 details self-monitoring reporting requirements applicable to the Essex-Hope site, which include:

- Monthly concentrations of total toxic organics in discharge to the publicly owned treatment works (POTW)
- Monthly pH measurements of discharge to the POTW
- Monthly flow rate measurements of discharge to the POTW
- Estimated daily average and maximum flow rates

Between January and June 2022, monthly discharge flow totals ranged from 0 to 154,173 gallons. Daily average flow rates listed in Table 1 were estimated based on totalizer readings for volume of water discharged near the beginning and end of each month. Daily maximum flow rates were estimated to be 20% greater than daily averages.

Acetone is not considered a total toxic organic compound; however, historically it has been considered a constituent of concern at the site. Acetone influent concentrations have been declining since March 2018 and have remained low (less than 10 micrograms per liter) to nondetect in the effluent since May 2018. As a result, acetone concentrations in the influent and effluent will continue to be monitored for informational purposes only.

No noncompliance events occurred between January 1 and June 30, 2022. The treatment system experienced downtime during the following events:

- January 5 and February 9 through 10 due to piping modification repair work

- April 27 through June 1 due to a faulty effluent pump and carbon changeout. No discharge samples were collected and no pH monitoring was performed in May because the system was offline.

Attachment 2 contains the supporting laboratory certificates of analysis for the reported concentrations of volatile organic compounds performed by Alpha Analytical, Inc. of Westborough, Massachusetts.

We trust that this submittal satisfies the reporting requirements pursuant to 40 CFR § 403.12(e). If you have any questions or comments regarding the Essex-Hope site, please contact me at 862.242.7051.

Sincerely,
Jacobs

Lisa La Fortune
Project Manager

cc: Audrey Sidebottom (Essex-Hope Representative)
Tyson Campbell (DuPont)
Joshua Vaccaro (New York State Department of Environmental Conservation)
Duncan Oleshak (United Industries)
Jacobs Project File

Attachments

- Table 1. January through June 2022 Post-Carbon (Effluent) Monitoring Data
- Attachment 1. City of Jamestown Board of Public Utilities Industrial Wastewater Discharge Permit No. 26
- Attachment 2. Laboratory Analytical Reports – January, February, March, April, and June 2022

Table

Table 1. January through June 2022 Post-Carbon (Effluent) Monitoring Data

Semiannual Self-Monitoring Report for January through June 2022, Essex-Hope Site, Jamestown, New York

Reporting Requirements for Pretreated Discharge (System Effluent to POTW)[a]	Units	Industrial Wastewater Discharge Permit No. 26 Effluent Limits	2022					
			January	February	March	April	May	June
POTW Discharge Analytical Data								
Total Toxic Organics	µg/L	2,130	0.16	0.57	0.51	0.38	No Discharge	ND
Detected Total Toxic Organic Compounds[b]	--	Report	Vinyl Chloride	Vinyl Chloride	Vinyl Chloride	Vinyl Chloride		ND
pH[c]	Standard units	5.5 to 10	6.60	6.56	6.86	7.08		7.86
			6.68	6.84	7.01	6.98		7.81
			6.71	6.87	6.98	6.97		7.90
			6.70	6.92	7.02	7.01		7.89
Acetone Discharged	Pounds	No limit	0	0	0	0		0
POTW Discharge Flow Data								
Monthly Total Flow	US gallons	Report	131,107	129,166	154,173	90,485	0	107,405
Average Daily Flow	US gallons	Report	4,229	4,613	4,973	3,016	0	3,580
Maximum Daily Flow[d]	US gallons	Report	5,075	5,536	5,968	3,619	0	4,296

[a] City of Jamestown Board of Public Utilities Industrial Wastewater Discharge Permit No. 26 was renewed in November 2017, effective November 4, 2017, through November 3, 2022.

[b] Volatile organic compound sample is a laboratory-prepared composite of four grab samples collected from the pretreatment system discharge to the POTW at 30-minute intervals.

[c] pH measurements recorded are concurrent with the time of each post-carbon (effluent) grab sample.

[d] Maximum daily flow is estimated to be 20% greater than average daily flow.

Notes:
System granular activated carbon was changed out on May 25, 2022.
The system experienced downtime in January (January 5, 2022), February (February 9, 2022 through February 10, 2022), and April 27 through June 1.

µg/L = microgram(s) per liter
ND = nondetect
No. = number(s)
POTW = publicly owned treatment works
US = United States

Attachment 1
City of Jamestown Board of Public Utilities
Industrial Wastewater Discharge Permit No. 26

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 2, 2017

Mr. Kyle Block
CH2M
18 Tremont St
Boston, MA 02108

Dear Mr. Block:

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

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	11/4/17
EXPIRATION DATE	11/3/22

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 , 2017
To expire the 3th day of November , 2022

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.

Attachment 2
Laboratory Analytical Reports – January, February, March, April, and June 2022

ANALYTICAL REPORT

Lab Number:	L2200904
Client:	Jacobs Engineering Group 412 Mt. Kemble Ave. Morristown, NJ 07960
ATTN:	Lisa La Fortune
Phone:	(862) 242-7051
Project Name:	ESSEX/HOPE
Project Number:	JMS008DW
Report Date:	01/20/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2200904
Report Date: 01/20/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2200904-01	PRE-CARB-20220104	WATER	JAMESTOWN, NY	01/05/22 08:05	01/06/22
L2200904-02	PRIMARY-EFFLUENT-20220105	WATER	JAMESTOWN, NY	01/05/22 08:10	01/06/22
L2200904-03	POST-CARB-20220105	WATER	JAMESTOWN, NY	01/05/22 08:00	01/06/22
L2200904-04	COMPOSITE OF POST-CARB-20220105	WATER	JAMESTOWN, NY	01/05/22 08:00	01/06/22
L2200904-05	TRIP BLANK	WATER	JAMESTOWN, NY	01/05/22 09:40	01/06/22

Project Name:	ESSEX/HOPE	**Lab Number:**	L2200904
Project Number:	JMS008DW	**Report Date:**	01/20/22

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	ESSEX/HOPE	**Lab Number:**	L2200904
Project Number:	JMS008DW	**Report Date:**	01/20/22

Case Narrative (continued)

Report Submission

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

Volatile Organics

L2200904-01D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2200904-01D, -02, -03, and -05: The initial calibration did not meet the method required minimum response factor on the calibration standard for acetone, 1,4-dioxane, and 4-methyl-2-pentanone. Additionally, the first level of the calibration did not meet the method required minimum response factor of 0.100/0.200 on the calibration standard for acetone, 2-butanone, 1,4-dioxane, and 4-methyl-2-pentanone.

L2200904-01D, -02, -03, and -05: The continuing calibration did not meet the method required minimum response factor for bromomethane, acetone, 2-butanone, 1,4-dioxane, and 4-methyl-2-pentanone.

WG1594028-2: The continuing calibration verification standard has the percent deviation for dichlorodifluoromethane (39%D), bromomethane (32%D), vinyl acetate (21%D), 2-butanone (22%D), and 1,2-dibromo-3-chloropropane (21%D) above the 20% CCV criteria, but within overall method allowances.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 01/20/22

ORGANICS

VOLATILES

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2200904
Report Date: 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-01 D
Client ID: PRE-CARB-20220104
Sample Location: JAMESTOWN, NY

Date Collected: 01/05/22 08:05
Date Received: 01/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/13/22 10:56
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	100	28.	40
1,1-Dichloroethane	ND		ug/l	100	28.	40
Chloroform	ND		ug/l	100	28.	40
Carbon tetrachloride	ND		ug/l	20	5.4	40
1,2-Dichloropropane	ND		ug/l	40	5.5	40
Dibromochloromethane	ND		ug/l	20	6.0	40
1,1,2-Trichloroethane	ND		ug/l	60	20.	40
Tetrachloroethene	ND		ug/l	20	7.2	40
Chlorobenzene	ND		ug/l	100	28.	40
Trichlorofluoromethane	ND		ug/l	100	28.	40
1,2-Dichloroethane	ND		ug/l	20	5.3	40
1,1,1-Trichloroethane	ND		ug/l	100	28.	40
Bromodichloromethane	ND		ug/l	20	7.7	40
trans-1,3-Dichloropropene	ND		ug/l	20	6.6	40
cis-1,3-Dichloropropene	ND		ug/l	20	5.8	40
1,3-Dichloropropene, Total	ND		ug/l	20	5.8	40
1,1-Dichloropropene	ND		ug/l	100	28.	40
Bromoform	ND		ug/l	80	26.	40
1,1,2,2-Tetrachloroethane	ND		ug/l	20	6.7	40
Benzene	8.9	J	ug/l	20	6.4	40
Toluene	ND		ug/l	100	28.	40
Ethylbenzene	ND		ug/l	100	28.	40
Chloromethane	ND		ug/l	100	28.	40
Bromomethane	ND		ug/l	100	28.	40
Vinyl chloride	520		ug/l	40	2.8	40
Chloroethane	ND		ug/l	100	28.	40
1,1-Dichloroethene	16	J	ug/l	20	6.8	40
trans-1,2-Dichloroethene	ND		ug/l	100	28.	40

Project Name: ESSEX/HOPE **Lab Number:** L2200904

Project Number: JMS008DW **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-01 D
Client ID: PRE-CARB-20220104
Sample Location: JAMESTOWN, NY

Date Collected: 01/05/22 08:05
Date Received: 01/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	5700		ug/l	20	7.0	40
1,2-Dichlorobenzene	ND		ug/l	100	28.	40
1,3-Dichlorobenzene	ND		ug/l	100	28.	40
1,4-Dichlorobenzene	ND		ug/l	100	28.	40
Methyl tert butyl ether	ND		ug/l	100	28.	40
p/m-Xylene	ND		ug/l	100	28.	40
o-Xylene	ND		ug/l	100	28.	40
Xylenes, Total	ND		ug/l	100	28.	40
cis-1,2-Dichloroethene	3500		ug/l	100	28.	40
1,2-Dichloroethene, Total	3500		ug/l	100	28.	40
Dibromomethane	ND		ug/l	200	40.	40
1,2,3-Trichloropropane	ND		ug/l	100	28.	40
Styrene	ND		ug/l	100	28.	40
Dichlorodifluoromethane	ND		ug/l	200	40.	40
Acetone	ND		ug/l	200	58.	40
Carbon disulfide	ND		ug/l	200	40.	40
2-Butanone	ND		ug/l	200	78.	40
Vinyl acetate	ND		ug/l	200	40.	40
4-Methyl-2-pentanone	ND		ug/l	200	40.	40
2-Hexanone	ND		ug/l	200	40.	40
Bromochloromethane	ND		ug/l	100	28.	40
2,2-Dichloropropane	ND		ug/l	100	28.	40
1,2-Dibromoethane	ND		ug/l	80	26.	40
1,3-Dichloropropane	ND		ug/l	100	28.	40
1,1,1,2-Tetrachloroethane	ND		ug/l	100	28.	40
Bromobenzene	ND		ug/l	100	28.	40
n-Butylbenzene	ND		ug/l	100	28.	40
sec-Butylbenzene	ND		ug/l	100	28.	40
tert-Butylbenzene	ND		ug/l	100	28.	40
o-Chlorotoluene	ND		ug/l	100	28.	40
p-Chlorotoluene	ND		ug/l	100	28.	40
1,2-Dibromo-3-chloropropane	ND		ug/l	100	28.	40
Hexachlorobutadiene	ND		ug/l	100	28.	40
Isopropylbenzene	ND		ug/l	100	28.	40
p-Isopropyltoluene	ND		ug/l	100	28.	40
Naphthalene	ND		ug/l	100	28.	40
n-Propylbenzene	ND		ug/l	100	28.	40

Project Name: ESSEX/HOPE **Lab Number:** L2200904

Project Number: JMS008DW **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-01 D
Client ID: PRE-CARB-20220104
Sample Location: JAMESTOWN, NY

Date Collected: 01/05/22 08:05
Date Received: 01/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	100	28.	40
1,2,4-Trichlorobenzene	ND		ug/l	100	28.	40
1,3,5-Trimethylbenzene	ND		ug/l	100	28.	40
1,2,4-Trimethylbenzene	ND		ug/l	100	28.	40
1,4-Dioxane	ND		ug/l	10000	2400	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	112		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2200904
Report Date: 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-02
Client ID: PRIMARY-EFFLUENT-20220105
Sample Location: JAMESTOWN, NY

Date Collected: 01/05/22 08:10
Date Received: 01/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/13/22 10:33
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.19	J	ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	27		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2200904

Project Number: JMS008DW **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-02 Date Collected: 01/05/22 08:10

Client ID: PRIMARY-EFFLUENT-20220105 Date Received: 01/06/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.28	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.1	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	1.1	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	1.9	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	0.72	J	ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2200904

Project Number: JMS008DW **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-02 Date Collected: 01/05/22 08:10

Client ID: PRIMARY-EFFLUENT-20220105 Date Received: 01/06/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	115		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2200904
Report Date: 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-03
Client ID: POST-CARB-20220105
Sample Location: JAMESTOWN, NY
Date Collected: 01/05/22 08:00
Date Received: 01/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/13/22 10:10
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.16	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2200904

Project Number: JMS008DW **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-03 Date Collected: 01/05/22 08:00

Client ID: POST-CARB-20220105 Date Received: 01/06/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2200904
Report Date: 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-03
Client ID: POST-CARB-20220105
Sample Location: JAMESTOWN, NY
Date Collected: 01/05/22 08:00
Date Received: 01/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	116		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2200904
Report Date: 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-05
Client ID: TRIP BLANK
Sample Location: JAMESTOWN, NY
Date Collected: 01/05/22 09:40
Date Received: 01/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/13/22 09:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2200904

Project Number: JMS008DW **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-05 Date Collected: 01/05/22 09:40

Client ID: TRIP BLANK Date Received: 01/06/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2200904
Report Date: 01/20/22

SAMPLE RESULTS

Lab ID: L2200904-05
Client ID: TRIP BLANK
Sample Location: JAMESTOWN, NY
Date Collected: 01/05/22 09:40
Date Received: 01/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	115		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2200904
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/13/22 09:24
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1594028-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2200904
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/13/22 09:24
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1594028-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
o-Chlorotoluene	ND		ug/l	2.5	0.70

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2200904
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/13/22 09:24
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1594028-5					
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	115		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2200904
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1594028-3 WG1594028-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	120		120		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	88		89		63-132	1		20
1,2-Dichloropropane	120		120		70-130	0		20
Dibromochloromethane	97		96		63-130	1		20
1,1,2-Trichloroethane	100		98		70-130	2		20
Tetrachloroethene	96		96		70-130	0		20
Chlorobenzene	110		110		75-130	0		20
Trichlorofluoromethane	100		100		62-150	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	96		96		67-130	0		20
Bromodichloromethane	98		97		67-130	1		20
trans-1,3-Dichloropropene	87		87		70-130	0		20
cis-1,3-Dichloropropene	91		91		70-130	0		20
1,1-Dichloropropene	98		97		70-130	1		20
Bromoform	87		86		54-136	1		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	100		100		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	110		110		64-130	0		20
Bromomethane	84		76		39-139	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ESSEX/HOPE

Project Number: JMS008DW

Lab Number: L2200904

Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1594028-3 WG1594028-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	120		120		55-138	0		20
1,1-Dichloroethene	100		100		61-145	0		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	99		100		70-130	1		20
1,2-Dichlorobenzene	99		100		70-130	1		20
1,3-Dichlorobenzene	99		99		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	98		95		63-130	3		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	105		100		70-130	5		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	97		98		70-130	1		20
1,2,3-Trichloropropane	99		99		64-130	0		20
Styrene	105		105		70-130	0		20
Dichlorodifluoromethane	58		58		36-147	0		20
Acetone	110		110		58-148	0		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	120		110		63-138	9		20
Vinyl acetate	110		110		70-130	0		20
4-Methyl-2-pentanone	100		98		59-130	2		20
2-Hexanone	120		110		57-130	9		20
Bromochloromethane	100		100		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2200904
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1594028-3 WG1594028-4								
2,2-Dichloropropane	89		90		63-133	1		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	91		91		64-130	0		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	97		98		53-136	1		20
sec-Butylbenzene	97		97		70-130	0		20
tert-Butylbenzene	94		95		70-130	1		20
o-Chlorotoluene	100		100		70-130	0		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	83		83		41-144	0		20
Hexachlorobutadiene	91		90		63-130	1		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	93		94		70-130	1		20
Naphthalene	92		90		70-130	2		20
n-Propylbenzene	100		100		69-130	0		20
1,2,3-Trichlorobenzene	96		94		70-130	2		20
1,2,4-Trichlorobenzene	91		92		70-130	1		20
1,3,5-Trimethylbenzene	95		96		64-130	1		20
1,2,4-Trimethylbenzene	96		98		70-130	2		20
1,4-Dioxane	96		92		56-162	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ESSEX/HOPE

Project Number: JMS008DW

Lab Number: L2200904

Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1594028-3 WG1594028-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	113		111		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	96		98		70-130
Dibromofluoromethane	105		105		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2200904
Report Date: 01/20/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2200904-01A	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-01B	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-01C	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-01X	Vial HCl preserved	A	NA		2.4	Y	Absent		-
L2200904-01Y	Vial HCl preserved	A	NA		2.4	Y	Absent		-
L2200904-01Z	Vial HCl preserved	A	NA		2.4	Y	Absent		-
L2200904-02A	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-02B	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-02C	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-03X	Vial HCl preserved split	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-03Y	Vial HCl preserved split	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-03Z	Vial HCl preserved split	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-04A	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04A1	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04A2	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04A3	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04B	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04B1	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04B2	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04B3	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04C	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04C1	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-04C2	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()

*Values in parentheses indicate holding time in days

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2200904
Report Date: 01/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2200904-04C3	Vial HCl preserved	A	NA		2.4	Y	Absent		COMP-VOA()
L2200904-05A	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260(14)
L2200904-05B	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	ESSEX/HOPE	**Lab Number:**	L2200904
Project Number:	JMS008DW	**Report Date:**	01/20/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2200904
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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2200904
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Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2200904
Project Number:	JMS008DW	**Report Date:**	01/20/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 01/07/22

ALPHA Job #: L2200904

Client Information
Client: Jacobs Engineering Group
Address: 412 Mt. Kemble Avenue
Morristown, NJ 07960
Phone: (646) 898-9219
Fax: Lisa.LaFortune@Jacobs.com
Email: Alison.Skwarski@Jacobs.com

Project Information
Project Name: Essex / Hope
Project Location: Jamestown, NY
Project # JMS008DW
(Use Project name as Project #) ☐
Project Manager: Lisa La Fortune
ALPHAQuote #: 7403

Turn-Around Time
Standard [X] Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO # 4510680353

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ [X] NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Composite all 4 Post-carb samples and report as "Post-Carb-"

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs by 8260	Sample Specific Comments	Total Bottle
00904-01	Pre-Carb- 20220104	1-5-22	0905	GW	BH	X		3
-02	Primary-Effluent- 20220105	1-5-22	0810	GW	BH	X		3
-03	Post-Carb- 20220105 -1	1-5-22	0500	GW	BH	X		3
-04	Post-Carb- 20220105 -2	1-5-22	0830	GW	BH	X		3
-04	Post-Carb- 20220105 -3	1-5-22	0900	GW	BH	X		3
-04	Post-Carb- 20220105 -4	1-5-22	0930	GW	BH	X		3
-05	Trip Blank	1-5-22	0940	DI	BH	X		2

Container Type: V
Preservative: B

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
BH	01-06-2022 1135	[signature]	01-06-22 1135
[signature] BH	1.6.22 1620	[signature]	1/7/22 0102

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2206978
Client:	Jacobs Engineering Group 412 Mt. Kemble Ave. Morristown, NJ 07960
ATTN:	Lisa La Fortune
Phone:	(862) 242-7051
Project Name:	ESSEX/HOPE
Project Number:	JMS008DW
Report Date:	02/17/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2206978-01	PRE-CARB-20220109	WATER	JAMESTOWN, NY	02/09/22 16:30	02/10/22
L2206978-02	PRIMARY-EFFLUENT-20220109	WATER	JAMESTOWN, NY	02/09/22 16:40	02/10/22
L2206978-03	POST-CARB-20220109	WATER	JAMESTOWN, NY	02/09/22 16:20	02/10/22
L2206978-04	COMPOSITE OF POST-CARB-20220109	WATER	JAMESTOWN, NY	02/09/22 16:20	02/10/22
L2206978-05	TRIP BLANK	WATER	JAMESTOWN, NY	02/09/22 16:10	02/10/22

Project Name:	ESSEX/HOPE	**Lab Number:**	L2206978
Project Number:	JMS008DW	**Report Date:**	02/17/22

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	ESSEX/HOPE	**Lab Number:**	L2206978
Project Number:	JMS008DW	**Report Date:**	02/17/22

Case Narrative (continued)

Report Submission

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

Volatile Organics

L2206978-01D2: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2206978-01D2, -01D, -02, -03, and -05: The initial calibration did not meet the method required minimum response factor on the calibration standard for Acetone, 2-Butanone, 1,4-Dioxane, and 4-Methyl-2-pentanone.

Additionally, the first level of the calibration did not meet the method required minimum response factor of 0.100/0.200 on the calibration standard for Acetone, Bromochloromethane, 2-Butanone, Dibromomethane, 1,4-Dioxane, 2-Hexanone and 4-Methyl-2-pentanone.

The initial calibration verification standard has the percent deviation for Dichlorodifluoromethane, Chloromethane and Vinyl chloride above the 30% ICV criteria, but within overall method allowances.

L2206978-01D2, -01D, -02, -03, and -05: The continuing calibration did not meet the method required minimum response factor for Acetone, 2-Butanone, 1,4-Dioxane, and 4-Methyl-2-pentanone.

The continuing calibration verification standard, WG1605335-2, has the percent deviation for Carbon tetrachloride (22%) outside the 20% CCV criteria, but within overall method allowances.

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 02/17/22

ORGANICS

VOLATILES

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2206978
Report Date: 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-01 D2
Client ID: PRE-CARB-20220109
Sample Location: JAMESTOWN, NY
Date Collected: 02/09/22 16:30
Date Received: 02/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 02/15/22 12:56
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	ND		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
1,3-Dichloropropene, Total	ND		ug/l	5.0	1.4	10
1,1-Dichloropropene	ND		ug/l	25	7.0	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	9.8		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	550		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	21		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	23	J	ug/l	25	7.0	10

Project Name: ESSEX/HOPE **Lab Number:** L2206978

Project Number: JMS008DW **Report Date:** 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-01 D2 Date Collected: 02/09/22 16:30

Client ID: PRE-CARB-20220109 Date Received: 02/10/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	ND		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
Xylenes, Total	ND		ug/l	25	7.0	10
Dibromomethane	ND		ug/l	50	10.	10
1,2,3-Trichloropropane	ND		ug/l	25	7.0	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
Vinyl acetate	ND		ug/l	50	10.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
2,2-Dichloropropane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
1,3-Dichloropropane	ND		ug/l	25	7.0	10
1,1,1,2-Tetrachloroethane	ND		ug/l	25	7.0	10
Bromobenzene	ND		ug/l	25	7.0	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
o-Chlorotoluene	ND		ug/l	25	7.0	10
p-Chlorotoluene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Hexachlorobutadiene	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10

Project Name: ESSEX/HOPE **Lab Number:** L2206978

Project Number: JMS008DW **Report Date:** 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-01 D2 Date Collected: 02/09/22 16:30

Client ID: PRE-CARB-20220109 Date Received: 02/10/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
1,4-Dioxane	ND		ug/l	2500	610	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	104		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-01 D
Client ID: PRE-CARB-20220109
Sample Location: JAMESTOWN, NY

Date Collected: 02/09/22 16:30
Date Received: 02/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 02/15/22 12:33
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	5000		ug/l	50	18.	100
cis-1,2-Dichloroethene	3500		ug/l	250	70.	100
1,2-Dichloroethene, Total	3500	J	ug/l	25	7.0	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	107		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2206978
Report Date: 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-02
Client ID: PRIMARY-EFFLUENT-20220109
Sample Location: JAMESTOWN, NY

Date Collected: 02/09/22 16:40
Date Received: 02/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 02/15/22 12:10
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.18	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2206978

Project Number: JMS008DW **Report Date:** 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-02 Date Collected: 02/09/22 16:40

Client ID: PRIMARY-EFFLUENT-20220109 Date Received: 02/10/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.55		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2206978

Project Number: JMS008DW **Report Date:** 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-02 Date Collected: 02/09/22 16:40

Client ID: PRIMARY-EFFLUENT-20220109 Date Received: 02/10/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	107		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2206978
Report Date: 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-03
Client ID: POST-CARB-20220109
Sample Location: JAMESTOWN, NY
Date Collected: 02/09/22 16:20
Date Received: 02/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 02/15/22 11:47
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.57	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2206978

Project Number: JMS008DW **Report Date:** 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-03 Date Collected: 02/09/22 16:20

Client ID: POST-CARB-20220109 Date Received: 02/10/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2206978

Project Number: JMS008DW **Report Date:** 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-03 Date Collected: 02/09/22 16:20

Client ID: POST-CARB-20220109 Date Received: 02/10/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	106		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2206978
Report Date: 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-05
Client ID: TRIP BLANK
Sample Location: JAMESTOWN, NY
Date Collected: 02/09/22 16:10
Date Received: 02/10/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 02/15/22 11:24
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2206978

Project Number: JMS008DW **Report Date:** 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-05 Date Collected: 02/09/22 16:10

Client ID: TRIP BLANK Date Received: 02/10/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2206978

Project Number: JMS008DW **Report Date:** 02/17/22

SAMPLE RESULTS

Lab ID: L2206978-05 Date Collected: 02/09/22 16:10

Client ID: TRIP BLANK Date Received: 02/10/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	107		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 02/15/22 09:52
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1605335-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 02/15/22 09:52
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1605335-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
o-Chlorotoluene	ND		ug/l	2.5	0.70

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2206978
Report Date: 02/17/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 02/15/22 09:52
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1605335-5					
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1605335-3 WG1605335-4								
Methylene chloride	110		100		70-130	10		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	110		110		70-130	0		20
Carbon tetrachloride	120		120		63-132	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	110		100		63-130	10		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	110		100		75-130	10		20
Trichlorofluoromethane	120		120		62-150	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	120		120		67-130	0		20
Bromodichloromethane	110		100		67-130	10		20
trans-1,3-Dichloropropene	100		100		70-130	0		20
cis-1,3-Dichloropropene	96		93		70-130	3		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	100		96		54-136	4		20
1,1,2,2-Tetrachloroethane	100		97		67-130	3		20
Benzene	100		100		70-130	0		20
Toluene	110		110		70-130	0		20
Ethylbenzene	110		110		70-130	0		20
Chloromethane	100		100		64-130	0		20
Bromomethane	120		120		39-139	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1605335-3 WG1605335-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	110		100		55-138	10		20
1,1-Dichloroethene	110		120		61-145	9		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	97		97		70-130	0		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	110		100		63-130	10		20
p/m-Xylene	110		110		70-130	0		20
o-Xylene	110		110		70-130	0		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Dibromomethane	100		100		70-130	0		20
1,2,3-Trichloropropane	100		97		64-130	3		20
Styrene	110		110		70-130	0		20
Dichlorodifluoromethane	100		100		36-147	0		20
Acetone	89		91		58-148	2		20
Carbon disulfide	110		110		51-130	0		20
2-Butanone	92		91		63-138	1		20
Vinyl acetate	100		100		70-130	0		20
4-Methyl-2-pentanone	96		93		59-130	3		20
2-Hexanone	98		95		57-130	3		20
Bromochloromethane	110		110		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1605335-3 WG1605335-4								
2,2-Dichloropropane	120		120		63-133	0		20
1,2-Dibromoethane	100		99		70-130	1		20
1,3-Dichloropropane	110		100		70-130	10		20
1,1,1,2-Tetrachloroethane	110		110		64-130	0		20
Bromobenzene	100		110		70-130	10		20
n-Butylbenzene	110		100		53-136	10		20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	110		110		70-130	0		20
o-Chlorotoluene	110		100		70-130	10		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	94		93		41-144	1		20
Hexachlorobutadiene	110		110		63-130	0		20
Isopropylbenzene	110		110		70-130	0		20
p-Isopropyltoluene	110		110		70-130	0		20
Naphthalene	110		100		70-130	10		20
n-Propylbenzene	110		110		69-130	0		20
1,2,3-Trichlorobenzene	110		100		70-130	10		20
1,2,4-Trichlorobenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20
1,4-Dioxane	114		104		56-162	9		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ESSEX/HOPE

Project Number: JMS008DW

Lab Number: L2206978

Report Date: 02/17/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1605335-3 WG1605335-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	99		101		70-130
4-Bromofluorobenzene	99		101		70-130
Dibromofluoromethane	101		102		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2206978-01A	Vial HCl preserved	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-01B	Vial HCl preserved	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-01C	Vial HCl preserved	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-02A	Vial HCl preserved	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-02B	Vial HCl preserved	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-02C	Vial HCl preserved	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-03X	Vial HCl preserved split	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-03Y	Vial HCl preserved split	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-03Z	Vial HCl preserved split	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-04A	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04A1	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04A2	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04A3	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04B	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04B1	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04B2	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04B3	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04C	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04C1	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04C2	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-04C3	Vial HCl preserved	A	NA		3.1	Y	Absent		COMP-VOA()
L2206978-05A	Vial HCl preserved	A	NA		3.1	Y	Absent		NYTCL-8260(14)
L2206978-05B	Vial HCl preserved	A	NA		3.1	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2206978
Report Date: 02/17/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	ESSEX/HOPE	**Lab Number:**	L2206978
Project Number:	JMS008DW	**Report Date:**	02/17/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2206978
Project Number:	JMS008DW	**Report Date:**	02/17/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2206978
Project Number:	JMS008DW	**Report Date:**	02/17/22

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2206978
Project Number:	JMS008DW	**Report Date:**	02/17/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 2/11/22

ALPHA Job #: L2206978

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Client Information
Client: Jacobs Engineering Group
Address: 412 Mt. Kemble Avenue
Morristown, NJ 07960
Phone: (646) 898-9219
Fax: Lisa.LaFortune@Jacobs.com
Email: Alison.Skwarski@Jacobs.com

Project Information
Project Name: Essex / Hope
Project Location: Jamestown, NY
Project # JMS008DW
(Use Project name as Project #) ☐
Project Manager: Lisa La Fortune
ALPHAQuote #: 7403

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO # 4510680353

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Composite all 4 Post-carb samples and report as "Post-Carb-"

Please specify Metals or TAL.

ANALYSIS
VOCs by 8260

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs by 8260	Sample Specific Comments	Total Bottle
06978 01	Pre-Carb- 20220209	02-09-22	1630	GW	BH	X		3
02	Primary-Effluent- 20220209	02-09-22	1640	GW	BH	X		3
-03,04 03	Post-Carb- 20220209 - 1	02-09-22	1620	GW	BH	X		3
-03,04 04	Post-Carb- 20220209-2	02-09-22	1650	GW	BH	X		3
-03,04 05	Post-Carb- 20220209 -3	02-09-22	1720	GW	BH	X		3
-03,04 06	Post-Carb- 20220209 -4	02-09-22	1750	GW	BH	X		3
05-07	Trip Blank	02-09-22	1610	DI	BH	X		2

BD 2/11/22

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	V							
Preservative	B							

Relinquished By:	Date/Time	Received By:	Date/Time
	02-10-2022 1015		2022/02/10 1015
	2/10/22 10:30		2/11/22 0020

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2210929
Client:	Jacobs Engineering Group 412 Mt. Kemble Ave. Morristown, NJ 07960
ATTN:	Lisa La Fortune
Phone:	(862) 242-7051
Project Name:	ESSEX/HOPE
Project Number:	JMS008DW
Report Date:	03/09/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2210929
Report Date: 03/09/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2210929-01	PRE-CARB-20220302	WATER	JAMESTOWN, NY	03/02/22 07:30	03/02/22
L2210929-02	PRIMARY-EFFLUENT-20220302	WATER	JAMESTOWN, NY	03/02/22 07:45	03/02/22
L2210929-03	POST-CARB-20220302	WATER	JAMESTOWN, NY	03/02/22 08:00	03/02/22
L2210929-04	COMPOSITE OF POST-CARB-20220302	WATER	JAMESTOWN, NY	03/02/22 08:00	03/02/22
L2210929-05	TRIP BLANK	WATER	JAMESTOWN, NY	03/02/22 07:25	03/02/22

Project Name:	ESSEX/HOPE	**Lab Number:**	L2210929
Project Number:	JMS008DW	**Report Date:**	03/09/22

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name: ESSEX/HOPE **Lab Number:** L2210929
Project Number: JMS008DW **Report Date:** 03/09/22

Case Narrative (continued)

Report Submission

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

Volatile Organics

L2210929-01D2: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2210929-01D: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

The WG1612925-3 LCS recovery, associated with L2210929-01D, -01D2, -02, -03, and -05, is above the individual acceptance criteria for acetone (150%), but within the overall method allowances. The results of the associated samples are reported.

L2210929-01D, -01D2, -02, -03, and -05: The initial calibration did not meet the method required minimum response factor on the calibration standard for Acetone, 2-Butanone, 1,4-Dioxane, and 4-Methyl-2-pentanone. Additionally, the first level of the calibration did not meet the method required minimum response factor of 0.100/0.200 on the calibration standard for Acetone, Bromochloromethane, 2-Butanone, Dibromomethane, 1,4-Dioxane, 2-Hexanone and 4-Methyl-2-pentanone.

The initial calibration verification standard has the percent deviation for Dichlorodifluoromethane, Chloromethane and Vinyl chloride above the 30% ICV criteria, but within overall method allowances.

L2210929-01D, -01D2, -02, -03, and -05: The continuing calibration did not meet the method required minimum response factor for Acetone, 1,4-Dioxane and 4-Methyl-2-pentanone.

The continuing calibration verification standard, WG1612925-2, has the percent deviation for Dichlorodifluoromethane (52%D), Chloromethane (26%D), Acetone (34%D), Vinyl acetate (34%D), 2,2-Dichloropropane (34%D), Carbon tetrachloride (31%D), 1,1,1-Trichloroethane (21%D), 2-Butanone (29%D) and 2-Hexanone (26%D) outside the 20% CCV criteria, but within overall method allowances.

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 03/09/22

ORGANICS

VOLATILES

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2210929
Report Date: 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-01 D2
Client ID: PRE-CARB-20220302
Sample Location: JAMESTOWN, NY
Date Collected: 03/02/22 07:30
Date Received: 03/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/07/22 10:59
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	ND		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
1,3-Dichloropropene, Total	ND		ug/l	5.0	1.4	10
1,1-Dichloropropene	ND		ug/l	25	7.0	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	8.3		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	480		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	18		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	19	J	ug/l	25	7.0	10

Project Name: ESSEX/HOPE **Lab Number:** L2210929

Project Number: JMS008DW **Report Date:** 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-01 D2 Date Collected: 03/02/22 07:30

Client ID: PRE-CARB-20220302 Date Received: 03/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	ND		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
Xylenes, Total	ND		ug/l	25	7.0	10
Dibromomethane	ND		ug/l	50	10.	10
1,2,3-Trichloropropane	ND		ug/l	25	7.0	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
Vinyl acetate	ND		ug/l	50	10.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
2,2-Dichloropropane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
1,3-Dichloropropane	ND		ug/l	25	7.0	10
1,1,1,2-Tetrachloroethane	ND		ug/l	25	7.0	10
Bromobenzene	ND		ug/l	25	7.0	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
o-Chlorotoluene	ND		ug/l	25	7.0	10
p-Chlorotoluene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Hexachlorobutadiene	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10

Project Name: ESSEX/HOPE **Lab Number:** L2210929

Project Number: JMS008DW **Report Date:** 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-01 D2 Date Collected: 03/02/22 07:30

Client ID: PRE-CARB-20220302 Date Received: 03/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
1,4-Dioxane	ND		ug/l	2500	610	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	107		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2210929
Report Date: 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-01 D
Client ID: PRE-CARB-20220302
Sample Location: JAMESTOWN, NY
Date Collected: 03/02/22 07:30
Date Received: 03/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/07/22 10:35
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	5000		ug/l	20	7.0	40
cis-1,2-Dichloroethene	3200		ug/l	100	28.	40
1,2-Dichloroethene, Total	3200	J	ug/l	25	7.0	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	110		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2210929
Report Date: 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-02
Client ID: PRIMARY-EFFLUENT-20220302
Sample Location: JAMESTOWN, NY
Date Collected: 03/02/22 07:45
Date Received: 03/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/07/22 10:12
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.62	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2210929

Project Number: JMS008DW **Report Date:** 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-02 Date Collected: 03/02/22 07:45

Client ID: PRIMARY-EFFLUENT-20220302 Date Received: 03/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.31	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2210929

Project Number: JMS008DW **Report Date:** 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-02 Date Collected: 03/02/22 07:45

Client ID: PRIMARY-EFFLUENT-20220302 Date Received: 03/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	111		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2210929
Report Date: 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-03
Client ID: POST-CARB-20220302
Sample Location: JAMESTOWN, NY
Date Collected: 03/02/22 08:00
Date Received: 03/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/07/22 09:48
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.51	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2210929

Project Number: JMS008DW **Report Date:** 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-03 Date Collected: 03/02/22 08:00

Client ID: POST-CARB-20220302 Date Received: 03/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2210929

Project Number: JMS008DW **Report Date:** 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-03 Date Collected: 03/02/22 08:00

Client ID: POST-CARB-20220302 Date Received: 03/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	110		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2210929
Report Date: 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-05
Client ID: TRIP BLANK
Sample Location: JAMESTOWN, NY
Date Collected: 03/02/22 07:25
Date Received: 03/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/07/22 09:25
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2210929

Project Number: JMS008DW **Report Date:** 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-05 Date Collected: 03/02/22 07:25

Client ID: TRIP BLANK Date Received: 03/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2210929
Report Date: 03/09/22

SAMPLE RESULTS

Lab ID: L2210929-05
Client ID: TRIP BLANK
Sample Location: JAMESTOWN, NY
Date Collected: 03/02/22 07:25
Date Received: 03/02/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	112		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2210929
Report Date: 03/09/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/07/22 09:00
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1612925-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2210929
Report Date: 03/09/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/07/22 09:00
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1612925-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
o-Chlorotoluene	ND		ug/l	2.5	0.70

Project Name: ESSEX/HOPE
Project Number: JMS008DW
Lab Number: L2210929
Report Date: 03/09/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/07/22 09:00
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1612925-5					
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	110		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2210929
Report Date: 03/09/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1612925-3 WG1612925-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	110		110		70-130	0		20
Carbon tetrachloride	130		130		63-132	0		20
1,2-Dichloropropane	110		110		70-130	0		20
Dibromochloromethane	110		110		63-130	0		20
1,1,2-Trichloroethane	110		100		70-130	10		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	130		120		62-150	8		20
1,2-Dichloroethane	120		120		70-130	0		20
1,1,1-Trichloroethane	120		120		67-130	0		20
Bromodichloromethane	110		110		67-130	0		20
trans-1,3-Dichloropropene	110		110		70-130	0		20
cis-1,3-Dichloropropene	98		99		70-130	1		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	100		100		54-136	0		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	110		100		70-130	10		20
Toluene	110		100		70-130	10		20
Ethylbenzene	110		110		70-130	0		20
Chloromethane	84		85		64-130	1		20
Bromomethane	120		120		39-139	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2210929
Report Date: 03/09/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1612925-3 WG1612925-4								
Vinyl chloride	95		96		55-140	1		20
Chloroethane	100		110		55-138	10		20
1,1-Dichloroethene	110		120		61-145	9		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	98		98		70-130	0		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	120		120		63-130	0		20
p/m-Xylene	110		105		70-130	5		20
o-Xylene	110		105		70-130	5		20
cis-1,2-Dichloroethene	100		110		70-130	10		20
Dibromomethane	110		110		70-130	0		20
1,2,3-Trichloropropane	100		110		64-130	10		20
Styrene	110		105		70-130	5		20
Dichlorodifluoromethane	50		50		36-147	0		20
Acetone	**150**	Q	130		58-148	14		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	120		110		63-138	9		20
Vinyl acetate	120		120		70-130	0		20
4-Methyl-2-pentanone	110		110		59-130	0		20
2-Hexanone	120		120		57-130	0		20
Bromochloromethane	110		110		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2210929
Report Date: 03/09/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1612925-3 WG1612925-4								
2,2-Dichloropropane	130		130		63-133	0		20
1,2-Dibromoethane	100		100		70-130	0		20
1,3-Dichloropropane	110		110		70-130	0		20
1,1,1,2-Tetrachloroethane	110		110		64-130	0		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	110		110		53-136	0		20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	110		110		70-130	0		20
o-Chlorotoluene	100		110		70-130	10		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	99		97		41-144	2		20
Hexachlorobutadiene	110		110		63-130	0		20
Isopropylbenzene	110		110		70-130	0		20
p-Isopropyltoluene	110		110		70-130	0		20
Naphthalene	110		110		70-130	0		20
n-Propylbenzene	110		110		69-130	0		20
1,2,3-Trichlorobenzene	110		110		70-130	0		20
1,2,4-Trichlorobenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		110		70-130	0		20
1,4-Dioxane	106		106		56-162	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ESSEX/HOPE

Project Number: JMS008DW

Lab Number: L2210929

Report Date: 03/09/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1612925-3 WG1612925-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	119		119		70-130
Toluene-d8	105		102		70-130
4-Bromofluorobenzene	104		106		70-130
Dibromofluoromethane	108		108		70-130

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2210929
Report Date: 03/09/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2210929-01A	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-01B	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-01C	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-02A	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-02B	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-02C	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-03X	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-03Y	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-03Z	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-04A	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04A1	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04A2	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04A3	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04B	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04B1	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04B2	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04B3	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04C	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04C1	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04C2	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-04C3	Vial HCl preserved	A	NA		2.5	Y	Absent		COMP-VOA()
L2210929-05A	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)
L2210929-05B	Vial HCl preserved	A	NA		2.5	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: ESSEX/HOPE
Project Number: JMS008DW

Lab Number: L2210929
Report Date: 03/09/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	ESSEX/HOPE	**Lab Number:**	L2210929
Project Number:	JMS008DW	**Report Date:**	03/09/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2210929
Project Number:	JMS008DW	**Report Date:**	03/09/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2210929
Project Number:	JMS008DW	**Report Date:**	03/09/22

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2210929
Project Number:	JMS008DW	**Report Date:**	03/09/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 3/3/22

ALPHA Job #: L2210929

Client Information

Client: Jacobs Engineering Group
Address: 412 Mt. Kemble Avenue
Morristown, NJ 07960
Phone: (646) 898-9219
Fax: Lisa.LaFortune@Jacobs.com
Email: Alison.Skwarski@Jacobs.com

Project Information

Project Name: Essex / Hope
Project Location: Jamestown, NY
Project # JMS013DW
(Use Project name as Project #) ☐
Project Manager: Lisa La Fortune
ALPHAQuote #: 7403

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO # 4510680353

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Composite all 4 Post-carb samples and report as "Post-Carb-"

Please specify Metals or TAL.

ANALYSIS

VOCs by 8260

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs by 8260	Sample Specific Comments	Total Bottle
10929-01	Pre-Carb- 20220302	03-02-22	0730	GW	TP	X		3
-02	Primary-Effluent- 20220302	03-02-22	0745	GW	TP	X		3
-03,04	Post-Carb- 20220302-1	03-02-22	0800	GW	TP	X		3
	Post-Carb- 20220302-2	03-02-22	0830	GW	TP	X		3
	Post-Carb- 20220302-3	03-02-22	0900	GW	TP	X		3
	Post-Carb- 20220302-4	03-02-22	0936	GW	TP	X		2
-05	Trip Blank	03-02-22	0725	DI	TP	X		

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	V									
Preservative	B									

Relinquished By:	Date/Time	Received By:	Date/Time
Tri Penny	3/2/22 1040	AAR	3/2/22 1040
AAR	3/2/22 1245		3/3/22 0010

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2217467
Client:	Jacobs Engineering Group 412 Mt. Kemble Ave. Morristown, NJ 07960
ATTN:	Lisa La Fortune
Phone:	(862) 242-7051
Project Name:	ESSEX/HOPE
Project Number:	JMS013DW
Report Date:	04/19/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2217467-01	PRE-CARB-20220405	WATER	JAMESTOWN, NY	04/05/22 06:50	04/05/22
L2217467-02	PRIMARY-EFFLUENT-20220405	WATER	JAMESTOWN, NY	04/05/22 06:55	04/05/22
L2217467-03	POST-CARB-20220405	WATER	JAMESTOWN, NY	04/05/22 08:45	04/05/22
L2217467-04	COMPOSITE OF POST-CARB-20220405	WATER	JAMESTOWN, NY	04/05/22 08:45	04/05/22
L2217467-05	TRIP BLANK	WATER	JAMESTOWN, NY	04/05/22 14:30	04/05/22

Project Name:	ESSEX/HOPE	**Lab Number:**	L2217467
Project Number:	JMS013DW	**Report Date:**	04/19/22

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name: ESSEX/HOPE **Lab Number:** L2217467
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Case Narrative (continued)

Report Submission

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

Volatile Organics

L2217467-01D: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2217467-01D2: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2217467-01D2: The initial calibration did not meet the method required minimum response factor on the calibration standard for Acetone, 2-Butanone, 1,4-Dioxane, and 4-Methyl-2-pentanone. Additionally, the first level of the calibration did not meet the method required minimum response factor of 0.100/0.200 on the calibration standard for Acetone, Bromochloromethane, 2-Butanone, Dibromomethane, 1,4-Dioxane, 2-Hexanone and 4-Methyl-2-pentanone.

The initial calibration verification standard has the percent deviation for Dichlorodifluoromethane, Chloromethane and Vinyl chloride above the 30% ICV criteria, but within overall method allowances.

L2217467-01D2: The continuing calibration did not meet the method required minimum response factor for Bromomethane, Acetone, 1,4-Dioxane and 4-Methyl-2-pentanone.

The continuing calibration verification standard, WG1628325-2, has the percent deviation for Bromomethane (45%D), Acetone (30%D), Vinyl acetate (32%D), 2,2-Dichloropropane (23%D), 2-Butanone (32%D), 1,4-Dioxane (52%D) and 2-Hexanone (28%D) outside the 20% CCV criteria, but within overall method allowances.

L2217467-01D, -02, -03, and -05: The initial calibration did not meet the method required minimum response factor on the calibration standard for Acetone, 2-Butanone, 1,4-Dioxane, and 4-Methyl-2-pentanone. Additionally, the first level of the calibration did not meet the method required minimum response factor of 0.100/0.200 on the calibration standard for Acetone, Bromochloromethane, 2-Butanone, Dibromomethane,

Project Name:	ESSEX/HOPE	**Lab Number:**	L2217467
Project Number:	JMS013DW	**Report Date:**	04/19/22

Case Narrative (continued)

1,4-Dioxane, 2-Hexanone and 4-Methyl-2-pentanone.

The initial calibration verification standard has the percent deviation for Dichlorodifluoromethane, Chloromethane and Vinyl chloride above the 30% ICV criteria, but within overall method allowances.

L2217467-01D, -02, -03, and -05: The continuing calibration did not meet the method required minimum response factor for Acetone, 2-Butanone, 1,4-Dioxane and 4-Methyl-2-pentanone.

The continuing calibration verification standard, WG1628326-2, has the percent deviation for Dichlorodifluoromethane (25%D), Vinyl acetate (25%D), 2,2-Dichloropropane (21%D), 2-Butanone (20%D), 1,4-Dioxane (40%D) and 2-Hexanone (23%D) outside the 20% CCV criteria, but within overall method allowances.

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

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 04/19/22

ORGANICS

VOLATILES

Project Name: ESSEX/HOPE **Lab Number:** L2217467

Project Number: JMS013DW **Report Date:** 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-01 D2 Date Collected: 04/05/22 06:50
Client ID: PRE-CARB-20220405 Date Received: 04/05/22
Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/16/22 01:00
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	50	14.	20
1,1-Dichloroethane	ND		ug/l	50	14.	20
Chloroform	ND		ug/l	50	14.	20
Carbon tetrachloride	ND		ug/l	10	2.7	20
1,2-Dichloropropane	ND		ug/l	20	2.7	20
Dibromochloromethane	ND		ug/l	10	3.0	20
1,1,2-Trichloroethane	ND		ug/l	30	10.	20
Tetrachloroethene	ND		ug/l	10	3.6	20
Chlorobenzene	ND		ug/l	50	14.	20
Trichlorofluoromethane	ND		ug/l	50	14.	20
1,2-Dichloroethane	ND		ug/l	10	2.6	20
1,1,1-Trichloroethane	ND		ug/l	50	14.	20
Bromodichloromethane	ND		ug/l	10	3.8	20
trans-1,3-Dichloropropene	ND		ug/l	10	3.3	20
cis-1,3-Dichloropropene	ND		ug/l	10	2.9	20
1,3-Dichloropropene, Total	ND		ug/l	10	2.9	20
1,1-Dichloropropene	ND		ug/l	50	14.	20
Bromoform	ND		ug/l	40	13.	20
1,1,2,2-Tetrachloroethane	ND		ug/l	10	3.3	20
Benzene	13		ug/l	10	3.2	20
Toluene	ND		ug/l	50	14.	20
Ethylbenzene	ND		ug/l	50	14.	20
Chloromethane	ND		ug/l	50	14.	20
Bromomethane	ND		ug/l	50	14.	20
Vinyl chloride	500		ug/l	20	1.4	20
Chloroethane	ND		ug/l	50	14.	20
1,1-Dichloroethene	24		ug/l	10	3.4	20
trans-1,2-Dichloroethene	32	J	ug/l	50	14.	20

Project Name: ESSEX/HOPE **Lab Number:** L2217467

Project Number: JMS013DW **Report Date:** 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-01 D2 Date Collected: 04/05/22 06:50

Client ID: PRE-CARB-20220405 Date Received: 04/05/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	50	14.	20
1,3-Dichlorobenzene	ND		ug/l	50	14.	20
1,4-Dichlorobenzene	ND		ug/l	50	14.	20
Methyl tert butyl ether	ND		ug/l	50	14.	20
p/m-Xylene	ND		ug/l	50	14.	20
o-Xylene	ND		ug/l	50	14.	20
Xylenes, Total	ND		ug/l	50	14.	20
Dibromomethane	ND		ug/l	100	20.	20
1,2,3-Trichloropropane	ND		ug/l	50	14.	20
Styrene	ND		ug/l	50	14.	20
Dichlorodifluoromethane	ND		ug/l	100	20.	20
Acetone	ND		ug/l	100	29.	20
Carbon disulfide	ND		ug/l	100	20.	20
2-Butanone	ND		ug/l	100	39.	20
Vinyl acetate	ND		ug/l	100	20.	20
4-Methyl-2-pentanone	ND		ug/l	100	20.	20
2-Hexanone	ND		ug/l	100	20.	20
Bromochloromethane	ND		ug/l	50	14.	20
2,2-Dichloropropane	ND		ug/l	50	14.	20
1,2-Dibromoethane	ND		ug/l	40	13.	20
1,3-Dichloropropane	ND		ug/l	50	14.	20
1,1,1,2-Tetrachloroethane	ND		ug/l	50	14.	20
Bromobenzene	ND		ug/l	50	14.	20
n-Butylbenzene	ND		ug/l	50	14.	20
sec-Butylbenzene	ND		ug/l	50	14.	20
tert-Butylbenzene	ND		ug/l	50	14.	20
o-Chlorotoluene	ND		ug/l	50	14.	20
p-Chlorotoluene	ND		ug/l	50	14.	20
1,2-Dibromo-3-chloropropane	ND		ug/l	50	14.	20
Hexachlorobutadiene	ND		ug/l	50	14.	20
Isopropylbenzene	ND		ug/l	50	14.	20
p-Isopropyltoluene	ND		ug/l	50	14.	20
Naphthalene	ND		ug/l	50	14.	20
n-Propylbenzene	ND		ug/l	50	14.	20
1,2,3-Trichlorobenzene	ND		ug/l	50	14.	20
1,2,4-Trichlorobenzene	ND		ug/l	50	14.	20
1,3,5-Trimethylbenzene	ND		ug/l	50	14.	20

Project Name: ESSEX/HOPE **Lab Number:** L2217467

Project Number: JMS013DW **Report Date:** 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-01 D2 Date Collected: 04/05/22 06:50

Client ID: PRE-CARB-20220405 Date Received: 04/05/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	50	14.	20
1,4-Dioxane	ND		ug/l	5000	1200	20

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

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2217467
Report Date: 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-01 D
Client ID: PRE-CARB-20220405
Sample Location: JAMESTOWN, NY
Date Collected: 04/05/22 06:50
Date Received: 04/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/14/22 22:28
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	6100		ug/l	50	18.	100
cis-1,2-Dichloroethene	4200		ug/l	250	70.	100
1,2-Dichloroethene, Total	4200	J	ug/l	50	14.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	105		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2217467
Report Date: 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-02
Client ID: PRIMARY-EFFLUENT-20220405
Sample Location: JAMESTOWN, NY
Date Collected: 04/05/22 06:55
Date Received: 04/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/14/22 22:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	38		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2217467

Project Number: JMS013DW **Report Date:** 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-02 Date Collected: 04/05/22 06:55

Client ID: PRIMARY-EFFLUENT-20220405 Date Received: 04/05/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	2.9		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	5.7		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	5.7		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2217467

Project Number: JMS013DW **Report Date:** 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-02 Date Collected: 04/05/22 06:55

Client ID: PRIMARY-EFFLUENT-20220405 Date Received: 04/05/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	107		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2217467
Report Date: 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-03
Client ID: POST-CARB-20220405
Sample Location: JAMESTOWN, NY
Date Collected: 04/05/22 08:45
Date Received: 04/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/14/22 23:14
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.38	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2217467

Project Number: JMS013DW **Report Date:** 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-03 Date Collected: 04/05/22 08:45

Client ID: POST-CARB-20220405 Date Received: 04/05/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2217467

Project Number: JMS013DW **Report Date:** 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-03 Date Collected: 04/05/22 08:45

Client ID: POST-CARB-20220405 Date Received: 04/05/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	105		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2217467
Report Date: 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-05
Client ID: TRIP BLANK
Sample Location: JAMESTOWN, NY
Date Collected: 04/05/22 14:30
Date Received: 04/05/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/14/22 23:37
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2217467

Project Number: JMS013DW **Report Date:** 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-05 Date Collected: 04/05/22 14:30

Client ID: TRIP BLANK Date Received: 04/05/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2217467
Report Date: 04/19/22

SAMPLE RESULTS

Lab ID: L2217467-05
Client ID: TRIP BLANK
Sample Location: JAMESTOWN, NY
Date Collected: 04/05/22 14:30
Date Received: 04/05/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/22 19:57
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1628325-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/22 19:57
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1628325-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
o-Chlorotoluene	ND		ug/l	2.5	0.70

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2217467
Report Date: 04/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/22 19:57
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1628325-5					
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/14/22 20:55
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1628326-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/14/22 20:55
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1628326-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
o-Chlorotoluene	ND		ug/l	2.5	0.70

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/14/22 20:55
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1628326-5					
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1628325-3 WG1628325-4								
Methylene chloride	100		110		70-130	10		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	110		100		70-130	10		20
Carbon tetrachloride	120		110		63-132	9		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	110		110		63-130	0		20
1,1,2-Trichloroethane	120		110		70-130	9		20
Tetrachloroethene	120		110		70-130	9		20
Chlorobenzene	110		100		75-130	10		20
Trichlorofluoromethane	120		120		62-150	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	110		110		67-130	0		20
Bromodichloromethane	110		110		67-130	0		20
trans-1,3-Dichloropropene	120		110		70-130	9		20
cis-1,3-Dichloropropene	100		100		70-130	0		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	110		110		54-136	0		20
1,1,2,2-Tetrachloroethane	120		120		67-130	0		20
Benzene	110		110		70-130	0		20
Toluene	110		100		70-130	10		20
Ethylbenzene	110		110		70-130	0		20
Chloromethane	100		110		64-130	10		20
Bromomethane	92		89		39-139	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1628325-3 WG1628325-4								
Vinyl chloride	120		120		55-140	0		20
Chloroethane	110		110		55-138	0		20
1,1-Dichloroethene	120		120		61-145	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	94		93		70-130	1		20
1,2-Dichlorobenzene	110		110		70-130	0		20
1,3-Dichlorobenzene	110		110		70-130	0		20
1,4-Dichlorobenzene	110		110		70-130	0		20
Methyl tert butyl ether	120		120		63-130	0		20
p/m-Xylene	115		110		70-130	4		20
o-Xylene	110		110		70-130	0		20
cis-1,2-Dichloroethene	110		100		70-130	10		20
Dibromomethane	110		110		70-130	0		20
1,2,3-Trichloropropane	110		120		64-130	9		20
Styrene	110		110		70-130	0		20
Dichlorodifluoromethane	130		130		36-147	0		20
Acetone	120		130		58-148	8		20
Carbon disulfide	110		110		51-130	0		20
2-Butanone	130		130		63-138	0		20
Vinyl acetate	130		130		70-130	0		20
4-Methyl-2-pentanone	120		120		59-130	0		20
2-Hexanone	130		130		57-130	0		20
Bromochloromethane	110		100		70-130	10		20

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1628325-3 WG1628325-4								
2,2-Dichloropropane	120		120		63-133	0		20
1,2-Dibromoethane	110		100		70-130	10		20
1,3-Dichloropropane	120		120		70-130	0		20
1,1,1,2-Tetrachloroethane	110		100		64-130	10		20
Bromobenzene	110		110		70-130	0		20
n-Butylbenzene	110		110		53-136	0		20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	110		110		70-130	0		20
o-Chlorotoluene	110		110		70-130	0		20
p-Chlorotoluene	110		100		70-130	10		20
1,2-Dibromo-3-chloropropane	110		110		41-144	0		20
Hexachlorobutadiene	110		110		63-130	0		20
Isopropylbenzene	110		110		70-130	0		20
p-Isopropyltoluene	110		110		70-130	0		20
Naphthalene	120		120		70-130	0		20
n-Propylbenzene	110		110		69-130	0		20
1,2,3-Trichlorobenzene	110		120		70-130	9		20
1,2,4-Trichlorobenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		110		70-130	0		20
1,4-Dioxane	146		146		56-162	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ESSEX/HOPE

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Lab Number: L2217467

Report Date: 04/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1628325-3 WG1628325-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		108		70-130
Toluene-d8	105		100		70-130
4-Bromofluorobenzene	103		100		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
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Lab Number: L2217467
Report Date: 04/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1628326-3 WG1628326-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	110		110		63-132	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	110		110		63-130	0		20
1,1,2-Trichloroethane	110		110		70-130	0		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	120		120		62-150	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	110		100		67-130	10		20
Bromodichloromethane	110		110		67-130	0		20
trans-1,3-Dichloropropene	110		110		70-130	0		20
cis-1,3-Dichloropropene	98		96		70-130	2		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	100		100		54-136	0		20
1,1,2,2-Tetrachloroethane	100		110		67-130	10		20
Benzene	110		110		70-130	0		20
Toluene	110		100		70-130	10		20
Ethylbenzene	110		100		70-130	10		20
Chloromethane	110		110		64-130	0		20
Bromomethane	95		86		39-139	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ESSEX/HOPE

Project Number: JMS013DW

Lab Number: L2217467

Report Date: 04/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1628326-3 WG1628326-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	110		110		55-138	0		20
1,1-Dichloroethene	110		110		61-145	0		20
trans-1,2-Dichloroethene	110		100		70-130	10		20
Trichloroethene	92		92		70-130	0		20
1,2-Dichlorobenzene	110		110		70-130	0		20
1,3-Dichlorobenzene	100		110		70-130	10		20
1,4-Dichlorobenzene	100		110		70-130	10		20
Methyl tert butyl ether	110		110		63-130	0		20
p/m-Xylene	110		110		70-130	0		20
o-Xylene	110		110		70-130	0		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	100		100		70-130	0		20
1,2,3-Trichloropropane	99		100		64-130	1		20
Styrene	110		110		70-130	0		20
Dichlorodifluoromethane	120		120		36-147	0		20
Acetone	100		99		58-148	1		20
Carbon disulfide	110		100		51-130	10		20
2-Butanone	99		110		63-138	11		20
Vinyl acetate	110		110		70-130	0		20
4-Methyl-2-pentanone	100		110		59-130	10		20
2-Hexanone	110		110		57-130	0		20
Bromochloromethane	100		100		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1628326-3 WG1628326-4								
2,2-Dichloropropane	120		110		63-133	9		20
1,2-Dibromoethane	100		100		70-130	0		20
1,3-Dichloropropane	110		110		70-130	0		20
1,1,1,2-Tetrachloroethane	110		100		64-130	10		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	110		110		53-136	0		20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	100		100		70-130	0		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	91		100		41-144	9		20
Hexachlorobutadiene	110		110		63-130	0		20
Isopropylbenzene	110		110		70-130	0		20
p-Isopropyltoluene	110		110		70-130	0		20
Naphthalene	110		110		70-130	0		20
n-Propylbenzene	110		110		69-130	0		20
1,2,3-Trichlorobenzene	110		110		70-130	0		20
1,2,4-Trichlorobenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		110		70-130	0		20
1,4-Dioxane	132		132		56-162	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ESSEX/HOPE

Project Number: JMS013DW

Lab Number: L2217467

Report Date: 04/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1628326-3 WG1628326-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		104		70-130
Toluene-d8	102		100		70-130
4-Bromofluorobenzene	101		101		70-130
Dibromofluoromethane	102		103		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2217467-01A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-01B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-01C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-02A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-02B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-02C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-03X	Vial HCl preserved split	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-03Y	Vial HCl preserved split	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-03Z	Vial HCl preserved split	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-04A	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04A1	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04A2	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04A3	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04B	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04B1	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04B2	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04B3	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04C	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04C1	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04C2	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-04C3	Vial HCl preserved	A	NA		3.4	Y	Absent		COMP-VOA()
L2217467-05A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L2217467-05B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2217467
Report Date: 04/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	ESSEX/HOPE	**Lab Number:**	L2217467
Project Number:	JMS013DW	**Report Date:**	04/19/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2217467
Project Number:	JMS013DW	**Report Date:**	04/19/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2217467
Project Number:	JMS013DW	**Report Date:**	04/19/22

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2217467
Project Number:	JMS013DW	**Report Date:**	04/19/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 4/6/22

ALPHA Job #: L2217467

Client Information
Client: Jacobs Engineering Group
Address: 412 Mt. Kemble Avenue
Morristown, NJ 07960
Phone: (646) 898-9219
Fax: Lisa.LaFortune@Jacobs.com
Email: Erin.McGuire@Jacobs.com

Project Information
Project Name: Essex / Hope
Project Location: Jamestown, NY
Project # JMS013DW
(Use Project name as Project #) ☐
Project Manager: Lisa La Fortune
ALPHAQuote #: 7403

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO # 4510680353

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Composite all 4 Post-carb samples and report as "Post-Carb-"

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs by 8260	Sample Specific Comments	Total Bottle
17467-01	Pre-Carb-20220405	04-05-22	0650	GW	TP	X		3
-02	Primary-Effluent-20220405	04-05-22	0655	GW	TP	X		3
-03,04	Post-Carb-20220405-1	04-05-22	0715	GW	TP	X		3
-03,04	Post-Carb-20220405-2	04-05-22	0745	GW	TP	X		3
-03,04	Post-Carb-20220405-3	04-05-22	0815	GW	TP	X		3
-03,04	Post-Carb-20220405-4	04-05-22	0845	GW	TP	X		3
-05	Trip Blank-20220405	04-05-22	1430	DI	HM	X		2

Container Type: V
Preservative: B

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
RQW	4/5/22 1436	HM AAC	4/05/22 14:36
HM AAC	4/05/22 16:40		4/6/22 0:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2228805
Client:	Jacobs Engineering Group 412 Mt. Kemble Ave. Morristown, NJ 07960
ATTN:	Lisa La Fortune
Phone:	(862) 242-7051
Project Name:	ESSEX/HOPE
Project Number:	JMS013DW
Report Date:	06/17/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2228805
Report Date: 06/17/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2228805-01	PRE-CARB-20220602	WATER	JAMESTOWN, NY	06/02/22 07:00	06/02/22
L2228805-02	PRIMARY-EFFLUENT-20220602	WATER	JAMESTOWN, NY	06/02/22 07:15	06/02/22
L2228805-03	POST-CARB-20220602	WATER	JAMESTOWN, NY	06/02/22 07:30	06/02/22
L2228805-04	COMPOSITE OF POST-CARB-20220602	WATER	JAMESTOWN, NY	06/02/22 07:30	06/02/22
L2228805-05	TRIP BLANK-20220602	WATER	JAMESTOWN, NY	06/02/22 09:05	06/02/22

Project Name:	ESSEX/HOPE	**Lab Number:**	L2228805
Project Number:	JMS013DW	**Report Date:**	06/17/22

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2228805
Report Date: 06/17/22

Case Narrative (continued)

Report Submission

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

Volatile Organics

L2228805-01D: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2228805-01D2: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2228805-01D, -01D2, -02, -03, and -05: The initial calibration did not meet the method required minimum response factor on the calibration standard for acetone, 2-butanone, 1,4-dioxane, and 4-methyl-2-pentanone. Additionally, the first level of the calibration did not meet the method required minimum response factor of 0.100/0.200 on the calibration standard for bromomethane, acetone, 2-butanone, trichloroethene, 1,4-dioxane, and 4-methyl-2-pentanone.

The initial calibration verification standard has the percent deviation for vinyl acetate (32%) above the 30% ICV criteria, but within overall method allowances.

L2228805-01D, -01D2, -02, -03, and -05: The continuing calibration did not meet the method required minimum response factor for acetone, 2-butanone, 2-hexanone, 1,4-dioxane, and 4-methyl-2-pentanone.

WG1650710-2: The continuing calibration verification standard has the percent deviation for acetone (26%D), 2-butanone (29%D), 1,4-dioxane (26%D), 4-methyl-2-pentanone (27%D), 2-hexanone (32%D), 1,1,2,2-tetrachloroethane (27%D), 1,2,3-trichloropropane (30%D), and 1,2-dibromo-3-chloropropane (24%D) outside the 20% CCV criteria, but within overall method allowances.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 06/17/22

ORGANICS

VOLATILES

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2228805
Report Date: 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-01 D2
Client ID: PRE-CARB-20220602
Sample Location: JAMESTOWN, NY

Date Collected: 06/02/22 07:00
Date Received: 06/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/14/22 19:55
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	ND		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
1,3-Dichloropropene, Total	ND		ug/l	5.0	1.4	10
1,1-Dichloropropene	ND		ug/l	25	7.0	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	5.9		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	440		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	16		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	19	J	ug/l	25	7.0	10

Project Name: ESSEX/HOPE **Lab Number:** L2228805

Project Number: JMS013DW **Report Date:** 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-01 D2 Date Collected: 06/02/22 07:00

Client ID: PRE-CARB-20220602 Date Received: 06/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	3400	E	ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	ND		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
Xylenes, Total	ND		ug/l	25	7.0	10
cis-1,2-Dichloroethene	3200	E	ug/l	25	7.0	10
Dibromomethane	ND		ug/l	50	10.	10
1,2,3-Trichloropropane	ND		ug/l	25	7.0	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
Vinyl acetate	ND		ug/l	50	10.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
2,2-Dichloropropane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
1,3-Dichloropropane	ND		ug/l	25	7.0	10
1,1,1,2-Tetrachloroethane	ND		ug/l	25	7.0	10
Bromobenzene	ND		ug/l	25	7.0	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
o-Chlorotoluene	ND		ug/l	25	7.0	10
p-Chlorotoluene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Hexachlorobutadiene	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10

Project Name: ESSEX/HOPE **Lab Number:** L2228805

Project Number: JMS013DW **Report Date:** 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-01 D2 Date Collected: 06/02/22 07:00

Client ID: PRE-CARB-20220602 Date Received: 06/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
1,4-Dioxane	ND		ug/l	2500	610	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	107		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2228805
Report Date: 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-01 D
Client ID: PRE-CARB-20220602
Sample Location: JAMESTOWN, NY

Date Collected: 06/02/22 07:00
Date Received: 06/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/14/22 19:36
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	3400		ug/l	20	7.0	40
cis-1,2-Dichloroethene	3400		ug/l	100	28.	40
1,2-Dichloroethene, Total	3400	J	ug/l	25	7.0	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	117		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2228805
Report Date: 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-02
Client ID: PRIMARY-EFFLUENT-20220602
Sample Location: JAMESTOWN, NY

Date Collected: 06/02/22 07:15
Date Received: 06/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/14/22 19:17
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2228805

Project Number: JMS013DW **Report Date:** 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-02 Date Collected: 06/02/22 07:15

Client ID: PRIMARY-EFFLUENT-20220602 Date Received: 06/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2228805

Project Number: JMS013DW **Report Date:** 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-02 Date Collected: 06/02/22 07:15

Client ID: PRIMARY-EFFLUENT-20220602 Date Received: 06/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	119		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2228805
Report Date: 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-03
Client ID: POST-CARB-20220602
Sample Location: JAMESTOWN, NY
Date Collected: 06/02/22 07:30
Date Received: 06/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/14/22 18:57
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2228805

Project Number: JMS013DW **Report Date:** 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-03 Date Collected: 06/02/22 07:30

Client ID: POST-CARB-20220602 Date Received: 06/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2228805

Project Number: JMS013DW **Report Date:** 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-03 Date Collected: 06/02/22 07:30

Client ID: POST-CARB-20220602 Date Received: 06/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	118		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW
Lab Number: L2228805
Report Date: 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-05
Client ID: TRIP BLANK-20220602
Sample Location: JAMESTOWN, NY
Date Collected: 06/02/22 09:05
Date Received: 06/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/14/22 18:38
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2228805

Project Number: JMS013DW **Report Date:** 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-05 Date Collected: 06/02/22 09:05

Client ID: TRIP BLANK-20220602 Date Received: 06/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1

Project Name: ESSEX/HOPE **Lab Number:** L2228805

Project Number: JMS013DW **Report Date:** 06/17/22

SAMPLE RESULTS

Lab ID: L2228805-05 Date Collected: 06/02/22 09:05

Client ID: TRIP BLANK-20220602 Date Received: 06/02/22

Sample Location: JAMESTOWN, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	113		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2228805
Report Date: 06/17/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/14/22 18:18
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1650710-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2228805
Report Date: 06/17/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/14/22 18:18
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1650710-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
o-Chlorotoluene	ND		ug/l	2.5	0.70

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2228805
Report Date: 06/17/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/14/22 18:18
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05 Batch: WG1650710-5					
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	114		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2228805
Report Date: 06/17/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1650710-3 WG1650710-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		99		70-130	1		20
Chloroform	100		97		70-130	3		20
Carbon tetrachloride	110		110		63-132	0		20
1,2-Dichloropropane	94		90		70-130	4		20
Dibromochloromethane	93		89		63-130	4		20
1,1,2-Trichloroethane	88		84		70-130	5		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		95		75-130	5		20
Trichlorofluoromethane	110		110		62-150	0		20
1,2-Dichloroethane	90		87		70-130	3		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	95		90		67-130	5		20
trans-1,3-Dichloropropene	87		83		70-130	5		20
cis-1,3-Dichloropropene	94		89		70-130	5		20
1,1-Dichloropropene	98		93		70-130	5		20
Bromoform	87		85		54-136	2		20
1,1,2,2-Tetrachloroethane	77		76		67-130	1		20
Benzene	100		96		70-130	4		20
Toluene	100		94		70-130	6		20
Ethylbenzene	100		98		70-130	2		20
Chloromethane	100		98		64-130	2		20
Bromomethane	130		120		39-139	8		20

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1650710-3 WG1650710-4								
Vinyl chloride	110		100		55-140	10		20
Chloroethane	110		100		55-138	10		20
1,1-Dichloroethene	110		110		61-145	0		20
trans-1,2-Dichloroethene	110		100		70-130	10		20
Trichloroethene	98		94		70-130	4		20
1,2-Dichlorobenzene	100		95		70-130	5		20
1,3-Dichlorobenzene	100		97		70-130	3		20
1,4-Dichlorobenzene	100		96		70-130	4		20
Methyl tert butyl ether	89		86		63-130	3		20
p/m-Xylene	110		105		70-130	5		20
o-Xylene	105		100		70-130	5		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	92		92		70-130	0		20
1,2,3-Trichloropropane	78		76		64-130	3		20
Styrene	110		105		70-130	5		20
Dichlorodifluoromethane	100		96		36-147	4		20
Acetone	90		88		58-148	2		20
Carbon disulfide	110		100		51-130	10		20
2-Butanone	74		84		63-138	13		20
Vinyl acetate	84		76		70-130	10		20
4-Methyl-2-pentanone	72		72		59-130	0		20
2-Hexanone	72		71		57-130	1		20
Bromochloromethane	110		110		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
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Lab Number: L2228805
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1650710-3 WG1650710-4								
2,2-Dichloropropane	110		100		63-133	10		20
1,2-Dibromoethane	90		87		70-130	3		20
1,3-Dichloropropane	89		85		70-130	5		20
1,1,1,2-Tetrachloroethane	96		92		64-130	4		20
Bromobenzene	97		95		70-130	2		20
n-Butylbenzene	98		93		53-136	5		20
sec-Butylbenzene	100		97		70-130	3		20
tert-Butylbenzene	100		96		70-130	4		20
o-Chlorotoluene	97		92		70-130	5		20
p-Chlorotoluene	96		92		70-130	4		20
1,2-Dibromo-3-chloropropane	86		82		41-144	5		20
Hexachlorobutadiene	110		100		63-130	10		20
Isopropylbenzene	99		94		70-130	5		20
p-Isopropyltoluene	100		97		70-130	3		20
Naphthalene	88		84		70-130	5		20
n-Propylbenzene	99		94		69-130	5		20
1,2,3-Trichlorobenzene	100		95		70-130	5		20
1,2,4-Trichlorobenzene	98		93		70-130	5		20
1,3,5-Trimethylbenzene	98		92		64-130	6		20
1,2,4-Trimethylbenzene	96		91		70-130	5		20
1,4-Dioxane	74		76		56-162	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2228805
Report Date: 06/17/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1650710-3 WG1650710-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		89		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	91		92		70-130
Dibromofluoromethane	105		104		70-130

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2228805
Report Date: 06/17/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2228805-01A	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-01B	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-01C	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-02A	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-02B	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-02C	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-03X	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-03Y	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-03Z	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-04A	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04A1	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04A2	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04A3	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04B	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04B1	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04B2	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04B3	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04C	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04C1	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04C2	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-04C3	Vial HCl preserved	A	NA		4.8	Y	Absent		COMP-VOA()
L2228805-05A	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)
L2228805-05B	Vial HCl preserved	A	NA		4.8	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: ESSEX/HOPE
Project Number: JMS013DW

Lab Number: L2228805
Report Date: 06/17/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	ESSEX/HOPE	**Lab Number:**	L2228805
Project Number:	JMS013DW	**Report Date:**	06/17/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2228805
Project Number:	JMS013DW	**Report Date:**	06/17/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2228805
Project Number:	JMS013DW	**Report Date:**	06/17/22

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	ESSEX/HOPE	**Lab Number:**	L2228805
Project Number:	JMS013DW	**Report Date:**	06/17/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL 508-898-9220 — FAX 508-898-9193

Mansfield, MA 02048 — 320 Forbes Blvd — TEL 508-822-9300 — FAX 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab

ALPHA Job #

Project Information
Project Name: Essex / Hope
Project Location: Jamestown, NY
Project #: JMS013DW
(Use Project name as Project #)
Project Manager: Lisa La Fortune
ALPHAQuote #: 7403

Turn-Around Time
Standard [X] Due Date:
Rush (only if pre approved) [ ] # of Days:

Client Information
Client: Jacobs Engineering Group
Address: 412 Mt. Kemble Avenue, Morristown, NJ 07960
Phone: (646) 898-9219
Fax: Lisa LaFortune@Jacobs.com
Email: Shane.Lowe@Jacobs.com

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:
Composite all 4 Post-carb samples and report as "Post-Carb-"

Please specify Metals or TAL.

Deliverables
[ ] ASP-A [ ] ASP-B
[ ] EQuIS (1 File) [X] EQuIS (4 File)
[ ] Other

Regulatory Requirement
[ ] NY TOGS [ ] NY Part 375
[ ] AWQ Standards [ ] NY CP-51
[ ] NY Restricted Use [ ] Other
[ ] NY Unrestricted Use
[ ] NYC Sewer Discharge

Billing Information
[ ] Same as Client Info
PO # 4510680353

Disposal Site Information
Please identify below location of applicable disposal facilities
Disposal Facility
[ ] NJ [X] NY
[ ] Other

Sample Filtration
[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs by 8260	Sample Specific Comments	Total # Bottles
	Pre-Carb- 20220602	06-02-22	0700	GW	TP	X		3
	Primary-Effluent- 20220602	06-02-22	0715	GW	TP	X		3
	Post-Carb- 20220602-1	06-02-22	0730	GW	TP	X		3
	Post-Carb- 20220602-2	06-02-22	0800	GW	TP	X		3
	Post-Carb- 20220602-3	06-02-22	0830	GW	TP	X		3
	Post-Carb- 20220602-4	06-02-22	0900	GW	TP	X		3
	Trip Blank - 20220602	06-02-22	0915	DI	TP	X		2

0905

Preservative Code: A = None; B = HCl; C = HNO_3; D = H_2SO_4; E = NaOH; F = MeOH; G = $NaHSO_4$; H = $Na_2S_2O_3$; K/E = Zn Ac/NaOH; O = Other

Container Code: P = Plastic; A = Amber Glass; V = Vial; G = Glass; B = Bacteria Cup; C = Cube; O = Other; E = Encore; D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	V																		
Preservative	B																		

Relinquished By:	Date/Time	Received By:	Date/Time
	6/2/22 0910		
ARL	6/2/22	ARL	6/3/22 9:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

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UPSTATE Courier Code:

NY11611

Client Name: Jacobs Eng.

Cooler 1 of 1

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 6/3/22

ALPHA Job #: L2228805

Client Information
Client: Jacobs Engineering Group
Address: 412 Mt. Kemble Avenue
Morristown, NJ 07960
Phone: (646) 898-9219
Fax: Lisa.LaFortune@Jacobs.com
Email: Shane.Lowe@Jacobs.com

Project Information
Project Name: Essex / Hope
Project Location: Jamestown, NY
Project # JMS013DW
(Use Project name as Project #) ☐
Project Manager: Lisa La Fortune
ALPHAQuote #: 7403

Turn-Around Time
Standard [X] Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO # 4510680353

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ [X] NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Composite all 4 Post-carb samples and report as "Post-Carb- "

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs by 8260	Sample Specific Comments	Total # Bottles
22805-01	Pre-Carb- 20220602	06-02-22	0700	GW	TP	X		3
-02	Primary-Effluent- 20220602	06-02-22	0715	GW	TP	X		3
-03	Post-Carb- 20220602-1	06-02-22	0730	GW	TP	X		3
	Post-Carb- 20220602-2	06-02-22	0800	GW	TP	X		3
	Post-Carb- 20220602-3	06-02-22	0830	GW	TP	X		3
↓	Post-Carb- 20220602-4	06-02-22	0900	GW	TP	X		3
-05	Trip Blank - 20220602	06-02-22	0915	DI	TP	X		2

Container Type: V
Preservative: B

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	6/2/22 0910		6/2/22 9:16
AHC	6/2/22 1255	AHC	6/3/22 0030

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

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