ANALYTICAL REPORT

Lab Number:	L1821549
Client:	CH2M / Dow Chemical Company 299 Madison Ave. Morristown, NJ 07960
ATTN:	David Newman
Phone:	(862) 242-7061
Project Name:	FORMER HAMPSHIRE CHEMICAL CORP
Project Number:	701970.01.SA
Report Date:	06/15/18

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).

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Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1821549-01	PZ07R-060818	WATER	WATERLOO, NY	06/08/18 11:30	06/08/18
L1821549-02	TB-060818	WATER	WATERLOO, NY	06/08/18 08:00	06/08/18
L1821549-03	MW31-060818	WATER	WATERLOO, NY	06/08/18 10:40	06/08/18

Project Name:	FORMER HAMPSHIRE CHEMICAL CORP	**Lab Number:**	L1821549
Project Number:	701970.01.SA	**Report Date:**	06/15/18

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

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

HOLD POLICY

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

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

Project Name:	FORMER HAMPSHIRE CHEMICAL CORP	**Lab Number:**	L1821549
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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.

Sample Receipt

L1821549-03: The sample was received above the appropriate pH for the Metals analysis. The laboratory added additional HNO3 to a pH <2.

L1821549-03: The sample was received above the appropriate pH for the Ammonia, Total Kjeldahl Nitrogen, and Total Phosphorus analyses. The laboratory added additional HNO3 to a pH <2.

Volatile Organics

L1821549-01 and -02 and the associated method blank were evaluated for the presence of the following project specific TIC(s) and were determined to be non-detect: dimethyl disulfide.

The initial calibration, associated with L1821549-01 and -02, did not meet the method required minimum response factor for the calibration standards for bromodichloromethane, cis-1,3-dichloropropene, bromomethane, chloroethane, trichloroethene, dibromomethane, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, bromochloromethane, and 1,4-dioxane.

The continuing calibration, associated with L1821549-01 and -02, did not meet the method required minimum response factor for bromomethane, chloroethane, bromochloromethane, 2-butanone, trichloroethene, dibromomethane, 1,4-dioxane, 4-methyl-2-pentanone and 2-hexanone.

The WG1125100-2 continuing calibration verification standard has the percent deviation for naphthalene (28%D), 1,2,3-trichlorobenzene (23%), and 1,4-dioxane (41%D) above the 20% CCV criteria, but within overall method allowances.

Total Metals

L1821549-03: The sample has elevated detection limits due to the prep dilution required by the sample matrix.

The WG1125799-3/-4 MS/MSD recoveries for silica (154%/173%), performed on L1821549-01, does not apply because the sample concentration is greater than four times the spike amount added.

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Case Narrative (continued)

The WG1125800-3/-4 MS/MSD recoveries for calcium (MS at 40%), iron (131%/166%) and sodium (240%/670%), performed on L1821549-01, does not apply because the sample concentration is greater than four times the spike amount added.
The WG1125800-4 MSD recovery, performed on L1821549-01, is outside the acceptance criteria for magnesium (134%) A post digestion spike was performed and was within acceptance criteria.

Dissolved Metals
L1821549-03: The sample has elevated detection limits due to the prep dilution required by the sample matrix.

Nitrogen, Nitrate
L1821549-01 and -03: The sample was analyzed for Nitrite within the method required holding time. An aliquot of sample was then preserved and analyzed for Nitrate.

Sulfide
The WG1124178-4 MS recovery (58%), performed on L1821549-01, does not apply because the sample concentration is greater than four times the spike amount added.

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:  Cristin Walker

Title: Technical Director/Representative Date: 06/15/18

ORGANICS

VOLATILES

Project Name: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-01
Client ID: PZ07R-060818
Sample Location: WATERLOO, NY

Date Collected: 06/08/18 11:30
Date Received: 06/08/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/12/18 13:17
Analyst: MKS

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: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-01 Date Collected: 06/08/18 11:30

Client ID: PZ07R-060818 Date Received: 06/08/18

Sample Location: WATERLOO, NY Field Prep: Refer to COC

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	1.6	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	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: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-01 Date Collected: 06/08/18 11:30

Client ID: PZ07R-060818 Date Received: 06/08/18

Sample Location: WATERLOO, NY Field Prep: Refer to COC

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
Tentatively Identified Compounds						
Total TIC Compounds	9.64	J	ug/l			1
Unknown	8.32	J	ug/l			1
Unknown	1.32	J	ug/l			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	105		70-130

Project Name: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-02
Client ID: TB-060818
Sample Location: WATERLOO, NY

Date Collected: 06/08/18 08:00
Date Received: 06/08/18
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/12/18 13:42
Analyst: MKS

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: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-02 Date Collected: 06/08/18 08:00

Client ID: TB-060818 Date Received: 06/08/18

Sample Location: WATERLOO, NY Field Prep: None

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: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-02 Date Collected: 06/08/18 08:00

Client ID: TB-060818 Date Received: 06/08/18

Sample Location: WATERLOO, NY Field Prep: None

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
Tentatively Identified Compounds						
Total TIC Compounds	7.23	J	ug/l			1
Unknown	7.23	J	ug/l			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	97		70-130

Project Name: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/12/18 10:21
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1125100-5					
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: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/12/18 10:21
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1125100-5					
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: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA
Lab Number: L1821549
Report Date: 06/15/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/12/18 10:21
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1125100-5					
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.
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/l		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1125100-3 WG1125100-4								
Methylene chloride	91		79		70-130	14		20
1,1-Dichloroethane	90		84		70-130	7		20
Chloroform	90		85		70-130	6		20
Carbon tetrachloride	92		85		63-132	8		20
1,2-Dichloropropane	92		87		70-130	6		20
Dibromochloromethane	80		76		63-130	5		20
1,1,2-Trichloroethane	95		89		70-130	7		20
Tetrachloroethene	91		84		70-130	8		20
Chlorobenzene	91		86		75-130	6		20
Trichlorofluoromethane	85		77		62-150	10		20
1,2-Dichloroethane	88		83		70-130	6		20
1,1,1-Trichloroethane	90		83		67-130	8		20
Bromodichloromethane	90		84		67-130	7		20
trans-1,3-Dichloropropene	82		77		70-130	6		20
cis-1,3-Dichloropropene	94		86		70-130	9		20
1,1-Dichloropropene	92		85		70-130	8		20
Bromoform	76		71		54-136	7		20
1,1,2,2-Tetrachloroethane	91		85		67-130	7		20
Benzene	92		86		70-130	7		20
Toluene	91		85		70-130	7		20
Ethylbenzene	90		84		70-130	7		20
Chloromethane	98		91		64-130	7		20
Bromomethane	98		94		39-139	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1125100-3 WG1125100-4								
Vinyl chloride	99		92		55-140	7		20
Chloroethane	87		80		55-138	8		20
1,1-Dichloroethene	93		69		61-145	**30**	Q	20
trans-1,2-Dichloroethene	93		86		70-130	8		20
Trichloroethene	87		83		70-130	5		20
1,2-Dichlorobenzene	95		87		70-130	9		20
1,3-Dichlorobenzene	95		87		70-130	9		20
1,4-Dichlorobenzene	94		87		70-130	8		20
Methyl tert butyl ether	93		85		63-130	9		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	93		88		70-130	6		20
Dibromomethane	90		85		70-130	6		20
1,2,3-Trichloropropane	89		83		64-130	7		20
Styrene	95		90		70-130	5		20
Dichlorodifluoromethane	99		90		36-147	10		20
Acetone	79		76		58-148	4		20
Carbon disulfide	98		68		51-130	**36**	Q	20
2-Butanone	85		82		63-138	4		20
Vinyl acetate	92		85		70-130	8		20
4-Methyl-2-pentanone	83		79		59-130	5		20
2-Hexanone	84		76		57-130	10		20
Bromochloromethane	94		87		70-130	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1125100-3 WG1125100-4								
2,2-Dichloropropane	95		85		63-133	11		20
1,2-Dibromoethane	92		88		70-130	4		20
1,3-Dichloropropane	91		87		70-130	4		20
1,1,1,2-Tetrachloroethane	92		87		64-130	6		20
Bromobenzene	94		86		70-130	9		20
n-Butylbenzene	98		89		53-136	10		20
sec-Butylbenzene	96		89		70-130	8		20
tert-Butylbenzene	97		89		70-130	9		20
o-Chlorotoluene	90		87		70-130	3		20
p-Chlorotoluene	95		87		70-130	9		20
1,2-Dibromo-3-chloropropane	74		66		41-144	11		20
Hexachlorobutadiene	110		90		63-130	20		20
Isopropylbenzene	97		88		70-130	10		20
p-Isopropyltoluene	99		90		70-130	10		20
Naphthalene	86		70		70-130	**21**	Q	20
n-Propylbenzene	94		86		69-130	9		20
1,2,3-Trichlorobenzene	100		80		70-130	**22**	Q	20
1,2,4-Trichlorobenzene	98		82		70-130	18		20
1,3,5-Trimethylbenzene	97		88		64-130	10		20
1,2,4-Trimethylbenzene	97		90		70-130	7		20
1,4-Dioxane	80		56		56-162	**35**	Q	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1125100-3 WG1125100-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	102		100		70-130
Dibromofluoromethane	98		98		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1125100-6 WG1125100-7 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Methylene chloride	ND	10	11	110		9.0	90		70-130	20		20
1,1-Dichloroethane	ND	10	11	110		11	110		70-130	0		20
Chloroform	ND	10	11	110		11	110		70-130	0		20
Carbon tetrachloride	ND	10	11	110		11	110		63-132	0		20
1,2-Dichloropropane	ND	10	11	110		11	110		70-130	0		20
Dibromochloromethane	ND	10	9.4	94		9.6	96		63-130	2		20
1,1,2-Trichloroethane	ND	10	11	110		12	120		70-130	9		20
Tetrachloroethene	ND	10	11	110		10	100		70-130	10		20
Chlorobenzene	ND	10	11	110		11	110		75-130	0		20
Trichlorofluoromethane	ND	10	11	110		10	100		62-150	10		20
1,2-Dichloroethane	ND	10	11	110		11	110		70-130	0		20
1,1,1-Trichloroethane	ND	10	11	110		11	110		67-130	0		20
Bromodichloromethane	ND	10	11	110		11	110		67-130	0		20
trans-1,3-Dichloropropene	ND	10	9.4	94		9.5	95		70-130	1		20
cis-1,3-Dichloropropene	ND	10	10	100		10	100		70-130	0		20
1,1-Dichloropropene	ND	10	11	110		11	110		70-130	0		20
Bromoform	ND	10	8.6	86		8.9	89		54-136	3		20
1,1,2,2-Tetrachloroethane	ND	10	11	110		11	110		67-130	0		20
Benzene	ND	10	11	110		11	110		70-130	0		20
Toluene	ND	10	11	110		10	100		70-130	10		20
Ethylbenzene	ND	10	11	110		10	100		70-130	10		20
Chloromethane	ND	10	13	130		14	**140**	Q	64-130	7		20
Bromomethane	ND	10	5.4	54		5.6	56		39-139	4		20

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1125100-6 WG1125100-7 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Vinyl chloride	ND	10	13	130		12	120		55-140	8		20
Chloroethane	ND	10	9.5	95		10	100		55-138	5		20
1,1-Dichloroethene	ND	10	11	110		8.8	88		61-145	**22**	Q	20
trans-1,2-Dichloroethene	ND	10	11	110		11	110		70-130	0		20
Trichloroethene	ND	10	10	100		10	100		70-130	0		20
1,2-Dichlorobenzene	ND	10	10	100		11	110		70-130	10		20
1,3-Dichlorobenzene	ND	10	10	100		10	100		70-130	0		20
1,4-Dichlorobenzene	ND	10	10	100		10	100		70-130	0		20
Methyl tert butyl ether	ND	10	11	110		12	120		63-130	9		20
p/m-Xylene	ND	20	22	110		22	110		70-130	0		20
o-Xylene	ND	20	22	110		22	110		70-130	0		20
cis-1,2-Dichloroethene	ND	10	11	110		11	110		70-130	0		20
Dibromomethane	ND	10	11	110		11	110		70-130	0		20
1,2,3-Trichloropropane	ND	10	11	110		12	120		64-130	9		20
Styrene	ND	20	22	110		21	105		70-130	5		20
Dichlorodifluoromethane	ND	10	13	130		12	120		36-147	8		20
Acetone	1.6J	10	12	120		14	140		58-148	15		20
Carbon disulfide	ND	10	12	120		9.3	93		51-130	**25**	Q	20
2-Butanone	ND	10	11	110		12	120		63-138	9		20
Vinyl acetate	ND	10	11	110		12	120		70-130	9		20
4-Methyl-2-pentanone	ND	10	12	120		13	130		59-130	8		20
2-Hexanone	ND	10	10	100		11	110		57-130	10		20
Bromochloromethane	ND	10	11	110		11	110		70-130	0		20

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1125100-6 WG1125100-7 QC Sample: L1821549-01 Client ID: PZ07R-060818												
2,2-Dichloropropane	ND	10	11	110		11	110		63-133	0		20
1,2-Dibromoethane	ND	10	11	110		11	110		70-130	0		20
1,3-Dichloropropane	ND	10	11	110		11	110		70-130	0		20
1,1,1,2-Tetrachloroethane	ND	10	11	110		11	110		64-130	0		20
Bromobenzene	ND	10	10	100		10	100		70-130	0		20
n-Butylbenzene	ND	10	11	110		11	110		53-136	0		20
sec-Butylbenzene	ND	10	11	110		10	100		70-130	10		20
tert-Butylbenzene	ND	10	11	110		11	110		70-130	0		20
o-Chlorotoluene	ND	10	10	100		9.9	99		70-130	1		20
p-Chlorotoluene	ND	10	10	100		10	100		70-130	0		20
1,2-Dibromo-3-chloropropane	ND	10	8.6	86		9.5	95		41-144	10		20
Hexachlorobutadiene	ND	10	10	100		11	110		63-130	10		20
Isopropylbenzene	ND	10	11	110		10	100		70-130	10		20
p-Isopropyltoluene	ND	10	11	110		11	110		70-130	0		20
Naphthalene	ND	10	9.6	96		11	110		70-130	14		20
n-Propylbenzene	ND	10	10	100		10	100		69-130	0		20
1,2,3-Trichlorobenzene	ND	10	10	100		12	120		70-130	18		20
1,2,4-Trichlorobenzene	ND	10	10	100		11	110		70-130	10		20
1,3,5-Trimethylbenzene	ND	10	10	100		10	100		64-130	0		20
1,2,4-Trimethylbenzene	ND	10	11	110		10	100		70-130	10		20
1,4-Dioxane	ND	500	370	74		550	110		56-162	**39**	Q	20

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1125100-6 WG1125100-7 QC Sample: L1821549-01 Client ID: PZ07R-060818												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		103		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	101		100		70-130
Toluene-d8	98		99		70-130

METALS

Project Name: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-01 Date Collected: 06/08/18 11:30

Client ID: PZ07R-060818 Date Received: 06/08/18

Sample Location: WATERLOO, NY Field Prep: Refer to COC

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.0103		mg/l	0.0100	0.00327	1	06/14/18 08:10	06/14/18 14:01	EPA 3005A	1,6020A	AM
Arsenic, Total	0.00625		mg/l	0.00050	0.00016	1	06/14/18 08:10	06/14/18 14:01	EPA 3005A	1,6020A	AM
Calcium, Total	146.		mg/l	0.100	0.0394	1	06/14/18 08:10	06/14/18 14:01	EPA 3005A	1,6020A	AM
Chromium, Total	0.00199		mg/l	0.00100	0.00017	1	06/14/18 08:10	06/14/18 14:01	EPA 3005A	1,6020A	AM
Iron, Total	6.23		mg/l	0.0500	0.0191	1	06/14/18 08:10	06/14/18 14:01	EPA 3005A	1,6020A	AM
Magnesium, Total	25.7		mg/l	0.0700	0.0242	1	06/14/18 08:10	06/14/18 14:01	EPA 3005A	1,6020A	AM
Manganese, Total	0.2184		mg/l	0.00100	0.00044	1	06/14/18 08:10	06/14/18 14:01	EPA 3005A	1,6020A	AM
Potassium, Total	11.4		mg/l	0.100	0.0309	1	06/14/18 08:10	06/14/18 14:01	EPA 3005A	1,6020A	AM
Silica, Total	20.2		mg/l	0.500	0.007	1	06/14/18 08:10	06/14/18 15:17	EPA 3005A	19,200.7	AB
Sodium, Total	587.		mg/l	1.00	0.293	10	06/14/18 08:10	06/14/18 14:29	EPA 3005A	1,6020A	AM
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.00438	J	mg/l	0.0100	0.00327	1	06/14/18 13:00	06/15/18 12:03	EPA 3005A	1,6020A	AM
Arsenic, Dissolved	0.00533		mg/l	0.00050	0.00016	1	06/14/18 13:00	06/15/18 12:03	EPA 3005A	1,6020A	AM
Chromium, Dissolved	0.00167		mg/l	0.00100	0.00017	1	06/14/18 13:00	06/15/18 12:03	EPA 3005A	1,6020A	AM
Iron, Dissolved	4.38		mg/l	0.0500	0.0191	1	06/14/18 13:00	06/15/18 12:03	EPA 3005A	1,6020A	AM
Manganese, Dissolved	0.1830		mg/l	0.00100	0.00044	1	06/14/18 13:00	06/15/18 12:03	EPA 3005A	1,6020A	AM

Project Name: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-03 Date Collected: 06/08/18 10:40

Client ID: MW31-060818 Date Received: 06/08/18

Sample Location: WATERLOO, NY Field Prep: Refer to COC

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1.00		mg/l	0.0500	0.0164	1	06/14/18 08:10	06/14/18 14:17	EPA 3005A	1,6020A	AM
Arsenic, Total	0.04966		mg/l	0.00250	0.00082	1	06/14/18 08:10	06/14/18 14:17	EPA 3005A	1,6020A	AM
Calcium, Total	28.8		mg/l	0.500	0.197	1	06/14/18 08:10	06/14/18 14:17	EPA 3005A	1,6020A	AM
Iron, Total	4.37		mg/l	0.250	0.0955	1	06/14/18 08:10	06/14/18 14:17	EPA 3005A	1,6020A	AM
Magnesium, Total	6.03		mg/l	0.350	0.121	1	06/14/18 08:10	06/14/18 14:17	EPA 3005A	1,6020A	AM
Manganese, Total	0.08110		mg/l	0.00500	0.00220	1	06/14/18 08:10	06/14/18 14:17	EPA 3005A	1,6020A	AM
Potassium, Total	15.0		mg/l	0.500	0.154	1	06/14/18 08:10	06/14/18 14:17	EPA 3005A	1,6020A	AM
Silica, Total	45.9		mg/l	2.50	0.037	1	06/14/18 08:10	06/14/18 16:58	EPA 3005A	19,200.7	AB
Sodium, Total	2280		mg/l	0.500	0.146	1	06/14/18 08:10	06/14/18 14:17	EPA 3005A	1,6020A	AM
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.769		mg/l	0.250	0.0818	5	06/14/18 13:00	06/15/18 12:11	EPA 3005A	1,6020A	AM
Arsenic, Dissolved	0.03052		mg/l	0.01250	0.00412	5	06/14/18 13:00	06/15/18 12:11	EPA 3005A	1,6020A	AM
Iron, Dissolved	2.62		mg/l	1.25	0.478	5	06/14/18 13:00	06/15/18 12:11	EPA 3005A	1,6020A	AM
Manganese, Dissolved	0.1629		mg/l	0.02500	0.01100	5	06/14/18 13:00	06/15/18 12:11	EPA 3005A	1,6020A	AM

Project Name: FORMER HAMPSHIRE CHEMICAL CORP **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1125799-1										
Silica, Total	0.027	J	mg/l	0.500	0.007	1	06/14/18 08:10	06/14/18 15:36	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1125800-1										
Aluminum, Total	ND		mg/l	0.0100	0.00327	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM
Calcium, Total	ND		mg/l	0.100	0.0394	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM
Chromium, Total	ND		mg/l	0.00100	0.00017	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM
Iron, Total	0.0218	J	mg/l	0.0500	0.0191	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM
Manganese, Total	ND		mg/l	0.00100	0.00044	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM
Potassium, Total	ND		mg/l	0.100	0.0309	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM
Sodium, Total	ND		mg/l	0.100	0.0293	1	06/14/18 08:10	06/14/18 13:10	1,6020A	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1125937-1										
Aluminum, Dissolved	ND		mg/l	0.0100	0.00327	1	06/14/18 13:00	06/15/18 11:55	1,6020A	AM
Arsenic, Dissolved	ND		mg/l	0.00050	0.00016	1	06/14/18 13:00	06/15/18 11:55	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.00100	0.00017	1	06/14/18 13:00	06/15/18 11:55	1,6020A	AM
Iron, Dissolved	0.0197	J	mg/l	0.0500	0.0191	1	06/14/18 13:00	06/15/18 11:55	1,6020A	AM
Manganese, Dissolved	ND		mg/l	0.00100	0.00044	1	06/14/18 13:00	06/15/18 11:55	1,6020A	AM

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA
Lab Number: L1821549
Report Date: 06/15/18

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1125799-2								
Silica, Total	105		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1125800-2								
Aluminum, Total	112		-		80-120	-		
Arsenic, Total	114		-		80-120	-		
Calcium, Total	104		-		80-120	-		
Chromium, Total	104		-		80-120	-		
Iron, Total	115		-		80-120	-		
Magnesium, Total	108		-		80-120	-		
Manganese, Total	105		-		80-120	-		
Potassium, Total	102		-		80-120	-		
Sodium, Total	103		-		80-120	-		
Dissolved Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1125937-2								
Aluminum, Dissolved	109		-		80-120	-		
Arsenic, Dissolved	106		-		80-120	-		
Chromium, Dissolved	103		-		80-120	-		
Iron, Dissolved	113		-		80-120	-		
Manganese, Dissolved	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1125799-3 WG1125799-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Silica, Total	20.2	2.14	23.5	**154**	Q	23.9	**173**	Q	75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1125799-7 QC Sample: L1821558-01 Client ID: MS Sample												
Silica, Total	21.9	2.14	25.3	**159**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1125800-3 WG1125800-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Aluminum, Total	0.0103	2	2.06	102		2.22	110		75-125	7		20
Arsenic, Total	0.00625	0.12	0.1397	111		0.1462	117		75-125	5		20
Calcium, Total	146.	10	150	**40**	Q	158	120		75-125	5		20
Chromium, Total	0.00199	0.2	0.2048	101		0.2159	107		75-125	5		20
Iron, Total	6.23	1	7.54	**131**	Q	7.89	**166**	Q	75-125	5		20
Magnesium, Total	25.7	10	36.3	106		39.1	**134**	Q	75-125	7		20
Manganese, Total	0.2184	0.5	0.7172	100		0.7626	109		75-125	6		20
Potassium, Total	11.4	10	20.5	91		21.7	103		75-125	6		20
Sodium, Total	587.	10	611	**240**	Q	654	**670**	Q	75-125	7		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1125937-3 WG1125937-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Aluminum, Dissolved	0.00438J	2	1.96	98		1.98	99		75-125	1		20
Arsenic, Dissolved	0.00533	0.12	0.1295	103		0.1283	102		75-125	1		20
Chromium, Dissolved	0.00167	0.2	0.1944	96		0.1941	96		75-125	0		20
Iron, Dissolved	4.38	1	5.28	90		5.30	92		75-125	0		20
Manganese, Dissolved	0.1830	0.5	0.6449	92		0.6450	92		75-125	0		20

INORGANICS
&
MISCELLANEOUS

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA
Lab Number: L1821549
Report Date: 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-01
Client ID: PZ07R-060818
Sample Location: WATERLOO, NY
Sample Depth:
Matrix: Water

Date Collected: 06/08/18 11:30
Date Received: 06/08/18
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	443.		mg CaCO3/L	2.00	NA	1	-	06/12/18 10:15	121,2320B	BR
Solids, Total Dissolved	1900		mg/l	10	3.1	1	-	06/10/18 17:15	121,2540C	SD
Nitrogen, Ammonia	4.64		mg/l	0.075	0.024	1	06/12/18 03:00	06/12/18 22:43	44,350.1	AT
Nitrogen, Nitrate	0.044	J	mg/l	0.10	0.033	1	-	06/11/18 21:24	44,353.2	MR
Nitrogen, Total Kjeldahl	6.61		mg/l	0.300	0.066	1	06/12/18 02:00	06/12/18 21:28	4,351.3/.1 (M)	AT
Phosphorus, Total	0.597		mg/l	0.010	0.003	1	06/12/18 10:00	06/13/18 12:10	121,4500P-E	SD
Phosphorus, Orthophosphate	0.031		mg/l	0.005	0.001	1	-	06/09/18 04:35	121,4500P-E	UN
Sulfide	9.3		mg/l	2.5	2.5	25	06/09/18 20:30	06/10/18 04:53	121,4500S2-AD	CW
Total Organic Carbon	3.56		mg/l	0.500	0.114	1	-	06/10/18 12:14	121,5310C	AG
Anions by Ion Chromatography - Westborough Lab										
Chloride	1120		mg/l	25.0	4.20	50	-	06/13/18 21:43	44,300.0	AU
Sulfate	158.		mg/l	50.0	8.00	50	-	06/13/18 21:43	44,300.0	AU

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA
Lab Number: L1821549
Report Date: 06/15/18

SAMPLE RESULTS

Lab ID: L1821549-03
Client ID: MW31-060818
Sample Location: WATERLOO, NY
Sample Depth:
Matrix: Water

Date Collected: 06/08/18 10:40
Date Received: 06/08/18
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	4360		mg CaCO3/L	10.0	NA	5	-	06/12/18 10:15	121,2320B	BR
Solids, Total Dissolved	6300		mg/l	30	9.2	3	-	06/10/18 17:15	121,2540C	SD
Nitrogen, Ammonia	3.66		mg/l	0.375	0.120	5	06/12/18 03:00	06/12/18 22:46	44,350.1	AT
Nitrogen, Nitrate	0.043	J	mg/l	0.10	0.033	1	-	06/11/18 20:36	44,353.2	MR
Nitrogen, Total Kjeldahl	6.70		mg/l	1.50	0.330	5	06/12/18 02:00	06/12/18 21:31	4,351.3/.1 (M)	AT
Phosphorus, Total	6.22		mg/l	0.100	0.030	10	06/12/18 10:00	06/13/18 12:12	121,4500P-E	SD
Phosphorus, Orthophosphate	5.89		mg/l	0.050	0.010	10	-	06/09/18 04:38	121,4500P-E	UN
Sulfide	0.50		mg/l	0.10	0.10	1	06/09/18 20:30	06/10/18 04:53	121,4500S2-AD	CW
Total Organic Carbon	81.5		mg/l	20.0	4.56	40	-	06/10/18 12:14	121,5310C	AG
Anions by Ion Chromatography - Westborough Lab										
Chloride	591.		mg/l	25.0	4.20	50	-	06/13/18 22:19	44,300.0	AU
Sulfate	333.		mg/l	50.0	8.00	50	-	06/13/18 22:19	44,300.0	AU

Project Name: FORMER HAMPSHIRE CHEMICAL CO **Lab Number:** L1821549

Project Number: 701970.01.SA **Report Date:** 06/15/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124178-1										
Sulfide	ND		mg/l	0.10	0.10	1	06/09/18 20:30	06/10/18 04:50	121,4500S2-AD	CW
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124184-1										
Phosphorus, Orthophosphate	0.001	J	mg/l	0.005	0.001	1	-	06/09/18 04:28	121,4500P-E	UN
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124413-1										
Solids, Total Dissolved	ND		mg/l	10	3.1	1	-	06/10/18 17:15	121,2540C	SD
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124427-1										
Total Organic Carbon	ND		mg/l	0.500	0.114	1	-	06/10/18 12:14	121,5310C	AG
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124751-1										
Nitrogen, Nitrate	ND		mg/l	0.10	0.033	1	-	06/11/18 20:16	44,353.2	MR
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124830-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	06/12/18 03:00	06/12/18 22:29	44,350.1	AT
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124833-1										
Nitrogen, Total Kjeldahl	0.075	J	mg/l	0.300	0.022	1	06/12/18 02:00	06/12/18 21:08	4,351.3/.1 (M)	AT
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124938-1										
Phosphorus, Total	ND		mg/l	0.010	0.003	1	06/12/18 10:00	06/13/18 11:57	121,4500P-E	SD
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1124970-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	06/12/18 10:15	121,2320B	BR
Anions by Ion Chromatography - Westborough Lab for sample(s): 01,03 Batch: WG1126175-1										
Chloride	ND		mg/l	0.500	0.083	1	-	06/13/18 18:55	44,300.0	AU
Anions by Ion Chromatography - Westborough Lab for sample(s): 01,03 Batch: WG1126175-1										
Sulfate	ND		mg/l	1.00	0.160	1	-	06/13/18 18:55	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124178-2								
Sulfide	96		-		75-125	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124184-2								
Phosphorus, Orthophosphate	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124413-2								
Solids, Total Dissolved	99		-		80-120	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124427-2								
Total Organic Carbon	101		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124751-2								
Nitrogen, Nitrate	96		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124830-2								
Nitrogen, Ammonia	92		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124833-2								
Nitrogen, Total Kjeldahl	97		-		78-122	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP

Project Number: 701970.01.SA

Lab Number: L1821549

Report Date: 06/15/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124938-2					
Phosphorus, Total	99	-	80-120	-	
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1124970-2					
Alkalinity, Total	101	-	90-110	-	10
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01,03 Batch: WG1126175-2					
Chloride	103	-	90-110	-	
Sulfate	100	-	90-110	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124178-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Sulfide	9.3	0.52	9.6	**58**	Q	-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124184-4 WG1124184-5 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Phosphorus, Orthophosphate	0.031	0.5	0.526	99		0.523	96		80-120	1		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124427-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Total Organic Carbon	3.56	8	11.8	103		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124751-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Nitrogen, Nitrate	0.044J	4	3.9	98		-	-		83-113	-		6
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124830-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Nitrogen, Ammonia	4.64	4	8.78	104		-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124833-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Nitrogen, Total Kjeldahl	6.61	8	13.1	81		-	-		77-111	-		24
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124938-3 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Phosphorus, Total	0.597	0.5	1.06	93		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124970-4 QC Sample: L1821549-01 Client ID: PZ07R-060818												
Alkalinity, Total	443.	100	536	93		-	-		86-116	-		10

Matrix Spike Analysis
Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1126175-3 WG1126175-4 QC Sample: L1821549-01 Client ID: PZ07R-060818									
Chloride	1120	200	1320	101	1320	101	90-110	0	18
Sulfate	158.	400	580	106	582	106	90-110	0	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124178-3 QC Sample: L1821549-01 Client ID: PZ07R-060818						
Sulfide	9.3	9.1	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124184-3 QC Sample: L1821549-03 Client ID: MW31-060818						
Phosphorus, Orthophosphate	5.89	5.93	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124413-3 QC Sample: L1821549-01 Client ID: PZ07R-060818						
Solids, Total Dissolved	1900	1900	mg/l	0		10
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124427-3 QC Sample: L1821549-01 Client ID: PZ07R-060818						
Total Organic Carbon	3.56	3.58	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124751-3 QC Sample: L1821549-01 Client ID: PZ07R-060818						
Nitrogen, Nitrate	0.044J	0.082J	mg/l	NC		6
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124830-3 QC Sample: L1821549-01 Client ID: PZ07R-060818						
Nitrogen, Ammonia	4.64	5.20	mg/l	11		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124833-3 QC Sample: L1821549-01 Client ID: PZ07R-060818						
Nitrogen, Total Kjeldahl	6.61	5.37	mg/l	21		24
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124938-4 QC Sample: L1821549-01 Client ID: PZ07R-060818						
Phosphorus, Total	0.597	0.616	mg/l	3		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1124970-3 QC Sample: L1821549-01 Client ID: PZ07R-060818						
Alkalinity, Total	443.	443	mg CaCO3/L	0		10

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1821549-01A	Vial HCl preserved	B	NA		3.0	Y	Absent		NYTCL-8260(14)
L1821549-01A1	Vial HCl preserved	B	NA		3.0	Y	Absent		NYTCL-8260(14)
L1821549-01A2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L1821549-01B	Vial HCl preserved	B	NA		3.0	Y	Absent		NYTCL-8260(14)
L1821549-01B1	Vial HCl preserved	B	NA		3.0	Y	Absent		NYTCL-8260(14)
L1821549-01B2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L1821549-01C	Vial HCl preserved	B	NA		3.0	Y	Absent		NYTCL-8260(14)
L1821549-01C1	Vial HCl preserved	B	NA		3.0	Y	Absent		NYTCL-8260(14)
L1821549-01C2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260(14)
L1821549-01D	Vial H2SO4 preserved	B	NA		3.0	Y	Absent		TOC-5310(28)
L1821549-01D1	Vial H2SO4 preserved	B	NA		3.0	Y	Absent		TOC-5310(28)
L1821549-01D2	Vial H2SO4 preserved	A	NA		2.7	Y	Absent		TOC-5310(28)
L1821549-01E	Vial H2SO4 preserved	B	NA		3.0	Y	Absent		TOC-5310(28)
L1821549-01E1	Vial H2SO4 preserved	B	NA		3.0	Y	Absent		TOC-5310(28)
L1821549-01E2	Vial H2SO4 preserved	A	NA		2.7	Y	Absent		TOC-5310(28)
L1821549-01F	Vial H2SO4 preserved	B	NA		3.0	Y	Absent		TOC-5310(28)
L1821549-01F1	Vial H2SO4 preserved	B	NA		3.0	Y	Absent		TOC-5310(28)
L1821549-01F2	Vial H2SO4 preserved	A	NA		2.7	Y	Absent		TOC-5310(28)
L1821549-01G	Plastic 250ml unpreserved/No Headspace	B	NA		3.0	Y	Absent		ALK-T-2320(14)
L1821549-01G1	Plastic 250ml unpreserved/No Headspace	B	NA		3.0	Y	Absent		ALK-T-2320(14)
L1821549-01G2	Plastic 250ml unpreserved/No Headspace	A	NA		2.7	Y	Absent		ALK-T-2320(14)
L1821549-01H	Plastic 250ml unpreserved	B	7	7	3.0	Y	Absent		TDS-2540(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1821549-01H1	Plastic 250ml unpreserved	B	7	7	3.0	Y	Absent		TDS-2540(7)
L1821549-01H2	Plastic 250ml unpreserved	A	7	7	2.7	Y	Absent		TDS-2540(7)
L1821549-01I	Plastic 250ml unpreserved	B	7	7	3.0	Y	Absent		OPHOS-4500(2)
L1821549-01I1	Plastic 250ml unpreserved	B	7	7	3.0	Y	Absent		OPHOS-4500(2)
L1821549-01I2	Plastic 250ml unpreserved	A	7	7	2.7	Y	Absent		OPHOS-4500(2)
L1821549-01J	Plastic 250ml Zn Acetate/NaOH preserved	B	>9	>9	3.0	Y	Absent		SULFIDE-4500(7)
L1821549-01J1	Plastic 250ml Zn Acetate/NaOH preserved	B	>9	>9	3.0	Y	Absent		SULFIDE-4500(7)
L1821549-01J2	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	2.7	Y	Absent		SULFIDE-4500(7)
L1821549-01K	Plastic 250ml Zn Acetate/NaOH preserved	B	>9	>9	3.0	Y	Absent		SULFIDE-4500(7)
L1821549-01K1	Plastic 250ml Zn Acetate/NaOH preserved	B	>9	>9	3.0	Y	Absent		SULFIDE-4500(7)
L1821549-01K2	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	2.7	Y	Absent		SULFIDE-4500(7)
L1821549-01L	Plastic 250ml HNO3 preserved	B	<2	<2	3.0	Y	Absent		MN-6020S(180),CR-6020S(180),FE-6020S(180),AS-6020S(180),AL-6020S(180)
L1821549-01L1	Plastic 250ml HNO3 preserved	B	<2	<2	3.0	Y	Absent		MN-6020S(180),CR-6020S(180),FE-6020S(180),AS-6020S(180),AL-6020S(180)
L1821549-01L2	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		MN-6020S(180),CR-6020S(180),FE-6020S(180),AS-6020S(180),AL-6020S(180)
L1821549-01M	Plastic 250ml HNO3 preserved	B	<2	<2	3.0	Y	Absent		FE-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NA-6020T(180),MN-6020T(180),AS-6020T(180),SO-UI(180),AL-6020T(180),MG-6020T(180)
L1821549-01M1	Plastic 250ml HNO3 preserved	B	<2	<2	3.0	Y	Absent		FE-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NA-6020T(180),MN-6020T(180),AS-6020T(180),SO-UI(180),AL-6020T(180),MG-6020T(180)
L1821549-01M2	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		FE-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NA-6020T(180),MN-6020T(180),AS-6020T(180),SO-UI(180),AL-6020T(180),MG-6020T(180)
L1821549-01O	Plastic 500ml H2SO4 preserved	B	<2	<2	3.0	Y	Absent		TKN-351(28),TPHOS-4500(28),NH3-350(28)
L1821549-01O1	Plastic 500ml H2SO4 preserved	B	<2	<2	3.0	Y	Absent		TKN-351(28),TPHOS-4500(28),NH3-350(28)
L1821549-01O2	Plastic 500ml H2SO4 preserved	A	<2	<2	2.7	Y	Absent		TKN-351(28),TPHOS-4500(28),NH3-350(28)
L1821549-01P	Plastic 500ml H2SO4 preserved	B	<2	<2	3.0	Y	Absent		TKN-351(28),TPHOS-4500(28),NH3-350(28)
L1821549-01P1	Plastic 500ml H2SO4 preserved	B	<2	<2	3.0	Y	Absent		TKN-351(28),TPHOS-4500(28),NH3-350(28)
L1821549-01P2	Plastic 500ml H2SO4 preserved	A	<2	<2	2.7	Y	Absent		TKN-351(28),TPHOS-4500(28),NH3-350(28)

*Values in parentheses indicate holding time in days

Project Name: FORMER HAMPSHIRE CHEMICAL CORP
Project Number: 701970.01.SA

Lab Number: L1821549
Report Date: 06/15/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1821549-01Q	Plastic 500ml unpreserved	B	7	7	3.0	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2)
L1821549-01Q1	Plastic 500ml unpreserved	B	7	7	3.0	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2)
L1821549-01Q2	Plastic 500ml unpreserved	A	7	7	2.7	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2)
L1821549-02A	Vial HCl preserved	B	NA		3.0	Y	Absent		NYTCL-8260(14)
L1821549-02B	Vial HCl preserved	B	NA		3.0	Y	Absent		NYTCL-8260(14)
L1821549-03A	Vial H2SO4 preserved	A	NA		2.7	Y	Absent		TOC-5310(28)
L1821549-03B	Vial H2SO4 preserved	A	NA		2.7	Y	Absent		TOC-5310(28)
L1821549-03C	Vial H2SO4 preserved	A	NA		2.7	Y	Absent		TOC-5310(28)
L1821549-03D	Plastic 250ml unpreserved/No Headspace	A	NA		2.7	Y	Absent		ALK-T-2320(14)
L1821549-03E	Plastic 250ml unpreserved	A	10	10	2.7	Y	Absent		TDS-2540(7)
L1821549-03F	Plastic 500ml unpreserved	A	10	10	2.7	Y	Absent		OPHOS-4500(2)
L1821549-03G	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	2.7	Y	Absent		SULFIDE-4500(7)
L1821549-03H	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	2.7	Y	Absent		SULFIDE-4500(7)
L1821549-03I	Plastic 250ml HNO3 preserved	A	7	7	2.7	N	Absent		MN-6020S(180),FE-6020S(180),AS-6020S(180),AL-6020S(180)
L1821549-03J	Plastic 250ml HNO3 preserved	A	7	7	2.7	N	Absent		FE-6020T(180),CA-6020T(180),K-6020T(180),NA-6020T(180),MN-6020T(180),AS-6020T(180),SO-UI(180),AL-6020T(180),MG-6020T(180)
L1821549-03K	Plastic 500ml H2SO4 preserved	A	7	<2	2.7	N	Absent		TKN-351(28),TPHOS-4500(28),NH3-350(28)
L1821549-03L	Plastic 500ml H2SO4 preserved	A	7	<2	2.7	N	Absent		TKN-351(28),TPHOS-4500(28),NH3-350(28)
L1821549-03M	Plastic 500ml unpreserved	A	7	7	2.7	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2)

*Values in parentheses indicate holding time in days

Project Name:	FORMER HAMPSHIRE CHEMICAL CORP	**Lab Number:**	L1821549
Project Number:	701970.01.SA	**Report Date:**	06/15/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
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.
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.

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.

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.

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 Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER HAMPSHIRE CHEMICAL CORP	**Lab Number:**	L1821549
Project Number:	701970.01.SA	**Report Date:**	06/15/18

Data Qualifiers

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.

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.

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER HAMPSHIRE CHEMICAL CORP	**Lab Number:**	L1821549
Project Number:	701970.01.SA	**Report Date:**	06/15/18

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; 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, SM4500CI-D, SM2320B, SM2540C, SM4500H-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**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, 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.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

L1821549

JACOBS

Chain of Custody Record

CH2M COC (YYYYMMDD-##): 20180608-02

LABORATORY: Alpha Analytical, 8 Walkup Dr, Westborough, MA 01581
(800) 624-9220
LABORATORY CONTACT: Ashaley Kane

PROJECT: Former Hampshire Chemical Corp., Waterloo, NY
PROJECT NUMBER: 703077.01.SA
EVENT: 2018 Annual Groundwater Sampling

PROJECT MANAGER & REPORT TO #1:
David Newman
299 Madison Ave., Morristown, NJ 07960
862.242.7061, david.newman@jacobs.com

PROJECT CONTACT & REPORT TO #2:
Shane Lowe
501 N Broadway, St. Louis, MO 63102
314.335.5075, shane.lowe@jacobs.com

PURCHASE ORDER # 703077
TURNAROUND TIME: Standard
DATA PACKAGE: Level IV
PROGRAM: RCRA
SAMPLER(s): D. Holmes, C. Lettich
SIGNATURE:

ANALYSES REQUESTED

PRESERVATIVE CODES (H=HCl, N=HNO_3, S=H_2SO_4, Zn=zinc acetate, B=NaOH, --=none)

SAMPLE IDENTIFICATION	GRAB/COMPOSITE	DATE	TIME	MATRIX	# CONTAINERS	H: VOCs + TICs (8260C)	N: Total Metals (6010C)(Al, As, Ca, Cr, Fe, K, Mg, Mn, Na)	N: Dissolved Metals (6010C)(Al, As, Cr, Fe, Mn) Field Filtered	N: Total Metals (6010C)(Al, As, Ca, Fe, K, Mg, Mn, Na)	N: Dissolved Metalsb (6010C) (Al, As, Fe, Mn) Field Filtered	--: Anions (300.0) (Cl^-, $SO4^{2-}$)	--: Nitrate (353.2)	--: Alkalinity (310.2)	S: Total Phosphorous (365.4)	S: TOC (SM5310)	S: Ammonia (350.1)	S: TKN (351.2)	S: Orthophosphate(SM4500PE) Field Filtered	--: TDS (SM2540)	--: Total Sulfide (SM 4500)	Z,B: Silica (200.7)	N: SVOCs + TICs (8270C)	-- : PAHs (8270D SIM)	Additional Requirements
PZ07R-060818	G	6/8/2018	11:30	GW	16	x	x	x			x	x	x	x	x	x	x	x	x	x	x			
TB-060818	-	6/8/2018	8:00	W	2	x																		
MW31-060818	G	6/8/2018	10:40	GW	15				x	x	x	x	x	x	x	x	x	x	x	x	x			See note #1
PZ07R-060818MS	G	6/8/18	11:30	GW	16	x			x	x	x	x	x	x	x	x	x	x	x	x	x			
PZ07R-060818MSD	G	6/8/18	11:30	GW	16	x			x	x	x	x	x	x	x	x	x	x	x	x	x			

1. RELINQUISHED BY (Signature)	DATE	TIME	1. RECEIVED BY (Signature)	DATE	TIME
	6/8/2018	15:00	S. Hong AAL	6/8/18	14:45
2. RELINQUISHED BY (Signature)	DATE	TIME	2. RECEIVED BY (Signature)	DATE	TIME
S. Hong AAL	6/8/18	14:45		6/9/18	08:49
3. RELINQUISHED BY (Signature)	DATE	TIME	3. RECEIVED BY (Signature)	DATE	TIME

ADDITIONAL REMARKS/INSTRUCTIONS:
1) While packing, noted acid-preserved samples under pressure.
Relieved pressure prior to shipment. **Use caution when opening.**

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