NPDES BIOMONITORING REPORT

GENERAL ELECTRIC COMPANY
Pittsfield, MA
NPDES PERMIT MA 0003891

Chronic Survival and Reproduction Toxicity Test with Ceriodaphnia Dubia

December 2014

WHOLE EFFLUENT TOXICITY TEST REPORT CERTIFICATION

I certify under penalty of law that this document and all ATTACHMENTS were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on 01/26/2015
(Date)

(Authorized Signature)

Andrew T. Silfer

General Electric Co. – Pittsfield, MA
Permit MA0003891

Prepared by: Deb Patton & Matt Calacone

January 12, 2015

1565 Jefferson Rd., Bld 300, Suite 360
Rochester, NY 14623
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January 12, 2015

Mr. Sean Coyle
Veolia Water North America
1000 East Street
Pittsfield, MA 01201

Re: NPDES Chronic Biomonitoring Report for December 2014
Submission #s: R1410446, R1500010, R1500009

Dear Mr. Coyle:

Enclosed is our report on the Chronic Whole Effluent Toxicity testing conducted in December 2014. The 64G Composite samples were collected on 12/29/14, 12/31/14 and 1/2/15 at 7:00 am. The Housatonic River samples were collected on 12/29/14 at 8:15 am, 12/31/14 at 8:20 am and 1/2/15 at 8:30 am. The 64G Composite and Housatonic River samples were analyzed at ALS Rochester for ammonia, total organic carbon, total solids, total dissolved solids, alkalinity and total metals. Results are presented in Appendix 2. The 64G Composite and Housatonic River samples were sent directly by Veolia to Aquatec Biological Services for the chronic aquatic toxicity testing including the analysis of alkalinity, hardness, specific conductance, and pH. Results are presented in Appendix 1. Please note, the following report is a re-sample of a previous sampling even conducted the week of December 15, 2014. Please reference ALS report numbers R1410114, R1410204 and R1410301.

Should you have any questions please contact me at (585)672-7473.

Thank you for allowing us to provide this service.

Sincerely,

ALS Environmental

Deb Patton
Project Manager

enc.

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I. Summary

On December 29, 2014-January 2, 2015 sampling of wastewater discharges from the General Electric Company facility in Pittsfield, MA was conducted in accordance with the chronic toxicity testing requirement of the GE NPDES Permit MA0003891. Three composite samples were collected from the GE 64G final effluent (which discharges through the outfall serial number 005 to the Housatonic River) over a 6-day period. Sampling dates were December 29, December 31 and January 2. The 64G effluent composite sample was shipped via courier to Aquatec Biological Sciences in Williston, Vermont for chronic toxicity testing. Grab samples of Housatonic River water, to be used as dilution water in the toxicity test, were collected upstream of the GE discharges on December 29, 31 and January 2 and shipped to Aquatec along with the 64G composite. Veolia, Inc. and ALS Rochester tested the composite effluent sample and the dilution water sample for chemical constituents. The analytical results are summarized in Table I and the detailed laboratory reports are included as Appendices to this report.

The results from Aquatec Biological Sciences for the chronic toxicity test on the 64G final effluent discharge sample indicated a Chronic-No Observed Effect Concentration (C-NOEC) of 100% with an IC_{25} of >100% Acute toxicity results were as follows - A-NOEC was 100% and an LC_{50} of >100%.

Table I – Summary of Analytical results for NPDES Outfall Composite Sample and Housatonic River Dilution Water December 29, 2014- January 2, 2015

Chronic Toxicity Results:								
	C-NOEC =	100%						
	IC_{25}	>100%						
Acute Toxicity Results:								
	A-NOEC	100%						
	LC_{50}	>100%						
	Chemical Analyses: (all results are mg/L unless otherwise indicated)							
		December 29	December 29	December 31	December 31	January 2	January 2	
		Effluent	Housatonic	Effluent	Housatonic	Effluent	Housatonic	
Parameter Tested	Laboratory	Composite	River	Composite	River	Composite	River	
Ammonia	ALS	0.124	ND (0.05)	0.137	ND (0.05)	0.137	ND (0.05)	
Total Alkalinity	ALS	416	41.8	412	46.4	408	48.7	
Total Organic Carbon	ALS	4.8	3.5	4.8	3.5	4.7	3.3	
Total Solids	ALS	710	58	724	74	725	86	
Total Dissolved Solids	ALS	730	79	707	103	730	86	
Hardness	Aquatec	360	44	296	52	390	56	
Spec. Conductance (umhos)	Aquatec	1377	119	1288	151	1366	168	
pH (SU)	Aquatec	7.8	7.0	7.8	7.0	8.1	6.9	
TRC (start of toxicity test)	Aquatec	ND	ND	ND	ND	ND	ND	
Aluminum, total	ALS	ND (0.03)	0.06	0.06	0.26	0.06	0.10	
Cadmium, total	ALS	ND (0.000008)	0.00001	ND (0.000008)	ND (0.000008)	ND (0.000008)	ND (0.000008)	
Copper, total	ALS	0.0015	0.0004	0.0017	0.0006	0.0013	0.0005	
Lead, total	ALS	0.0001	0.0001	ND (0.00007)	0.0002	ND (0.00007)	0.0002	
Nickel, total	ALS	0.0018	0.0004	0.0016	0.0005	0.0017	0.0005	
Zinc, total	ALS	ND (0.0012)	ND (0.0012)	ND (0.0012)	ND (0.0012)	ND (0.0012)	0.0027	
pH (SU)	Veolia	8.03	7.80	7.91	7.80	7.96	7.75	
NA – Not analyzed								
ND – Not detected (Number in parentheses is detection limit.)								

II. Review of Toxicity Test Results

The effluent discharge samples collected at Outfall 64G on December 29, December 31 and January 2 were tested for 7-day chronic toxicity using *Ceriodaphnia dubia* organisms. The samples did not require dechlorination with sodium thiosulfate ($Na_2S_2O_3$) prior to toxicity testing. Aquatec Biological Sciences reported the results of this toxicity testing as follows:

Chronic Reproductive Toxicity

Effluent toxicity as C-NOEC=	100%
Effluent toxicity as IC_{25} =	>100%

No limit is established for N-NOEC in the GE NPDES permit.

Acute Survival Toxicity

Effluent toxicity as A-NOEC	100%
Effluent Toxicity as LC_{50}	>100%

The following table summarizes the results of the control sample analyses performed by Aquatec during the chronic toxicity bioassay:

Control Analysis	Result	Acceptable Limit
Survival in 100% dilution water	90%	≥80%
Reproduction in 100% dilution water (average # of offspring/female/day)	18.1	≥15
Reproduction in 100% dilution water (% of females having three broods)	70%	≥60%

The survival and reproduction rate of *Ceriodaphnia dubia* in the upstream dilution water control samples was within acceptable limits, indicating that the results of the toxicity test are valid.

III. Review of Wastewater Sampling Procedures

Three composite effluent samples from Outfall 64G were collected over a 24-hour period.

The 24-hour composite sample was collected as follows:

> An automatic sampler at outfall 64G was programmed to collect approximately 7 liters of effluent into a 10-liter glass container in a time-proportioned manner over a 24-hour period. The sample container was refrigerated to keep the effluent sample cold during the 24-hour collection period. Flow meter readings were taken at the beginning and end of the 24-hour collection period to determine the total 24-hour flow for the 64G effluent discharge.

At the end of the 24-hour collection period, Veolia personnel packaged this sample for the chronic toxicity test and the chemical analyses. The effluent discharge sample was then split into various containers for toxicity testing and chemical analyses. These containers were shipped by vendor courier to Aquatec for toxicity testing and by FedEx (overnight) to Columbia Analytical Services for chemical analyses. All samples were chilled with ice packs during shipment.

A grab sample of Housatonic River water was collected on the second day of each 24-hour period at the Lyman Road Bridge in Hinsdale, MA, upstream of the GE site. This sample was split for chemical analysis and toxicity testing in a similar manner as the combined effluent sample (see above).

Details of the times and dates of sample collection as well as the names of the individuals collecting and transporting the samples are provided on the chain of custody forms in Appendix 3 of this report.

APPENDIX 1

Chemical and Acute Toxicity Data

Aquatec Biological Sciences

Aquatec Biological Sciences

Ecology | Environmental Toxicology | Natural Resource Assessments | Microbiology

January 8, 2015

Ms. Deb Patton, Project Chemist
ALS Life Sciences Division, Environmental
1565 Jefferson Road, Building 300, Suite 360
Rochester, NY 14623-3190

Dear Ms. Patton:

Attached please find the electronic copy (PDF) of our report on the results of a whole effluent toxicity test (chronic *Ceriodaphnia dubia* survival and reproduction test, EPA Method 1002.0 with acute data reported) for samples received from GE Pittsfield, Massachusetts.

A test conducted from December 16 through December 24, 2014 did not meet EPA acceptability criteria therefore Aquatec Biological Sciences, Inc. voluntarily repeated the *Ceriodaphnia dubia* chronic test with samples collected during the week of December 28, 2014. The retest met acceptability criteria. Data for the original test are included in the report (Appendix 4) and are marked as "Unused Data".

If you have any questions regarding the report, please call Dr. Philip C. Downey or me.

Sincerely,

John Williams
Manager, Environmental Toxicology

This report consists of the following numbered pages:

SDG: 14225
Pages: 1 - 60

273 Commerce Street, Williston, VT 05495 Tel: 802.860.1638 Fax: 802.658.3189

Chronic Whole Effluent Toxicity Testing of Wastewaters Discharged from the General Electric Plant, Pittsfield, Massachusetts

Samples Collected December 29, December 31, 2014 and January 2, 2015

Submitted to:
ALS Life Sciences Division, Environmental
1565 Jefferson Road, Building 300, Suite 360
Rochester, NY 14623

for
General Electric
Area Environmental & Facility Programs
100 Woodlawn Avenue
Pittsfield, Massachusetts 01201

SDG number: 14225

Effluent ID: Outfall Composite 64G-A10275; Aquatec sample number: 46497
Effluent ID: Outfall Composite 64G-A10277; Aquatec sample number: 46501
Effluent ID: Outfall Composite 64G-A10279; Aquatec sample number: 46503

Receiving water ID: Housatonic River A10276R; Aquatec sample number: 46498
Receiving water ID: Housatonic River A10278R; Aquatec sample number: 46502
Receiving water ID: Housatonic River A10280R; Aquatec sample number: 46504

January 6, 2015

Submitted by:
Aquatec Biological Sciences, Inc.
273 Commerce Street
Williston, Vermont 05454
Phone: (802) 860-1638 Fax: (802) 860-1638

Accreditation: NH Environmental Laboratory Accreditation Program
NELAP / NELAC accredited for the requested analysis.

Signatures and Approval

Submitted by:
Aquatec Biological Sciences, Inc.
273 Commerce Street
Williston, Vermont 05454
Phone: (802) 860-1638
Fax: (802) 658-3189

Study Director
John Williams

1/8/15
Date

Quality Assurance Officer and Director
Philip Downey, Ph.D.

1/9/15
Date

Whole Effluent Toxicity Test Report Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: Date: January 8, 2015

Authorized signature

John Williams
Name

Manager, Environmental Toxicology
Title

Aquatec Biological Sciences, Inc.
Laboratory

ACCREDITED IN ACCORDANCE WITH nelac

Certificate # 1737

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APPENDICES

ATTACHMENT

SUMMARY OF

Chronic Survival and Reproduction Toxicity Test with *Ceriodaphnia dubia*

Sponsor:	General Electric
Protocol title:	US EPA-821-R-02-013. *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 4th Ed., October 2002. Method 1002.0
Aquatec SDG:	14225
Test material:	Composite effluent from the General Electric Company located in Pittsfield, Massachusetts
Effluent sample ID:	Outfall Composite 64G-A10275 Outfall Composite 64G-A10277 Outfall Composite 64G-A10279
Dilution water:	Water from the Housatonic River (grab sample)
Receiving water sample ID:	Housatonic River A10276R Housatonic River A10278R Housatonic River A10280R
Dates collected:	December 29, 2014, December 31, 2014, January 2, 2015
Date received:	December 30, 2014, January 1, 2015, January 3, 2015
Test dates:	December 30, 2014 – January 6, 2015
Test concentrations:	100%, 75%, 50%, 25%, 12.5%, 6.25% effluent. Dilution water control (Housatonic River) Laboratory control (culture water)

SUMMARY OF

Acute and Chronic Toxicity Values

Acute Toxicity Values

Species	Exposure Period	LC50 (% effluent)	A-NOEC (% effluent)
Ceriodaphnia dubia	48-hours	>100%	100%

Chronic Toxicity Values

Species	Exposure Period (Endpoint)	C-NOEC (% effluent)	C-LOEC (% effluent)	IC25 (% effluent)
Ceriodaphnia dubia	7-day (Survival)	100%	>100%	N/A
	7-day (Reproduction)	100%	>100%	>100%

Control Performance

	48-hour (Survival)	End of Test (Survival)	Reproduction (Avg. neonates per female)	Percent of females producing 3 broods
Lab Control	100%	100%	30.5	100%
Receiving Control	90%	90%	18.1	70%

1.0 INTRODUCTION

1.1 Objective of the General Electric Study

The objective of this study was to measure the chronic toxicity of the composite wastewater discharged by the General Electric (GE) facility located in Pittsfield, Massachusetts to the Housatonic River. The water flea, *Ceriodaphnia dubia*, was exposed to effluent and dilutions of effluent under static conditions with daily renewal of test solutions. *Ceriodaphnia dubia* is routinely used by regulatory agencies and by contract laboratories for toxicity testing and EPA has published guidance documents for the performance of this test (U.S. EPA, 2002).

A toxicity test conducted from December 16 through December 24, 2014 did not meet EPA acceptance criteria, therefore a retest was scheduled for the next week. The retest was conducted from December 30, 2014 through January 6, 2015 at Aquatec Biological Sciences, Inc. (Aquatec) located in Williston Vermont. Aquatec holds NELAC accreditation for the requested whole effluent toxicity test. Original data and the final report produced for this study will be stored in Aquatec's archives in Williston, Vermont for a minimum of five years.

2.0 MATERIALS AND METHODS

2.1 Toxicity Test Protocol

Procedures used in this chronic toxicity test followed those described in the Aquatec Standard Operating Procedure (SOP) TOX2-002, Cladoceran, *Ceriodaphnia dubia* Survival and Reproduction Toxicity Test Revision 8, July 17, 2013. This SOP follows the standard methodology presented in U.S. EPA 2002 (EPA-821-R-02-013) for Method 1002.0. A copy of the SOP for the test method was provided with the September 2013 Report (SDG 13642).

2.2 Effluent and Receiving Water Samples

Effluent composite samples were collected by GE personnel from December 28-29, 2014 (initial sample); December 30-31, 2014 (first renewal sample), and January 1-2, 2015 (second renewal sample). Receiving water samples were grab samples collected from the Housatonic River on December 29 and 31, 2014 and January 2, 2015. Upon receipt of coolers containing samples at Aquatec on the day after collection, the temperature blanks contained within the coolers were within the range of 0°C to 6°C. The effluent and receiving water were prepared for testing and characterized (Table 1). Receiving water (Housatonic River) was the dilution water used for preparing effluent concentrations and was the primary control for statistical comparisons.

Table 1. Characterization of the General Electric Pittsfield Plant effluent and receiving water samples.

Parameter	OUTFALL COMPOSITE			HOUSATONIC RIVER		
	Initial	Renewal 1	Renewal 2	Initial	Renewal 1	Renewal 2
Temperature (°C)	25.2	25.7	25.4	25.0	25.6	25.0
pH	7.8	7.8	8.1	7.0	7.0	6.9
Alkalinity (mg/L)	380	332	392	32	44	56
Hardness (mg/L)	360	296	390	44	52	56
Dissolved Oxygen (mg/L)	8.4	7.9	8.0	8.9	7.9	7.9
Conductivity (µS/cm)	1377	1288	1366	119	151	168
Total residual chlorine (mg/L)	ND	ND	ND	ND	ND	ND

Characterizations reflect conditions of samples after preparation for the toxicity test.
ND = Not Detected

2.3 Control water

The laboratory control for the toxicity test was *Ceriodaphnia dubia* culture water consisting of reconstituted moderately hard water mixed in a 1:1 ratio with filtered Lamoille River, VT water or well water. This water was characterized for the following parameters at the beginning of the test: pH (7.0); dissolved oxygen (8.4 mg/L); conductivity (238 µS/cm).

2.4 Test Organism

Daphnids (*Ceriodaphnia dubia*) used for testing were obtained from Aquatic BioSystems, Inc. of Fort Collins, CO. Documentation received with the organisms indicates that the neonates were collected within an 8-hour interval and used for testing before they were 24-hours old. Upon receipt of the organisms, the test organisms were fed a green algae (*Pseudokirchneriella subcapita*) and YCT, both obtained from Aquatic BioSystems.

2.5 Test Procedures

Prior to initiating the toxicity test, a sub-sample of effluent and receiving water was decanted for alkalinity and hardness determinations. A sub-sample was also checked to determine whether dechlorination of effluent is required. Chlorine was not detected; therefore dechlorination of the effluent was not required. The sample was then aerated and warmed to test temperature.

The toxicity test was conducted at effluent concentrations of 100%, 75%, 50%, 25%, 12.5%, and 6.25% effluent. Test concentrations were prepared by diluting the appropriate volume of effluent with river water. Test solutions were then decanted to ten replicate 30 mL cups per concentration, each containing approximately 20 mL of test solution. The

control treatments included Housatonic River water (dilution water) as the primary (statistical) control and laboratory culture water as an additional (non-statistical) control.

The test was initiated when the neonates were transferred to the replicate test cups, one per cup. The toxicity test cups were incubated to maintain temperature in the target range of 24°C to 26°C. The lighting cycle was 16-h light and 8-h dark and a luminance of approximately 80 ft-c.

2.6 Test Monitoring

The number of surviving daphnids and number of young produced were recorded daily. Temperature was measured daily in one replicate of each test treatment. The parameters of pH, DO, and conductivity were measured daily on a composite of the test solutions both before and after renewal.

The criteria for ending the toxicity test were based upon the control performance and EPA acceptance criteria: An average of 15 neonates or more per female and at least 60% of surviving females having produced three broods during the test (as assessed on Day 6, 7, or 8).

2.7 Reference Toxicant Test

A modified acute/chronic standard reference toxicant (SRT) test was conducted as a quality control procedure to establish the health and sensitivity of in-house organisms. The SRT included five concentrations of reagent grade sodium chloride (NaCl) with nominal concentrations of 0.25, 0.5, 1.0, 2.0, and 3.0g NaCl/L.

3.0 STATISTICS

3.1 Statistical protocol

A computer program, Comprehensive Environmental Toxicity Information System (CETIS), was used to calculate acute and chronic values following the U.S. EPA statistical flowchart for Method 1002.0. The median lethal concentration (LC50, based on survival data at 48-hours of the test) is the calculated concentration lethal to 50% of the test organisms. If no concentrations resulted in 50% mortality, the LC50 was reported as greater than 100% effluent).

The Acute-No-Observable-Effect Concentration (A-NOEC) was determined statistically using multiple comparison tests to compare 48-h survival in each of the effluent concentrations to survival of the receiving water control.

The Chronic-No-Observable-Effect Concentration (C-NOEC) was determined based on the end-of-test survival and reproduction data using multiple comparison tests to compare the receiving water responses to the responses in each effluent concentration.

The IC25 (25% inhibition concentration) is the calculated effluent concentration that results in a 25% reduction in reproduction. If a 25% reduction was not reached, the IC25 is reported as >100%.

4.0 RESULTS

4.1 Effluent Water Quality

Table 2 presents water quality data measured during the toxicity test. Measured temperatures during the test were within the ranged from 24°C to 26°C.

Table 2. Water quality measurements (ranges) recorded during the chronic toxicity test with *Ceriodaphnia dubia*

Test Concentration (% effluent)	pH	Dissolved Oxygen (mg/L)	Temperature (°C)	Conductivity (µS/cm)
Lab Control	6.7 – 7.2	7.6 – 8.4	24.0 – 26.0	212 – 253
Receiving Control	6.8 – 7.4	7.7 – 8.9	24.2 – 25.9	119 – 275
6.25%	6.9 – 7.7	7.6 – 8.9	24.1 – 25.9	192 – 256
12.5%	6.9 – 7.9	7.6 – 8.9	24.2– 25.9	275 – 344
25%	7.1 – 8.0	7.7 – 8.8	24.1 – 25.9	428 – 500
50%	7.3 – 8.3	7.6 – 8.7	24.1 – 25.9	689 – 788
75%	7.5 – 8.4	7.6 – 8.5	24.2 – 25.9	950 – 1085
100%	7.8 – 8.5	7.6 – 8.4	24.2 – 26.0	1173 – 1377

4.2 Effluent Toxicity Test

The test was ended on Day 7 when at least 60% of the receiving water control organisms had produced three broods with a minimum average of 15 young per surviving female. The laboratory control also met the test acceptance criteria on Day 7. Table 3 presents the percent survival and reproduction data.

Acute toxicity was not detected during this evaluation. The 48-hour LC50 value was >100% effluent and the acute A-NOEC was 100% effluent. Significant reductions in reproduction were not detected, therefore the chronic C-NOEC was reported as 100% effluent.

Table 3. Summary of percent survival and reproduction data recorded during the chronic toxicity test with *Ceriodaphnia dubia*

Test Concentration (% effluent)	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Average Neonates
Lab Control	100	100	100	100	100	100	100	30.5
Receiving Control	90	90	90	90	90	90	90	18.1
6.25%	90	90	90	90	90	90	90	14.1
12.5%	100	100	100	100	100	100	90	17.0
25%	100	100	100	100	100	100	100	24.0
50%	100	100	100	100	100	100	100	20.0
75%	100	100	100	100	100	100	100	23.1
100%	100	100	100	100	90	90	90	22.7

* A significant reduction ($p<0.05$) in survival relative to the Receiving Control was observed.

4.3 Reference Toxicant Test

The most recent standard reference toxicant (SRT) test, conducted in December 16-22, 2014, had a resulting 48-hour LC50 2.26 g NaCl/L and a chronic IC25 of 0.21 g NaCl/L. These values were within the Control Chart limits generated for SRT tests with *Ceriodaphnia dubia* in our laboratory (Appendix 6).

5.0 QUALIFIERS

5.1 Qualifiers and Special Conditions

To the best our knowledge, there are were no special conditions or qualifiers that relate to the samples in this report, with the following exceptions:

A test conducted from December 16 through December 24, 2014 did not meet reproduction test acceptability criteria in the controls. A retest was rescheduled for the following week. Reported data are from the retest. Copies of bench sheets for the original test (December 16-24, 2014) are marked as "data not used" and are included in the data package for this report (Appendix 4).

Ceriodaphnia dubia neonates used for the test were acquired from an outside supplier rather than from in-house cultures. As documented on the Organism History sheet, the neonates were collected within an eight hour collection period and were less than 24-hours old when used to start the toxicity test.

Some replicates had what were interpreted as "split broods" whereby neonates from the same brood may have been released both before and after the renewal procedure. These instances were viewed as a single brood.

REFERENCES

Aquatec Biological Sciences, Inc. SOP TOX2-002. *Standard Operating Procedure for Cladoceran, Ceriodaphnia dubia Survival and Reproduction Test*, US EPA Method 1002.0.

U.S. Environmental Protection Agency, 2002. 4th Edition. *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms.* EPA-821-R-02-013.

Comprehensive Environmental Toxicity Information System (CETIS v1.8.4.29), 2012. Tidepool Scientific Software, McKinleyville, CA

Appendix 1

Chain-of-Custody Documentation

Aquatec Biological Sciences
Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier:
Address: Veolia Water, NA	**Outfall Composite – INITIAL SAMPLE**	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s):	
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	Date Shipped: 12/29/14
Facsimile:	Ship these samples on Monday.	
Contact Name: Sean Coyle or Dave Moro	Client Code: ALS/Patton	Hand Delivered: ☐ Yes ☑ No

SAMPLE IDENTIFICATION	SAMPLE COLLECTION Start date and time	Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS (4°C Plastic 1 gal; 4°C Plastic 1/2 gal; 4°C H_2SO_4 Plastic 1 L; 4°C H_2SO_4 Glass 40 ml; 4°C Glass 40 mL; 4°C HNO_3 Plastic 0.5 L)
Outfall Composite 646-A10275	12/28/14 700 am	12/29/14 700 am		✓	Effluent	1000.2: *Ceriodaphnia dubia* chronic suvival and reproduction - IN	1
Outfall Composite 646-A10275	12/28/14 700 am	12/29/14 700 am		✓	Effluent	Total Residual Chlorine (See Note in Comment Box below)	1
Housatonic River A10216R	12/29/14 8:15 am		✓		Receiving	Receiving (dilution water)	1

	DATE	TIME	Received by: (signature)
Relinquished by: (signature)	12/29/14	1305	
Relinquished by: (signature)	12/30/14	0830	
Relinquished by: (signature)	DATE	TIME	Received by: (signature)

Temperature blank at time of delivery (Aquatec): 1,2 °C.

WWTP Operators:

Is your final effluent chlorinated?

If so, is it dechlorinated prior to shipment for toxicity testing?

Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

Aquatec Biological Sciences
Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier: Priority Express
Address: Veolia Water NA	**Outfall Composite – RENEWAL SAMPLE**	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s):	
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	Date Shipped: 12/31/14
Facsimile:	**Ship these samples on Wednesday**	
Contact Name: Dave Moro	Client Code: ALS/Patton	Hand Delivered: ☐ Yes ☐ No

SAMPLE IDENTIFICATION	SAMPLE COLLECTION Start date and time	Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS 4°C / Plastic / 1 gal	4°C / Plastic / 1/2 gal	4°C H_2SO_4 / Plastic / 1 L	4°C H_2SO_4 / Glass / 40 ml	4°C / Glass / 40 mL	4°C HNO_3 / Plastic / 0.5 L
Outfall Composite 646-A10277	12/30/14 7:00 am	12/31/14 7:00 am		X	Effluent	**Renewal 1 (R1):** *Ceriodaphnia dubia* chronic suvival and reproduction	1					
Outfall Composite 646-A10277	12/30/14 7:00 am	12/31/14 7:00 am		X	Effluent	**Total Residual Chlorine (See Note in Comment Box below)**					1	
~~A10278R~~												
Housatonic River A10278R	12/31/14	12/31/14 8:50 am	X		Receiving	Receiving (Dilution Water)	1					

	DATE	TIME		
Relinquished by: *(signature)*	12/31/14	300 pm	Received by: *(signature)*	Temperature blank at time of delivery (Aquatec): 1.6 °C.
Relinquished by: *(signature)*	1/1/15	1:30	Received by: *(signature)*	**WWTP Operators:** Is your final effluent chlorinated?
Relinquished by: *(signature)*	DATE	TIME	Received by: *(signature)*	If so, is it dechlorinated prior to shipment for toxicity testing?
				Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

Aquatec Biological Sciences
Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier: Priority Express
Address: Veolia Water NA	**Outfall Composite – RENEWAL SAMPLE**	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s):	Date Shipped: 1/2/15
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	
Facsimile:	**Ship these samples on Friday.**	Hand Delivered: ☐ Yes ☒ No
Contact Name: Dave Moro	Client Code: ALS/Patton	

SAMPLE IDENTIFICATION	COLLECTION Start date and time	COLLECTION Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS 4°C / Plastic / 1 gal	4°C / Plastic / 1/2 gal	4°C H_2SO_4 / Plastic / 1 L	4°C H_2SO_4 / Glass / 40 ml	4°C / Glass / 40 mL	4°C HNO_3 / Plastic / 0.5 L
Outfall Composite 646-A10279	1/1/15 700 am	1/2/15 700 am		X	Effluent	Renewal 2 (R2): *Ceriodaphnia dubia* chronic survival and reproduction	2					
Outfall Composite 646-A10279	1/1/15 700 am	1/2/15 700 am		X	Effluent	Total Residual Chlorine (See Note in Comment Box below)					1	
Housatonic River A10280	1/2/15 830 am		X		Receiving	Receiving (Dilution Water)	2					
A10280												

	DATE	TIME	
Relinquished by: *(signature)*	1/2/15	1407	Received by: *(signature)*
Relinquished by: *(signature)*	1/3/15	1100	Received by: *(signature)*
Relinquished by: *(signature)*	DATE	TIME	Received by: *(signature)*

Temperature blank at time of delivery (Aquatec): 1.7 °C.

WWTP Operators:

Is your final effluent chlorinated?

If so, is it dechlorinated prior to shipment for toxicity testing?

Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

Appendix 2

Summary of Test Conditions

Method: **1002.0**	***Daphnid, C. dubia, Survival and Reproduction Test***		
	Ceriodaphnia dubia	Associated Protocol: EPA-821-R-02-013	SOP: TOX2-002

GE Pittsfield NPDES	***Permit:*** ***MA0003891***	***Pipe*** ***1***	***Project:*** ***14008***

1	Test type:	Static renewal
2	Temperature:	25 +/- 1C; Test temperatures must not deviate (i.e. maximum minus minimum temperature) by more than 3C during the test
3	Light quality:	Ambient laboratory illumination
4	Light intensity:	10-20uE/m^2/s or 50-100ft-c (ambient laboratory levels)
5	Photoperiod:	16h light, 8h dark
6	Test chamber size:	30mL
7	Test solution volume	Nominal 15mL
8	renewal of test solutions:	Daily
9	Age of test organisms:	Less than 24h; and all released within a 8h period
10	No. neonates per test chamber:	1
11	No. replicate test chambers per concentration:	10
12	No. neonates per test concentration:	10
13	Feeding regime:	Feed 0.1mL each of YCT and algal suspension per test chamber daily
14	Cleaning:	Use new plastic cups daily
15	Aeration:	None
16	Dilution water:	Housatonic River
17	Test concentrations (%):	0, 0, 6.25, 12.5, 25, 50, 75, 100
18	Additional control:	1:1 Lamoille River/MHW
19	Test duration:	Until 60% or more of surviving control females have three broods (maximum test duration 8 days)
20	Endpoints:	Survival and reproduction
21	Test acceptability criteria:	80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions. 60% of surviving control females must produce three broods
22	Sampling requirements:	For off-site tests, a minimum of three samples (e.g., collected on days one, three, and five) with a maximum holding time of 36h before first use
23	Sample volume required:	1L/day

Appendix 3

Region 1 US EPA Toxicity Test Summary Report

Aquatec Biological Sciences, Inc.
273 Commerce Street
Williston, VT 05495
Tel: (802) 860 - 1638 Fax: (802) 658 - 3189

SDG: 14225
Project: 14008

Project: GE Pittsfield NPDES
Client ID: ALS Environmental

Test Start Date: Tuesday, December 30, 2014
Permit No. MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* Reference: EPA-821-R-02-013 SOP: TOX2-002

TOXICITY TEST SUMMARY SHEET

Daphnid, C. dubia, Survival and Reproduction Test

Test Type	Test Species	Sample Type	Sampling Method
Modified Chronic	*Ceriodaphnia dubia*	Effluent	Composite

Dilution Water: Housatonic River

Additional Control: 1:1 Lamoille River/MHW

Effluent Sampling Dates: December 29 and 31, 2014. January 2, 2015

Effluent Concentrations Tested (%): 0, 0, 6.25, 12.5, 25, 50, 75, 100

Was Effluent Salinity Adjusted? No If yes, to what value?

With Sea Salts? Hypersaline Brine Solution?

Reference Toxicant Date: December 16-22, 2014

Reference Toxicant Test Acceptable? No

Age and Age Range of Test Organisms: < 24h collected within an 8-hour period

Source of Organisms: Aquatic BioSystems, Fort Collins, CO

Aquatec Biological Sciences, Inc.

273 Commerce Street
Williston, VT 05495
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SDG: 14225
Project: 14008

Project: GE Pittsfield NPDES
Client ID: ALS Environmental

Test Start Date: Tuesday, December 30, 2014
Permit No. MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* Reference: EPA-821-R-02-013 SOP: TOX2-002

TEST RESULTS AND PERMIT LIMITS

Daphnid, C. dubia, Survival and Reproduction Test

Test Acceptability Criteria

A. Dilution Water Control: Housatonic River
Mean Control Survival (%): 90 Mean Control Reproduction (neonates): 18.1

B. Additional Control: 1:1 Lamoille River/MHW
Mean Control Survival (%): 100 Mean Control Reproduction (neonates): 30.5

C. Lab Control:
See B above

D. Thiosulfate Control:
N / A

Test Variability

Test PMSD Reproduction (%): 45

PERMIT LIMITS AND TEST RESULTS

Daphnid, C. dubia, Survival and Reproduction Test

LIMITS (%)		RESULTS (%)
48-Hour LC50:	48-Hour LC50:	> 100
	Upper Value	
	Lower Value	
	Data Analysis Method(s):	Linear interpolation, Fisher Exact/Bonferroni-Holm Test, Steel Many-One Rank Sum Test
A-NOEC:	A-NOEC:	100
C-NOEC:	C-NOEC:	100
	C-LOEC:	100
IC25:	IC25:	> 100
IC50 Limit:	IC50:	

Aquatec Biological Sciences, Inc.

273 Commerce Street
Williston, VT 05495
Tel: (802) 860 - 1638 Fax: (802) 658 - 3189

SDG: 14225
Project: 14008

Project: GE Pittsfield NPDES
Client ID: ALS Environmental

Test Start Date: Tuesday, December 30, 2014
Permit No. MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* Reference: EPA-821-R-02-013 SOP: TOX2-002

Reported Test Results Justification, PMSD Comparison Discussion and Concentration-Response Evaluation:

Control Results:

The statistical control (receiving water) met survival and growth acceptability criteria. The additional non-statistical control (laboratory water) also met the acceptance criteria.

PMSD Comparison:

Statistical analysis of the test data resulted in a Percent Minimum Significant Difference (PMSD, a measure of statistical sensitivity) within the boundaries (13%-47%) outlined in Table 6 of EPA-821-R-02-013 for Ceriodaphnia dubia reproduction, indicating test data with normal variability and sensitivity. The chronic values (C-NOEC, C-LOEC) were reported as calculated by the statistical program.

Concentration-Response Comparison:

The concentration-response pattern reflected a relationship where statistically significant reductions in reproduction were not detected based on comparisons to the receiving water control. The chronic values (C-NOEC, C-LOEC) were reported as calculated by the statistical program.

Appendix 4

Bench Data, *Ceriodaphnia dubia* Chronic Toxicity Test

CETIS Summary Report

Ceriodaphnia 7-d Survival and Reproduction Test — Aquatec Biological Sciences, Inc

Batch ID:	08-0970-3604	Test Type:	Reproduction-Survival (2-8d)	Analyst:	John Williams
Start Date:	30 Dec-14 13:15	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	06 Jan-14 10:05	Species:	Ceriodaphnia dubia	Brine:	
Duration:	NA	Source:	Aquatic Biosystems, CO	Age:	1
Sample ID:	05-2390-8253	Code:	14225ABS	Client:	GE Pittsfield
Sample Date:	29 Dec-14 07:00	Material:	Industrial Effluent	Project:	WET Quarterly Compliance Test (4Q)
Receive Date:	30 Dec-14 08:30	Source:	NPDES Permit # MA0003891 (GE PITTS)		
Sample Age:	30h	Station:	GE Pittsfield		

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
06-0080-3954	2d Survival Rate	100	>100	NA	NA	1	Fisher Exact/Bonferroni-Holm Test
00-5975-5705	7d Survival Rate	100	>100	NA	NA	1	Fisher Exact/Bonferroni-Holm Test
18-1874-7452	Reproduction	100	>100	NA	45.0%	1	Steel Many-One Rank Sum Test

Point Estimate Summary

Analysis ID	Endpoint	Level	%	95% LCL	95% UCL	TU	Method
21-3551-6666	2d Survival Rate	EC5	>100	N/A	N/A	<1	Linear Interpolation (ICPIN)
		EC10	>100	N/A	N/A	<1	
		EC15	>100	N/A	N/A	<1	
		EC20	>100	N/A	N/A	<1	
		EC25	>100	N/A	N/A	<1	
		EC40	>100	N/A	N/A	<1	
		EC50	>100	N/A	N/A	<1	
20-7128-8402	Reproduction	IC5	>100	N/A	N/A	<1	Linear Interpolation (ICPIN)
		IC10	>100	N/A	N/A	<1	
		IC15	>100	N/A	N/A	<1	
		IC20	>100	N/A	N/A	<1	
		IC25	>100	N/A	N/A	<1	
		IC40	>100	N/A	N/A	<1	
		IC50	>100	N/A	N/A	<1	

2d Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	10	0.9	0.6738	1	0	1	0.1	0.3162	35.14%	0.0%
0	Lab Water	10	1	1	1	1	1	0	0	0.0%	-11.11%
6.25		10	0.9	0.6738	1	0	1	0.1	0.3162	35.14%	0.0%
12.5		10	1	1	1	1	1	0	0	0.0%	-11.11%
25		10	1	1	1	1	1	0	0	0.0%	-11.11%
50		10	1	1	1	1	1	0	0	0.0%	-11.11%
75		10	1	1	1	1	1	0	0	0.0%	-11.11%
100		10	1	1	1	1	1	0	0	0.0%	-11.11%

7d Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	10	0.9	0.6738	1	0	1	0.1	0.3162	35.14%	0.0%
0	Lab Water	10	1	1	1	1	1	0	0	0.0%	-11.11%
6.25		10	0.9	0.6738	1	0	1	0.1	0.3162	35.14%	0.0%
12.5		10	0.9	0.6738	1	0	1	0.1	0.3162	35.14%	0.0%
25		10	1	1	1	1	1	0	0	0.0%	-11.11%
50		10	1	1	1	1	1	0	0	0.0%	-11.11%
75		10	1	1	1	1	1	0	0	0.0%	-11.11%
100		10	0.9	0.6738	1	0	1	0.1	0.3162	35.14%	0.0%

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	10	18.1	10.5	25.7	0	33	3.361	10.63	58.73%	0.0%
0	Lab Water	10	30.5	26.76	34.24	21	40	1.655	5.233	17.16%	-68.51%
6.25		10	14.1	8.363	19.84	0	24	2.536	8.02	56.88%	22.1%
12.5		10	17	9.237	24.76	0	29	3.432	10.85	63.84%	6.08%
25		10	24	19.9	28.1	16	32	1.814	5.735	23.9%	-32.6%
50		10	20	17.71	22.29	16	24	1.011	3.197	15.99%	-10.5%
75		10	23.1	19.77	26.43	16	31	1.472	4.654	20.15%	-27.62%
100		10	22.7	16.97	28.43	3	30	2.534	8.015	35.31%	-25.41%

2d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	1	1	1	1	0	1	1	1	1	1
0	Lab Water	1	1	1	1	1	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	0	1
12.5		1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	1	1
50		1	1	1	1	1	1	1	1	1	1
75		1	1	1	1	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

7d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	1	1	1	1	0	1	1	1	1	1
0	Lab Water	1	1	1	1	1	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	0	1
12.5		1	1	1	1	1	1	1	1	0	1
25		1	1	1	1	1	1	1	1	1	1
50		1	1	1	1	1	1	1	1	1	1
75		1	1	1	1	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	0

Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	16	26	21	23	0	20	13	27	33	2
0	Lab Water	40	30	29	31	31	32	25	36	30	21
6.25		20	0	18	14	18	17	13	24	0	17
12.5		20	21	0	29	20	23	28	23	1	5
25		16	23	32	32	25	18	22	25	29	18
50		24	23	24	23	16	19	16	19	18	18
75		16	31	28	20	17	24	26	23	22	24
100		30	26	24	23	22	29	28	26	16	3

CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test — Aquatec Biological Sciences, Inc

Analysis ID:	18-1874-7452	Endpoint:	Reproduction	CETIS Version:	CETISv1.8.7
Analyzed:	06 Jan-15 15:18	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes
Batch ID:	08-0970-3604	Test Type:	Reproduction-Survival (2-8d)	Analyst:	John Williams
Start Date:	30 Dec-14 13:15	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	06 Jan-14 10:05	Species:	Ceriodaphnia dubia	Brine:	
Duration:	NA	Source:	Aquatic Biosystems, CO	Age:	1
Sample ID:	05-2390-8253	Code:	14225ABS	Client:	GE Pittsfield
Sample Date:	29 Dec-14 07:00	Material:	Industrial Effluent	Project:	WET Quarterly Compliance Test (4Q)
Receive Date:	30 Dec-14 08:30	Source:	NPDES Permit # MA0003891 (GE PITTS)		
Sample Age:	30h	Station:	GE Pittsfield		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Untransformed	NA	C > T	NA	NA	45.0%	100	>100	NA	1

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Dilution Water		6.25	89	74	3	18	0.3517	Asymp	Non-Significant Effect
		12.5	104	74	4	18	0.8355	Asymp	Non-Significant Effect
		25	120	74	2	18	0.9929	Asymp	Non-Significant Effect
		50	105	74	2	18	0.8571	Asymp	Non-Significant Effect
		75	119	74	4	18	0.9908	Asymp	Non-Significant Effect
		100	122	74	3	18	0.9958	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	801.7714	133.6286	6	2.206	0.0539	Non-Significant Effect
Error	3816.8	60.58413	63			
Total	4618.571		69			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	17.38	16.81	0.0080	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.935	0.9526	0.0013	Non-normal Distribution

Reproduction Summary

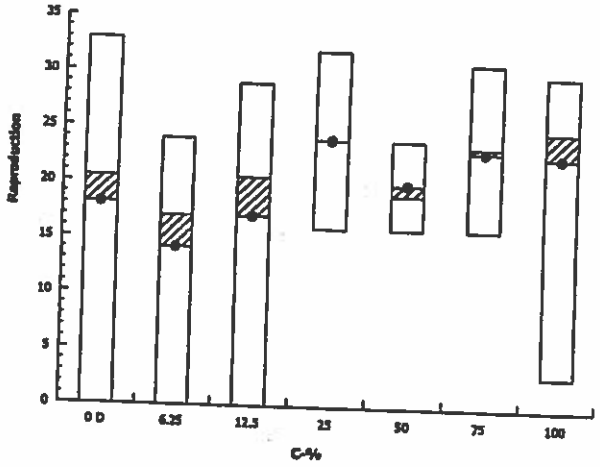
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	10	18.1	10.5	25.7	20.5	0	33	3.361	58.73%	0.0%
6.25		10	14.1	8.363	19.84	17	0	24	2.536	56.88%	22.1%
12.5		10	17	9.237	24.76	20.5	0	29	3.432	63.84%	6.08%
25		10	24	19.9	28.1	24	16	32	1.814	23.9%	-32.6%
50		10	20	17.71	22.29	19	16	24	1.011	15.99%	-10.5%
75		10	23.1	19.77	26.43	23.5	16	31	1.472	20.15%	-27.62%
100		10	22.7	16.97	28.43	25	3	30	2.534	35.31%	-25.41%

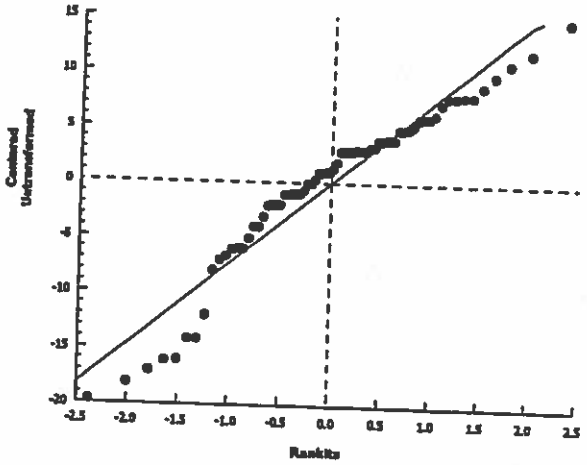
Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	16	26	21	23	0	20	13	27	33	2
6.25		20	0	18	14	18	17	13	24	0	17
12.5		20	21	0	29	20	23	28	23	1	5
25		16	23	32	32	25	18	22	25	29	18
50		24	23	24	23	16	19	16	19	18	18
75		16	31	28	20	17	24	26	23	22	24
100		30	26	24	23	22	29	28	26	16	3

Analysis ID: 18-1874-7452 Endpoint: Reproduction CETIS Version: CETISv1.8.7
Analyzed: 06 Jan-15 15:18 Analysis: Nonparametric-Control vs Treatments Official Results: Yes

Graphics





Analyst: _____ QA: 1/6/15

CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test — Aquatec Biological Sciences, Inc

Analysis ID:	21-3551-6666	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	06 Jan-15 15:18	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	08-0970-3604	Test Type:	Reproduction-Survival (2-8d)	Analyst:	John Williams
Start Date:	30 Dec-14 13:15	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	06 Jan-14 10:05	Species:	Ceriodaphnia dubia	Brine:	
Duration:	NA	Source:	Aquatic Biosystems, CO	Age:	1
Sample ID:	05-2390-8253	Code:	14225ABS	Client:	GE Pittsfield
Sample Date:	29 Dec-14 07:00	Material:	Industrial Effluent	Project:	WET Quarterly Compliance Test (4Q)
Receive Date:	30 Dec-14 08:30	Source:	NPDES Permit # MA0003891 (GE PITTS)		
Sample Age:	30h	Station:	GE Pittsfield		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1153729	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC5	>100	N/A	N/A	<1	NA	NA
EC10	>100	N/A	N/A	<1	NA	NA
EC15	>100	N/A	N/A	<1	NA	NA
EC20	>100	N/A	N/A	<1	NA	NA
EC25	>100	N/A	N/A	<1	NA	NA
EC40	>100	N/A	N/A	<1	NA	NA
EC50	>100	N/A	N/A	<1	NA	NA

2d Survival Rate Summary

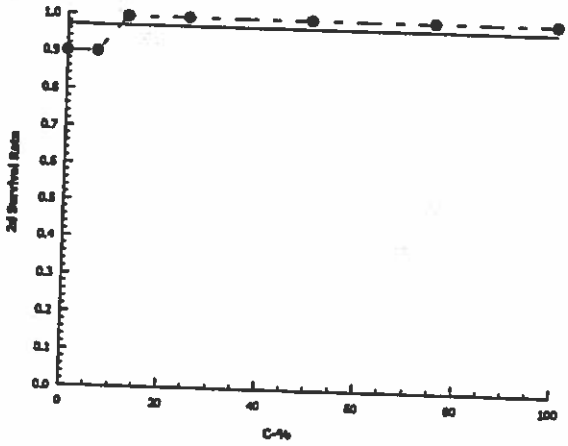
C-%	Control Type	Count	Calculated Variate(A/B) Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Dilution Water	10	0.9	0	1	0.1	0.3162	35.14%	0.0%	9	10
6.25		10	0.9	0	1	0.1	0.3162	35.14%	0.0%	9	10
12.5		10	1	1	1	0	0	0.0%	-11.11%	10	10
25		10	1	1	1	0	0	0.0%	-11.11%	10	10
50		10	1	1	1	0	0	0.0%	-11.11%	10	10
75		10	1	1	1	0	0	0.0%	-11.11%	10	10
100		10	1	1	1	0	0	0.0%	-11.11%	10	10

2d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	1	1	1	1	0	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	0	1
12.5		1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	1	1
50		1	1	1	1	1	1	1	1	1	1
75		1	1	1	1	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

Analysis ID: 21-3551-6666 Endpoint: 2d Survival Rate CETIS Version: CETISv1.8.7
Analyzed: 06 Jan-15 15:18 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

Graphics



CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test — Aquatec Biological Sciences, Inc

Analysis ID:	20-7128-8402	Endpoint:	Reproduction	CETIS Version:	CETISv1.8.7
Analyzed:	06 Jan-15 15:18	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	08-0970-3604	Test Type:	Reproduction-Survival (2-8d)	Analyst:	John Williams
Start Date:	30 Dec-14 13:15	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	06 Jan-14 10:05	Species:	Ceriodaphnia dubia	Brine:	
Duration:	NA	Source:	Aquatic Biosystems, CO	Age:	1
Sample ID:	05-2390-8253	Code:	14225ABS	Client:	GE Pittsfield
Sample Date:	29 Dec-14 07:00	Material:	Industrial Effluent	Project:	WET Quarterly Compliance Test (4Q)
Receive Date:	30 Dec-14 08:30	Source:	NPDES Permit # MA0003891 (GE PITTS)		
Sample Age:	30h	Station:	GE Pittsfield		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1803598	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	>100	N/A	N/A	<1	NA	NA
IC10	>100	N/A	N/A	<1	NA	NA
IC15	>100	N/A	N/A	<1	NA	NA
IC20	>100	N/A	N/A	<1	NA	NA
IC25	>100	N/A	N/A	<1	NA	NA
IC40	>100	N/A	N/A	<1	NA	NA
IC50	>100	N/A	N/A	<1	NA	NA

Reproduction Summary

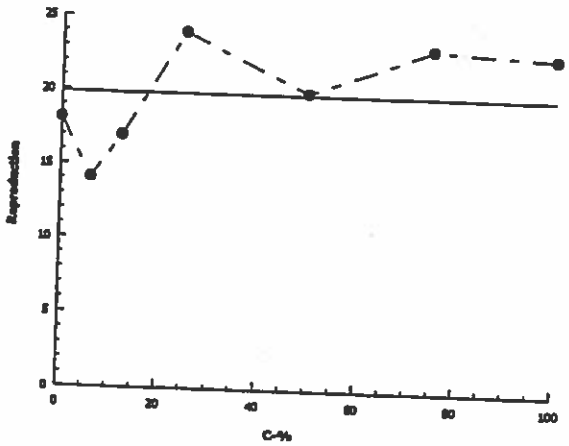
			Calculated Variate						
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	10	18.1	0	33	3.361	10.63	58.73%	0.0%
6.25		10	14.1	0	24	2.536	8.02	56.88%	22.1%
12.5		10	17	0	29	3.432	10.85	63.84%	6.08%
25		10	24	16	32	1.814	5.735	23.9%	-32.6%
50		10	20	16	24	1.011	3.197	15.99%	-10.5%
75		10	23.1	16	31	1.472	4.654	20.15%	-27.62%
100		10	22.7	3	30	2.534	8.015	35.31%	-25.41%

Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	16	26	21	23	0	20	13	27	33	2
6.25		20	0	18	14	18	17	13	24	0	17
12.5		20	21	0	29	20	23	28	23	1	5
25		16	23	32	32	25	18	22	25	29	18
50		24	23	24	23	16	19	16	19	18	18
75		16	31	28	20	17	24	26	23	22	24
100		30	26	24	23	22	29	28	26	16	3

Analysis ID: 20-7128-8402 Endpoint: Reproduction CETIS Version: CETISv1.8.7
Analyzed: 06 Jan-15 15:18 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

Graphics



Analyst: _____ QA: 6/6/15

CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test — Aquatec Biological Sciences, Inc

Analysis ID:	06-0080-3954	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	06 Jan-15 15:18	Analysis:	STP 2x2 Contingency Tables	Official Results:	Yes
Batch ID:	08-0970-3604	Test Type:	Reproduction-Survival (2-8d)	Analyst:	John Williams
Start Date:	30 Dec-14 13:15	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	06 Jan-14 10:05	Species:	Ceriodaphnia dubia	Brine:	
Duration:	NA	Source:	Aquatic Biosystems, CO	Age:	1
Sample ID:	05-2390-8253	Code:	14225ABS	Client:	GE Pittsfield
Sample Date:	29 Dec-14 07:00	Material:	Industrial Effluent	Project:	WET Quarterly Compliance Test (4Q)
Receive Date:	30 Dec-14 08:30	Source:	NPDES Permit # MA0003891 (GE PITTS)		
Sample Age:	30h	Station:	GE Pittsfield		

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU
Untransformed		C > T	NA	NA	100	>100	NA	1

Fisher Exact/Bonferroni-Holm Test

Control	vs C-%	Test Stat	P-Value	P-Type	Decision(α:5%)
Dilution Water	6.25	0.7632	1.0000	Exact	Non-Significant Effect
	12.5	1	1.0000	Exact	Non-Significant Effect
	25	1	1.0000	Exact	Non-Significant Effect
	50	1	1.0000	Exact	Non-Significant Effect
	75	1	1.0000	Exact	Non-Significant Effect
	100	1	1.0000	Exact	Non-Significant Effect

Data Summary

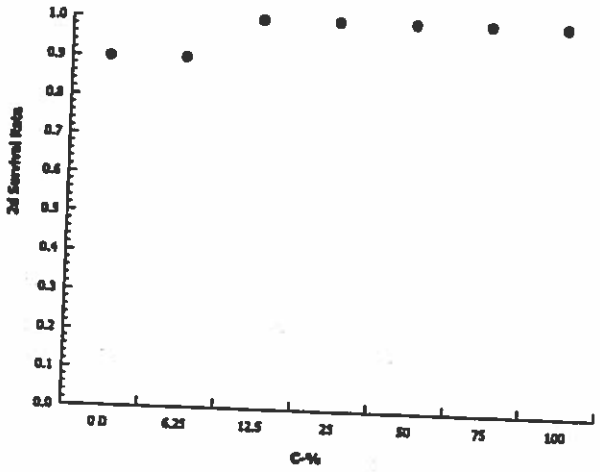
C-%	Control Type	NR	R	NR + R	Prop NR	Prop R	%Effect
0	Dilution Water	9	1	10	0.9	0.1	0.0%
6.25		9	1	10	0.9	0.1	0.0%
12.5		10	0	10	1	0	-11.11%
25		10	0	10	1	0	-11.11%
50		10	0	10	1	0	-11.11%
75		10	0	10	1	0	-11.11%
100		10	0	10	1	0	-11.11%

2d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	1	1	1	1	0	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	0	1
12.5		1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	1	1
50		1	1	1	1	1	1	1	1	1	1
75		1	1	1	1	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

Analysis ID: 06-0080-3954 Endpoint: 2d Survival Rate CETIS Version: CETISv1.8.7
Analyzed: 06 Jan-15 15:18 Analysis: STP 2x2 Contingency Tables Official Results: Yes

Graphics



Analyst: BV QA: 1/6/15

CETIS Analytical Report

Test Code: 68755ABS | 11-5392-0911

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatec Biological Sciences, Inc

Analysis ID:	00-5975-5705	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	06 Jan-15 15:18	Analysis:	STP 2x2 Contingency Tables	Official Results:	Yes
Batch ID:	08-0970-3604	Test Type:	Reproduction-Survival (2-8d)	Analyst:	John Williams
Start Date:	30 Dec-14 13:15	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	06 Jan-14 10:05	Species:	Ceriodaphnia dubia	Brine:	
Duration:	NA	Source:	Aquatic Biosystems, CO	Age:	1
Sample ID:	05-2390-8253	Code:	14225ABS	Client:	GE Pittsfield
Sample Date:	29 Dec-14 07:00	Material:	Industrial Effluent	Project:	WET Quarterly Compliance Test (4Q)
Receive Date:	30 Dec-14 08:30	Source:	NPDES Permit # MA0003891 (GE PITTS)		
Sample Age:	30h	Station:	GE Pittsfield		

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU
Untransformed		C > T	NA	NA	100	>100	NA	1

Fisher Exact/Bonferroni-Holm Test

Control	vs C-%	Test Stat	P-Value	P-Type	Decision(α:5%)
Dilution Water	6.25	0.7632	1.0000	Exact	Non-Significant Effect
	12.5	0.7632	1.0000	Exact	Non-Significant Effect
	25	1	1.0000	Exact	Non-Significant Effect
	50	1	1.0000	Exact	Non-Significant Effect
	75	1	1.0000	Exact	Non-Significant Effect
	100	0.7632	1.0000	Exact	Non-Significant Effect

Data Summary

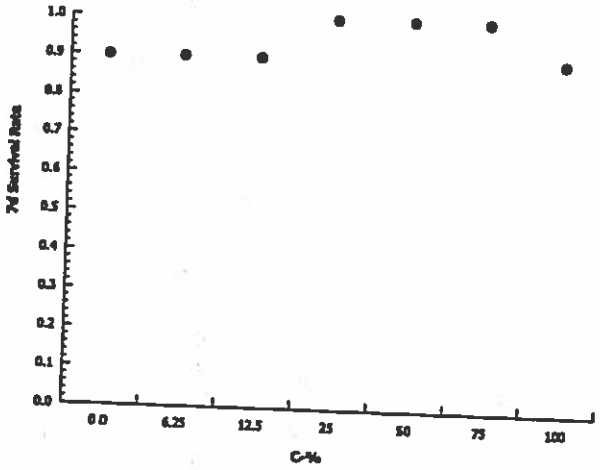
C-%	Control Type	NR	R	NR + R	Prop NR	Prop R	%Effect
0	Dilution Water	9	1	10	0.9	0.1	0.0%
6.25		9	1	10	0.9	0.1	0.0%
12.5		9	1	10	0.9	0.1	0.0%
25		10	0	10	1	0	-11.11%
50		10	0	10	1	0	-11.11%
75		10	0	10	1	0	-11.11%
100		9	1	10	0.9	0.1	0.0%

7d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	1	1	1	1	0	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	0	1
12.5		1	1	1	1	1	1	1	1	0	1
25		1	1	1	1	1	1	1	1	1	1
50		1	1	1	1	1	1	1	1	1	1
75		1	1	1	1	1	1	1	1	1	0
100		1	1	1	1	1	1	1	1	1	1

Analysis ID: 00-5975-5705 Endpoint: 7d Survival Rate CETIS Version: CETISv1.8.7
Analyzed: 06 Jan-15 15:18 Analysis: STP 2x2 Contingency Tables Official Results: Yes

Graphics



CETIS Test Data Worksheet

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatec Biological Sciences, Inc

Start Date: 30 Dec-14 13:15 | Species: Ceriodaphnia dubia | Sample Code: 14225ABS
End Date: 06 Jan-14 10:05 | Protocol: EPA/821/R-02-013 (2002) | Sample Source: NPDES Permit # MA0003891
Sample Date: 29 Dec-14 07:00 | Material: Industrial Effluent | Sample Station: GE Pittsfield

C-%	Code	Rep	Pos	# Exposed	1d Surv	2d Surv	3d Surv	4d Surv	5d Surv	6d Surv	7d Surv	8d Surv	2d Neo	3d Neo
0	D	1	49	1		1					1			0
0	D	2	10	1		1					1			0
0	D	3	48	1		1					1			0
0	D	4	57	1		1					1			0
0	D	5	16	1		0					0			2
0	D	6	61	1		1					1			0
0	D	7	50	1		1					1			0
0	D	8	76	1		1					1			0
0	D	9	58	1		1					1			0
0	D	10	72	1		1					1			2
0	L	1	4	1		1					1			1
0	L	2	53	1		1					1			0
0	L	3	80	1		1					1			0
0	L	4	54	1		1					1			0
0	L	5	34	1		1					1			0
0	L	6	30	1		1					1			2
0	L	7	77	1		1					1			0
0	L	8	12	1		1					1			1
0	L	9	13	1		1					1			2
0	L	10	5	1		1					1			4
6.25		1	3	1		1					1			2
6.25		2	41	1		1					1			2
6.25		3	29	1		1					1			0
6.25		4	68	1		1					1			0
6.25		5	9	1		1					1			2
6.25		6	37	1		1					1			0
6.25		7	23	1		1					1			0
6.25		8	27	1		1					1			0
6.25		9	64	1		0					1			2
6.25		10	69	1		1					0			0
12.5		1	35	1		1					1			2
12.5		2	19	1		1					1			0
12.5		3	38	1		1					1			0
12.5		4	70	1		1					1			0
12.5		5	55	1		1					1			0
12.5		6	42	1		1					1			0
12.5		7	22	1		1					1			0
12.5		8	2	1		1					1			3
12.5		9	8	1		1					1			0
12.5		10	8	1		1					0			0
25		1	18	1		1					1			0
25		2	66	1		1					1			2
25		3	67	1		1					1			0
25		4	51	1		1					1			2
25		5	40	1		1					1			1
25		6	79	1		1					1			0
25		7	59	1		1					1			0

Analyst: 1/6/15 QA: 1/6/15

CETIS Test Data Worksheet

Report Date: 06 Jan-15 15:17 (p 2 of 4)
Test Code: 11-5392-0911/68755ABS

C-%	Code	Rep	Pos	# Exposed	1d Surv	2d Surv	3d Surv	4d Surv	5d Surv	6d Surv	7d Surv	8d Surv	2d Neo	3d Neo
25		8	25	1		1					1			0
25		9	28	1		1					1			2
25		10	24	1		1					1			2
50		1	17	1		1					1			0
50		2	1	1		1					1			0
50		3	65	1		1					1			3
50		4	26	1		1					1			0
50		5	73	1		1					1			0
50		6	52	1		1					1			0
50		7	47	1		1					1			0
50		8	31	1		1					1			0
50		9	74	1		1					1			0
50		10	44	1		1					1			0
75		1	33	1		1					1			0
75		2	46	1		1					1			0
75		3	11	1		1					1			2
75		4	7	1		1					1			0
75		5	78	1		1					1			0
75		6	63	1		1					1			0
75		7	60	1		1					1			0
75		8	32	1		1					1			0
75		9	56	1		1					1			0
75		10	75	1		1					1			0
100		1	45	1		1					1			0
100		2	71	1		1					1			1
100		3	21	1		1					1			0
100		4	39	1		1					1			0
100		5	36	1		1					1			0
100		6	20	1		1					1			0
100		7	15	1		1					1			0
100		8	43	1		1					1			0
100		9	62	1		1					1			1
100		10	14	1		1					0			0

CETIS Test Data Worksheet

Report Date: 06 Jan-15 15:17 (p 3 of 4)
Test Code: 11-5392-0911/68755ABS

C-%	Code	Rep	Pos	4d Neo	5d Neo	6d Neo	7d Neo	8d Neo	Male	Notes
0	D	1	49	2	6	8	0		0	
0	D	2	10	3	8	0	15		0	
0	D	3	48	2	8	11	0		0	
0	D	4	57	0	7	14	0		0	
0	D	5	16	0	0	0	0		0	
0	D	6	61	0	7	13	0		0	
0	D	7	50	1	4	8	0		0	
0	D	8	76	4	9	0	14		0	
0	D	9	58	0	6	16	9		0	
0	D	10	72	1	0	0	0		0	
0	L	1	4	8	0	13	19		0	
0	L	2	53	4	10	0	16		0	
0	L	3	80	4	9	0	16		0	
0	L	4	54	3	10	0	18		0	
0	L	5	34	3	8	0	18		0	
0	L	6	30	5	10	12	5		0	
0	L	7	77	4	7	0	13		0	
0	L	8	12	5	0	11	18		0	
0	L	9	13	0	8	18	0		0	
0	L	10	5	0	3	16	0		0	
6.25		1	3	0	5	13	0		0	
6.25		2	41	0	0	0	0		0	
6.25		3	29	3	5	10	0		0	
6.25		4	68	0	4	8	0		0	
6.25		5	9	0	7	0	11		0	
6.25		6	37	3	2	0	12		0	
6.25		7	23	0	4	9	0		0	
6.25		8	27	0	7	15	0		0	
6.25		9	64	0	0	0	0		0	
6.25		10	69	0	6	9	0		0	
12.5		1	35	2	5	13	0		0	
12.5		2	19	1	8	0	12		0	
12.5		3	38	0	0	0	0		0	
12.5		4	70	4	0	7	18		0	
12.5		5	55	2	8	0	10		0	
12.5		6	42	4	7	0	12		0	
12.5		7	22	0	7	18	0		0	
12.5		8	2	2	7	0	14		0	
12.5		9	6	0	0	1	0		0	
12.5		10	8	2	0	0	3		0	
25		1	18	4	9	0	1		0	
25		2	66	4	8	0	11		0	
25		3	67	3	0	14	13		0	
25		4	51	4	0	8	19		0	
25		5	40	4	9	0	12		0	
25		6	79	2	5	11	0		0	
25		7	59	1	8	0	13		0	
25		8	25	4	11	7	3		0	
25		9	28	4	0	11	12		0	
25		10	24	0	6	10	0		0	
50		1	17	0	3	7	14		0	
50		2	1	3	5	0	15		0	

CETIS Test Data Worksheet

Report Date: 06 Jan-15 15:17 (p 4 of 4)
Test Code: 11-5392-0911/68755ABS

C-%	Code	Rep	Pos	4d Neo	5d Neo	6d Neo	7d Neo	8d Neo	Male	Notes
50		3	65	0	8	13	0		0	
50		4	26	2	0	11	10		0	
50		5	73	0	7	9	0		0	
50		6	52	0	7	0	12		0	
50		7	47	0	6	10	0		0	
50		8	31	3	4	12	0		0	
50		9	74	2	7	9	0		0	
50		10	44	0	6	12	0		0	
75		1	33	0	3	10	3		0	
75		2	46	2	0	11	16		0	
75		3	11	4	10	0	14		0	
75		4	7	2	6	0	12		0	
75		5	78	2	4	0	11		0	
75		6	63	3	4	0	17		0	
75		7	60	4	8	0	14		0	
75		8	32	3	8	0	12		0	
75		9	56	3	7	0	12		0	
75		10	75	2	6	0	16		0	
100		1	45	6	8	0	15		0	
100		2	71	2	9	0	15		0	
100		3	21	4	7	0	13		0	
100		4	39	4	7	0	12		0	
100		5	36	2	6	0	14		0	
100		6	20	4	8	0	17		0	
100		7	15	4	11	0	13		0	
100		8	43	4	0	10	11		0	
100		9	82	1	6	0	9		0	
100		10	14	2	1	0	0		0	

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* Reference: EPA-821-R-02-013 SOP: TOX2-002

TOXICITY TEST DATA: Test ID: 68755

% Effluent	Rep.	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
0 % Lab CTRL	1	0	0	0	0	8	0	13	19
	2	0	0	0	0	4	10	0	16
	3	0	C	0	0	4	9	0	16
	4	0	C	0	0	3	10	0	18
	5	0	0	0	2	3	8	0	18
	6	0	0	0	0	5	10	12	5
	7	0	C	0	1	4	7	0	13
	8	0	C	C	#x2	5	0	11	18
	9	0	C	0	4	0	8	18	0
	10	0	C	0	2	0	3	16	0
0 % Receiving	1	0	0	0	0	2	6	8	0
	2	0	0	0	0	3	8	0	15
	3	0	0	0	0	2	8	11	0
	4	0	0	0	2	0	7	14	0
	5	0	D/0	—	—	—	—	—	—
	6	0	0	0	0	0	7	13	0
	7	0	0	0	0	1	4	8	0
	8	0	0	0	0	4	9	0	14
	9	0	0	0	2	0	6	16	9
	10	0	0	0	1	1	0	0	0
6.25 % Effluent	1	0	0	0	2	0	5	13	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	3	5	10	0
	4	0	0	0	2	0	4	8	0
	5	0	C	0	0	0	7	0	11
	6	0	0	0	0	3	2	0	12
	7	0	0	0	0	0	4	9	0
	8	0	0	0	2	0	7	15	0
	9	0	D/0	—	—	—	—	—	—
	10	0	0	0	2	0	6	9	0
12.5 % Effluent	1	0	0	0	0	2	5	13	0
	2	0	0	0	0	1	8	0	12
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	4	0	7	18
	5	0	0	0	0	2	8	0	10
	6	0	0	0	0	4	7	0	12
	7	0	0	0	3	0	7	18	0
	8	0	0	0	0	2	7	0	14
	9	0	0	0	0	0	0	1	D/0
	10	0	0	0	0	2	0	0	3
Sample No.		46497	46497	46501	46501	46503	46503	46503	46503
Fed:		✓	✓	✓	✓	✓	✓	✓	ended
Renewal (D/T/I)		12/30/14 1315 KP	12/31/14 1420 dR	1/1/15 1330 dR	1/2/15 1310 dR	1/3/15 1325 dR	1/4/15 1310 dR	1/5/15 1040 dR	1/6/15 1005 dR

0 = Original organism surviving, No young; D = Original organism dead; # = Number young released; * = Lab-Induced mortality

Aquatec Biological Sciences, Inc.

Reviewed by: _____ Date: 1/6/15

SDG: 14225

Project: 14008

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* Reference: EPA-821-R-02-013 SOP: TOX2-002

TOXICITY TEST DATA CONTINUED: Test ID: 68755

% Effluent	Rep.	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
25 % Effluent	1	0	0	0	2	4	9	0	1
	2	0	0	0	0	4	8	0	11
	3	0	0	0	2	3	0	14	13
	4	0	0	0	1	4	0	8	19
	5	0	0	0	0	4	9	0	12
	6	0	0	0	0	2	5	11	0
	7	0	0	0	0	1	8	0	13
	8	0	0	0	0	4	11	7	3
	9	0	0	0	2	4	0	11	12
	10	0	0	0	2	0	6	10	0
50 % Effluent	1	0	0	0	0	0	3	7	14
	2	0	0	0	0	3	5	0	15
	3	0	0	0	3	0	8	13	0
	4	0	0	0	0	2	0	11	10
	5	0	0	0	0	0	7	9	0
	6	0	0	0	0	0	7	0	12
	7	0	0	0	0	0	6	10	0
	8	0	0	0	0	3	4	12	0
	9	0	0	0	0	2	7	9	0
	10	0	0	0	0	0	6	12	0
75 % Effluent	1	0	0	0	0	0	3	10	3
	2	0	0	0	2	2	0	11	16
	3	0	0	0	0	4	10	0	14
	4	0	0	0	0	2	6	0	12
	5	0	0	0	0	2	4	0	11
	6	0	0	0	0	3	4	0	8
	7	0	0	0	0	4	8	0	14
	8	0	0	0	0	3	8	0	12
	9	0	0	0	0	3	7	0	12
	10	0	0	0	6	2	6	0	16
100 % Effluent	1	0	0	0	1	6	8	0	15
	2	0	0	0	0	2	9	0	15
	3	0	0	0	0	4	7	0	13
	4	0	0	0	0	4	7	0	12
	5	0	0	0	0	2	6	0	14
	6	0	0	0	0	4	8	0	17
	7	0	0	0	0	4	11	0	13
	8	0	0	0	1	4	0	10	11
	9	0	0	0	0	1	6	0	9
	10	0	0	0	0	2	D/1	—	—
Sample No.		46497	46497	46501	46501	46503	46503	46503	46503
Fed:		✓	✓	✓	✓	✓	✓	✓	cated
Renewal (D/T/I)		12/30/14 1315 KP	12/30/14 1420 JL	1/1/15 1330 JL	1/2/15 1210 JL	1/3/15 1325 JL	1/4/15 1510 JL	1/5/15 1040 JL	1/6/15 1005 JL

YCT Lot Number: 121614/121714YCT Selenastrum Lot Number: 121614Sel

0 = Original organism surviving, No young; D = Original organism dead; # = Number young released; * = Lab-induced mortality

Aquatec Biological Sciences, Inc.

Reviewed by: JW 43 Date: 1/6/14

SDG: 14225

Project: 14008

1300 Blue Spruce Drive, Suite C
Fort Collins, Colorado 80524

Toll Free: 800/331-5916
Tel: 970/484-5091 Fax:970/484-2514

ORGANISM HISTORY

DATE: 12/29/2014

SPECIES: *Ceriodaphnia dubia*

AGE: < 24 hour

LIFE STAGE: Neonate

HATCH DATE: 12/29/2014 between 12:30 pm & 2:30 pm MST

BEGAN FEEDING: Immediately

FOOD: YTC, *P. subcapitata*

Rec'd 12/30/14 KP

Temp- 21.7°C
pH - 7.7
DO - 8.3
Cond - 432

Added MHW
Fed 0945

Water Chemistry Record:	Current	Range
TEMPERATURE:	23°C	–
SALINITY/CONDUCTIVITY:	–	–
TOTAL HARDNESS (as $CaCO_3$):	104 mg/l	–
TOTAL ALKALINITY (as $CaCO_3$):	65 mg/l	–
pH:	8.09	–

Comments:

Facility Supervisor

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* **Reference:** EPA-821-R-02-013 **SOP:** TOX2-002

INITIAL CHEMISTRY DATA: **Test ID:** 68755

% Effluent	Analysis	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
0 % Lab CTRL 1:1	pH	7.0	7.2	7.0	7.1	7.0	6.7	7.1
	DO	8.4	8.2	8.1	8.0	7.9	7.9	8.0
	Temp.	24.0	24.2	24.0	24.0	24.0	24.0	24.1
	Cond.	238	226	212	228	222	234	222
0 % Receiving	pH	7.0	7.3	7.0	7.1	6.9	6.8	7.0
	DO	8.9	8.1	7.9	8.0	7.9	7.9	7.8
	Temp.	25.0	25.5	25.6	25.9	25.0	25.9	25.9
	Cond.	119	123	151	152	168	167	167
6.25 % Effluent	pH	6.9	7.3	7.0	7.0	7.0	6.9	6.9
	DO	8.9	8.2	8.0	8.2	7.9	7.9	8.0
	Temp.	25.0	25.9	25.4	25.9	25.0	25.7	25.9
	Cond.	204	192	216	222	247	239	243
12.5 % Effluent	pH	7.0	7.4	7.2	7.3	7.0	6.9	7.0
	DO	8.9	8.2	7.9	8.2	8.1	7.9	8.1
	Temp.	25.0	25.9	25.4	25.9	25.1	25.8	25.9
	Cond.	285	275	305	293	326	318	328
25 % Effluent	pH	7.2	7.5	7.2	7.4	7.3	7.2	7.1
	DO	8.8	8.3	7.8	8.2	8.2	7.9	8.3
	Temp.	25.0	25.9	25.3	25.9	25.1	25.8	25.9
	Cond.	462	428	440	430	493	462	486
50 % Effluent	pH	7.4	8.1	7.3	7.6	8.1	7.5	7.8
	DO	8.7	8.3	7.8	8.2	8.3	7.9	8.2
	Temp.	25.1	25.9	25.3	25.9	25.1	25.8	25.9
	Cond.	777	710	731	689	783	732	776
75 % Effluent	pH	7.6	8.1	7.5	8.0	8.1	8.2	8.0
	DO	8.5	8.1	7.9	8.1	8.3	7.9	8.0
	Temp.	25.1	25.9	25.3	25.8	25.2	25.9	25.9
	Cond.	1085	984	998	950	1081	1020	1055
100 % Effluent	pH	7.8	8.3	7.8	8.2	8.1	8.2	8.1
	DO	8.4	8.0	7.9	7.8	8.0	7.9	7.9
	Temp.	25.2	25.9	25.7	25.9	25.4	26.0	26.0
	Cond.	1377	1268	1288	1214	1366	1296	1341
	Sample #	46497	46497	46501	46501	46503	46503	46503
	Date	12/30/14	12/31/14	1/1/15	1/2/15	1/3/15	1/4/15	1/5/15
	Initials	KP	JL	JL	JL	JL	JL	JL

NOTES:

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* **Reference:** EPA-821-R-02-013 **SOP:** TOX2-002

FINAL CHEMISTRY DATA: **Test ID:** 68755

% Effluent	Analysis	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
0 % Lab CTRL	pH	7.0	7.2	6.9	7.1	7.0	7.1	7.2
	DO	8.0	7.8	7.8	7.8	7.6	7.9	7.7
	Temp.	25.8	25.8	24.3	25.4	26.0	24.4	24.1
	Cond.	251	238	223	238	233	253	235
0 % Receiving	pH	7.2	7.2	7.0	7.0	7.1	7.4	7.3
	DO	8.1	7.7	7.8	7.8	7.7	7.9	7.7
	Temp.	25.2	25.3	24.0	25.5	25.5	25.3	24.2
	Cond.	134	131	157	160	173	175	174
6.25 % Effluent	pH	7.1	7.3	7.2	7.3	7.1	7.6	7.7
	DO	8.0	7.6	7.8	7.7	7.6	7.9	7.7
	Temp.	25.4	25.5	24.1	25.6	25.5	25.2	24.2
	Cond.	212	204	227	229	256	251	256
12.5 % Effluent	pH	7.4	7.4	7.4	7.7	7.3	7.9	7.9
	DO	8.0	7.7	7.8	7.7	7.6	7.8	7.7
	Temp.	25.7	25.4	24.2	25.5	25.9	25.1	24.2
	Cond.	302	288	309	303	339	327	344
25 % Effluent	pH	7.9	7.8	7.8	8.0	7.6	8.0	8.0
	DO	8.0	7.7	7.9	7.7	7.7	7.9	7.7
	Temp.	25.7	25.4	24.2	25.5	25.7	25.2	24.1
	Cond.	469	447	453	445	500	479	493
50 % Effluent	pH	8.1	7.9	8.2	8.2	8.1	8.2	8.3
	DO	8.0	7.7	7.9	7.7	7.6	7.8	7.8
	Temp.	25.5	25.3	24.2	25.9	25.8	25.3	24.1
	Cond.	776	725	742	713	787	759	788
75 % Effluent	pH	8.2	8.2	8.3	8.4	8.2	8.4	8.4
	DO	7.9	7.6	7.9	7.7	7.6	7.8	7.8
	Temp.	25.7	25.5	24.3	25.9	25.9	25.4	24.2
	Cond.	977	991	965	964	967	998	985
100 % Effluent	pH	8.2	8.4	8.4	8.4	8.3	8.5	8.4
	DO	7.9	7.7	7.9	7.7	7.6	7.8	7.7
	Temp.	25.9	25.8	24.4	25.8	26.0	25.6	24.2
	Cond.	1200	1199	1173	1177	1182	1195	1199
	Sample #	46497	46497	46501	46501	46503	46503	46503
	Date	12/31/14	1/1/15	1/2/15	1/3/15	1/4/15	1/5/15	1/6/15
	Initials	JR	JR	JR	JR	JR	JR	JR

NOTES:

Aquatec Biological Sciences, Inc.

Reviewed by: JW 46 Date: 1/6/15

SDG: 14225

Project: 14008

Aquatec Biological Sciences, Inc.
273 Commerce Street
Williston, VT 05495
Tel: (802) 860 - 1638 Fax: (802) 658 - 3189

SDG: 14225
Project: 14008

ALS Environmental
1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623

Tel: (585) 672-7470
Fax:

E-Mail:

ALKALINITY AND HARDNESS ANALYSIS

Sample ID:		Analysis Date:	Alkalinity: (mg/L)	Hardness: (mg/L)
46497	Outfall Composite (64G-A10275)	12/30/2014	380.0	360.0
46498	Housatonic River (A102776R)	12/30/2014	32.0	44.0
46501	Outfall Composite 64G-A10277	1/1/2015	332.0	296.0
46502	Housatonic River A10278R	1/1/2015	44.0	52.0
46503	Outfall Composite 64G-A10279	1/3/2015	392.0	390.0
46504	Housatonic River A10280	1/3/2015	56.0	56.0

TOTAL RESIDUAL CHLORINE (TRC) ANALYSIS

Sample ID:		Analysis Date:	TRC: (mg/L)	Dechlorinated (Y/N)
46497	Outfall Composite (64G-A10275)	12/30/2014	0.03	N
46501	Outfall Composite 64G-A10277	1/1/2015	0.02	N
46503	Outfall Composite 64G-A10279	1/3/2015	0.02	N

OTES:

Y = The sample(s) was dechlorinated with sodium thiosulfate before use in toxicity tests.

N = Dechlorination was not necessary.

Reviewed by: _____ Date: 1/7/14

Aquatec Biological Sciences, Inc.

273 Commerce Street
Williston, VT 05495
Tel: (802) 860 - 1638 Fax: (802) 658 - 3189

ALS Environmental
1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623

Tel: (585) 672-7470
Fax:

E-Mail:

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

SAMPLE PREPARATION:

	Initial Sample		Second Sample		Third Sample		
	EFFLUENT	RECEIVING	EFFLUENT	RECEIVING	EFFLUENT	RECEIVING	LAB CONTROL
Sample No.	46497	46498	46501	46502	46503	46504	—
Filtration	60 Micron ✓	60 Micron ✓	60 Micron ✓	60 Micron ✓	60 Micron ✓	60 Micron ✓	N/A
Chlorine (1)	ND	—	ND	—	ND	—	N/A
Chlorine (2)	—	—	—	—	—	—	N/A
NaThio Lot No	—	—	—	—	—	—	N/A
Original/Final Salinity:	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FF Lot No	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Date / Initials:	12/30/14 KP	—"	1/1/15 dl	—"	1/3/15 dl	—"	—

(1) Record vol. 0.025 N sodium thiosulfate to dechlorinate 100mL sample or record "ND" (Not Detected)
(2) Dechlorination required if detected. Record vol. 0.25 N sodium thiosulfate added per gallon effluent.

Aquatec Biological Sciences, Inc.
Reviewed by: [signature] Date: 1/6/15

SDG: 14225
Project: 14008

DATA NOT USED

Ceriodaphnia dubia chronic toxicity test, December 16-24, 2014

Contents: Chain-of-Custody and bench sheets associated with a *Ceriodaphnia dubia* chronic test conducted from December 16 – 24, 2014.

This test was viewed as invalid because the three brood requirement was not met in the controls. The data associated with this test have been marked "Data not used".

Aquatec Biological Sciences
Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier:
Address: Veolia Water, NA	**Outfall Composite – INITIAL SAMPLE**	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s): Jason Webster	
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	Date Shipped: 12/15/14
Facsimile:	**Ship these samples on Monday.**	
Contact Name: Dave Moro	Client Code: ALS/Patton	Hand Delivered: ☐ Yes ☒ No

SAMPLE IDENTIFICATION	SAMPLE COLLECTION Start date and time	SAMPLE COLLECTION Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS (4°C / Plastic / 1 gal)	(4°C / Plastic / 1/2 gal)	(4°C H_2SO_4 / Plastic / 1 L)	(4°C H_2SO_4 / Glass / 40 ml)	(4°C / Glass / 40 mL)	(4°C HNO_3 / Plastic / 0.5 L)
Outfall Composite 64S-A10269	12/14/14 700 am	12/15/14 700 am		✓	Effluent	1000.2: *Ceriodaphnia dubia* chronic survival and reproduction - IN	1					
Outfall Composite 64S-A10269	12/14/14 700 am	12/15/14 700 am		✓	Effluent	Total Residual Chlorine (See Note in Comment Box below)					1	
Housatonic River A10270R A1		12/15/14 900 Am	✓		Receiving	Receiving (dilution water)	1					

	DATE	TIME	
Relinquished by: *(signature)* ✓	12/15/14	12:55 pm	Received by: *(signature)* ✓
Relinquished by: *(signature)*	12/16/14	0855	Received by: *(signature)*
Relinquished by: *(signature)*	DATE	TIME	Received by: *(signature)*

Temperature blank at time of delivery (Aquatec): 0.7 °C.

WWTP Operators:

Is your final effluent chlorinated?

If so, is it dechlorinated prior to shipment for toxicity testing?

Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

Aquatec Biological Sciences
Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier: Priority Express
Address: Veolia Water NA	Outfall Composite – RENEWAL SAMPLE	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s):	
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	Date Shipped: 12/17/14
Facsimile:	Ship these samples on Wednesday	
Contact Name: Dave Moro	Client Code: ALS/Patton	Hand Delivered: ☐ Yes ☒ No

SAMPLE IDENTIFICATION	SAMPLE COLLECTION Start date and time	SAMPLE COLLECTION Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS (4°C Plastic 1 gal)	(4°C Plastic 1/2 gal)	(4°C H_2SO_4 Plastic 1 L)	(4°C H_2SO_4 Glass 40 ml)	(4°C Glass 40 mL)	(4°C HNO_3 Plastic 0.5 L)
Outfall Composite 64G-A10271	12-16-14 700	12-17-14 700		X	Effluent	Renewal 1 (R1): *Ceriodaphnia dubia* chronic suvival and reproduction	1					
Outfall Composite 64G-A10271	12-16-14 700	12/17/14 700		X	Effluent	Total Residual Chlorine (See Note in Comment Box below)					1	
64G-A10271												
Housatonic River A10272R		12/17/14	X		Receiving	Receiving (Dilution Water)	1					

	DATE	TIME		
Relinquished by: (signature)	12/17/14	1440	Received by: (signature)	
Relinquished by: (signature)	12/18/14	0830	Received by: (signature)	
Relinquished by: (signature)	DATE	TIME	Received by: (signature)	

Temperature blank at time of delivery (Aquatec): 1.1 °C.

WWTP Operators:

Is your final effluent chlorinated?

If so, is it dechlorinated prior to shipment for toxicity testing?

Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

Aquatec Biological Sciences

Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier: Priority Express
Address: Veolia Water NA	**Outfall Composite – RENEWAL SAMPLE**	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s):	
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	Date Shipped: 12/19/14
Facsimile:	Ship these samples on Friday.	
Contact Name: Dave Moro	Client Code: ALS/Patton	Hand Delivered: ☐ Yes ☒ No

SAMPLE IDENTIFICATION	COLLECTION Start date and time	COLLECTION Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS					
							4°C / Plastic / 1 gal	4°C / Plastic / 1/2 gal	4°C H_2SO_4 / Plastic / 1 L	4°C H_2SO_4 / Glass / 40 ml	4°C / Glass / 40 mL	4°C HNO_3 / Plastic / 0.5 L
Outfall Composite 046-A10213	12/18/14 700 am	12/19/14 700 am		X	Effluent	Renewal 2 (R2): *Ceriodaphnia dubia* chronic suvival and reproduction	2					
Outfall Composite 046-A10213	12/18/14 700 am	12/19/14 700 am		X	Effluent	Total Residual Chlorine (See Note in Comment Box below)					1	
52												
Housatonic River A10214R		12/19/14 845 am	X		Receiving	Receiving (Dilution Water)	2					

	DATE	TIME	
Relinquished by: (signature)	12/19/14	1:50	Received by: (signature)
Relinquished by: (signature)	12/20/14	0834	Received by: (signature)
Relinquished by: (signature)	DATE	TIME	Received by: (signature)

Temperature blank at time of delivery (Aquatec): 2.1 °C.

WWTP Operators:

Is your final effluent chlorinated? NO

If so, is it dechlorinated prior to shipment for toxicity testing?

Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* **Reference:** EPA-821-R-02-013 **SOP:** TOX2-002

TOXICITY TEST DATA: **Test ID:** 68639

% Effluent	Rep.	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	
0 % Lab CTRL	1	0	0	0	0	4	0	0	8	0
	2	0	0	0	0	0	8	8	8	0
	3	0	0	0	0	0	0	1	5	0
	4	0	0	0	0	0	0	3	2	0
	5	0	0	0	0	5	0	4	7	0
	6	0	0	0	0	6	0	1	8	0
	7	0	0	0	0	0	12	16	0	16
	8	0	0	0	0	0	0	3	0	0
	9	0	0	0	4	0	12	17	10	0
	10	0	0	0	0	0	0	0	0	0
0 % Receiving	1	0	0	D10	—	—	—	—	—	—
	2	0	0	0	0	0	0	0	9	0
	3	0	0	0	0	0	0	2	5	0
	4	0	0	0	0	0	5	5	0	0
	5	0	0	0	0	0	9	7	0	0
	6	0	D10	—	—	—	—	—	—	—
	7	0	0	0	0	0	4	8	0	4
	8	0	0	0	0	0	6	3	6	0
	9	0	0	0	4	0	0	4	8	0
	10	0	0	0	0	0	4	0	5	0
6.25 % Effluent	1	0	D10	[illegible]	—	—	—	—	—	—
	2	0	0	[illegible]	0	0	7	5	6	0
	3	0	0	[illegible]	0	0	0	0	7	0
	4	0	0	D10	—	—	—	—	—	—
	5	0	0	D10	—	—	—	—	—	—
	6	0	0	0	0	0	0	0	3	0
	7	0	0	0	0	0	9	10	11	0
	8	0	0	0	0	0	0	0	0	0
	9	0	0	0	4	0	6	0	0	0
	10	0	0	0	2	0	0	8	12	6
12.5 % Effluent	1	0	0	D10	—	—	—	—	—	—
	2	0	0	0	0	0	0	2	2	0
	3	0	0	0	0	0	0	0	0	0
	4	0	0	D10	—	—	—	—	—	—
	5	0	0	0	0	0	7	4	4	0
	6	0	0	0	0	2	0	1	2	0
	7	0	0	0	0	0	0	4	3	0
	8	0	0	0	4	0	6	5	8	0
	9	0	0	0	2	0	5	2	10	0
	10	0	0	0	0	0	0	2	8	0
Sample No.		46384	46384	46486	46486	46488	46488	46488	46488	46488
Fed:		✓	✓	✓	✓	✓	✓	✓	✓	✓
Renewal (D/T/I)		12/16/14 1030 JL	12/17/14 1240 JL	12/18/14 1145 JL	12/19/14 1215 JL	12/20/14 1215 JL	12/21/14 1055 KP	12/22/14 1440 JL	12/23/14 1335 JL	12/24/14 1100 JL

0 = Original organism surviving, No young; D = Original organism dead; # = Number young released; * = Lab-induced mortality

Aquatec Biological Sciences, Inc.

Reviewed by: JW 53 Date: 1/7/14

SDG: 14183

Project: 14008

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* **Reference:** EPA-821-R-02-013 **SOP:** TOX2-002

TOXICITY TEST DATA CONTINUED: **Test ID:** 68639

% Effluent	Rep.	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	
25 % Effluent	1	0	0	D/0	—	—	—	—	—	—
	2	0	0	0	D/0	—	—	—	—	—
	3	0	0	0	0	0	0	0	0	0
	4	0	D/0	—	—	—	—	—	—	—
	5	0	0	0	0	0	0	0	3	0
	6	0	0	0	0	0	0	6	9	0
	7	0	0	0	0	0	0	2	1	0
	8	0	0	0	0	0	0	0	3	0
	9	0	0	0	4	0	7	7	4	0
	10	0	0	0	0	6	10	8	9	0
50 % Effluent	1	0	0	D/0	—	—	—	—	—	—
	2	0	0	0	3	0	0	3	4	0
	3	0	0	D/0	—	—	—	—	—	—
	4	0	0	0	0	0	0	3	4	0
	5	0	0	0	0	0	0	4	14	0
	6	0	0	0	0	0	5	0	4	0
	7	0	0	0	0	0	0 9 KP	16	17	0
	8	0	0	0	0	0	9	0	5	0
	9	0	0	0	5	0	0	5	8	0
	10	0	0	0	0	0	6	8	9	0
75 % Effluent	1	0	0	0	0	5	0	4	13	0
	2	0	0	0	0	0	0	1	7	0
	3	0	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	2	0	11
	5	0	0	0	0	0	0	6	4	0
	6	0	0	0	0	0	D/0	—	—	—
	7	0	0	0	0	0	4	7	0	13
	8	0	0	0	1	0	3	D/0	—	—
	9	0	0	0	2	0	5	5	10	0
	10	0	0	0	0	0	0	8	13	0
100 % Effluent	1	0	0	D/0	—	—	—	—	—	—
	2	0	0	0	3	0	0	4	11	0
	3	0	0	0	0	D/0	—	—	—	—
	4	0	0	0	0	0	D/0	—	—	—
	5	0	0	0	3	0	3	7	13	0
	6	0	0	0	3	0	6	16	17	0
	7	0	0	0	0	0	#40	9	0	16
	8	0	0	0	0	0	4	0	17	0
	9	0	0	0	5	0	0	6	0	19
	10	0	0	0	0	0	0	0	11	0
Sample No.		46384	46384	46486	46486	46488	46488	46488	46488	46488
Fed:		✓	✓	✓	✓	✓	✓	✓	✓	✓
Renewal (D/T/I)		12/16/14 1030 JR	12/17/14 1240 JR	12/18/14 1145 JR	12/19/14 1215 JR	12/20/14 1215 JR	12/21/14 1055 KP	12/22/14 1440 JR	12/23/14 1335 JR	12/24/14 1100 JR

YCT Lot Number: 111314YCT Selenastrum Lot Number: 120314/121114fcl

0 = Original organism surviving, No young; D = Original organism dead; # = Number young released; * = Lab-Induced mortality

Aquatec Biological Sciences, Inc.

Reviewed by: JW 54 Date: 1/7/14

SDG: 14183

Project: 14008

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* **Reference:** EPA-821-R-02-013 **SOP:** TOX2-002

INITIAL CHEMISTRY DATA: **Test ID:** 68639

% Effluent	Analysis	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
0 % Lab CTRL 1:1	pH	7.1	6.9	7.1	7.2	7.1	7.0	7.1	7.0
	DO	7.9	8.3	8.3	7.9	7.9	8.1	8.2	8.1
	Temp.	24.0	24.0	24.1	24.0	24.0	25.9	24.0	24.0
	Cond.	230	200	206	220	210	226	227	214
0 % Receiving	pH	7.1	7.0	7.1	7.2	7.0	7.8	6.9	7.2
	DO	8.0	7.9	8.0	7.9	7.9	7.8	7.9	7.8
	Temp.	25.7	25.4	25.6	25.5	25.7	25.7	25.7	25.9
	Cond.	142	140	149	149	155	155	155	155
6.25 % Effluent	pH	7.1	7.0	7.2	7.3	7.0	7.7	7.2	7.4
	DO	8.0	7.8	8.0	7.7	7.9	7.8	7.9	7.8
	Temp.	25.4	25.4	25.2	25.3	24.9	25.5	25.2	25.3
	Cond.	216	212	225	218	227	228	226	219
12.5 % Effluent	pH	7.5	7.1	7.5	7.6	7.2	8.0	7.5	7.6
	DO	7.9	7.7	8.0	7.6	7.8	7.9	7.9	7.7
	Temp.	25.3	25.4	25.2	25.3	25.2	25.5	25.2	25.3
	Cond.	304	296	311	301	305	306	303	295
25 % Effluent	pH	7.7	7.4	8.0	8.0	7.4	8.3	7.9	7.9
	DO	7.9	7.8	7.9	7.7	7.8	7.9	7.8	7.7
	Temp.	25.3	25.4	25.1	25.3	25.3	25.4	25.2	25.3
	Cond.	459	445	467	448	458	452	442	407
50 % Effluent	pH	7.8	7.8	8.1	8.1	7.7	8.4	8.2	8.4
	DO	7.9	7.7	7.9	7.7	7.8	7.9	7.8	7.7
	Temp.	25.1	25.5	25.1	25.3	25.3	25.3	25.2	25.3
	Cond.	758	723	765	731	746	729	713	690
75 % Effluent	pH	8.1	8.0	8.1	8.2	7.9	8.4	8.3	8.4
	DO	7.9	7.7	7.9	7.7	7.8	8.0	7.8	7.7
	Temp.	25.2	25.5	25.1	25.3	25.2	25.0	25.3	25.3
	Cond.	1043	996	1046	1006	1022	996	934	931
100 % Effluent	pH	8.1	8.1	8.1	8.2	8.0	8.4	8.3	8.4
	DO	7.8	7.7	7.9	7.6	7.8	8.0	7.7	7.4
	Temp.	25.9	25.7	25.6	25.5	25.8	24.8	25.6	25.7
	Cond.	1311	1261	1327	1275	1288	1255	1237	1190
	Sample #	46384	46384	46486	46486	46488	46488	46488	46488
	Date	12/16/14	12/17/14	12/18/14	12/19/14	12/20/14	12/21/14	12/22/14	12/23/14
	Initials	JR	JR	JR	JR	JR	KP	JR	JR

NOTES:

Aquatec Biological Sciences, Inc.

Reviewed by: _____ Date: 1/7/15

SDG: 14183

Project: 14008

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

1002.0 Daphnid, C. dubia, Survival and Reproduction Test

Species: *Ceriodaphnia dubia* **Reference:** EPA-821-R-02-013 **SOP:** TOX2-002

FINAL CHEMISTRY DATA: **Test ID:** 68639

% Effluent	Analysis	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
0 % Lab CTRL	pH	7.0	7.1	7.1	7.2	7.2	7.2	6.8	7.0
	DO	7.7	7.5	7.7	7.8	8.0	7.6	7.5	6.9
	Temp.	25.5	25.5	25.1	24.8	24.6	25.3	25.1	24.7
	Cond.	249	207	216	230	226	239	236	247
0 % Receiving	pH	7.6	7.3	7.1	7.3	7.3	7.2	6.9	8.1
	DO	7.6	7.4	7.7	7.8	8.0	7.6	7.5	7.1
	Temp.	25.3	25.2	24.8	24.8	24.1	25.3	25.1	24.7
	Cond.	152	149	158	161	163	168	167	181
6.25 % Effluent	pH	7.3	7.4	7.4	7.4	7.5	7.3	7.5	8.4
	DO	7.6	7.5	7.7	7.8	8.0	7.6	7.5	7.0
	Temp.	25.3	25.2	25.0	24.8	24.4	25.4	25.2	24.8
	Cond.	227	220	234	226	238	235	237	271
12.5 % Effluent	pH	7.3	7.4	7.5	7.5	7.8	7.6	7.7	8.0
	DO	7.6	7.5	7.7	7.8	8.0	7.6	7.5	7.1
	Temp.	25.2	25.1	24.8	24.7	24.7	25.3	25.2	24.8
	Cond.	311	304	320	312	319	316	314	308
25 % Effluent	pH	7.6	7.6	7.7	7.7	8.1	8.0	8.1	8.2
	DO	7.6	7.5	7.6	7.7	8.0	7.7	7.6	7.1
	Temp.	25.0	25.1	24.9	24.9	24.7	25.4	25.1	24.9
	Cond.	464	452	478	457	468	458	456	418
50 % Effluent	pH	8.0	8.0	8.2	8.0	8.5	8.4	8.4	8.2
	DO	7.7	7.6	7.6	7.8	8.0	7.7	7.6	7.2
	Temp.	25.5	25.4	25.1	25.0	24.7	25.4	25.4	24.8
	Cond.	758	734	759	737	761	733	719	700
75 % Effluent	pH	8.1	8.2	8.3	8.3	8.4	8.5	8.6	8.5
	DO	7.7	7.6	7.6	7.8	8.0	7.7	7.7	7.0
	Temp.	25.7	25.3	24.9	25.0	24.7	25.7	25.7	24.8
	Cond.	936	989	974	971	979	986	984	958
100 % Effluent	pH	8.2	8.3	8.3	8.4	8.4	8.5	8.5	8.5
	DO	7.7	7.6	7.6	7.8	8.1	7.8	7.7	7.1
	Temp.	25.7	25.4	24.9	25.0	24.6	25.4	25.2	24.7
	Cond.	1142	1180	1164	1177	1174	1183	1164	1155
	Sample #	46384	46384	46486	46486	46488	46488	46488	46488
	Date	12/17/14	12/18/14	12/19/14	12/20/14	12/21/14	12/22/14	12/23/14	12/24/14
	Initials	JR	JR	JR	JR	KP	JR	JR	JR

NOTES: 0 Test not renewed day 8

JR 1 PM 0

Aquatec Biological Sciences, Inc.

Reviewed by: _____ Date: 1/7/14

SDG: 14183

Project: 14008

Aquatec Biological Sciences, Inc.

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Williston, VT 05495
Tel: (802) 860 - 1638 Fax: (802) 658 - 3189

ALS Environmental
1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623

Tel: (585) 672-7470
Fax:
E-Mail:

Project: GE Pittsfield NPDES **Permit No.** MA0003891 **Pipe No.** 1

SAMPLE PREPARATION:

	Initial Sample		Second Sample		Third Sample		
	EFFLUENT	RECEIVING	EFFLUENT	RECEIVING	EFFLUENT	RECEIVING	LAB CONTROL
Sample No.	46384	46385	46486	46487	46488	46489	—
Filtration	60 Micron ✓	60 Micron ✓	60 Micron ✓	60 Micron ✓	60 Micron ✓	60 Micron ✓	N/A
Chlorine (1)	ND	—	ND	—	ND	—	N/A
Chlorine (2)	—	—	—	—	—	—	N/A
NaThio Lot No	—	—	—	—	—	—	N/A
Original/Final Salinity:	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FF Lot No	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Date / Initials:	12/16/14 JH		12/18/14 JH		12/20/14 JH		—

① See log-in pages

(1) Record vol. 0.025 N sodium thiosulfate to dechlorinate 100mL sample or record "ND" (Not Detected)
(2) Dechlorination required if detected. Record vol. 0.25 N sodium thiosulfate added per gallon effluent.

DATA NOT USED

Aquatec Biological Sciences, Inc.
Reviewed by: [illegible] Date: 1/7/14

SDG: 14183
Project: 14008

Appendix 5

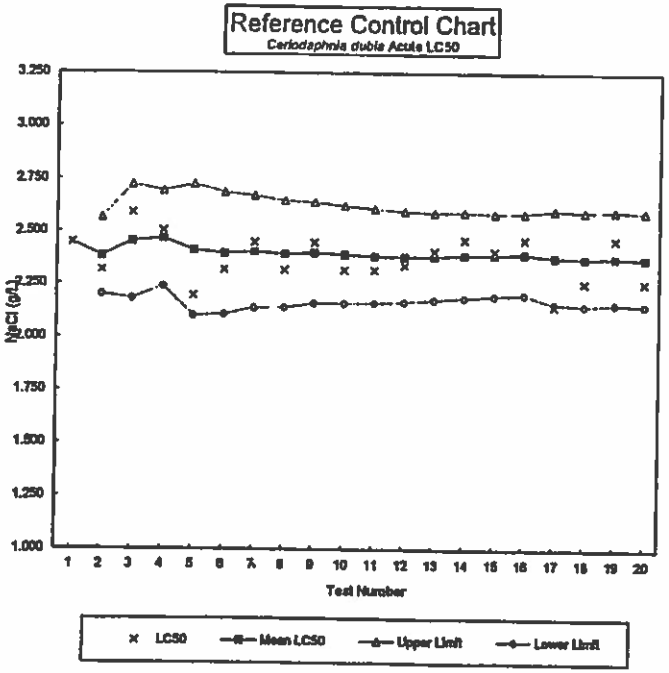
Standard Reference Toxicant Test Control Chart

Ceriodaphnia dubia

Reference Control Chart for NaCl Acute Toxicity

Test Number	Test Date	LC50 (g/L)	Mean LC50	Calculated limits Upper	Calculated limits Lower
1	3/12/13-3/14/13	2.449	2.45		
2	4/8/13-4/10/13	2.319	2.38	2.57	2.20
3	6/18/13-6/20/13	2.591	2.45	2.73	2.18
4	7/16/13-7/18/13	2.505	2.47	2.69	2.24
5	8/20/13-8/22/13	2.195	2.41	2.72	2.10
6	9/24/13-9/26/13	2.319	2.40	2.69	2.11
7	10/22/13-10/24/13	2.449	2.40	2.67	2.14
8	11/5/13-11/7/13	2.319	2.39	2.65	2.14
9	12/4/13-12/6/13	2.449	2.40	2.64	2.16
10	1/7/14-1/9/14	2.319	2.39	2.62	2.16
11	2/4/14-2/6/14	2.319	2.38	2.61	2.16
12	3/11/14-3/13/14	2.342	2.38	2.60	2.16
13	4/8/14-4/10/14	2.409	2.38	2.59	2.16
14	5/28/14-5/30/14	2.464	2.39	2.59	2.19
15	7/15/14-7/17/14	2.409	2.39	2.59	2.19
16	8/19/14-8/21/14	2.464	2.40	2.59	2.20
17	9/9/14-9/11/14	2.147	2.38	2.60	2.16
18	10/7/14-10/9/14	2.257	2.37	2.60	2.15
19	11/11/14-11/13/14	2.464	2.38	2.60	2.16
20	12/16/14-12/18/14	2.257	2.37	2.59	2.15

Organisms Source: Aquatec Biological Sciences, Inc. in-house cultures [1]



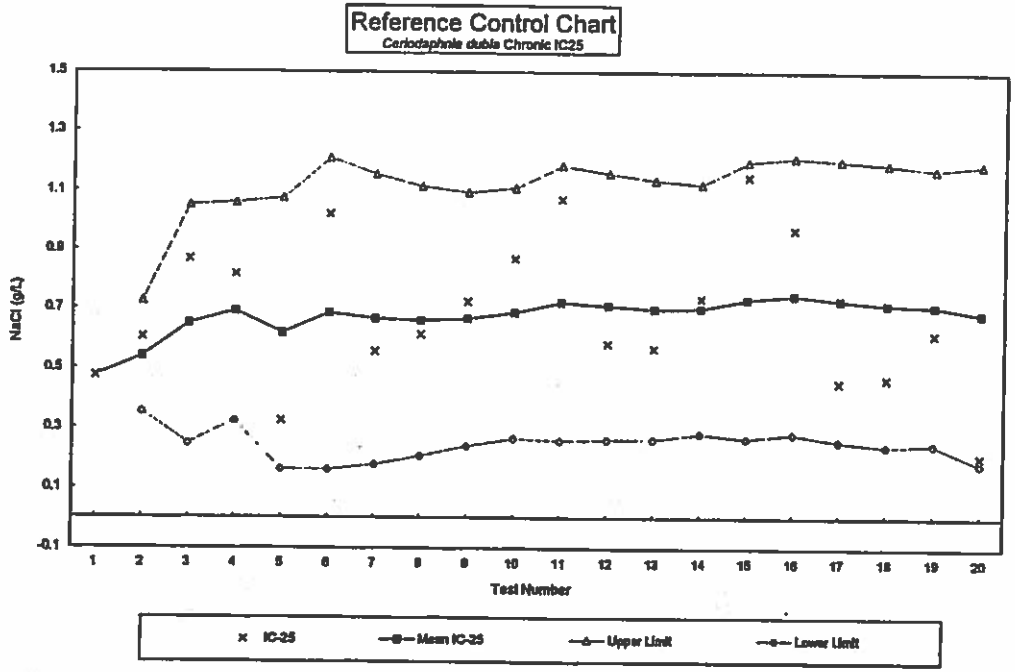
[1] The organisms used for test started on December 4, 2012 were from Aquatic BioSystems, Fort Collins, CO

Ceriodaphnia dubia

Reference Control Chart for NaCl Chronic Toxicity based on reproduction

Test Number	Test Date	IC-25 (g/L)	Mean IC-25	Calculated limits Upper	Calculated limits Lower	CV of per test IC25	Avg. CV	Repro. PMSD (%)	Avg. PMSD (%)
1	3/12/13-3/18/13	0.474	0.47					18.6	
2	4/8/13-4/14/13	0.6052	0.54	0.73	0.35	0.15	0.15	8.98	18.6
3	6/18/13-6/24/13	0.8682	0.65	1.05	0.25	0.23	0.19	17.5	13.8
4	7/16/13-7/22/13	0.816	0.69	1.06	0.32	0.23	0.20	14.9	15.0
5	8/20/13-8/26/13	0.325	0.62	1.07	0.16	0.70	0.33	21.2	15.0
6	9/24/13-9/30/13	1.021	0.68	1.21	0.16	0.26	0.31	11	16.2
7	10/22/13-10/28/13	0.557	0.67	1.16	0.18	0.44	0.33	22.8	15.4
8	11/5/13-11/12/13	0.615	0.66	1.11	0.21	0.37	0.34	15.1	16.4
9	12/4/13-12/10/13	0.724	0.67	1.09	0.24	0.29	0.33	10.2	16.3
10	1/7/14-1/13/14	0.87	0.69	1.11	0.27	0.24	0.32	14.5	15.6
11	2/4/14-2/10/14	1.072	0.72	1.19	0.26	0.22	0.31	9.74	15.5
12	3/11/14-3/18/14	0.585	0.71	1.16	0.26	0.38	0.32	12.7	15.0
13	4/8/14-4/15/14	0.589	0.70	1.14	0.26	0.38	0.32	14.5	14.8
14	5/28/14-6/3/14	0.736	0.70	1.12	0.28	0.29	0.32	9.18	14.7
15	7/15/14-7/21/14	1.148	0.73	1.20	0.27	0.20	0.31	12.5	14.3
16	8/19/14-8/25/14	0.97	0.75	1.21	0.28	0.24	0.31	18.1	14.2
17	9/9/14-9/16/14	0.456	0.73	1.20	0.26	0.52	0.32	24.1	14.5
18	10/7/14-10/13/14	0.469	0.72	1.19	0.24	0.51	0.33	40.2	15.0
19	11/11/14-11/17/14	0.617	0.71	1.17	0.25	0.38	0.33	22.2	16.4
20	12/16/14-12/22/14	0.208	0.69	1.19	0.18	1.21	0.36	46.9	18.2

Organisms Source: Aquatec Biological Sciences, Inc. in-house cultures [1]



Assessment of test precision and sensitivity: The average CV of per-test IC25 values was near the 75th Quartile (0.41 presented in Table 3-2 of EPA 833-R-00-003) indicating some variability of IC25 values reported for these tests. The per-test PMSD values were less than the EPA upper limit of 47% indicating acceptable variability of test data. The cumulative average PMSD values were near the EPA lower boundary (13%), indicating high-to-moderate statistical sensitivity for this test method when averaged for the most recent 20 tests.

Attachment

SOP TOX2-002

Standard Operating Procedure for Cladoceran, *Ceriodaphnia dubia* Survival and Reproduction Toxicity Test, US EPA Method 1002.0.

Revision 9, February 5, 2014

APPENDIX 2

Laboratory Reports

ALS-Rochester
Veolia, Inc.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 1
Sample Matrix: Water

Service Request: R1410446
Date Collected: 12/29/14 0700
Date Received: 12/30/14

Sample Name: 64G-A10275TM
Lab Code: R1410446-001

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.03	U	mg/L	0.10	0.03	1	12/30/14	12/31/14 17:35	
Cadmium, Total	200.8	0.000008	U	mg/L	0.0010	0.000008	1	12/31/14	12/31/14 14:11	
Copper, Total	200.8	0.0015		mg/L	0.0010	0.0003	1	12/31/14	12/31/14 14:11	
Lead, Total	200.8	0.0001	J	mg/L	0.0010	0.00007	1	12/31/14	12/31/14 14:11	
Nickel, Total	200.8	0.0018		mg/L	0.0010	0.0003	1	12/31/14	12/31/14 14:11	
Zinc, Total	200.8	0.0012	U	mg/L	0.0050	0.0012	1	12/31/14	12/31/14 14:11	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410446
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 1	**Date Collected:**	12/29/14 0815
Sample Matrix:	Water	**Date Received:**	12/30/14
Sample Name:	A10276RTM		
Lab Code:	R1410446-002	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.06	J	mg/L	0.10	0.03	1	12/30/14	12/31/14 17:42	
Cadmium, Total	200.8	0.00001	J	mg/L	0.0010	0.000008	1	12/31/14	12/31/14 14:16	
Copper, Total	200.8	0.0004	J	mg/L	0.0010	0.0003	1	12/31/14	12/31/14 14:16	
Lead, Total	200.8	0.0001	J	mg/L	0.0010	0.00007	1	12/31/14	12/31/14 14:16	
Nickel, Total	200.8	0.0004	J	mg/L	0.0010	0.0003	1	12/31/14	12/31/14 14:16	
Zinc, Total	200.8	0.0012	U	mg/L	0.0050	0.0012	1	12/31/14	12/31/14 14:16	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 1
Sample Matrix: Water

Service Request: R1410446
Date Collected: 12/29/14 0700
Date Received: 12/30/14

Sample Name: 64G-A10275
Lab Code: R1410446-003

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	416		mg/L	2.0	1	NA	1/5/15 14:50	
Ammonia as Nitrogen, undistilled	350.1	0.124		mg/L	0.050	1	NA	1/6/15 15:25	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	4.8		mg/L	1.0	1	NA	1/2/15 21:15	
Solids, Total	SM 2540 B-1997(2011)	710		mg/L	10	1	NA	12/31/14 11:14	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	730		mg/L	10	1	NA	12/31/14 11:25	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	Service Request:	R1410446
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 1	Date Collected:	12/29/14 0815
Sample Matrix:	Water	Date Received:	12/30/14
Sample Name:	A10276R		
Lab Code:	R1410446-004	Basis:	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	41.8		mg/L	2.0	1	NA	1/5/15 14:50	
Ammonia as Nitrogen, undistilled	350.1	0.050	U	mg/L	0.050	1	NA	1/6/15 15:26	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	3.5		mg/L	1.0	1	NA	1/2/15 21:36	
Solids, Total	SM 2540 B-1997(2011)	58		mg/L	10	1	NA	12/31/14 11:14	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	79		mg/L	10	1	NA	12/31/14 11:25	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 2
Sample Matrix: Water

Sample Name: 64G-A10277TM
Lab Code: R1500009-001

Service Request: R1500009
Date Collected: 12/31/14 0700
Date Received: 1/ 3/15

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.06	BJ	mg/L	0.10	0.03	1	1/ 5/15	1/7/15 11:01	
Cadmium, Total	200.8	0.000008	U	mg/L	0.0010	0.000008	1	1/ 5/15	1/6/15 17:29	
Copper, Total	200.8	0.0017		mg/L	0.0010	0.0003	1	1/ 5/15	1/6/15 17:29	
Lead, Total	200.8	0.00007	U	mg/L	0.0010	0.00007	1	1/ 5/15	1/6/15 17:29	
Nickel, Total	200.8	0.0016		mg/L	0.0010	0.0003	1	1/ 5/15	1/6/15 17:29	
Zinc, Total	200.8	0.0012	U	mg/L	0.0050	0.0012	1	1/ 5/15	1/6/15 17:29	

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 2
Sample Matrix: Water

Service Request: R1500009
Date Collected: 12/31/14 0820
Date Received: 1/ 3/15

Sample Name: A10278RTM
Lab Code: R1500009-002

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	**0.26**	B	mg/L	0.10	0.03	1	1/ 5/15	1/7/15 11:07	
Cadmium, Total	200.8	0.000008	U	mg/L	0.0010	0.000008	1	1/ 5/15	1/6/15 18:06	
Copper, Total	200.8	**0.0006**	J	mg/L	0.0010	0.0003	1	1/ 5/15	1/6/15 18:06	
Lead, Total	200.8	**0.0002**	BJ	mg/L	0.0010	0.00007	1	1/ 5/15	1/8/15 11:11	
Nickel, Total	200.8	**0.0005**	J	mg/L	0.0010	0.0003	1	1/ 5/15	1/6/15 18:06	
Zinc, Total	200.8	0.0012	U	mg/L	0.0050	0.0012	1	1/ 5/15	1/6/15 18:06	

Analytical Report

Client:	General Electric Company	**Service Request:**	R1500009
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 2	**Date Collected:**	12/31/14 0700
Sample Matrix:	Water	**Date Received:**	1/ 3/15
Sample Name:	64G-A10277		
Lab Code:	R1500009-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	412		mg/L	2.0	1	NA	1/5/15 14:50	
Ammonia as Nitrogen, undistilled	350.1	0.137		mg/L	0.050	1	NA	1/8/15 16:20	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	4.8		mg/L	1.0	1	NA	1/6/15 16:59	
Solids, Total	SM 2540 B-1997(2011)	724		mg/L	10	1	NA	1/6/15 10:04	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	707		mg/L	10	1	NA	1/5/15 12:05	

Analytical Report

Client:	General Electric Company	**Service Request:**	R1500009
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 2	**Date Collected:**	12/31/14 0820
Sample Matrix:	Water	**Date Received:**	1/ 3/15
Sample Name:	A10278R		
Lab Code:	R1500009-004	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	46.4		mg/L	2.0	1	NA	1/5/15 14:50	
Ammonia as Nitrogen, undistilled	350.1	0.050	U	mg/L	0.050	1	NA	1/8/15 16:23	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	3.5		mg/L	1.0	1	NA	1/6/15 17:20	
Solids, Total	SM 2540 B-1997(2011)	74		mg/L	10	1	NA	1/6/15 10:04	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	103		mg/L	10	1	NA	1/5/15 12:05	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 3
Sample Matrix: Water

Sample Name: 64G-A10279TM
Lab Code: R1500010-001

Service Request: R1500010
Date Collected: 1/2/15 0700
Date Received: 1/3/15

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.06	BJ	mg/L	0.10	0.03	1	1/5/15	1/7/15 11:32	
Cadmium, Total	200.8	0.000008	U	mg/L	0.0010	0.000008	1	1/5/15	1/6/15 18:11	
Copper, Total	200.8	0.0013		mg/L	0.0010	0.0003	1	1/5/15	1/6/15 18:11	
Lead, Total	200.8	0.00007	U	mg/L	0.0010	0.00007	1	1/5/15	1/6/15 18:11	
Nickel, Total	200.8	0.0017		mg/L	0.0010	0.0003	1	1/5/15	1/6/15 18:11	
Zinc, Total	200.8	0.0012	U	mg/L	0.0050	0.0012	1	1/5/15	1/6/15 18:11	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 3
Sample Matrix: Water

Sample Name: A10280RTM
Lab Code: R1500010-002

Service Request: R1500010
Date Collected: 1/ 2/15 0830
Date Received: 1/ 3/15

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	**0.10**	BJ	mg/L	0.10	0.03	1	1/ 5/15	1/7/15 11:39	
Cadmium, Total	200.8	0.000008	U	mg/L	0.0010	0.000008	1	1/ 5/15	1/6/15 18:16	
Copper, Total	200.8	**0.0005**	J	mg/L	0.0010	0.0003	1	1/ 5/15	1/6/15 18:16	
Lead, Total	200.8	**0.0002**	BJ	mg/L	0.0010	0.00007	1	1/ 5/15	1/6/15 18:16	
Nickel, Total	200.8	**0.0005**	J	mg/L	0.0010	0.0003	1	1/ 5/15	1/6/15 18:16	
Zinc, Total	200.8	**0.0027**	J	mg/L	0.0050	0.0012	1	1/ 5/15	1/6/15 18:16	

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 3
Sample Matrix: Water

Service Request: R1500010
Date Collected: 1/ 2/15 0700
Date Received: 1/ 3/15

Sample Name: 64G-A10279
Lab Code: R1500010-003

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	408		mg/L	2.0	1	NA	1/5/15 14:50	
Ammonia as Nitrogen, undistilled	350.1	0.137		mg/L	0.050	1	NA	1/8/15 16:24	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	4.7		mg/L	1.0	1	NA	1/6/15 17:41	
Solids, Total	SM 2540 B-1997(2011)	725		mg/L	10	1	NA	1/6/15 10.04	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	730		mg/L	10	1	NA	1/5/15 12:05	

Analytical Report

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 3
Sample Matrix: Water

Sample Name: A10280R
Lab Code: R1500010-004

Service Request: R1500010
Date Collected: 1/2/15 0830
Date Received: 1/3/15

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	48.7		mg/L	2.0	1	NA	1/5/15 14:50	
Ammonia as Nitrogen, undistilled	350.1	0.050	U	mg/L	0.050	1	NA	1/8/15 16:26	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	3.3		mg/L	1.0	1	NA	1/6/15 18:02	
Solids, Total	SM 2540 B-1997(2011)	86		mg/L	10	1	NA	1/6/15 10:04	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	86		mg/L	10	1	NA	1/5/15 12:05	

NPDES Sampling
GE Pittsfield
Toxicity pH

Date: 12/29/14

Chronic Day 1

Effluent Composite

Sample # 64G-A10275
Date 12/29/14
Time 730a
pH 8.03 su temp. 7.4°C

River/Dilution Water

Sample # A10276R
Date 12/29/14
Time 8:15a
pH 7.80 su temp. 0.4°C

[signature] 12/29/14
Signature & Date

Signature & Date

NPDES Sampling
GE Pittsfield
Toxicity pH

Date: 12/31/14

Chronic Day 2

Effluent Composite

Sample # 64G-A10277
Date 12/31/14
Time 700 am
pH 7.91 su temp. 3.8°C

River/Dilution Water

Sample # A10278R
Date 12/31/14
Time 8:20 am
pH 7.80 su temp. 0.2°C

12/31/14
Signature & Date

Signature & Date

NPDES Sampling
GE Pittsfield
Toxicity pH

Date: 1/2/15

Chronic Day 2

Effluent Composite

Sample # 64G-A10279
Date 1/2/15
Time 7:00 am
pH 7.96 su temp. 3.5°C

River/Dilution Water

Sample # A10280R
Date 1/2/15
Time 8:30 am
pH 7.75 su temp. 0.1°C

1/2/15
Signature & Date

Signature & Date

APPENDIX 3

Chain of Custody Forms

Aquatec Biological Sciences
Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier:
Address: Veolia Water, NA	**Outfall Composite – INITIAL SAMPLE**	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s):	
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	Date Shipped: 12/29/14
Facsimile:	**Ship these samples on Monday.**	
Contact Name: Sean Coyle or Dave Moro	Client Code: ALS/Patton	Hand Delivered: ☐ Yes ☒ No

SAMPLE IDENTIFICATION	SAMPLE COLLECTION Start date and time	SAMPLE COLLECTION Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS 4°C Plastic 1 gal	4°C Plastic 1/2 gal	4°C H_2SO_4 Plastic 1 L	4°C H_2SO_4 Glass 40 ml	4°C Glass 40 mL	4°C HNO_3 Plastic 0.5 L
Outfall Composite 646-A10275	12/28/14 700 am	12/29/14 700 am		✓	Effluent	1000.2: *Ceriodaphnia dubia* chronic survival and reproduction - IN	1					
Outfall Composite 646-A10275	12/28/14 700 am	12/29/14 700 am		✓	Effluent	Total Residual Chlorine (See Note in Comment Box below)					1	
Housatonic River A10216R	12/29/14 8:15 am		✓		Receiving	Receiving (dilution water)	1					

	DATE	TIME		
Relinquished by: (signature)	12/29/14	1305	Received by: (signature)	
Relinquished by: (signature)	12/30/14	0830	Received by: (signature)	
Relinquished by: (signature)	DATE	TIME	Received by: (signature)	

Temperature blank at time of delivery (Aquatec): 1.2 °C.

WWTP Operators:

Is your final effluent chlorinated?

If so, is it dechlorinated prior to shipment for toxicity testing?

Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

Aquatec Biological Sciences
Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier: Priority Express
Address: Veolia Water NA	**Outfall Composite – RENEWAL SAMPLE**	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s):	Date Shipped: 12/31/14
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	
Facsimile:	Ship these samples on Wednesday	Hand Delivered: ☐ Yes ☐ No
Contact Name: Dave Moro	Client Code: ALS/Patton	

SAMPLE IDENTIFICATION	SAMPLE COLLECTION Start date and time	Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS 4°C Plastic 1 gal	4°C Plastic 1/2 gal	4°C H_2SO_4 Plastic 1 L	4°C H_2SO_4 Glass 40 ml	4°C Glass 40 mL	4°C HNO_3 Plastic 0.5 L
Outfall Composite 646-A10277	12/30/14 700 am	12/31/14 700 am		X	Effluent	**Renewal 1 (R1):** *Ceriodaphnia dubia* chronic suvival and reproduction	1					
Outfall Composite 646-A10277	12/30/14 700 am	12/31/14 700 am		X	Effluent	**Total Residual Chlorine** (See Note in Comment Box below)					1	
A10278R												
Housatonic River A10278R	12/31/14	12/31/14 8:50 am	X		Receiving	**Receiving (Dilution Water)**	1					

	DATE	TIME		
Relinquished by: *(signature)*	12/31/14	300 pm	Received by: *(signature)*	
Relinquished by: *(signature)*	1/1/15	1:30	Received by: *(signature)*	
Relinquished by: *(signature)*	DATE	TIME	Received by: *(signature)*	

Temperature blank at time of delivery (Aquatec): 1.6 °C.

WWTP Operators:

Is your final effluent chlorinated?

If so, is it dechlorinated prior to shipment for toxicity testing?

Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

Aquatec Biological Sciences
Chain-of-Custody Record

273 Commerce Street
Williston, VT 05495
TEL: (802) 860-1638
FAX: (802) 658-3189

COMPANY INFORMATION	COMPANY'S PROJECT INFORMATION	SHIPPING INFORMATION
Name: General Electric Company	Project Name: GE PITTSFIELD	Carrier: Priority Express
Address: Veolia Water NA	**Outfall Composite – RENEWAL SAMPLE**	
1000 East Street, Gate 64	Project Number: 14008	Airbill Number:
City/State/Zip: Pittsfield, MA 01201	Sampler Name(s):	Date Shipped: 1/2/15
Telephone: (413) 494-6709	NPDES Permit #: MA0003891	
Facsimile:	Ship these samples on Friday.	Hand Delivered: ☐ Yes ☒ No
Contact Name: Dave Moro	Client Code: ALS/Patton	

SAMPLE IDENTIFICATION	COLLECTION Start date and time	COLLECTION Completion date and time	GRAB	COMPOSITE	MATRIX	ANALYSIS	VOLUME/CONTAINER TYPE/ PRESERVATIVE: NUMBER OF CONTAINERS					
							4°C / Plastic / 1 gal	4°C / Plastic / 1/2 gal	4°C H_2SO_4 / Plastic / 1 L	4°C H_2SO_4 / Glass / 40 ml	4°C / Glass / 40 mL	4°C HNO_3 / Plastic / 0.5 L
Outfall Composite 64G-A10279	1/1/15 700 am	1/2/15 700 am		X	Effluent	Renewal 2 (R2): *Ceriodaphnia dubia* chronic survival and reproduction	2					
Outfall Composite 64G-A10279	1/1/15 700 am	1/2/15 700 am		X	Effluent	Total Residual Chlorine (See Note in Comment Box below)					1	
Housatonic River A10280	1/2/15 830 am		X		Receiving	Receiving (Dilution Water)	2					
A10280												

	DATE	TIME	
Relinquished by: (signature)	1/2/15	1407	Received by: (signature)
Relinquished by: (signature)	1/3/15	1100	Received by: (signature)
Relinquished by: (signature)	DATE	TIME	Received by: (signature)

Temperature blank at time of delivery (Aquatec): 1.7 °C.

WWTP Operators:

Is your final effluent chlorinated?

If so, is it dechlorinated prior to shipment for toxicity testing?

Please record TRC concentration, mg/L (if available):

Sample acceptance policy:

Chain-of-Custody completed. Sample bottle labels should be completed and covered with waterproof tape.
Sample should be received at 0°-6°C and/or within 6 hours of collection.
Samples should be received with in specified holding times based on controlling regulations (e.g., less than 36 hours for effluent samples under NPDES regulation).
Samples not meeting the above conditions (per applicable regulatory protocols) will be qualified in the report.

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19316

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP) 1000 East St. Pittsfield MA 01201	
Phone #: 413-494-6709	Email: 413-494-7058
Sampler's Signature:	Sampler's Printed Name: Kevin Bissonnault

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 2 2 3 8 3 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	METALS, TOTAL (List in comments below) 200.7	METALS, DISSOLVED (List in comments below)	TOC - SM5310C	ALK. SM2320B	NH3 - EPA 350.1	Total Solids SM2540B
64G-A10275TM		12/29/14	7:00 am	H_2O	1	X	X				
A10276RTM		12/29/14	8:15 am	H_2O	1	X	X				
64G-A10275		12/29/14	7:00 am	H_2O	1			X			
A10276R		12/29/14	8:15 am	H_2O	1			X			
64G-A10275		12/29/14	7:00 am	H_2O	1				X		
A10276R		12/29/14	8:15 am	H_2O	1				X		
64G-A10275		12/29/14	7:00 am	H_2O	1					X	
A10276R		12/29/14	8:15 am	H_2O	1					X	

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Total Metals (5) – EPA Method 200.8 Cu,Zn,Pb,Cd,Ni

Total Metals (1) – EPA Method 200.7 Aluminum

Toxicity pH sheet included with COC's

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day X 5 day

REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature:	Signature:	Signature:	Signature:	Signature:
Printed Name: Kevin Bissonnault	Printed Name:	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: VEWA	Firm:	Firm:	Firm:	Firm:	Firm:
Date/Time: 12/29/14 2:00pm	Date/Time: 12/30/14 1000	Date/Time:	Date/Time:	Date/Time:	Date/Time:

R1410446 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Distribution: White - Lab Copy; Yellow - Return to Originator

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19315

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP)	
1000 East St.	
Phone #: Pittsfield MA 01201	Email:
Sampler's Signature: 413-494-6709	Sampler's Printed Name: 413-494-7058

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Total Dissolved Solids SM2540C	REMARKS/ ALTERNATE DESCRIPTION
64G-A10275		12/29/14	7:00a	H_2O	1								X	
A10276R		12/29/14	8:15a	H_2O	1								X	

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day ___X___ 5 day

REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
X X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Kevin Boissonneault	Signature: Greg LeFleur	Signature	Signature	Signature	Signature
Printed Name: KEVIN	Printed Name: Greg LeFleur	Printed Name	Printed Name	Printed Name	Printed Name
Firm: 12/29/14 7:00pm	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time	Date/Time: 12/30/14 1000	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return to Originator

R1410446 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Cooler Receipt and Preservation Check Form

Project/Client GE Pittsfield Folder Number R14-10446

Cooler received on 12/30/14 by: Q

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	(Y)	N
2	Custody papers properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good condition (unbroken)?	(Y)	N
4	Circle: (Wet Ice) Dry Ice Gel packs present?	(Y)	N

5a	Perchlorate samples have required headspace?	Y	N	(NA)
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y	(N)	NA
6	Where did the bottles originate?	(ALS/ROS)		CLIENT
7	Soil VOA received as: Bulk Encore 5035set			(NA)

8. Temperature Readings Date: 12/30/14 Time: 1025 ID: (IR#3) IR#4 From: (Temp Blank) Sample Bottle

Observed Temp (°C)	4.1						
Correction Factor (°C)	-0.5						
Corrected Temp (°C)	3.6°						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-007 by Q on 12/30/14 at 1027

5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: _____

Cooler Breakdown: Date: 12/30/14 Time: 1317 by: Q

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		RDB2L1403	10/15				
≤2	H_2SO_4	✓		WC1400928	1/15				
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522	✓		If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis -- pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 100614-2430 100614-1314C

Other Comments:

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19379

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP) 1000 East St. Pittsfield MA 01201	
Phone #: 413-494-6709	Email: 413-494-7052
Sampler's Signature: Kevin Boissonnault	Sampler's Printed Name: Kevin Boissonnault

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 2 2 3 8 3 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Metals Totals (5) 200.8	TOC SM5310C	HK SM2320B	NH3 EPA 350.1	Total Solids SM2540B
64G-A10277TM		12/31/14	7:00am	H_2O	1						X		X				
A10278RTM		12/31/14	8:20am	H_2O	1						X		X				
64G-A10277		12/31/14	7:00am	H_2O	1									X			
A10278R		12/31/14	8:20am	H_2O	1									X			
64G-A10277		12/31/14	7:00am	H_2O	1										X		
A10278R		12/31/14	8:20am	H_2O	1										X		
64G-A10277		12/31/14	7:00am	H_2O	1											X	
A10278R		12/31/14	8:20am	H_2O	1											X	
64G-A10277		12/31/14	7:00am	H_2O	1												X
A10278R		12/31/14	8:20am	H_2O	1												X

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

Metals
Total Metals (5) – EPA Method 200.8 Cu,Zn,Pb,Cd,Ni

Total Metals (1) – EPA Method 200.7-Aluminum

Toxicity pH sheet included with COC's

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day
_____ 4 day __X__ 5 day

REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO #:

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Kevin Boissonnault	Signature: [illegible]	Signature:	Signature:	Signature:	Signature:
Printed Name: Kevin Boissonnault	Printed Name: ALS	Printed Name:	Printed Name:	Printed Name:	
Firm: VENH	Firm: ALS	Firm:	Firm:	Firm:	
Date/Time: 12/31/13 2:00pm	Date/Time: 1/3/15/ 1000	Date/Time:	Date/Time:	Date/Time:	

R1500009 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Distribution: White - Lab Copy; Yellow - Return to Originator

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19378

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: NPDES Permit

Project Number:

Project Manager: Sean Coyle

Report CC:

Company/Address: Veolia Water (GE CEP)
1000 East St.
Pittsfield MA 01201

Phone #: 413-494-6709

Email: 413-494-7052

Sampler's Signature: [signature]

Sampler's Printed Name: Kevin Boissonnault

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs o 8260 o 624 o CLP	GC/MS SVOAs o 8270 o 625	GC VOAs o 8021 o 601/602	PESTICIDES o 8081 o 608	PCBs o 8082 o 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Total Dissolved Silica SM4500C							REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE														0						
64G-A10277	[redacted]	12/31/14	7:00am	H_2O	1								X							
A10278R	[redacted]	12/31/14	8:20am	H_2O	1								X							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ______

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day __X__ 5 day

REQUESTED REPORT DATE
____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
__X__ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	Signature
Printed Name: Kevin Boissonnault	Printed Name: Daniel West	Printed Name	Printed Name	Printed Name	
Firm: VENA	Firm: ALS	Firm	Firm	Firm	
Date/Time: 1/2/15 2:00pm	Date/Time: 1/3/15 / 1000	Date/Time	Date/Time	Date/Time	

R1500009 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Distribution: White - Lab Copy; Yellow - Return to Originator

R1500009 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Cooler Receipt and Preservation Check Form

Project/Client GE Pittsfield Folder Number M15-0009

Cooler received on 1/3/15 by: DW

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	N
2	Custody papers properly completed (ink, signed)?	N
3	Did all bottles arrive in good condition (unbroken)?	N
4	Circle: Wet Ice Dry Ice Gel packs present?	N

5a	Perchlorate samples have required headspace?	Y N NA
5b	Did VOA vials, Alk,or Sulfide have sig* bubbles?	Y N NA
6	Where did the bottles originate?	ALS/ROC CLIENT
7	Soil VOA received as: Bulk Encore 5035set	NA

8. Temperature Readings Date: 1/3/15 Time: 1003 ID: IR#3 IR#4 From: Temp Blank Sample Bottle

Observed Temp (°C)	1.2°						
Correction Factor (°C)	+0.0°						
Corrected Temp (°C)	1.2°						
Within 0-6°C?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-m2 by DW on 1/3/15 at 1003

5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: _____

Cooler Breakdown: Date: 1/5/15 Time: 0743 by: SLS

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		3DB2614003	11/15				
≤2	H_2SO_4	✓		WC1400724	11/15				
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 092214-2NAO, 090814-1DMC

Other Comments: _____

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19380

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

PAGE 1 OF 2

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP) 1000 East St. Pittsfield MA 01201	
Phone #: 413-494-6709	Email: 413-494-7052
Sampler's Signature: [signature]	Sampler's Printed Name: Kevin Boissonnault

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○8260 ○624 ○CLP	GC/MS SVOAs ○8270 ○625	GC VOAs ○8021 ○601/602	PESTICIDES ○8081 ○608	PCBs ○8082 ○608	METALS, TOTAL (List in comments below) (5) EPA 200.8	METALS, DISSOLVED (List in comments below)	Metals Total (1) 200.7	TOC-SM5310C	Alk. SM2320B	NH3 EPA 350.1	Total Solids SM2540B			REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE											2		2	3	8	3	0			
64G-A10279TM		1/2/14	7:00am	H_2O	1						X		X							
A10280RTM		1/2/14		H_2O	1						X		X							
64G-A10279		1/2/14	7:00am	H_2O	1									X						
A10280R		1/2/14		H_2O	1									X						
64G-A10279		1/2/14	7:00am	H_2O	1										X					
A10280R		1/2/14		H_2O	1										X					
64G-A10279		1/2/14	7:00am	H_2O	1											X				
A10280R		1/2/14		H_2O	1											X				
64G-A10279		1/2/14	7:00am	H_2O	1												X			
A10280R		1/2/14		H_2O	1												X			

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ______

SPECIAL INSTRUCTIONS/COMMENTS

Metals

Total Metals (5) – EPA Method 200.8 Cu,Zn,Pb,Cd,Ni

Total Metals (1) – EPA Method 200.7 Aluminum

Toxicity pH sheet included with COC's

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

____ 1 day ____ 2 day ____ 3 day

____ 4 day X 5 day

REQUESTED REPORT DATE

____

REPORT REQUIREMENTS

____ I. Results Only

____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	
Printed Name: Kevin Boissonnault	Printed Name: Daniel W[illegible]	Printed Name	Printed Name	Printed Name	
Firm: VENA	Firm: ALS	Firm	Firm	Firm	
Date/Time: 1/2/15 2:00pm	Date/Time: 1/3/15/ 1000	Date/Time	Date/Time	Date/Time	

R1500010 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Distribution: White - Lab Copy; Yellow - Return to Originator

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19381

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

PAGE 2 OF 2

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP) 1000 East St. Pittsfield MA 01201	
Phone #: 413-494-6709	Email: 413-494-7052
Sampler's Signature: [signature]	Sampler's Printed Name: Kevin Bossonnault

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs o 8260 o 624 o CLP	GC/MS SVOAs o 8270 o 625	GC VOAs o 8021 o 601/602	PESTICIDES o 8081 o 608	PCBs o 8082 o 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Total Dissolved Solids						REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE													0						
64G-A10279		1/2/14	7:00am	H_2O	1								X						
A10280R		1/2/14		H_2O	1								X						

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day X 2 day ____ 3 day
____ 4 day ____ 5 day

REQUESTED REPORT DATE
____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	Signature
Printed Name: Kevin Bossonnault	Printed Name: Daniel Ward	Printed Name	Printed Name	Printed Name	
Firm: VENA	Firm: ALS	Firm	Firm	Firm	
Date/Time: 1/2/15 2:00pm	Date/Time: 1/3/15 / 1000	Date/Time	Date/Time	Date/Time	

R1500010 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Distribution: White - Lab Copy; Yellow - Return to Originator

R1500010 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Cooler Receipt and Preservation Check Form

Project/Client GE Pittsfield Folder Number JB R1500010.

Cooler received on 1/3/15 by: SM

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	(Y) N
2	Custody papers properly completed (ink, signed)?	(Y) N
3	Did all bottles arrive in good condition (unbroken)?	(Y) N
4	Circle: Wet Ice Dry Ice Gel packs present?	(Y) N

5a	Perchlorate samples have required headspace?	Y N (NA)
5b	Did VOA vials, Alk,or Sulfide have sig* bubbles?	Y (N) NA
6	Where did the bottles originate?	ALS/ROC CLIENT
7	Soil VOA received as:	Bulk Encore 5035set NA

8. Temperature Readings Date: 1/3/15 Time: 1003 ID: (IR#3) IR#4 From: Temp Blank Sample Bottle

Observed Temp (°C)	1.2°						
Correction Factor (°C)	+0.0°						
Corrected Temp (°C)	1.2°						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-m2 by SM on 1/3/15 at 1003
5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: AV

Cooler Breakdown: Date: 1/5/15 Time: 0936 by: JH

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		BD82614OB	10/15				
≤2	H_2SO_4	✓		WC1400924	11/15				
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 081814-18mc, 140614-2MPA
Other Comments:

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

1565 Jefferson Rd., Bld 300, Suite 360
Rochester, NY 14623
T: +1 585 288 5380
F: +1 585 288 8475
www.alsglobal.com

January 12, 2015

Mr. Sean Coyle
Veolia Water North America
1000 East Street
Pittsfield, MA 01201

Re: NPDES Chronic Biomonitoring Report for December 2014
Submission #s: R1410114, R1410204, R1410301

Dear Mr. Coyle:

Enclosed is our report on the Chronic Whole Effluent Toxicity testing conducted in December 2014. The 64G Composite samples were collected on 12/15/14, 12/17/14 and 12/19/14 at 7:00 am. The Housatonic River samples were collected on 12/15/14 at 9:00 am, 12/17/14 at 8:20 am and 12/19/14 at 8:45 am. The 64G Composite and Housatonic River samples were analyzed at ALS Rochester for ammonia, total organic carbon, total solids, total dissolved solids, alkalinity and total metals. Results are presented in Appendix 2. The biological portion of that test (performed by Aquatec Biological Sciences) did not meet Quality Control acceptability criteria and was subsequently repeated with new samples the week of December 28, 2014. Please reference ALS report numbers R1410446, R1500010, R1500009 for analytical results of samples collected the week of December 28, 2014.

Should you have any questions please contact me at (585)672-7473.

Thank you for allowing us to provide this service.

Sincerely,

ALS Environmental

Deb Patton
Project Manager

enc.

Table I – Summary of Analytical results for NPDES Outfall Composite Sample and Housatonic River Dilution Water December 15-19, 2014

Chemical Analyses: (all results are mg/L unless otherwise indicated)

Parameter Tested	Laboratory	December 15 Effluent Composite	December 15 Housatonic River	December 17 Effluent Composite	December 17 Housatonic River	December 19 Effluent Composite	December 19 Housatonic River
Ammonia	ALS	0.077	ND (0.05)	0.077	ND (0.05)	0.084	ND (0.05)
Total Alkalinity	ALS	414	41.8	412	44	416	45
Total Organic Carbon	ALS	4.2	3.4	4.3	3.3	4.2	3.4
Total Solids	ALS	701	76	717	87	695	74
Total Dissolved Solids	ALS	683	67	694	79	680	72
Aluminum, total	ALS	ND (0.03)	0.04	0.03	0.08	ND (0.03)	0.04
Cadmium, total	ALS	ND (0.000008)	0.00001	ND (0.000008)	ND (0.000008)	ND (0.000008)	ND (0.000008)
Copper, total	ALS	0.0008	0.0006	0.0007	0.0006	0.0043	0.0006
Lead, total	ALS	ND (0.00007)	0.0002	ND (0.00007)	0.00009	0.0002	0.0002
Nickel, total	ALS	0.0022	0.0005	0.0020	0.0005	0.0020	0.0005
Zinc, total	ALS	ND (0.0012)	0.0041	ND (0.0012)	0.0031	0.0014	0.0023
pH (SU)	Veolia	7.74	7.58	7.80	7.87	7.87	7.82

NA – Not analyzed

ND – Not detected (Number in parentheses is detection limit.)

APPENDIX 2

Laboratory Reports

ALS-Rochester
Veolia, Inc.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410114
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 1	**Date Collected:**	12/15/14 0700
Sample Matrix:	Water	**Date Received:**	12/16/14
Sample Name:	64G-A10269TM		
Lab Code:	R1410114-001	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.03	U	mg/L	0.10	0.03	1	12/16/14	12/17/14 22:37	
Cadmium, Total	200.8	0.000008	U	mg/L	0.0010	0.000008	1	12/17/14	12/18/14 16:16	
Copper, Total	200.8	0.0008	BJ	mg/L	0.0010	0.0003	1	12/17/14	12/18/14 16:16	
Lead, Total	200.8	0.00007	U	mg/L	0.0010	0.00007	1	12/17/14	12/18/14 16:16	
Nickel, Total	200.8	0.0022		mg/L	0.0010	0.0003	1	12/17/14	12/18/14 16:16	
Zinc, Total	200.8	0.0012	U	mg/L	0.0050	0.0012	1	12/17/14	12/18/14 16:16	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 1
Sample Matrix: Water

Service Request: R1410114
Date Collected: 12/15/14 0900
Date Received: 12/16/14

Sample Name: A10270RTM
Lab Code: R1410114-002

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.04	J	mg/L	0.10	0.03	1	12/16/14	12/17/14 22:44	
Cadmium, Total	200.8	0.00001	J	mg/L	0.0010	0.000008	1	12/17/14	12/18/14 16:21	
Copper, Total	200.8	0.0006	BJ	mg/L	0.0010	0.0003	1	12/17/14	12/18/14 16:21	
Lead, Total	200.8	0.0002	J	mg/L	0.0010	0.00007	1	12/17/14	12/22/14 17:33	
Nickel, Total	200.8	0.0005	J	mg/L	0.0010	0.0003	1	12/17/14	12/18/14 16:21	
Zinc, Total	200.8	0.0041	BJ	mg/L	0.0050	0.0012	1	12/17/14	12/18/14 16:21	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410114
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 1	**Date Collected:**	12/15/14 0700
Sample Matrix:	Water	**Date Received:**	12/16/14
Sample Name:	64G-A10269		
Lab Code:	R1410114-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	414		mg/L	2.0	1	NA	12/19/14 11:01	
Ammonia as Nitrogen, undistilled	350.1	0.077		mg/L	0.050	1	NA	12/27/14 17:19	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	4.2		mg/L	1.0	1	NA	12/17/14 21:41	
Solids, Total	SM 2540 B-1997(2011)	701		mg/L	10	1	NA	12/18/14 10:11	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	683		mg/L	10	1	NA	12/17/14 10:56	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410114
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 1	**Date Collected:**	12/15/14 0900
Sample Matrix:	Water	**Date Received:**	12/16/14
Sample Name:	A10270R		
Lab Code:	R1410114-004	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	41.8		mg/L	2.0	1	NA	12/19/14 11:01	
Ammonia as Nitrogen, undistilled	350.1	0.050	U	mg/L	0.050	1	NA	12/27/14 17:20	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	3.4		mg/L	1.0	1	NA	12/17/14 22:02	
Solids, Total	SM 2540 B-1997(2011)	76		mg/L	10	1	NA	12/18/14 10:11	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	67		mg/L	10	1	NA	12/17/14 10:56	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410204
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 2	**Date Collected:**	12/17/14 0700
Sample Matrix:	Water	**Date Received:**	12/18/14
Sample Name:	64G-A10271TM		
Lab Code:	R1410204-001	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.03	J	mg/L	0.10	0.03	1	12/18/14	12/22/14 08:21	
Cadmium, Total	200.8	0.0010	U	mg/L	0.0010	0.000008	1	12/19/14	12/22/14 22:33	
Copper, Total	200.8	0.0007	J	mg/L	0.0010	0.0003	1	12/19/14	12/23/14 22:02	
Lead, Total	200.8	0.0010	U	mg/L	0.0010	0.00007	1	12/19/14	12/22/14 22:33	
Nickel, Total	200.8	0.0020		mg/L	0.0010	0.0003	1	12/19/14	12/22/14 22:33	
Zinc, Total	200.8	0.0050	U	mg/L	0.0050	0.0012	1	12/19/14	12/30/14 10:02	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410204
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 2	**Date Collected:**	12/17/14 0820
Sample Matrix:	Water	**Date Received:**	12/18/14
Sample Name:	A10272RTM		
Lab Code:	R1410204-002	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.08	J	mg/L	0.10	0.03	1	12/18/14	12/22/14 08:28	
Cadmium, Total	200.8	0.0010	U	mg/L	0.0010	0.000008	1	12/19/14	12/22/14 22:39	
Copper, Total	200.8	0.0006	J	mg/L	0.0010	0.0003	1	12/19/14	12/23/14 22:07	
Lead, Total	200.8	0.00009	J	mg/L	0.0010	0.00007	1	12/19/14	12/22/14 22:39	
Nickel, Total	200.8	0.0005	J	mg/L	0.0010	0.0003	1	12/19/14	12/22/14 22:39	
Zinc, Total	200.8	0.0031	J	mg/L	0.0050	0.0012	1	12/19/14	12/30/14 10:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410204
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 2	**Date Collected:**	12/17/14 0700
Sample Matrix:	Water	**Date Received:**	12/18/14
Sample Name:	64G-A10271		
Lab Code:	R1410204-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	412		mg/L	2.0	1	NA	12/19/14 11:01	
Ammonia as Nitrogen, undistilled	350.1	0.077		mg/L	0.050	1	NA	12/29/14 18:40	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	4.3		mg/L	1.0	1	NA	12/26/14 18:39	
Solids, Total	SM 2540 B-1997(2011)	717		mg/L	10	1	NA	12/19/14 11:25	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	694		mg/L	10	1	NA	12/19/14 13:08	

Client:	General Electric Company	**Service Request:**	R1410204
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 2	**Date Collected:**	12/17/14 0820
Sample Matrix:	Water	**Date Received:**	12/18/14
Sample Name:	A10272R		
Lab Code:	R1410204-004	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	44.0		mg/L	2.0	1	NA	12/19/14 11:01	
Ammonia as Nitrogen, undistilled	350.1	0.050	U	mg/L	0.050	1	NA	12/29/14 18:41	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	3.3		mg/L	1.0	1	NA	12/26/14 19:00	
Solids, Total	SM 2540 B-1997(2011)	87		mg/L	10	1	NA	12/19/14 11:25	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	79		mg/L	10	1	NA	12/19/14 13:08	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410301
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 3	**Date Collected:**	12/19/14 0700
Sample Matrix:	Water	**Date Received:**	12/20/14
Sample Name:	64G-A10273TM		
Lab Code:	R1410301-001	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.10	U	mg/L	0.10	0.03	1	12/22/14	12/24/14 00:13	
Cadmium, Total	200.8	0.0010	U	mg/L	0.0010	0.000008	1	12/23/14	12/23/14 22:28	
Copper, Total	200.8	0.0043		mg/L	0.0010	0.0003	1	12/23/14	12/23/14 22:28	
Lead, Total	200.8	0.0002	BJ	mg/L	0.0010	0.00007	1	12/23/14	12/23/14 22:28	
Nickel, Total	200.8	0.0020		mg/L	0.0010	0.0003	1	12/23/14	12/23/14 22:28	
Zinc, Total	200.8	0.0014	J	mg/L	0.0050	0.0012	1	12/23/14	12/30/14 10:49	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: General Electric Company
Project: GE-Pittsfield NPDES Chronic Biomonitoring/Day 3
Sample Matrix: Water

Sample Name: A10274RTM
Lab Code: R1410301-002

Service Request: R1410301
Date Collected: 12/19/14 0845
Date Received: 12/20/14

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	200.7	0.04	J	mg/L	0.10	0.03	1	12/22/14	12/24/14 00:31	
Cadmium, Total	200.8	0.0010	U	mg/L	0.0010	0.000008	1	12/23/14	12/23/14 22:33	
Copper, Total	200.8	0.0006	J	mg/L	0.0010	0.0003	1	12/23/14	12/23/14 22:33	
Lead, Total	200.8	0.0002	BJ	mg/L	0.0010	0.00007	1	12/23/14	12/23/14 22:33	
Nickel, Total	200.8	0.0005	J	mg/L	0.0010	0.0003	1	12/23/14	12/23/14 22:33	
Zinc, Total	200.8	0.0023	J	mg/L	0.0050	0.0012	1	12/23/14	12/30/14 10:54	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410301
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 3	**Date Collected:**	12/19/14 0700
Sample Matrix:	Water	**Date Received:**	12/20/14
Sample Name:	64G-A10273		
Lab Code:	R1410301-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	416		mg/L	2.0	1	NA	12/26/14 13:55	
Ammonia as Nitrogen, undistilled	350.1	0.084		mg/L	0.050	1	NA	12/29/14 19:30	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	4.2		mg/L	1.0	1	NA	12/26/14 20:45	
Solids, Total	SM 2540 B-1997(2011)	695		mg/L	10	1	NA	12/23/14 11:33	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	680		mg/L	10	1	NA	12/23/14 12:58	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	General Electric Company	**Service Request:**	R1410301
Project:	GE-Pittsfield NPDES Chronic Biomonitoring/Day 3	**Date Collected:**	12/19/14 0845
Sample Matrix:	Water	**Date Received:**	12/20/14
Sample Name:	A10274R		
Lab Code:	R1410301-004	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	45.0		mg/L	2.0	1	NA	12/26/14 13:55	
Ammonia as Nitrogen, undistilled	350.1	0.050	U	mg/L	0.050	1	NA	12/29/14 19:36	
Carbon, Total Organic (TOC)	SM 5310B/C-2000(201	3.4		mg/L	1.0	1	NA	12/26/14 21:06	
Solids, Total	SM 2540 B-1997(2011)	74		mg/L	10	1	NA	12/23/14 11:33	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	72		mg/L	10	1	NA	12/23/14 12:58	

NPDES Sampling
GE Pittsfield
Toxicity pH

Date: 12/15/14

Chronic Day 1

Effluent Composite

Sample # 64G-A10269
Date 12/15/14
Time 7:55 pm
pH 7.74 su temp. 6.8°C

River/Dilution Water

Sample # A10270R
Date 12/15/14
Time 9:09 AM
pH 7.58 su temp. 1.8°C

12/15/14
Signature & Date

12/15/14
Signature & Date

00020

NPDES Sampling
GE Pittsfield
Toxicity pH

Date: 12/17/14

Chronic Day 2

Effluent Composite

Sample # 64G-A10271
Date 12/17/14
Time ~~7:30~~ 7:35 am
pH 7.80 su temp. 6.7°C

River/Dilution Water

Sample # A10272R
Date 12/17/14
Time 8:30 am
pH 7.87 su temp. 6.1°C

12/17/14
Signature & Date

Signature & Date

NPDES Sampling
GE Pittsfield
Toxicity pH

Date: 12/19/14

Chronic Day 3

Effluent Composite

Sample # 64G-A10273
Date 12/19/14
Time 7:30 am
pH 7.67 su temp. 4.0

River/Dilution Water

Sample # A10274R
Date 12/19/14
Time 8:45 am
pH 7.82 su temp. 0.2

12/19/14
Signature & Date

Signature & Date

APPENDIX 3

Chain of Custody Forms

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

20527

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP), 1000 East St, Pittsfield MA 01201	
Phone #: 413-494-6709	Email: 413-494-7058
Sampler's Signature: Bill Eagan / [signature]	Sampler's Printed Name: Bill Eagan / Jesse Webster

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below) (5) EPA 200.8	METALS, DISSOLVED (List in comments below)	Al-total (1) EPA 200.7	TOC SM5310C	HRC. SM2340B	NH3 EPA 350.1	Total Solids SM2540G	REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE											2		2	3	8	3	0	
~~64G-A10269TM~~		12/15/14	7:00 am	H_2O	1						X		X					
~~A10270RTM~~		12/15/14	9:00 Am	H_2O	1						X		X					
~~64G-A10269~~		12/15/14	7:00 am	H_2O	1									X				
~~A10270R~~		12/15/14	9:00 Am	H_2O	1									X				
~~64G-A10269~~		12/15/14	7:00 am	H_2O	1										X			
~~A10270R~~		12/15/14	9:00 Am	H_2O	1										X			
~~64G-A10269~~		12/15/14	7:00 am	H_2O	1											X		
~~A10270R~~		12/15/14	9:00 Am	H_2O	1											X		
~~64G-A10269~~		12/15/14	7:00 am	H_2O	1												X	
~~A10270R~~		12/15/14	9:00 Am	H_2O	1												X	

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ______

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Total Metals (5) – EPA Method 200.8 Cu,Zn,Pb,Cd,Ni

Total Metals (1) – EPA Method 200.7 Aluminum

Toxicity pH sheet included with COC's

Samples packed in ice

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day _X_ 5 day

REQUESTED REPORT DATE
____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
_X_ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Bill Eagan	[signature]				
Printed Name	Bill Eagan	[illegible]				
Firm	VEOLIA	ALS				
Date/Time	12/15/14 12:00 pm	12/16/14 0845				

R1410114 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Distribution: White - Lab Copy; Yellow - Return to Originator

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

20529

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP) 1000 East St. Pittsfield MA 01201	
Phone #: 413-494-6709	Email: 413-494-7058
Sampler's Signature: Bill Eagan / Jason Webster	Sampler's Printed Name: Bill Eagan / Jason Webster

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GCMS VOAs • 8260 • 624 • CLP	GCMS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Total Dissolved Solids 160.1							REMARKS/ ALTERNATE DESCRIPTION
646-A10269		12/15/14	700 hrs	H_2O	1								X							
A10270R		12/15/14	900 hrs	H_2O	1								X							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day __X__ 5 day
REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
__X__ IV. Data Validation Report with Raw Data
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bill Eagan	Signature: Jason Webster	Signature:	Signature:	Signature:	Signature:
Printed Name: Bill Eagan	Printed Name: Jason Webster	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: VEPA	Firm: GHR	Firm:	Firm:	Firm:	Firm:
Date/Time: 12/15/14 1200 pm	Date/Time: 12/16/14 0945	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R1410114 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Project/Client General Electric Folder Number R1410114 R14-10114

Cooler received on 12/16/14 by: Q

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	(Y) N
2	Custody papers properly completed (ink, signed)?	(Y) N
3	Did all bottles arrive in good condition (unbroken)?	(Y) N
4	Circle: Wet Ice Dry Ice Gel packs present?	(Y) N

5a	Perchlorate samples have required headspace?	Y N (NA)
5b	Did VOA vials, Alk,or Sulfide have sig* bubbles?	Y N NA
6	Where did the bottles originate?	(ALS/ROC) CLIENT
7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 12/16/14 Time: 1010 ID: IR#3 (IR#4) From: ~~Temp Blank~~ (Sample Bottle)

Observed Temp (°C)	1.1°	1.8°					
Correction Factor (°C)	–	–					
Corrected Temp (°C)	1.1°	1.8°					
Within 0-6°C?	(Y) N	(Y) N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by Q on 12/16/14 at 1013
5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: _____

Cooler Breakdown: Date: 12/16/14 Time: 1236 by: Q

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (NA)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		32626136B	6/15				
≤2	H_2SO_4	✓		WC1400116	6/15				
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 121712-04/4, 041614-1BMC
Other Comments:

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19363

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 2

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report QC:
Company/Address: Veolia Water (GE CEP) 1000 East St. Pittsfield MA 01201	
Phone #: 413-494-6709	Email: 413-494-7052
Sampler's Signature:	Sampler's Printed Name:

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 2 2 3 8 3 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Metals 10 (5) EPA 200.8	TOC SM5310C	Alk. SM2320B	NH3 EPA 350.1	Total Solids SM2540B	REMARKS/ ALTERNATE DESCRIPTION
64G-A10271TM		12/17/14	7:00am	H_2O	1						X		X					
A10272RTM		12/17/14	8:20am	H_2O	1						X		X					
64G-A10271		12/17/14	7:00am	H_2O	1									X				
A10272R		12/17/14	8:20am	H_2O	1									X				
64G-A10271		12/17/14	7:00am	H_2O	1										X			
A10272R		12/17/14	8:20am	H_2O	1										X			
64G-A10271		12/17/14	7:00am	H_2O	1											X		
A10272R		12/17/14	8:20am	H_2O	1											X		
64G-A10271		12/17/14	7:00am	H_2O	1													
A10272R		12/17/14	8:20am	H_2O	1											X		
																X		

Preservative Key: 0. NONE 1. HCL 2. HNO_3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Metals
Total Metals (5) – EPA Method 200.8 Cu,Zn,Pb,Cd,Ni

Total Metals (1) – EPA Method 200.7-Aluminum

Toxicity pH sheet included with COC's

- Samples packed in ice

See OAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
REQUESTED REPORT DATE

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	
Printed Name: Sean Boyle	Printed Name: J. Seward	Printed Name	Printed Name	Printed Name	
Firm: VEPW	Firm: ALS	Firm	Firm	Firm	
Date/Time: 12/17/14 2:00pm	Date/Time: 12/18/14 0955	Date/Time	Date/Time	Date/Time	

R1410204 5
Veolia Water North America
GE-Pittsfield NPDES Acute/Chronic Biomonitoring

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19365

ALS Environmental
1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP) 1000 East St Pittsfield MA 01201	
Phone #: 413-494-6709	Email: - 413-494-7052
Sampler's Signature: [signature]	Sampler's Printed Name: Kevin Borsonnault

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TDS SM2540C							REMARKS/ ALTERNATE DESCRIPTION
~~64G-A10271~~		12/17/14	7:00am	H_2O	1								X							
~~A10272R~~		12/17/14	8:20am	H_2O	1								X							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
X
REQUESTED REPORT DATE

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	[signature]	[signature]	Signature	Signature	Signature	Signature
Printed Name	Kevin Borsonnault	J. Sevier	Printed Name	Printed Name	Printed Name	Printed Name
Firm	ALS	ALS	Firm	Firm	Firm	Firm
Date/Time	12/17/14 2:00pm	12/18/14 0955	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R1410204 5
Veolia Water North America
GE-Pittsfield NPDES Acute/Chronic Biomonitoring

Project/Client GE Pittsfield Folder Number MY-10204

Cooler received on 12/18 by: JB

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	(Y)	N
2	Custody papers properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good condition (unbroken)?	(Y)	N
4	Circle: Wet Ice Dry Ice Gel packs present?	(Y)	N

5a	Perchlorate samples have required headspace?	Y N	(NA)
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y N	(NA)
6	Where did the bottles originate?	(ALS/ROC)	CLIENT
7	Soil VOA received as: Bulk Encore 5035set		(NA)

8. Temperature Readings Date: 12/18 Time: 1628 ID: (IR#3) IR#4 From: Temp Blank (Sample Bottle)

Observed Temp (°C)	2.7						
Correction Factor (°C)	—						
Corrected Temp (°C)	2.7						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: 6027 by JB on 12/18 at 1628
5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: on

Cooler Breakdown: Date: 12/18/14 Time: 1557 by: JB

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		client cont					
≤2	H_2SO_4	✓		client cont					
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: client cont.
Other Comments:

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19366

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 2

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP) 1000 East St. Pittsfield MA 01201	
Phone #: 413-49026709	Email: 413-494-7052
Sampler's Signature:	Sampler's Printed Name: Kevin Boissonnault

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 2 2 3 8 3 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	METALS, TOTAL (5) EPA 200.8	METALS, DISSOLVED (List in comments below) Metals Total (5) EPA 200.8	Toc SM5310C	Alk, SM2320B	NH3 EPA 350.1	Total Solids SM2540B
~~64G-A10273TM~~		12/19/14	7:00am	H_2O	1	X	X				
~~A10274RTM~~		12/19/14	8:45	H_2O	1	X	X				
~~64G-A10273~~		12/19/14	7:00am	H_2O	1			X			
~~A10274R~~		12/19/14	8:45	H_2O	1			X			
~~64G-A10273~~		12/19/14	7:00am	H_2O	1				X		
~~A10274R~~		12/19/14	8:45	H_2O	1				X		
64G-A10273		12/19/14	7:00am	H_2O	1					X	
A10274R		12/19/14	8:45	H_2O	1					X	
64G-A10273		12/19/14	7:00am	H_2O	1						X
A10274R		12/19/14	8:45	H_2O	1						X

Preservative Key: 0. NONE 1. HCL 2. HNO_3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

Metals

Total Metals (5) – EPA Method 200.8 Cu,Zn,Pb,Cd,Ni

Total Metals (1) – EPA Method 200.7 Aluminum

Toxicity pH sheet included with COC's

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day X 5 day

REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO #:

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature:	Signature:	Signature:	Signature:	Signature:
Printed Name: Kevin Boissonnault	Printed Name: J. Sealey	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: VEIA	Firm: ALS	Firm:	Firm:	Firm:	Firm:
Date/Time: 12/19/14 2:00pm	Date/Time: 12/20/14 0920	Date/Time:	Date/Time:	Date/Time:	Date/Time:

R1410301 5

Veolia Water North America

GE-Pittsfield NPDES Chronic Biomonitoring

Distribution: White - Lab Copy; Yellow - Return to Originator

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

19361

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 2 OF 2

Project Name: NPDES Permit	Project Number:
Project Manager: Sean Coyle	Report CC:
Company/Address: Veolia Water (GE CEP) 1000 East St. Pittsfield MA 01201	
Phone #: 413-494-6709	Email: 413-494-7052
Sampler's Signature:	Sampler's Printed Name: Kevin Brissonnault

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GCMS VOAs • 8260 • 624 • CLP	GCMS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TDS SM2540C	REMARKS/ ALTERNATE DESCRIPTION
64G A10273		12/19/14	7:00am	H_2O	1								X	
A10274R		12/19/14	8:45am	H_2O	1								X	

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Samples packed in ice

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day __X__ 5 day

REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
__X__ IV. Data Validation Report with Raw Data

Edata ____Yes ____No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: VENA	Printed Name: J. Sawa	Printed Name	Printed Name	Printed Name	Printed Name
Firm	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time: 12/19/14 2:00 pm	Date/Time: 12/20/14 0920	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return to Originator

R1410301 5
Veolia Water North America
GE-Pittsfield NPDES Chronic Biomonitoring

Cooler Receipt and Preservation Check Form

Project/Client GE Pittsfield Folder Number 14-10301

Cooler received on 12/20 by: JH

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	(Y) N
2	Custody papers properly completed (ink, signed)?	(Y) N
3	Did all bottles arrive in good condition (unbroken)?	(Y) N
4	Circle: Wet Ice Dry Ice Gel packs present?	(Y) N

5a	Perchlorate samples have required headspace?	Y N (NA)
5b	Did VOA vials, Alk,or Sulfide have sig* bubbles?	Y N (NA)
6	Where did the bottles originate?	(ALS/ROC) CLIENT
7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 12/20 Time: 0937 ID: IR#3 (IR#4) From: Temp Blank (Sample Bottle)

Observed Temp (°C)	1.0						
Correction Factor (°C)	-0.5						
Corrected Temp (°C)	0.5						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R37 by JH on 12/20 at 0937

5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: NL

Cooler Breakdown: Date: 12/22/14 Time: 0929 by: JH

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		check cover					
≤2	H_2SO_4	✓		check cover					
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: check cover

Other Comments:

PC Secondary Review: NL

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter