VEOLIA

Sept 10, 2015

Ronald Merancy, Chairman
Water Pollution Control Authority
Borough of Naugatuck
229 Church Street
Naugatuck, CT 06770

Re: **August 2015 Monthly Operating Report**

Dear Mr. Merancy:

Enclosed please find Veolia Water's Monthly Operating Report for the month of August 2015.

Please contact me at the address below if you have any questions about this report.

Sincerely,
Veolia Water North America – Northeast, LLC

John Batorski
Plant Manager
Veolia Water Naugatuck

cc: WPCA members: Rimas Balsys, Catherine Aresta, Pat Mallane, Jeffrey Hanson, James R. Stewart PE, LS, Director of Public Works, Borough of Naugatuck, Kathleen Luvisi, Senior Environmental Engineer, Alternative Resources, Inc.

(enclosure)

Veolia Water NA -Naugatuck
500 Cherry Street, Naugatuck, CT 06770
Tel 203-723-1433 / 203-723-8539
www.veoliawaterna.com

Borough of Naugatuck
Monthly WPCF Report Aug 2015

This report summarizes the activities at the Borough POTW for Aug 2015:

1. **Highlights and Significant Issues:** Please refer to the report.
2. **Collection System Update:**

Please see attached Collections Report.

3. **Plant Performance Summary:**

Please see the attached reports and graphs for additional performance details.

Plant Process Data	Limit	Actual
Total Suspended Solids (mg/l)		
Influent Avg.	-	250
Effluent Avg.	30	5
Removal Efficiency	85%	98%
Plant Process Data*	**Limit**	**Actual**
Carbonaceous BOD (mg/l)		
Influent Avg.	-	159
Eff Avg(Nov 1 – May 31)	25	
Eff Avg(June – Oct 31)	15	5
Removal Efficiency	85%	97%

Discharge Permit Exceedance: None

	Naugatuck	Middlebury	Oxford	OTR
Aug Flow Avg. (MGD)	4.3	0.336	0.037	N/A
Sludge Liquid Total (MGal)				5117.2
Sludge Cake Total (Wet Tons)				4640.4
Septage Total (MGal)	36,430	40,000	194,990	693,450

Discharge Permit Exceedance: None

Safety Incidents and Odor Complaints

	Month	YTD
Recordable Accidents	0	0
Lost Time Accidents	0	0
Odor Complaints	1	7
Unconfirmed Odor Complaints	1	1

1. **Compliance & Regulatory Issues**
   a. No report.
2. **Odor Complaints**
   a. There was 1 odor complaint in August.
3. **Personnel**
   a. No report.
4. **Health & Safety**
   a. The August safety meeting was held on Aug 10 and 11.
5. **Operational Information**
   a. The original opacity meter will be replaced at a cost of ~$22k as it was obsolete and no parts are available. Installation is scheduled for during the month of September.
   b. The annual stack test us scheduled for the week of Sept 21, 2015.

c. One-day operator review sessions have been scheduled. Each operator will spend an entire day with the APM review plant procedures (refresher training).
d. One of the original Putzmeister sludge cake feed pumps are now operational.
e. A new fork truck was received replacing the original unit which required repairs that were not economic to perform.
f. Polymer jar testing with Polydyne took place in early August.

6. **Collections**
   a. The generator for the Maple and May pump station failed. We are waiting for pricing and a determination if the original unit is economical to rebuild.
   b. Annual root control was applied to designated areas per the contract.
   c. The vac truck required a major repair as the frame that supports the jetting mechanism developed a crack. This 2001 Borough owned vehicle is approaching 200,000 miles and is absolutely vital to the maintenance of the collection system.
7. **Maintenance**
   a. Two centrifuges are in operation.
   b. One main plant water pump for the incinerator failed and was repaired.
   c. The venturi flooded elbow had ceramic castable applied to the refractory surface. The refractory was checked during a PM and appears to be holding up.
   d. HFC1 conveyor (feeds from merchant cake dump) failed on Aug 4. The conveyor was repaired.
   e. One of two original main plant hot water boilers failed. The replacement was $18,500. The original hot water circulation pumps will be rebuilt as well.
   f. One of the main CISCO network switches failed for the SCADA system and was replaced under warranty.

8. **Capital Projects**
   a. No report.

Borough of Naugatuck
Collections Systems Report
August 2015

VEOLIA WATER

	Calls for Service
1	8/22 Guntown Road Odor Complaint
2	8/21 Beacon Brook Odor Complaint
3	8/11 Hillside Ave
4	8/20 471 Millville Ave lateral problem
5	8/28 181 Tawny Thrush storm drain issue
6	

This Month	Year to Date
5	7

	Calls Caused By Collection System	Reason
1	Downstream from 6-179 on Hillside Ave	Collapsing pipe caused blockage
2		
3		
4		

	Video Inspections		
	Street Name	Type	Footage
1	Inwood pumpstation force main discharge	cctv	100
2	Hillside Ave 6-179 downstream	cctv	165
3	Hillside Ave easement 6-177A upstream	cctv	180
4			
5			

This Month		Year to Date	
445	Feet	1915	Feet

	High Velocity Cleaning		
	Street Name	Date	Footage
1	Briarwood Rd 6-75 to end	3-Aug	480
2	Briarwood Rd 6-61 to 6-57	3-Aug	400
3	Briarwood Rd 6-77 to 6-61	3-Aug	100
4	Marbern Ln 6-57 to 6-58	3-Aug	250
5	Marbern Ln 6-60 to 6-60A	3-Aug	220
6	Marbern Ln 6-59 to 6-60	3-Aug	185
7	Marbern Ln 6-58 to 6-59	3-Aug	60
8	Briarwood Rd 6-57 to 6-55	4-Aug	400
9	Briarwood Cir 6-56A to 6-56	4-Aug	75
10	Briarwood easemenet 6-55 to 6-54	4-Aug	120
11	Inwood pumpstation force main discharge	6-Aug	100
12	Westview Rd 6-22 to 6-18	10-Aug	610
13	Hillside Ave 6-179 down stream	11-Aug	160
14	Hillside Ave easement 6-177A upstream	11-Aug	160
15	Chauncey Judd Rd 6-18 to end	11-Aug	330
16	Chauncey Judd Rd 6-23 to 6-17	11-Aug	100
17	Chauncey Judd Rd 6-17 downstream	11-Aug	130
18	Sunset Dr 6-88 to 6-85	11-Aug	645
19	Lorann Dr 6-31 to 6-33	11-Aug	660
20	Lorann Dr easement 6-63 to 6-32	11-Aug	340
21	Lorann Cir 6-33 to end	11-Aug	175
22	Millville Ave 6-25 upstream	20-Aug	150
23	Field St 6-91 to 6-35	20-Aug	625

6 month list
Call for service

24	Round Hill Rd 6-37 to 6-35	20-Aug	400
25	Allerton Rd 6-72 to 6-70	20-Aug	265
26	Lorann Dr 6-31 to 6-25	25-Aug	665
27	Allen St 6-52 to 6-50	25-Aug	225
28	Wedgewood Dr 6-51 to 6-50	25-Aug	260
29	Ash Rd 6-50 to 6-41	25-Aug	270
30	Briarwood Rd 6-75 to 6-69	26-Aug	175
31	Field St 6-70 to 6-64	26-Aug	1125
32	Allerton Rd 6-48 to 6-46	26-Aug	630
33	Millville Ave 6-16 to 6-11	27-Aug	1385
34	Millville Ave 6-11 to 6-25	27-Aug	430
35	West Hill Ter 6-17 to 6-14	27-Aug	270
36	Ash Rd 6-46 to 6-41	28-Aug	680
37	Round Hill Rd 6-92 to 6-93	28-Aug	200
38	Round Hill Rd 6-312 to 6-333	28-Aug	300
39	Round Hill Cir 6-39 to end	28-Aug	240
40	Ash Rd / Round Hill Rd easement 6-41 to 6-39	28-Aug	435
41	Round Hill Rd 6-312 to 6-38	28-Aug	115
42	Round Hill Rd 6-37 to 6-92	28-Aug	205
43	Round Hill Rd 6-38 to 6-37	28-Aug	260

This Month		Year to Date	
15010	Feet	30830	Feet

Root Treatment

	Street Name	Type	Footage
1	Albert Ave 3-52 to 7-266	Chemical	427
2	Melbourne Court 9-130 to 9-128	Chemical	370
3	Melbourne St 9-136 to 9-125	Chemical	928
4	Rockwell Ave 6-186C to 7-33	Chemical	350
5	Salem St 6-229A to 7-27B	Chemical	178
6	Salem St 6-27B to 7-27A	Chemical	130
7	Salem St 7-33 to 7-32A	Chemical	465
8	Southview St 9-193C to end	Chemical	427
9	Stonybrook Rd 2-73 to 2-64	Chemical	530
10	Sweeny St 6-179 to end	Chemical	305
11	Terrace Ave 16-334 to 16-334A	Chemical	492
12			
13			

This Month		Year to Date	
4602	Feet	6007	Feet

Pump Station Services

	Work performed	Location	Date	Notes
1	Weekly pumpstation checks	all 5	7-Aug	Landscaped and cleaned floats
2	Weekly pumpstation checks	all 5	13-Aug	Generators exercised, high wetwell checks
3	Weekly pumpstation checks	all 5	21-Aug	cleaned floats
4	Weekly pumpstation checks	all 5	31-Aug	Landscaped all stations and cleaned floats
5				
6				
7				

PUMP RUN TIMES		HOURS		
STATION		Pump 1	Pump 2	Pump 3
Inwood	End Reading	523.80	663.1	135.6
	Start Reading	482.5	616.3	89.5
	Hrs Run	41.30	46.8	46.1

PUMP RUN TIMES		HOURS	
STATION		Pump 1	Pump 2
MAPLE & MAY	End Reading	3590.3	2833.4
	Start Reading	3554.5	2798.5
	Hrs Run	35.8	34.9

PUMP RUN TIMES		HOURS		
STATION		Pump 1	Pump 2	Flow Meter
Platts Mill	End Reading	4577.7	6712	2288337
	Start Reading	4577.6	6583.7	2015147
	Hrs Run	0.1	128.3	273190

PUMP RUN TIMES		HOURS	
STATION		Pump 1	Pump 2
Hopbrook	End Reading	1260.2	889.1
	Start Reading	1227.6	842
	Hrs Run	32.6	47.1

PUMP RUN TIMES		HOURS	
STATION		Pump 1	Pump 2
HORTON HILL	End Reading	8367.6	10102.5
	Start Reading	8315	10056
	Hrs Run	52.6	46.6

Vac Truck Information

Days out of the plant working		
This Month	YTD	Remaining
16	31	119

Fuel Information	Fuel Cost	Fuel Used			
	$190.68	66.2	Gallons	YTD Gallons	
	$115.34	40.1	Gallons	309.2	Gallons
	$206.74	71.8	Gallons		
			Gallons	YTD Fuel Cost	
This Months Total	$512.76	178.1	Gallons	$927.60	

	Mileage		Engine Hours
Month Start	187718.1	Month Start	5767.8
Month End	188696	Month Start	5829.1
Total	977.9	Month Start	61.3

Utility Truck Information	Fuel Cost	Fuel Used		
	$87.05	30.23	Gallons	YTD Gallons
	$90.79	31.33	Gallons	125.77
			Gallons	
			Gallons	YTD Fuel Cost
This months totals	$177.84	61.56	Gallons	$372.31

	Other tasks and notes
1	3-Aug - Put new weights on high level alarm floats at Horton Hill pumpstation. Pulled #2 pump at Inwood pumpstation to de-rag it.
2	4-Aug - Unclogged floor drains in the press room at the plant. Set up temporary generator at Maple/May pumpstation.
3	5-Aug - Preventative maintenance was done on both the Vac truck and service truck. Vacuumed out Lounsbury easement.
4	5-Aug - Assisted Dukes Root Control with chemical root treatment in trouble spots throughout town.
5	6-Aug - Vacuumed out and cleaned the wetwell at Inwood pumpstation.
6	7-Aug - Cleaned graffiti off the walls at Maple/May pumpstation.
7	8-Aug - Replaced alarm control battery at Maple/May pumpstation. Cut new 6 inch hoses to length and put new camel locks on them.
8	12-Aug - Used Vac truck to assist G&L with a sewer line repair on Hillside Ave, 160 feet downstream from m/h 6-179.
9	13-Aug - Brought the service truck and dump truck to get lettered. Pulled #2 pump at Hopbrook pumpstation to de-rag it.
10	14-Aug - 17 Aug - Vac truck was used to bypass the line at the Hillside Ave easement sewer repair with G&L.
11	18-Aug - Cleaned inside Platts Mills pumpstations building and fixed the door to the surrounding fence.
12	19-Aug - Made a list of paveovers in town and rated them as high or low priorities.
13	20-Aug - Used Vac truck to vacuum out the skimmings from the primary tanks at the plant.
14	21-Aug - Adjusted #2 pump at Hopbrook pumpstation. Made a new 6 inch hose attachment for the Vac trucks vac tube.
15	24-Aug - Vacuumed out and cleaned the wetwell at Maple/May pumpstation and performed pump draw downs. Cleaned the collections garage.
16	25-Aug - Vacuumed out and cleaned the wetwell at Hopbrook pumpstation.
17	28-Aug - Used Vac truck to jet and unclog two thickener tank lines at the plant.
18	Cleaned out a storm drain on Wooster St with the Vac truck for Naugatuck DPW.
19	31-Aug - Dropped Vac truck off at DiGennaro's to get the frame welded, the exhaust fixed and front corner light housing replaced.
20	

VEOLIA

Sent via certified mail #7014 1200 0002 2236 9814 on September 10, 2015

Municipal Wastewater Monitoring Coordinator
Connecticut Department of Environmental Protection
Bureau of Water Management
79 Elm Street
Hartford, CT 06106-5127

September 10, 2015

Re: August 2015 Reports for Naugatuck, CT WPCF, NPDES # CT0100641

Dear Sir/Madam:

Enclosed please find the *Monthly Operating Report* for August 2015. The *Nutrients Analysis Report for Compliance with General Permit for Nitrogen Discharges* and the *Discharge Monitoring Report* was submitted electronically. There were no exceptions to the reports.

Also enclosed is a summary of sludge sources received at this facility during the month of August 2015.

Please contact me if you have any questions regarding the enclosed revised report.

Sincerely,
Veolia Water North America – Northeast, LLC

John Batorski
Plant Manager

cc: James R. Stewart PE, LS, Director of Public Works, Borough of Naugatuck
(Enclosure)

Veolia Water NA -Naugatuck
500 Cherry Street, Naugatuck, CT 06770
Tel 203-723-1433 / 203-723-8539
www.veoliawaterna.com

Naugatuck WPCF | **Facility ID: 088-001** | Date received: (stamped)

Sample month/year August, 2015 | **Permit #: CT0100641**

	Daily Flow			Primary Sludge			Aeration Tank #1				Return Sludge		Aeration Tank #2				Return Sludge		Waste Sludge	Dry Solids to Incineration	Waste Accepted		CBOD (5-Day)		
	Max.	Min.	Total	Vol.	% solids	wt.	MLSS	SVI	High D.O.	Low D.O.			MLSS	SVI	High D.O.	Low D.O.	% Flow	%Solids			Septic	Indust	Inf.	Prim eff.	Final eff.
Units	mgd			MG		lbs.			mg/l		% Flow	% Solids			mg/l				lbs	lbs	gal	gal	mg/l		
Freq	Daily			Work Day			Work Day		4/ work day				Work Day		4/Work Day		Work Day		Wk Day	Wk Day	Work Day		3/week		
1	5.8	2.7	4.5	0.518					2.9	1.0	238				2.3	1.2	238		4,083	170,568	11,500				
2	5.0	2.7	3.9	0.508					2.2	1.4	298				2.9	0.2	298		4,083	185,772	1,250				
3	6.1	2.3	4.4	0.514			1,808	160	2.1	1.4	256	0.94	4,332	72	2.3	0.9	256	0.86	0	97,564	41,350		150	220	13
4	5.1	2.8	4.5	0.533			2,392	79	2.3	1.4	250	0.66	3,852	67	2.3	1.2	250	0.64	0	165,035	38,050		170		<4
5	5.3	2.6	4.5	0.532			3,076	68	4.3	1.5	248	1.00	4,464	56	5.0	0.2	248	0.72	732	144,108	38,500		210		<4
6	5.2	2.6	4.4	0.529			4,568	77	2.1	1.4	248	0.75	6,720	65	2.2	0.5	248	0.86	1,370	152,190	36,250				
7	5.2	2.2	4.4	0.533			4,888	74	2.2	1.5	245	0.80	5,960	69	2.2	1.1	245	0.12	1,174	152,904	48,500				
8	5.3	2.4	5.1	0.538					2.3	0.9	219				2.2	1.1	219		1,174	152,548	14,750				
9	5.1	2.2	4.1	0.561					2.2	1.4	241				2.1	1.3	241		1,174	160,397	4,750				
10	5.9	2.2	4.4	0.560			6,084	59	2.1	1.3	253	0.78	6,400	61	2.1	1.3	253	0.74	1,940	92,394	40,500		130	110	<4
11	8.2	2.4	5.2	0.556			5,012	80	2.5	0.9	193	1.10	6,832	66	2.1	1.4	193	0.85	3,318	122,893	27,500		180		<4
12	5.3	2.6	4.5	0.543			5,320	70	2.2	1.2	243	1.12	5,532	76	2.3	1.0	243	0.82	2,888	171,612	40,500		150		<4
13	5.3	2.8	4.6	0.551			5,468	66	3.6	0.8	236	1.05	5,924	57	3.4	0.6	236	0.93	3,369	148,203	48,600				
14	5.0	2.8	4.1	0.546			5,716	61	2.2	1.4	260	1.12	4,588	78	2.2	1.2	260	0.84	1,667	159,828	27,490				
15	6.0	2.4	4.2	0.556					2.5	0.8	263				2.4	1.3	263		1,667	169,716	1,250				
16	5.6	2.0	4.0	0.559					2.2	1.4	253				2.1	1.1	253		1,667	166,416	8,000				
17	6.3	2.2	4.2	0.564			6,144	57	2.2	1.4	286	1.30	7,048	51	2.1	1.3	286	0.89	2,794	67,578	44,600		78	110	<4
18	5.2	2.2	3.7	0.551			5,892	59	2.2	0.5	287	0.83	5,340	67	2.5	0.2	287	0.83	2,118	144,841	46,000		160		<4
19	5.3	2.5	4.2	0.548			8,308	42	2.2	1.4	274	0.83	7,576	46	2.2	0.5	274	0.86	3,954	174,744	50,750		200		<4
20	6.2	2.8	5.0	0.536			5,628	62	2.3	0.9	181	0.96	6,364	58	2.2	1.0	181	0.75	4,000	128,084	42,550				
21	5.8	2.5	4.8	0.593			5,984	58	2.1	1.0	231	1.07	7,372	49	2.2	1.0	231	0.65	2,926	142,047	34,750				
22	5.2	2.3	4.2	0.572					1.9	1.1	266				1.9	1.1	266		2,926	180,900	1,500				
23	5.3	2.1	4.5	0.547					2.0	1.0	246				1.9	1.1	246		2,926	161,229	0				
24	5.2	2.2	4.5	0.548			5,564	58	2.0	0.9	246	0.95	8,804	34	1.9	0.9	246	0.98	3,284	84,890	63,750		130	130	<4
25	5.0	2.5	4.5	0.534			4,376	62	2.1	0.8	232	0.82	4,484	67	1.8	0.9	232	0.89	1,455	154,116	50,100		130		<4
26	5.0	2.3	4.5	0.559			3,520	71	2.1	0.9	241	0.95	5,468	66	1.9	0.9	241	0.84	0	147,115	41,030		200		<4
27	5.0	2.6	4.2	0.562			4,744	76	2.0	1.0	263	0.89	4,840	62	1.9	0.9	263	1.11	0	138,161	45,250				
28	5.4	2.4	3.9	0.568			5,520	67	5.0	0.9	273	0.97	6,088	57	5.0	1.2	273	1.09	1,752	167,124	71,100				
29	5.8	1.8	3.7	0.557					2.3	1.1	289				1.9	1.1	289		1,752	169,416	2,500				
30	5.8	2.0	3.9	0.568					2.4	1.6	266				1.9	1.1	266		1,752	182,244	0				
31	5.4	2.1	3.9	0.569			6,108	62	2.4	1.5	261	0.86	6,156	65	1.8	1.1	261	0.71	2,003	110,917	42,250		180		<4
Total	171.3	74.2	134.36				6,108												63,950	4,565,554	964,870				
Ave.	5.5	2.4	4.33	0.549			5,053	70	2.4	1.2	251	0.87	5,912	61	2.4	1.0	0.94	0.81	2,063	147,276	31,125		159	143	5

	Suspended Solids			Settleable Solids	Turbidity	Chlorine Dose		Chlorine Residual		Chlorine Residual Average	Fecal Coliform	E. Coli	Ammonia			Nitrite			Nitrate			TKN		
	Inf.	Prim Eff.	Final Eff.	Eff.	Eff.			high	low				Inf.	Prim Eff.	Final Eff.	Inf.	Prim Eff.	Final Eff.	Inf.	Prim. Eff.	Final Eff.	Inf.	Prim Eff.	Final Eff.
Units	mg/l			ml/l	NTU	lbs	mg/l	mg/l		mg/l	#/100ml	#/100ml	mg/l			mg/l			mg/l			mg/l		
Freq.	3/week			Wk Day	Wk Day	4/Work Day		4/work day		4/wk day	3/week	See table A of permit	3/week	Mthly	3/wk	Monthly			Monthly			Monthly		
1						72.76	1.93	0.010	0.000	0.003														
2						69.46	2.13	0.030	0.000	0.015														
3	130	100	<5	0.0	1.6	74.22	2.03	0.050	0.000	0.022			23.10	28.6	0.14	0.020	0.020	<0.010	<0.02	<0.02	3.290	30.90	38.60	1.270
4	330		5	0.0	1.6	83.92	2.23	0.040	0.000	0.017	90		21.00		0.16	0.020		<0.010	<0.02		4.270	36.60		1.910
5	450		5	0.0	2.4	79.28	2.12	0.040	0.000	0.027	70		24.90		0.18	0.030		0.010	<0.02		4.570	45.90		1.420
6				0.0	1.7	82.04	2.25	0.050	0.000	0.008	180													
7				0.0	2.7	74.59	2.03	0.040	0.000	0.032														
8						66.67	1.58	0.040	0.000	0.013														
9						66.55	1.94	0.050	0.000	0.018														
10	170	62	<5	0.0	1.8	66.10	1.81	0.050	0.000	0.027			24.00		0.23	0.030		<0.010	<0.02		3.450	44.00		1.470
11	400		<5	0.0	1.8	78.63	1.82	0.040	0.000	0.023	50		22.00		0.22	0.020		<0.010	<0.02		3.570	42.80		1.440
12	320		<5	0.0	2.0	81.04	2.15	0.050	0.000	0.018	20		25.00		0.18	0.020		<0.010	<0.02		4.170	42.10		1.270
13				0.0	1.8	82.48	2.16	0.050	0.000	0.027	90													
14				0.0	1.9	78.82	2.31	0.050	0.000	0.025														
15						77.22	2.23	0.050	0.000	0.020														
16						75.69	2.28	0.030	0.000	0.007														
17	87	690	<5	0.0	2.1	72.74	2.08	0.040	0.000	0.027			23.90		0.32	0.020		<0.020	<0.02		2.930	36.60		1.740
18	270		<5	0.0	3.0	70.12	2.29	0.050	0.000	0.030	50		25.00		0.67	0.020		0.010	<0.02		2.860	70.60		2.410
19	22		5	0.0	3.7	74.01	2.11	0.040	0.000	0.018	<10		26.30		0.26	0.020		<0.010	<0.02		3.430	43.50		1.700
20				0.0	2.7	75.83	1.82	0.050	0.000		70													
21				0.0	4.7	75.07	1.89	0.050	0.000	0.023														
22						75.61	2.18	0.040	0.000	0.020														
23						75.79	2.03	0.020	0.000	0.005														
24	180	110	<5	0.0	2.7	76.84	2.03	0.030	0.000	0.013			25.60		0.24	0.020		<0.010	<0.02		3.070	40.40		1.400
25	190		<5	0.0	2.0	77.70	2.07	0.050	0.020	0.038	30		23.80		0.26	0.020		<0.010	<0.02		3.150	39.60		1.340
26	500		<5	0.0	2.0	74.10	1.96	0.050	0.010	0.028	60		26.20		0.25	0.020		<0.010	<0.02		3.750	46.30		1.390
27				0.0	2.5	60.76	1.74	0.040	0.000	0.025	20													
28				0.0	2.2	76.92	2.35	0.040	0.000	0.023														
29						69.28	2.22	0.040	0.000	0.025														
30						76.21	2.37	0.050	0.000	0.027														
31	200		<5	0.0	2.0	72.88	2.23	0.050	0.030	0.043			26.00		0.24	0.020		<0.010	<0.02		2.950	44.00		1.340
Total																								
Ave.	250	241	5	0.0	2.3	74.62	2.08	0.042	0.002	0.022	47		24.37	28.6	0.26	0.022	0.020	0.011	0.02	0.02	3.497	43.33	38.60	1.546

	Total N			Total N	Low D.O.	pH		Total P			Total P	Ortho P			Temp.		Arsenic		Copper	Nickel		Selenium	
	Inf.	Prim. Eff.	Final Eff.	Eff.	Eff.	Inf.	Eff.	Inf.	Prim. Eff.	Final Eff.	Eff.	Inf.	Prim. Eff.	Final Eff.	Inf.	Eff.	Inf.	Eff.	Eff.	Inf.	Eff.	Inf.	Eff.
Units	mg/l			lb/d	mg/l	S.U.		mg/l			lb/d	mg/l			F		mg/l		mg/l	kg/day		kg/day	
Freq.	Monthly			Mthly	4/wk day	Work Day		Nov-March (Monthly) (April-October) 2/week			Apr - Oct	Nov-March (Monthly) (April - October) 2/week			Work day		Weekly		Mthly	Weekly		Weekly	
1																							
2																							
3	30.9	38.6	4.6	169	6.1	7.2	6.6	4.60		12.80	469	2.42		12.80	73	91	<0.0040	0.010	0.009	0.42	0.26	0.08	0.02
4	36.6		6.2	233	6.9	7.3	6.7			13.20	498			13.30	74	88							
5	46.0		6.0	225	6.6	6.5	6.6								89	89							
6					5.5	7.1	6.6								89	88							
7					5.4	7.3	6.5								89	90							
8																							
9																							
10	44.1		4.9	180	5.9	6.7	6.6			12.30	449			11.70	74	87	<0.0040	0.010		0.16	0.26	0.16	0.06
11	42.8		5.0	217	5.7	7.1	6.5			11.90	514			11.80	73	86							
12	42.1		5.4	203	5.8	7.1	6.6								75	86							
13					6.0	7.1	6.6								72	87							
14					6.0	7.1	6.6								71	87							
15																							
16																							
17	36.6		4.7	165	5.9	7.4	6.7			11.70	410			6.70	72	88	<0.0040	0.009		0.19	0.28	0.16	0.08
18	70.6		5.3	164	6.3	7.4	6.8			11.50	352			12.00	72	87							
19	43.5		5.1	179	6.6	7.3	6.8								73	86							
20					6.3	7.3	6.7								72	90							
21					6.3	7.5	6.8								72	88							
22																							
23																							
24	40.4		4.5	169	6.4	7.3	6.8			10.60	400			10.90	73	89	<0.0040	0.009		0.18	0.28	0.17	0.07
25	39.6		4.5	169	5.9	7.2	6.7			11.30	425			10.90	74	89							
26	46.3		5.2	195	6.1	7.3	6.5								74	89							
27					5.8	7.3	6.7								74	88							
28					6.3	7.3	6.7								73	86							
29																							
30																							
31	44.0		4.3	140	5.1	7.2	6.5								74	90							
Total																							
Ave.	43.4	38.6	5.1	185	6.0	7.2	6.6	4.60		11.91	440	2.42		11.26	73.7	87.9	0.0040	0.0095	0.009	0.24	0.27	0.14	0.06

	Zinc		Alkalinity	
			Pri. Eff.	
	Inf.	Eff.		Eff.
Units	kg/day		mg/l	
Freq.	Weekly		Monthly	
1				
2				
3	6.09	1.023	130	50
4			130	40
5			130	40
6			120	30
7			120	50
8				
9				
10	4.75	1.199	80	30
11			120	30
12			120	30
13			110	40
14			130	30
15				
16				
17	5.35	1.181	120	30
18			120	40
19			110	40
20			150	30
21			110	40
22				
23				
24	6.86	1.307	130	70
25			130	50
26			170	60
27			90	60
28			140	50
29				
30				
31			120	30
Total				
Ave.	5.76	1.178	123	41

Sludge Dispoal Location:

Please return forms to:

DEEP - Water Bureau

ATTN: Municipal Wastewater Monitoring Coordinator

Municipal Facilities

79 Elm Street

Statement of Acknowledgement

I certify under pentalty 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.

Authorized Official:

John Batorski

Title:

Plant Manager

Signature: John Batorski

Date: 9-10-15

August 2015 Sludge Data

Source	Gallons	Wet Tons
American Styrenics	6,500	
Beacon Falls Treatment	110,500	
Bedford Hills	26,000	
Bristol		572.47
Casella Chicopee Cake		327.27
Casella Chicopee Liquid	208,000	
Casella Glen Cove		274.55
Casella Suffolk		1385.59
Casella Yorktown		56.92
Casella Walden		49.61
Casella Huntington		254.47
Casella Poughkeepsie		194.28
Danbury Cake		886.85
Heritage Village Water	26,000	
Litchfield	71,500	
Lynwood Place	32,500	
Mahopac Sludge & Septic	552,000	
New Hartford	32,500	
New London, CT	70,000	
New Rochelle		508.05
North Canaan	39,900	
North Haven	110,500	
Pawling	110,500	
Pepsi	6,500	
Plainville PWPC	26,000	
Plymouth	78,000	
Poughkeepsie	416,000	
Redding		
Rhinebeck WPCF		11.76
Seymour Cake		103.84
Southbury	156,000	
Southbury Car Wash	5,500	
Southern CT Gas	7,754	
Southington	1,176,500	
Ansonia Synagro	13,000	
Synagro - Brideport East	6,500	
Synagro - Bridgeport West	45,500	
Synagro - New Canaan	6,500	
Synagro - Norwalk	6,500	
Synagro - Orange County		14.72
Ridgefield - Synagro	6,500	
Stratford	929,500	
Thomaston Treatment	45,500	
Torrington	364,000	
Westport	139,026	
Windham	286,000	
Totals	**5,117,180**	**4640.38**

Nutrient Analysis Report

For compliance with General Permit for Nitrogen Discharges

Facility Name: NAUGATUCK TREATMENT Co. **Month:** Aug-15
Permit Number: CT0100641 **Design Flow:** 10.3 MGD

Final Effluent

Plant Name	Sample Date (mm/dd/yyyy)	Average Daily Flow (mgd)	TKN (mg/l)	(Nitrite + Nitrate) (mg/l)	Total Nitrogen (mg/l)	Total Nitrogen (lbs/d)
NAUGATUCK TRE.	8/3/2015	4.39	1.27	3.29	4.6	168
NAUGATUCK TRE.	8/4/2015	4.52	1.91	4.27	6.2	234
NAUGATUCK TRE.	8/5/2015	4.49	1.42	4.58	6	225
NAUGATUCK TRE.	8/10/2015	4.38	1.47	3.45	4.9	179
NAUGATUCK TRE.	8/11/2015	5.18	1.44	3.57	5	216
NAUGATUCK TRE.	8/12/2015	4.52	1.27	4.17	5.4	204
NAUGATUCK TRE.	8/17/2015	4.58	1.74	2.95	4.7	180
NAUGATUCK TRE.	8/18/2015	3.67	2.41	2.87	5.3	162
NAUGATUCK TRE.	8/19/2015	4.21	1.7	3.44	5.1	179
NAUGATUCK TRE.	8/24/2015	4.53	1.4	3.08	4.5	170
NAUGATUCK TRE.	8/25/2015	4.51	1.34	3.16	4.5	169
NAUGATUCK TRE.	8/26/2015	4.53	1.39	3.76	5.2	196
NAUGATUCK TRE.	8/31/2015	3.92	1.34	2.96	4.3	141
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					0	0
					Total Pounds	2423
					Average Pounds	186.3846154

Date of Last Calibration of Flow Meter: 7/2/2015

Statement of Acknowledgement

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.

Authorized Official: _____ **Title:** _____

Sent electronically 9-10-15

DMR Copy of Record

Permit

Permit #:	CT0100641	**Permittee:**	NAUGATUCK WPCF	**Facility:**	NAUGATUCK, BOROUGH OF
Major:	Yes	**Permittee Address:**	500 CHERRY STREET NAUGATUCK, CT 06770	**Facility Location:**	500 CHERRY STREET NAUGATUCK, CT 06770
Permitted Feature:	001 External Outfall	**Discharge:**	001-1 SANITARY SEWAGE		

Report Dates & Status

Monitoring Period:	From 08/01/15 to 08/31/15	**DMR Due Date:**	09/15/15	**Status:**	NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:	John	**Title:**	Plant Manager	**Telephone:**	203-723-1433
Last Name:	Batorski				

No Data Indicator (NODI)

Form NODI: –

Parameter Code	Parameter Name	Monitoring Location	Season #	Param. NODI		Quantity or Loading Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Quality or Concentration Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units	# of Ex.	Frequency of Analysis	Sample Type
					Sample	=	5.5	=	8.2	03 - MGD									99/99 - Continuous	TM - TOTALZ
00056	Flow rate	1 - Effluent Gross	0	–	Permit Req.		Req Mon MO AVG		Req Mon DAILY MX	03 - MGD									99/99 - Continuous	TM - TOTALZ
					Value NODI															
					Sample						=	5.1					19 - mg/L		01/01 - Daily	GR - GRAB
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	–	Permit Req.						>=	5 INST MIN					19 - mg/L		01/01 - Daily	GR - GRAB
					Value NODI															
					Sample															
00310	BOD, 5-day, 20 deg. C	T - See Comments	1	–	Permit Req.											Opt Mon DAILY MX	19 - mg/L		01/90 - Quarterly	CP - COMPOS
					Value NODI											9 - Conditional Monitoring - Not Required This Period				
					Sample						=	6.5			=	6.8	12 - SU		01/01 - Daily	GR - GRAB
00400	pH	1 - Effluent Gross	0	–	Permit Req.						>=	6 INST MIN			<=	9 INST MAX	12 - SU		01/01 - Daily	GR - GRAB
					Value NODI															
					Sample								=	5	=	5	19 - mg/L		03/07 - Three Per Week	CP - COMPOS
00530	Solids, total suspended	1 - Effluent Gross	0	–	Permit Req.								<=	30 MO AVG	<=	45 DAILY MX	19 - mg/L		03/07 - Three Per Week	CP - COMPOS
					Value NODI															
					Sample								=	249.9			19 - mg/L		03/07 - Three Per Week	CP - COMPOS
00530	Solids, total suspended	G - Raw Sewage Influent	0	–	Permit Req.									Req Mon MO AVG			19 - mg/L		03/07 - Three Per Week	CP - COMPOS
					Value NODI															
					Sample															
00530	Solids, total suspended	T - See Comments	1	–	Permit Req.											Opt Mon DAILY MX	19 - mg/L		01/90 - Quarterly	CP - COMPOS
					Value NODI											9 - Conditional Monitoring - Not Required This Period				
					Sample								=	0.3			19 - mg/L		03/07 - Three Per Week	CP - COMPOS
00610	Nitrogen, ammonia total [as N]	1 - Effluent Gross	2	–	Permit Req.								<=	4 MO AVG			19 - mg/L		03/07 - Three Per Week	CP - COMPOS
					Value NODI															
					Sample															
00610	Nitrogen, ammonia total [as N]	T - See Comments	1	–	Permit Req.											Opt Mon DAILY MX	19 - mg/L		01/90 - Quarterly	CP - COMPOS
					Value NODI											9 - Conditional Monitoring - Not Required This Period				
					Sample															
00615	Nitrogen, nitrite total [as N]	T - See Comments	1	–	Permit Req.											Opt Mon DAILY MX	19 - mg/L		01/90 - Quarterly	CP - COMPOS

Sent electronically 9-10-15

Parameter	Monitoring Location	Season		Row		Quantity		Concentration	Units	Frequency	Sample Type
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
00620 Nitrogen, nitrate total [as N]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
00665 Phosphorus, total [as P]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
00720 Cyanide, total [as CN]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
00722 Cyanide, free [amen. to chlorination]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
01002 Arsenic, total [as As]	1 - Effluent Gross	0	–	Sample	=	0.0095	=	0.01	19 - mg/L	01/07 - Weekly	CP - COMPOS
				Permit Req.		Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/07 - Weekly	CP - COMPOS
				Value NODI							
01002 Arsenic, total [as As]	G - Raw Sewage Influent	0	–	Sample			=	0	19 - mg/L	01/07 - Weekly	CP - COMPOS
				Permit Req.				Req Mon DAILY MX	19 - mg/L	01/07 - Weekly	CP - COMPOS
				Value NODI							
01002 Arsenic, total [as As]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L		
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
01002 Arsenic, total [as As]	W - See Comments	0	–	Sample							
				Permit Req.				Req Mon INST MAX	19 - mg/L	01/60 - Once Every 2 Months	GR - GRAB
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
01012 Beryllium, total [as Be]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
01027 Cadmium, total [as Cd]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
01032 Chromium, hexavalent [as Cr]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
01034 Chromium, total [as Cr]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
01042 Copper, total [as Cu]	1 - Effluent Gross	0	–	Sample	=	0.009	=	0.009	19 - mg/L	01/30 - Monthly	CP - COMPOS
				Permit Req.		Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/30 - Monthly	CP - COMPOS
				Value NODI							
01042 Copper, total [as Cu]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
01045 Iron, total [as Fe]	T - See Comments	1	–	Sample							
				Permit Req.				Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS
				Value NODI				9 - Conditional Monitoring - Not Required This Period			
				Sample							

01051 Lead, total [as Pb]	T - See Comments	1	--	Permit Req.											
				Value NODI											
				Sample											
01059 Thallium, total [as Tl]	T - See Comments	1	--	Permit Req.											
				Value NODI											
				Sample	=	0.27	=	0.28	01 - kg/d	Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
01067 Nickel, total [as Ni]	1 - Effluent Gross	0	--	Permit Req.	<=	2.14 MO AVG	<=	3.94 DAILY MX	01 - kg/d	9 - Conditional Monitoring - Not Required This Period					
				Value NODI						Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
				Sample			=	0.42	01 - kg/d	9 - Conditional Monitoring - Not Required This Period					
01067 Nickel, total [as Ni]	C - Raw Sewage Influent	0	--	Permit Req.				Req Mon DAILY MX	01 - kg/d			01/07 - Weekly	CP - COMPOS		
				Value NODI								01/07 - Weekly	CP - COMPOS		
				Sample											
01067 Nickel, total [as Ni]	T - See Comments	1	--	Permit Req.						Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
				Value NODI						9 - Conditional Monitoring - Not Required This Period					
				Sample											
01077 Silver, total [as Ag]	T - See Comments	1	--	Permit Req.						Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
				Value NODI						9 - Conditional Monitoring - Not Required This Period					
				Sample	=	1.18	=	1.31	01 - kg/d			01/07 - Weekly	CP - COMPOS		
01092 Zinc, total [as Zn]	1 - Effluent Gross	0	--	Permit Req.	<=	3.79 MO AVG	<=	5.68 DAILY MX	01 - kg/d			01/07 - Weekly	CP - COMPOS		
				Value NODI											
				Sample			=	6.86	01 - kg/d			01/07 - Weekly	CP - COMPOS		
01092 Zinc, total [as Zn]	C - Raw Sewage Influent	0	--	Permit Req.				Req Mon DAILY MX	01 - kg/d			01/07 - Weekly	CP - COMPOS		
				Value NODI											
				Sample											
01092 Zinc, total [as Zn]	T - See Comments	1	--	Permit Req.						Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
				Value NODI						9 - Conditional Monitoring - Not Required This Period					
				Sample											
01097 Antimony, total [as Sb]	T - See Comments	1	--	Permit Req.						Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
				Value NODI						9 - Conditional Monitoring - Not Required This Period					
				Sample											
01105 Aluminum, total [as Al]	T - See Comments	1	--	Permit Req.						Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
				Value NODI						9 - Conditional Monitoring - Not Required This Period					
				Sample	=	0.06	=	0.08	01 - kg/d			01/07 - Weekly	CP - COMPOS		
01147 Selenium, total [as Se]	1 - Effluent Gross	0	--	Permit Req.	<=	35 MO AVG	<=	75 DAILY MX	01 - kg/d			01/07 - Weekly	CP - COMPOS		
				Value NODI											
				Sample	=	0.14			01 - kg/d			01/07 - Weekly	CP - COMPOS		
01147 Selenium, total [as Se]	C - Raw Sewage Influent	0	--	Permit Req.		Req Mon MO AVG			01 - kg/d			01/07 - Weekly	CP - COMPOS		
				Value NODI											
				Sample											
01147 Selenium, total [as Se]	T - See Comments	1	--	Permit Req.						Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
				Value NODI						9 - Conditional Monitoring - Not Required This Period					
				Sample											
46030 Phenols	T - See Comments	1	--	Permit Req.						Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS		
				Value NODI						9 - Conditional Monitoring - Not Required This Period					
				Sample	=	0.02	=	0.04			19 - mg/L	04/01 - Four Per Day	GR - GRAB		
				Permit											

50060	Chlorine, total residual	1 - Effluent Gross	0	–	Req.					Req Mon MO AVG	<=	.06 DAILY MX	19 - mg/L	04/01 - Four Per Day	GR - GRAB			
					Value NODI													
					Sample													
50060	Chlorine, total residual	T - See Comments	1	–	Permit Req.							Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS			
					Value NODI							9 - Conditional Monitoring - Not Required This Period						
					Sample													
51040	E. coli	1 - Effluent Gross	0	–	Permit Req.				<=	126 AVERAGE	<=	410 INST MAX	13 - #/100mL	03/07 - Three Per Week	GR - GRAB			
					Value NODI					9 - Conditional Monitoring - Not Required This Period		9 - Conditional Monitoring - Not Required This Period						
					Sample													
71900	Mercury, total [as Hg]	T - See Comments	1	–	Permit Req.							Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS			
					Value NODI							9 - Conditional Monitoring - Not Required This Period						
					Sample				=	47	=	104.3	13 - #/100mL	03/07 - Three Per Week	GR - GRAB			
74055	Coliform, fecal general	1 - Effluent Gross	0	–	Permit Req.				<=	200 30DA GEO	<=	400 7 DA GEO	13 - #/100mL	03/07 - Three Per Week	GR - GRAB			
					Value NODI													
					Sample				=	4.69	=	13	19 - mg/L	03/07 - Three Per Week	CP - COMPOS			
80128	BOD, carbonaceous [5 day, 5 C]	1 - Effluent Gross	1	–	Permit Req.				<=	15 MO AVG	<=	25 DAILY MX	19 - mg/L	03/07 - Three Per Week	CP - COMPOS			
					Value NODI													
					Sample				=	150.08			19 - mg/L	03/07 - Three Per Week	CP - COMPOS			
80128	BOD, carbonaceous [5 day, 5 C]	G - Raw Sewage Influent	0	–	Permit Req.					Req Mon MO AVG			19 - mg/L	03/07 - Three Per Week	CP - COMPOS			
					Value NODI													
					Sample													
80128	BOD, carbonaceous [5 day, 5 C]	T - See Comments	1	–	Permit Req.							Opt Mon DAILY MX	19 - mg/L	01/90 - Quarterly	CP - COMPOS			
					Value NODI							9 - Conditional Monitoring - Not Required This Period						
					Sample	=	98						23 - %	03/07 - Three Per Week	CA - CALCTD			
81011	Solids, suspended percent removal	K - Percent Removal	0	–	Permit Req.	>=	85 MN % RMV						23 - %	03/07 - Three Per Week	CA - CALCTD			
					Value NODI													
					Sample	=	97						23 - %	03/07 - Three Per Week	CA - CALCTD			
81383	Carbonaceous oxygen demand, % removal	K - Percent Removal	0	–	Permit Req.	>=	85 MN % RMV						23 - %	03/07 - Three Per Week	CA - CALCTD			
					Value NODI													
					Sample													
TDA3D	Noael Static 48Hr Acute D. Pulex	T - See Comments	1	–	Permit Req.		Opt Mon MINIMUM						2T - % survival	01/90 - Quarterly	CP - COMPOS			
					Value NODI		9 - Conditional Monitoring - Not Required This Period											
					Sample													
TDA0C	Noael Static 48Hr Acute Pimephales	T - See Comments	1	–	Permit Req.		Opt Mon MINIMUM						2T - % survival	01/90 - Quarterly	CP - COMPOS			
					Value NODI		9 - Conditional Monitoring - Not Required This Period											

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

No attachments.

Report Last Saved By

NAUGATUCK WPCF

User: John.Batorski@Veoliawatema.com

Name: John Batorski

E-Mail: John.Batorski@Veoliawatema.com

Date/Time: 2015-09-10 09:04 (Time Zone: -04:00)

Sewer Backup Incident Report

Borough of Naugatuck, Operated by Veolia Water NA

Date: 9-1-15 Time: 5:00 Circle AM (PM)

Employee(s) responding: Mike + Brian

Time notified: 11:57 (AM)/PM Response Time: 12:30 AM(PM) (Must be less than 1 hour)

Location: 4 Harvest Lane

Property Owner: Marcia Gagliano

Weather: Clear Rainfall: None Temp. 82°F

Was main line blocked? Yes X No

Did employee enter premise? Yes No X

Employee(s) who entered:

Extent of apparent damage (finished basement, estimated depth of backup, sump pump/gutters connected to sanitary)
Basement was flooded with sewage per homeowner and Roto Rooter was on site.

Backup history at location: None

Action taken: Found Roots in pipe, Jet and Root cut main line from MH 10-216 to MH 10-218 280 feet. Roots @ 130', 165'

Additional comments: Camera MH 10-216 to MH 10-218 tree roots were intruding from House laterals #4 and #3. into Sewer main.

Mandatory Notifications:

Chris Makuch cell: 203-509-4740, home: 860-827-9908: Time: 12:35P

Jim Stewart Cell: 203-258-0985, Eng office office: 203-720-7005, Public Works office: 203-720-7071 Time:

CT DEP Bypass Report: refer to CT DEP Bypass form and sample notification script (if req'd). Time:

Fax copy of report to Engineering office: 203-720-7041 Yes X No Time: 9-2-15 7:30A

STANDARD POLICY – SANITARY SEWER BACK-UPS given to Homeowner? Yes X No

Rev d: 10/17/2011

* * * Communication Result Report (Sep. 2. 2015 7:36AM) * * *

1) Veolia Water-NET LLC
2)

e/Time: Sep. 2. 2015 7:35AM

File No.	Mode	Destination	Pg(s)	Result	Page Not Sent
7170	Memory TX	Engineering Office	P. 1	OK	

Reason for error
E. 1) Hang up or line fail
E. 2) Busy
E. 3) No answer
E. 4) No facsimile connection
E. 5) Exceeded max. E-mail size
E. 6) Destination does not support IP-Fax

Sewer Backup Incident Report
Borough of Naugatuck, Operated by Veolia Water NA

Date: 9-1-15 Time: 5:00 Circle AM PM

Employee(s) responding: Mike + Brian

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Weather: Clear Rainfall: None Temp. 82°F

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Did employee enter premise? Yes No X

Employee(s) who entered:

Extent of apparent damage (finished basement, estimated depth of backup, sump pump/ejectors connected to sanitary)
Basement was flooded with sewage per homeowner and Roto Rooter was on site.

Backup history at location: None

Action taken: Found Roots in pipe, Jet and Root Cut main line from MH 10-216 to MH 10-218 288 Feet: Roots @ 130', 165'

Additional comments: Camera MH 10-216 to MH 10-218 Tree roots were intruding from House laterals #4 and #3 into Sewer main.

Mandatory Notifications:
Chris Malouch cell: 203-509-4743, home: 860-927-9503: Time: 12:35P

Jim Stewart Cell: 203-269-9565, Eng office office: 203-720-7005, Public Works office: 203-720-7071 Time:

CT DEP Bypass Report: refer to CT DEP Bypass form and sample notification script (if req'd). Time:

Fax copy of report to Engineering office: 203-720-7044 Yes X No Time: 9-2-15 7:30A

STANDARD POLICY – SANITARY SEWER BACK-UPS given to Homeowner? Yes X No

Revised: 10/17/2011

VEOLIA

Batorski, John <john.batorski@veolia.com>

RE: 4 Harvest Lane, Naugatuck, CT

1 message

Pope,Gloria A <GPOPE@travelers.com> 9 September 2015 at 15:29
To: "Verlezza, Natalie" <natalie.verlezza@veolia.com>
Cc: "JStewart@naugatuck-ct.gov" <JStewart@naugatuck-ct.gov>, John Batorski <john.batorski@veolia.com>, Christopher Makuch <christopher.makuch@veolia.com>

Natalie,

Thank you for the reports. Base on all the information provided, I would recommend that liability be denied for lack of negligence:

- No known problems with the sewer main before this incident
- Routine cleaning in place so the Borough has not breached the duty to properly maintain the sewer main
- The photos clearly show the roots protruding from the claimants' laterals with the Borough's line clear.

Please advise if you concur with the denial or have any other concerns?

Thank you again.

Gloria Pope | Claim Professional

Travelers

PO Box 61500

San Antonio, TX 78265

W: 210.525.3654 F: 800.931.1018

TRAVELERS

From: Verlezza, Natalie [mailto:natalie.verlezza@veolia.com]
Sent: Wednesday, September 09, 2015 10:02 AM
To: Pope,Gloria A
Cc: JStewart@naugatuck-ct.gov; John Batorski; Christopher Makuch

Subject: 4 Harvest Lane, Naugatuck, CT

Good morning Gloria,

Below are answers to the questions regarding 4 Harvest Lane in Naugatuck, CT.

1. There was no known root problem for this main.

2. There were no visible roots protruding from the sewer main itself into the lateral. Roots were, however, protruding from house #4 and house #3 lateral connections and extending into the main sewer line. (Pictured in attachment). We believe the roots from the homeowners lateral was the cause of the problem. The condition of the PVC pipe supports our conclusion.

3. Yes, we do follow up inspections when roots are found. In this case CCTV did not reveal any roots in the main sewer, rather the homeowners lateral.

4. There is no data available on the exact year of installation of this sewer. However, it is a PVC pipe which would mean it was most likely installed no earlier than 1970. It is an 8 inch line.

5.The last routine maintenance cleaning on record for this sewer was in August 2012.

6. Refer to #5 above.

7. There were no other homes affected.

Please let me know if there is any additional information that you may need.

Thank you,

Natalie

–

Natalie Verlezza
Project Engineer - Northeast LLC

VEOLIA NORTH AMERICA

tel

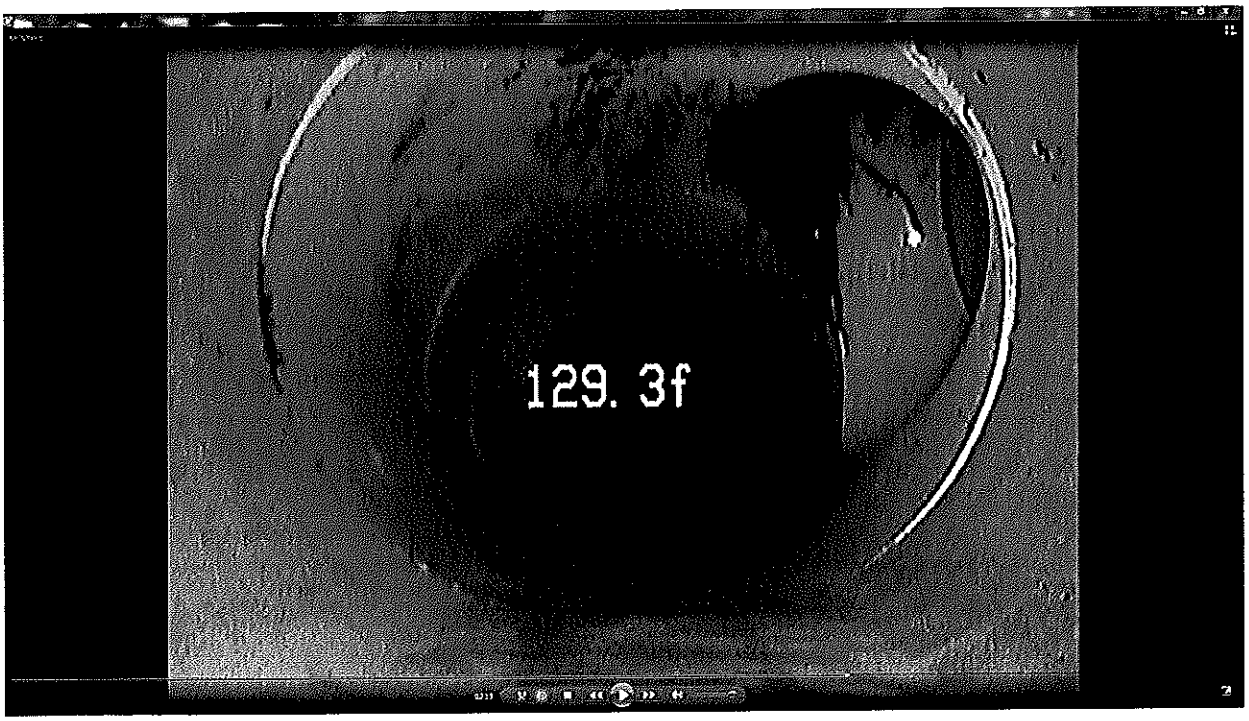
+1 203 723 1433

/ cell

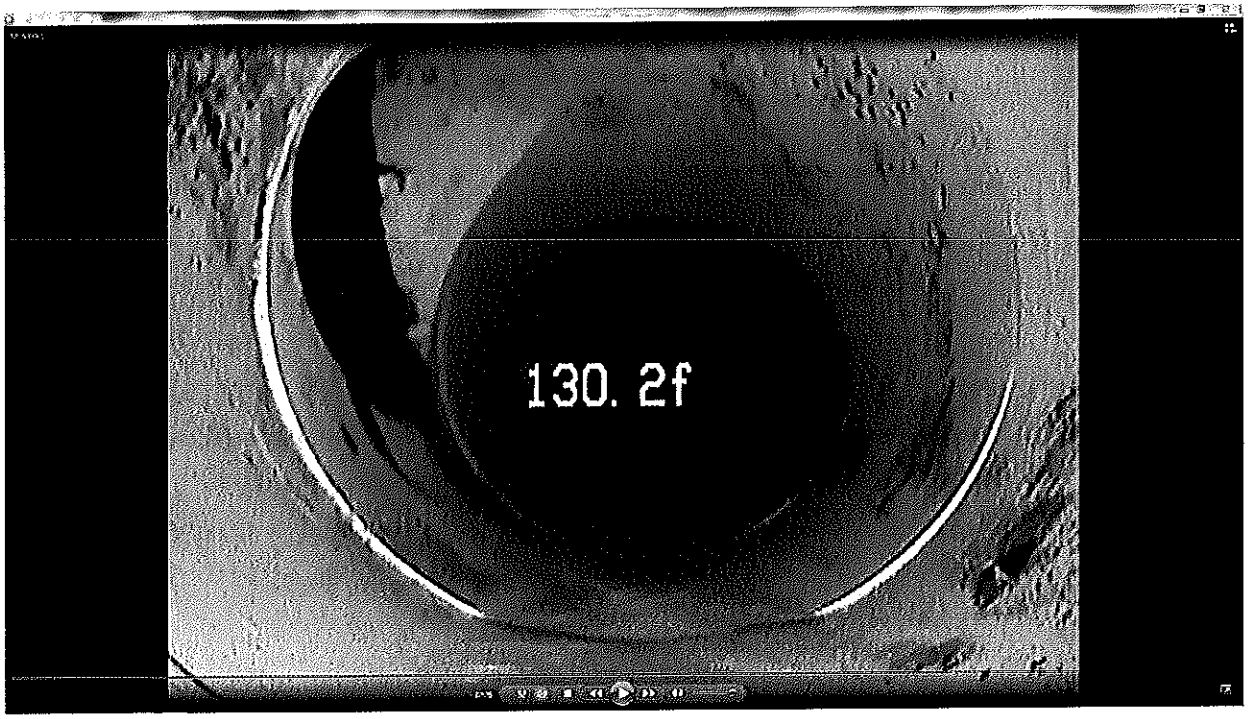
+1 203 525 7611

500 Cherry Street / Naugatuck, CT 06770

TRVDiscDefault::1201



Lateral from 4 Harvest Ln. Roots going through lateral to main connection.



Lateral from 3 Harvest Ln. Roots coming out of lateral. We do not know how much in lateral or from what point in lateral.

Both pictures show that there are no cracks in main from which roots could protrude.

BOROUGH OF NAUGATUCK

WATER POLLUTION CONTROL BOARD

229 CHURCH STREET
NAUGATUCK, CT 06770
203 / 720-7060
FAX 203 / 720-7099

September 1, 2015

Mr. Daniel J. Gorka, Area Manager
Veolia Water North America – Northeast, LLC
1115 West Chestnut Street
Suite 303
Brockton, MA 02301

RE: **Borough Request for VWNA Proposal**
Preliminary Plan for Biological and Chemical Phosphorus Removal

Dear Mr. Gorka:

As you know, the Naugatuck NPDES Permit includes effluent limitations and a compliance schedule for phosphorus. The Borough is interested in obtaining more information on the possibility of implementing biological and chemical phosphorus removal on an interim basis.

The Borough is seeking a preliminary plan for a Capital Modification for biological and chemical phosphorus removal. In accordance with Section 11.5 of the WWTS Contract, please prepare and deliver a preliminary plan for biological and chemical phosphorus removal. The preliminary plan is to include recommendations as to technology, design, construction, equipment, materials, and operating and performance impacts. Preliminary schedule and capital and operating cost estimates should also be included in the preliminary plan together with an assessment of possible alternatives. The preliminary plan should specifically evaluate reasonable alternatives and changed operating and management practices.

The Borough requests that the preliminary plan requested by this letter be submitted to the Borough no later than October 15, 2015.

Sincerely,

James R. Stewart, P.E., Director
Department of Public Works

cc: Water Pollution Control Authority
Mayor Robert Mezzo
Attorney Edward Fitzpatrick
Kathy Luvisi, ARI

PJS, LLC dba Introl

August 21, 2015

Ms Natalie Verlezza
Veolia Water North America
500 Cherry Street Extension
Naugatuck, CT 06770

Dear Valerie:

This letter is to confirm that on 8/21/2015 the following instrument was certified calibrated to it's specified accuracy. The instrument in question is the Dynasonics transit time flow meter measuring the flow at the Platts Mill Pump Station.

This instrument has an accuracy of plus or minus1 percent provided there are at least ten diameters of straight run of pipe upstream and five diameters of straight run of pipe downstream. In addition, it be must programmed correctly and have a signal strength of at least 5 percent. The flowmeter does not have adaquate straight run of pipe and as a result sacrifices a small amount of accuracy. The meter is programmed correctly by the factory representative, and had a signal strength of 13.4 percent.

Thank you for your interest in Introl. If you should have any questions regarding the aforementioned, please do not hesitate to give me a call. As the Factory Authorized Service/Sales Dealer for Dynasonics, we feel we can offer you the highest level of service available. We appreciate your business.

Very truly yours,

Paul J. Santoro
Instrumentation and Controls Specialist

Water • Wastewater • Industrial
Instrumentation and Controls Specialists
20 Chippenwood Lane • Bristol, CT 06010-8533
Phone (860) 589-7564 • Fax (860) 589-7568 • email:introl@sbcglobal.net

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

John Batorski
Veolia Water North America, LLC
500 Cherry St
Naugatuck, CT 06770

Re: Compliance Emissions Testing Protocol:

Annual Total Hydrocarbon & Metals Testing Pursuant to New Source Review Permit No. 109-0081 and Connecticut General Statute Section 22a-191

Equipment: Zimpro Fluidized Bed Sewage Sludge Incinerator

Dear Mr. Bartorski:

I am pleased to inform you that the revised Intent-To-Test protocol expanding upon the initially proposed test plan which was rejected on August 12, 2015 for the equipment cited above has been reviewed. The revised ITT protocol and protocol addendum submitted via e-mail on August 14, which addressed the deficiencies previously identified by the Department, have now been resolved.

Subsequently, the test plan for a sampling program for Multiple Metals and Total Hydrocarbon emissions, has been found to be acceptable subject to the following conditions:

1. All items listed in the State of Connecticut Department of Energy and Environmental Protection Emission Test Guidelines are required. Failure to provide any information as required by these guidelines may result in rejection of the test and/or the test program. They are available at

   www.ct.gov/deep/lib/deep/air/compliance_monitoring/emission_test/emission_test_guidelines.pdf

2. A member of the Source Emissions Monitoring Unit will be present to observe the emission testing. During the testing, the process shall be operated under normal and representative conditions. The Department representative on-site will be collecting any parameter monitoring and/ or emission test data that may be needed to assess the validity of the test program;

3. Pursuant to Section 4 of the Emission Test Guidelines, the source must be operated at or above 90% of maximum rated capacity, 3.5 Dry tons per hour.

4. An Emission Test Report shall be submitted which meets the minimum requirements contained in Section 6 of the Emission Test Guidelines no later than the 60th day following the completion of the performance test, and;

Failure to comply with these requirements could result in the issuance of a Notice of Violation (NOV).

Please contact Ms. Cinda Lautenschlegar, Supervising Air Pollution Control Engineer of the Source Emissions Monitoring Unit, regarding test scheduling and any problems that may alter the test program. She can be reached at cinda.lautenschlegar@ct.gov, her direct line of (860) 566-9459, or through the Enforcement Section main phone line of (860) 424-4152.

Sincerely,

Robert W. Girard
Assistant Director
Air Enforcement

Date 8/9/15

RWG/tdm

cc: Michael Unterweger, CK Environmental Inc.
Timothy Marsh, CTDEEP Source Emission Monitoring
ITT File No.: 2015140
Application No.: 201505130

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

John Batorski
Veolia Water North America, LLC
500 Cherry St
Naugatuck, CT 06770

Re: Compliance Emissions Testing Protocol:

Annual Total Hydrocarbons & Metals Testing Pursuant to New Source Review (NSR) Permit No. 109-0081 and CGS Section 22a-191

Equipment: Zimpro Fluidized Bed Sewage Sludge Incinerator

Dear Mr. Bartorski:

The purpose of this letter is to inform you that the Intent-To-Test (ITT) protocol describing a test plan for Multiple Metals and Total Hydrocarbons of the Zimpro Fluidized Bed Sewage Sludge Incinerator is undergoing review. At the present time, we are unable to accept the protocol due to deficiencies several of which were repeated from last year's proposed test protocol. The following deficiencies need to be addressed:

1) Pursuant to Part III of NSR permit 109-0081, stack emission testing for Metals (micrograms/actual cubic meters and lbs/24-hr period) shall be conducted both with and without the WESP in operation. The Intent to Test Application form and the Protocol both need to document that Metals testing will be done under both operating conditions;

2) The emission limit for Total Hydrocarbons documented in the Intent to Test Application form and the Protocol is incorrect. Also Beryllium and Mercury emissions must be reported in pounds per 24 hours, as noted in Part II of the NSR permit, in addition to the micrograms per actual cubic meter needed to verify the MASC. Please provide a revised Intent to Test application with the correct emissions limits and in all applicable units;

3) As particulate matter is not being measured in conjunction with the EPA method 29 sampling train for this test program, Acetone is not used for this sample recovery. Additionally, the 8N HCL rinse of impingers 5 and 6 must be placed into a 200 ml container. The Protocol must be amended to reflect the proper recovery procedures for this sampling methodology; and

4) Pursuant to Section 4 of the Emission Test Guidelines, the source must be operated at or above 90% of maximum rated capacity, 3.5 Dry Tons Sludge Per Hour. Please provide a clear description as to how this rate will be determined and documented during emissions testing.

A written addendum or replacement protocol with a corrected Intent to Test application which addresses these deficiencies must be submitted before our review can continue.

Please contact Ms. Cinda Lautenschlegar, Supervising Air Pollution Control Engineer of the Source Emissions Monitoring Unit if you have questions regarding this letter. She can be reached at cinda.lautenschlegar@ct.gov, her direct line of (860) 566-9459, or through the Enforcement Section main phone line of (860) 424-4152.

Sincerely,

Robert W. Girard
Assistant Director
Air Enforcement

Date 8/12/15

RWG/tdm

cc: Michael Unterweger, CK Environmental Inc.
Timothy D Marsh, CT DEEP, SEM
ITT File No.: 2015140
Application No.: 201505130

August 14, 2015

Robert Girard
Assistant Director, Air Enforcement
Connecticut Department of Energy and Environmental Protection
Bureau of Air Management
79 Elm Street
Hartford, CT 06106

Subject: Veolia Water North America, LLC – Compliance Test Program - Protocol Addendum

Dear Mr. Girard,

Please accept this letter as an addendum to the existing test protocol prepared by CK on behalf of our client, Veolia Water North America, LLC. Please note the following responses to your comments on the 2015 Stack Emissions Compliance Test Program Protocol for the Fluidized Bed Sewage Sludge Incinerator operating at the Borough of Naugatuck Publicly Owned Treatment Works (POTW) in Naugatuck, CT.

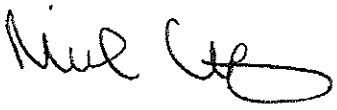
1. As per the testing requirements of Section III D 3 of the NSR Permit No. 109-0081, Metals testing will include:
    a. Testing with and without the Wet Electrostatic Precipitators (WESP) in operation.
2. Please see attached ITT form with the correct emissions limits in all applicable units.
3. The EPA Method 29 sampling train will not use Acetone for the sample recovery. The probe and front half will be rinsed with 0.1N HNO_3. Additionally, the 8N HCL rinse of impingers 5 and 6 will be placed into a container with 200 ml of water.
4. As per Section 4 of the Emission Test Guidelines, the fluidized bed incinerator will be operated at or above 90% maximum rated capacity (3.5 dry tons sludge/hr).

Testing for this program has been proposed to take place the week of September 21st and will proceed as scheduled following the acceptance of this addendum. Should you have any questions regarding the test program or scheduling, please contact me at (munterweger@ckenvironmental.com) or (781) 828-5200.

Thank you.

CK Environmental, Inc.
1020 Turnpike St., Suite 8
Canton, MA 02021 USA
Toll-free: 888-CKE-0303
International: 781-828-5200
Fax: 781-828-5380
www.ckenvironmental.com

Best regards,



Mike Unterweger, Project Manager
CK Environmental, Inc.
(781) 828-5200

CC: **Cinda Lautenschlegar**
Supervising Air Pollution Control Engineer
Engineering & Enforcement Division

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

John Batorski
Veolia Water North America, LLC
500 Cherry St
Naugatuck, CT 06770

Re: Compliance Emissions Testing Protocol:

Annual Total Hydrocarbons & Metals Testing Pursuant to New Source Review (NSR) Permit No. 109-0081 and CGS Section 22a-191

Equipment: Zimpro Fluidized Bed Sewage Sludge Incinerator

Dear Mr. Bartorski:

The purpose of this letter is to inform you that the Intent-To-Test (ITT) protocol describing a test plan for Multiple Metals and Total Hydrocarbons of the Zimpro Fluidized Bed Sewage Sludge Incinerator is undergoing review. At the present time, we are unable to accept the protocol due to deficiencies several of which were repeated from last year's proposed test protocol. The following deficiencies need to be addressed:

1) Pursuant to Part III of NSR permit 109-0081, stack emission testing for Metals (micrograms/actual cubic meters and lbs/24-hr period) shall be conducted both with and without the WESP in operation. The Intent to Test Application form and the Protocol both need to document that Metals testing will be done under both operating conditions;

2) The emission limit for Total Hydrocarbons documented in the Intent to Test Application form and the Protocol is incorrect. Also Beryllium and Mercury emissions must be reported in pounds per 24 hours, as noted in Part II of the NSR permit, in addition to the micrograms per actual cubic meter needed to verify the MASC. Please provide a revised Intent to Test application with the correct emissions limits and in all applicable units;

3) As particulate matter is not being measured in conjunction with the EPA method 29 sampling train for this test program, Acetone is not used for this sample recovery. Additionally, the 8N HCL rinse of impingers 5 and 6 must be placed into a 200 ml container. The Protocol must be amended to reflect the proper recovery procedures for this sampling methodology; and

4) Pursuant to Section 4 of the Emission Test Guidelines, the source must be operated at or above 90% of maximum rated capacity, 3.5 Dry Tons Sludge Per Hour. Please provide a clear description as to how this rate will be determined and documented during emissions testing.

A written addendum or replacement protocol with a corrected Intent to Test application which addresses these deficiencies must be submitted before our review can continue.

Please contact Ms. Cinda Lautenschlegar, Supervising Air Pollution Control Engineer of the Source Emissions Monitoring Unit if you have questions regarding this letter. She can be reached at cinda.lautenschlegar@ct.gov, her direct line of (860) 566-9459, or through the Enforcement Section main phone line of (860) 424-4152.

Sincerely,

Robert W. Girard
Assistant Director
Air Enforcement

Date 8/12/15

RWG/tdm

cc: Michael Unterweger, CK Environmental Inc.
Timothy D Marsh, CT DEEP, SEM
ITT File No.: 2015140
Application No.: 201505130

Connecticut Department of Energy & Environmental Protection

Source Emissions Monitoring
Bureau of Air Management

CPPU USE ONLY
App #:
Doc #:
Check #:
Program: AIRENF - Air Enforcement
EMISSION GROUP ONLY
Intent to Test No:

Intent to Test Application Form

Please complete this application form in accordance with the instructions in order to ensure the proper handling of your intent to test request and the associated fee(s). Print legibly or type.

Part I: Application Type and Registration Information

Check the appropriate box identifying the application type.

This application is for (check one):	Registration Information:
☒ A Stack Test	1. Town number: **109**
☐ A Relative Accuracy Test Audit	2. Site (Premises) number: **11**
	3. Registration or Permit number: **109-0081**
	4. Stack number: **EMU052**

Town where site is located: Naugatuck, CT

Brief Description of equipment/process being tested: Protocol and Report Preparation/Stack Testing

If there are any changes or corrections to your company/facility or individual name, mailing or billing address or contact information, please complete and submit the Request to Change Company/Individual Information to the address indicated on the form. For any other changes you must contact the specific program from which you hold a current DEEP license. If there is a change in ownership, please contact the Permit Assistance Office for questions concerning license transfers at 860-424-3003.

Part II: Fee Information

Expected duration of testing (number of days or partial days): **2**

As per section 22a-174-26(h) of the Regulations of Connecticut State Agencies and Section 22a-6f(d) of the Connecticut General Statutes, a fee of $470.00 per day, or part thereof, shall be paid to the commissioner for each DEEP employee conducting or observing testing activities.

The total fee due will be billed by the DEEP at the completion of the testing.

☐ Check here if exempt from the fee pursuant to section 22a-232 of the Connecticut General Statutes.

2. Billing contact, if different than the applicant.

Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.: Fax:

Contact Person: Phone: ext.

E-mail:

3. Primary contact for departmental correspondence and inquiries, if different than the applicant.

Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.: Fax:

Contact Person: Phone: ext.

*E-mail:

*By providing this e-mail address you are agreeing to receive official correspondence from the department, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes.

4. Site contact, if different than the applicant.

Name of Facility or Site:

Address:

City/Town: State: Zip Code:

Business Phone: ext.: Fax:

Contact Person: Phone: ext.

E-mail:

5. Engineer(s) or consultant(s) employed or retained to assist in preparing the intent-to-test application and/or to conduct the test, record the results, and produce the test report.

Name of Engineering or Consulting Firm: **CK Environmental, Inc.**

Mailing Address: 1020 Turnpike Street, Suite 8

City/Town: Canton State: MA Zip Code: 02021

Business Phone: (781) 828-5200 ext.: Fax: 781-828-5380

Contact Person: Michael Unterweger Phone: ext.

*E-mail: munterweger@ckenvironmental.com

Service Provided: **Protocol and Report Preparation/Stack Testing**

☐ Check here if additional sheets are necessary, and label and attach them to this sheet.

Part III: Applicant Information

If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the applicant's name shall be stated **exactly as it is registered with the Secretary of State.* This information can be accessed at CONCORD.

If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

1. **Applicant Name*:** Veolia Water North America, LLC

Mailing Address: 500 Cherry Street

City/Town: Naugatuck | State: CT | Zip Code: 06770

Business Phone: 203-723-1433 | ext.: | Fax: 203-723-8539

Contact Person: John Batorski | Phone: | ext.

*E-mail: john.batorski@veolia.com

*By providing this e-mail address you are agreeing to receive official correspondence from the department, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes.

a) Applicant Type (check one): ☐ individual ☒ *business entity ☐ federal agency
☐ state agency ☐ municipality ☐ tribal

*If a business entity:

i) check type: ☐ corporation ☒ limited liability company ☐ limited partnership
☐ limited liability partnership ☐ statutory trust ☐ Other: _____

ii) provide Secretary of the State business ID #:_____This information can be accessed at CONCORD

iii) ☐ Check here if you are **NOT** registered with the Secretary of State's office.

b) Applicant's interest in property at which the proposed activity is to be performed:

☒ site owner ☐ option holder ☐ lessee
☐ easement holder ☐ operator ☐ other (specify): _____

☐ Check if any co-applicants. If so, attach additional sheet(s) with the required information as requested above.

Part IV: Site Information (property at which the proposed activity is to be performed).

Site Name and Location

Name of Site : **Veolia Water North America, LLC**

Street Address: **500 Cherry Street**

City/Town: **Naugatuck** State: **CT** Zip Code: **06770**

Tax Assessor's Reference: Map Block Lot

Part V: Reason for Test Program

1. Describe the process/equipment being tested (include appropriate emission unit designations)
Veolia Water North America Northeast, LLC operates the Borough of Naugatuck POTW which incinerates approximately 80 dry tons of municipal sludge per day and processes nonhazardous industrial waste water. The equipment being tested is the Zimpro Fluidized Bed Sewage Sludge Incinerator. The POTW also houses settling tanks; aeration tanks, thickening tanks, holding tanks, and sludge belt filter presses. The continuous emissions/continuous opacity monitoring system transports sample gas from the stack mounted sample probe via heated lines and sample conditioning system to the analyzers for continuous monitoring of gaseous pollutants. Effluent concentrations of carbon monoxide (CO) and oxygen (O2) are measured by the CEM system.

2. What are the regulatory requirements that apply to the testing (e.g., the applicable state and/or federal regulations)?
The regulatory requirements are based on CTDEEP Title V Permit No. 109-0081 for the EMU052 stack and the continuous emissions/continuous opacity monitoring system is designed to meet the requirements of 40 CFR, §60.13, §60.150 and 40 CFR, Part 503, Subpart E, §503.40., and 40 CFR, Part 60, Appendix B, PS 1. The stack emission testing for Metals shall be conducted both with and without the WESP in operation.

3. Compliance with American Society for Testing and Materials requirements

a) For emission testing pertaining to resource recovery facilities, is tester compliant with American Society for Testing and Materials (ASTM) method D 7036?

☒yes ☐no

b) For sources subject to 40 Code of Federal Regulations (CFR) Part 75, any relative accuracy test audits (RATAs), Appendix E NOx testing or low mass emission testing; will the test be performed as required by an air emission testing body that certifies conformance with ASTM method D 7036?

☒yes ☐no

Part VI: Intent-to-Test Information (complete for each piece of equipment tested)

When submitting any supporting documents, please label the documents as indicated in this part (e.g., Attachment to Part VI.) and be sure to include the applicant's name as indicated on this application form.

1) Last test date: **09/18/14**

2) Identify equipment and stack to be tested: **Stack No. EMU052**

3) Maximum Rated Capacity (with units): **Incinerator capacity: 84 dry tons/day; Maximum Feed Rate: 3.5 dry tons/hr**

4) *(For new equipment only)* Has the equipment being tested been started up? ☐yes ☐no

(for the purpose of this form, start-up means the setting in operation of the equipment being tested for any purpose)

If yes, what was the date of start-up?

5) *(For new equipment only)* Has the equipment reached its maximum production rate? ☐yes ☐no

If yes, what was the date the equipment reached its maximum production rate?

6) Fuels that are listed in permit, enforcement order, or registration (for fuel burning sources):

7) Fuels the unit is physically capable of burning (for fuel burning sources):

8) For any Relative Accuracy Test Audit (RATA) please indicate:

a) Have there been changes in any analyzer make and/or model? ☐yes ☒no

If yes, what is the change?

b) Have there been any changes in sampling location? ☐yes ☒no

If yes, please explain.

c) Have there been any changes in sampling system design? ☐yes ☒no

If yes, please explain.

b) Gas Stream Sampling Information

Gas Stream Components	Sampling Duration		# of Tests	Emission Limit (w/units)	Expected Concentration (w/units)	Description of Test Method
	Minutes/ point	Total Test Time				
Compliance Test						
Arsenic		**120 min**	**3**	**95.4 ug/m3**		**Method 29**
Beryllium		**120 min**	**3**	**19.1 ug/m3 0.022 lb/24-hr period (10 grams/24-hr period)**		**Method 29**
Cadmium		**120 min**	**3**	**763.5 ug/m3**		**Method 29**
Chromium		**120 min**	**3**	**4771.8 ug/m3**		**Method 29**
Copper		**120 min**	**3**	**38174.8 ug/m3**		**Method 29**
Lead		**120 min**	**3**	**5726.2 ug/m3**		**Method 29**
Manganese		**120 min**	**3**	**38174.8 ug/m3**		**Method 29**
Mercury		**120 min**	**3**	**1908.7 ug/m3 7.055 lb/24-hr period (3200 grams/24-hr period)**		**Method 29**

Nickel		120 min	3	9543.7 ug/m3		Method 29
Selenium		120 min	3	7635.0 ug/m3		Method 29
Zinc		120 min	3	190873.9 ug/m3		Method 29
Total Hydrocarbons (THC)		60 min	3	0.32 lbs/ton dry sludge		Method 25A

Part VII: Applicant Certification

The applicant *and* the individual(s) responsible for actually preparing the application must sign this part. An application will be considered incomplete unless all required signatures are provided. [If the applicant is the

preparer, please mark N/A in the spaces provided for the preparer.]

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text."

Signature of Applicant	Aug 14, 2015 Date
John Batorski Name of Applicant (print or type)	**Plant Manager** Title (if applicable)
Signature of Preparer (if different than above)	**07/28/15** Date
Michael Unterweger Name of Preparer (print or type)	**Project Manager** Title (if applicable)

☐ Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet. You must include signatures of any person preparing any report or parts thereof required in this application (i.e., professional engineers, consultants, etc.)

Part VIII: Applicant E-Submission

Please submit the completed application form, and all supporting documents by electronic mail to DEEP.SEM@ct.gov the Source Emissions Monitoring Group in the Bureau of Air Management, or in the alternative, in hard copy to:

SOURCE EMISSIONS MONITORING
BUREAU OF AIR MANAGEMENT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

VEOLIA

Aug. 14, 2015

Abel Pump Operations:

Approximately 2 hours before the start of the stack test, cake samples are taken every 30 minutes by the Incinerator Operator. This process continues for the duration of the stack test. Cake solids are determined using a calibrated scale. Based upon the % cake solids, and the attached chart, the Incinerator Operator adjusts the Abel speed as required to maintain pump output at or above the minimum 90% capacity of 3.15 DT/HR to 3.5 DT/HR.

This is the identical procedure used in previous years.

John Batorski

Plant Manager

VEOLIA WATER

NAUGATUCK FLUID BED INCINERATOR

FBI Cake Feed Rate in Dry Tons Per Hour

Abel % Speed	Feed Cake %Total Solids																						
	19.0%	19.5%	20.0%	20.5%	21.0%	21.5%	22.0%	22.5%	23.0%	23.5%	24.0%	24.5%	25.0%	25.5 %	26.0%	26.5%	27.0%	27.5%	28.0%	28.5%	29.0%	29.5%	30.0%
5	0.23	0.25	0.26	0.29	0.31	0.34	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.44	0.45	0.46	0.47	0.48	0.49	0.51	0.52	0.53
10	0.35	0.37	0.40	0.43	0.47	0.51	0.56	0.58	0.59	0.60	0.62	0.63	0.64	0.65	0.67	0.68	0.69	0.71	0.72	0.74	0.76	0.78	0.80
15	0.47	0.50	0.53	0.58	0.62	0.69	0.74	0.77	0.79	0.80	0.82	0.84	0.86	0.87	0.89	0.91	0.92	0.94	0.96	0.99	1.01	1.04	1.06
20	0.58	0.61	0.65	0.72	0.77	0.85	0.92	0.95	0.97	0.99	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.19	1.22	1.25	1.29	1.31
25	0.70	0.74	0.78	0.86	0.92	1.02	1.10	1.14	1.17	1.19	1.22	1.24	1.27	1.29	1.32	1.35	1.37	1.40	1.43	1.46	1.51	1.55	1.57
30	0.80	0.85	0.90	0.99	1.07	1.18	1.27	1.32	1.35	1.38	1.41	1.44	1.46	1.49	1.52	1.55	1.58	1.61	1.65	1.69	1.74	1.79	1.82
35	0.92	0.97	1.03	1.13	1.22	1.34	1.46	1.51	1.54	1.57	1.61	1.64	1.67	1.71	1.74	1.77	1.81	1.84	1.89	1.93	1.98	2.04	2.08
40	1.03	1.09	1.16	1.27	1.37	1.51	1.64	1.69	1.73	1.77	1.81	1.85	1.88	1.92	1.96	2.00	2.03	2.07	2.12	2.17	2.23	2.30	2.34
45	1.15	1.21	1.29	1.42	1.52	1.68	1.82	1.88	1.92	1.97	2.01	2.05	2.09	2.13	2.18	2.22	2.26	2.30	2.36	2.41	2.48	2.55	2.59
50	1.26	1.34	1.42	1.56	1.68	1.85	2.00	2.07	2.12	2.16	2.21	2.26	2.30	2.35	2.39	2.44	2.49	2.53	2.59	2.65	2.73	2.81	2.85
55	1.38	1.46	1.55	1.70	1.83	2.02	2.18	2.26	2.31	2.36	2.41	2.46	2.51	2.56	2.61	2.66	2.71	2.76	2.83	2.89	2.98	3.06	3.11
60	1.49	1.58	1.68	1.84	1.98	2.18	2.37	2.45	2.50	2.56	2.61	2.67	2.72	2.77	2.83	2.88	2.94	2.99	3.06	3.14	3.23	3.32	3.37
65	1.61	1.70	1.81	1.98	2.13	2.35	2.55	2.64	2.69	2.75	2.81	2.87	2.93	2.99	3.05	3.10	3.16	3.22	3.30	3.38	3.47	3.57	3.63
70	1.72	1.82	1.94	2.12	2.28	2.52	2.73	2.82	2.89	2.95	3.01	3.08	3.14	3.20	3.26	3.33	3.39	3.45	3.53	3.62	3.72	3.83	3.89
75	1.84	1.94	2.07	2.27	2.44	2.69	2.91	3.01	3.08	3.15	3.21	3.28	3.35	3.41	3.48	3.55	3.62	3.68	3.77	3.86	3.97	4.08	4.15
80	1.93	2.04	2.17	2.38	2.56	2.82	3.06	3.17	3.24	3.31	3.38	3.45	3.52	3.59	3.66	3.73	3.80	3.87	3.96	4.05	4.17	4.29	4.36
85	2.01	2.13	2.26	2.48	2.67	2.94	3.19	3.30	3.37	3.44	3.52	3.59	3.66	3.73	3.81	3.88	3.95	4.03	4.12	4.22	4.34	4.46	4.54
90	2.04	2.15	2.29	2.51	2.70	2.98	3.23	3.34	3.41	3.49	3.56	3.64	3.71	3.78	3.86	3.93	4.01	4.08	4.18	4.28	4.40	4.52	4.60
95	2.04	2.16	2.30	2.52	2.71	2.99	3.24	3.35	3.42	3.50	3.57	3.65	3.72	3.79	3.87	3.94	4.02	4.09	4.19	4.29	4.41	4.54	4.61
100	2.04	2.15	2.29	2.51	2.70	2.98	3.23	3.34	3.41	3.49	3.56	3.64	3.71	3.78	3.86	3.93	4.01	4.08	4.18	4.28	4.40	4.52	4.60

NOTE on Temperature Compensation:
If the TDU is off-line, multiply above values by 0.70 to reflect reduced Abel pump efficiency from cold sludge (<100 deg F)

Prepared by VWNA Naugatuck 8/14/2015

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

John Batorski
Veolia Water North America, LLC
500 Cherry Street
Naugatuck, CT 06770

Re: 2015 Annual Relative Accuracy Test Audits (RATA) Pursuant to RCSA Section 22a-174-4, NSR Permit Number 109-0081

Zimpro Fluidized Bed Sludge Incinerator Outlet Continuous Emissions Monitoring System (CEMS) for Oxygen and Carbon Monoxide

Test Completion Date: June 02, 2015

Dear Mr. Batorski:

I am pleased to inform you that the CEMS RATA test report for the equipment cited above has been reviewed. Based on our review, we find that all testing was conducted under the required operating conditions and that the equipment tested during this test program appears to be in compliance with the applicable performance specifications.

Please contact Ms. Cinda Lautenschlegar, Supervising Air Pollution Control Engineer of the Source Emissions Monitoring Unit, with any questions or concerns regarding this letter. She can be reached at her direct line of (860) 566-9459, at Cinda.Lautenschlegar@ct.gov; or through the Enforcement Section main phone line of (860) 424-4152.

Sincerely,

Robert W. Girard
Assistant Director
Air Enforcement

Date: 8/31/15

RWG/mrs

Cc: Mike Unterweger, CK Environmental
Mark Spiro, DEEP Source Emissions Monitoring
ITT File Number: 2015071
SIMS Application Number: 201502727

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

August 14, 2015

Town of Naugatuck WPCF
500 Cherry Street
Naugatuck, CT 06770

Re: Notice of Sale of Equivalent Nitrogen Credits

Dear Sir of Madam:

Enclosed is the Town of Naugatuck's check for the sale of nitrogen credits. The Department of Energy and Environmental Protection in consultation with the Nitrogen Credit Advisory Board established the annual value of an equivalent nitrogen credit of $6.47 for the calendar year 2014. This value was derived as specified in Connecticut General Statutes 22a-524 by dividing the total annual project cost for nitrogen removal projects at Connecticut sewage treatment facilities by the reduction in equivalent pounds of nitrogen achieved. Your facility removed nitrogen to a level that is below the required level established in the General Permit. Therefore, your facility benefits from the sale of equivalent nitrogen credits that have been generated. The amount for the nitrogen credits sold by the Town of Naugatuck for 2014 is $19,837 (please see enclosed invoice and check).

As a reminder to all Water Pollution Control Authorities receiving funds from the sale of nitrogen credits through the Nitrogen Trading Exchange Program, Connecticut General Statutes 7-267 describes the separate accounting and use of funds from the use of the sewerage system. It is the Department's position that these funds are to remain with and be utilized by the Water Pollution Control Authority to benefit the operation, maintenance and improvement of the water pollution control facilities of your municipality.

The Department and Nitrogen Credit Advisory Board congratulate you on a successful year in the operation of your facility in removing nitrogen. Continued operation of your facility for high levels of nitrogen removal will help in achieving the long-term goals for Long Island Sound.

Should you have any questions regarding the use of funds from the sale of credits or believe there is an error in your check or electronic transfer, please contact Iliana Raffa of the Department's Bureau of Water Protection and Land Reuse at 860-424-3758 or email her at (Iliana.raffa@ct.gov).

Sincerely,

Betsey Wingfield
Bureau Chief
Bureau of Water Protection and Land Reuse

Long Island Sound Nutrient Reduction Program
Final Credit Exchange Invoice - 2014

NAUGATUCK TREATMENT Co.	CT0100641

End-of-Pipe TN Discharged (lbs/day)

January	259
February	251
March	292
April	424
May	307
June	213
July	176
August	139
September	138
October	162
November	162
December	255
Annual Avg	232 (lbs/day)

Credit Exchange Calculation

a. Permit Limit		246.000
b. Annual Avg		232.000
c. E-Factor		0.600
d. Credits	(b - a) x c	-8.400
e. Cost / Credit		6.47
2010 Adjustment		
f. Annual Invoice *		-$19,837

* Credits(d) x Cost of Credit(e) x 365 days
(negative value indicates payment to municipality)

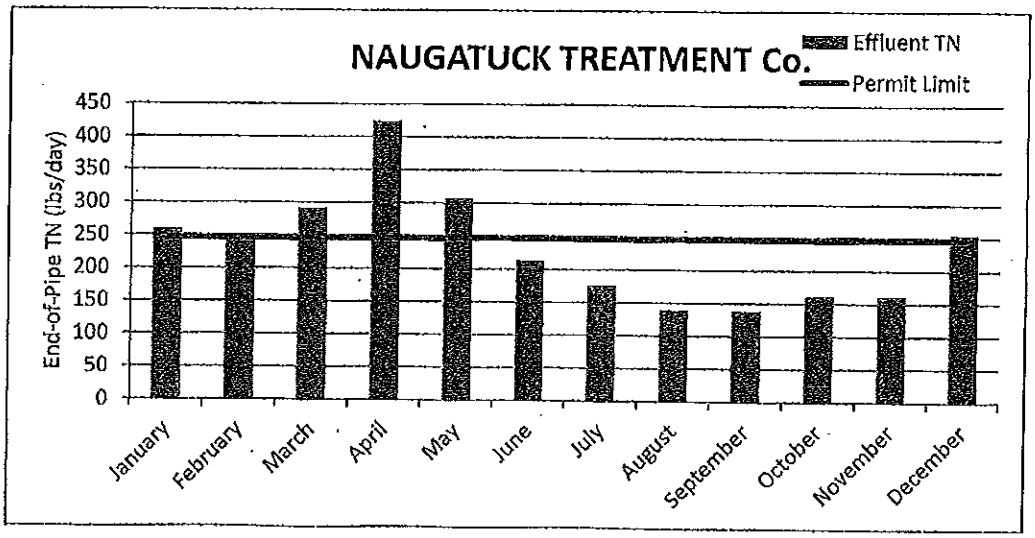
The Commissioner will purchase credits by August 14, 2015, in the amount of:

$19,837

PLEASE SEND PAYMENTS TO:

State of Connecticut, Office of the Treasurer
6th Floor, 55 Elm Street
Hartford, CT 06106
Attn: Clean Water Fund Financial Administator

Monthly Discharge of TN vs. 2014 Permit Limit



VEOLIA
WATER

Sent via certified mail #7014 1200 0002 2236 9784 on August 12, 2015

Connecticut DEEP
Donald Gonyea
Bureau of Materials Management and Compliance Assurance
79 Elm Street
Hartford, CT 06106

August 12, 2015

Re: Laboratory DMRQA35 WET Organism/Test Conditions/End Point Checklist

Dear Mr. Gonyea:

Enclosed please find the *NPDES Permittee Data Report Form* for the Naugatuck WWTP, NPDES Permit #CT0100641. All results were within acceptable limits.

Please contact me if you have any questions regarding the enclosed revised report.

Sincerely,
Veolia Water North America – Northeast, LLC

John Batorski
Plant Manager

cc: James R. Stewart PE, LS, Director of Public Works, Borough of Naugatuck
(Enclosure)

Veolia Water NA -Naugatuck
500 Cherry Street, Naugatuck, CT 06770
Tel 203-723-1433 / 203-723-8539
www.veoliawaterna.com

United States

ENVIRONMENTAL PROTECTION AGENCY

Washington, D.C. 20460

Laboratory DMR-QA Evaluation Study: DMRQA 35

Laboratory Performance Evaluation

Office of Enforcement and Compliance Assurance

(These data are collected under the authority of the Federal Water Pollution Control Act.)

NPDES Permittee Data Report Form

Due August 28, 2015	**Attention:** Follow the instructions on the previous page to complete this form and submit data for evaluation.	State **CT**	NPDES Permit Number **CT0100641**	Permit Extension

Permitee name: **VEOLIA WATER NORTH AMERICAN**

Current Permittee mailing address: **500 CHERRY ST**

Phone Number: (203) 723-1433 FAX Number:

E-mail:

For DMRQA 35 study, conducted in 2015, the Permittee ensured that their laboratory(s) performing the required analyses:

Received PT Samples:	Submitted Complete and Accurate Data by July 10, 2015:	Received a Graded Report by July 29, 2015:
Yes ☒ No ☐	Yes ☒ No ☐	Yes ☒ No ☐

Certification by Permit Holder or Authorized Representative

(as per 40 C.F.R. Part 122.22 - see instructions.)

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. Each reported value was produced from a single analytical run using the analytical system that routinely performs these analyses to produce compliance monitoring data required under our National Pollutant Discharge Elimination System (NPDES) permit. Neither I nor any of my subordinates compared our results with results from independent analyses conducted by us or any other laboratory before we reported our results to the U.S. EPA. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Certifying Official: **John Baturski** (Baturski) Title: Plant Manager

Signature John Baturski Date: 8-12-15

Address, phone number and e-mail of Certifying Official are required if different from above.

Phone No.:

Address:

E-mail:

United States

ENVIRONMENTAL PROTECTION AGENCY

Washington, D.C. 20460

Laboratory DMR-QA Evaluation Stuy: DMRQA 35

Laboratory Performance Evaluation

Office of Enforcement and Compliance Assurance

(These data are collected under the authority of the Federal Water Pollution Control Act.)

Permittee Name:	State:	NPDES Permit No.:	Permit Extension:
VEOLIA WATER NORTH AMERICAN	**CT**	**CT0100641**	

Identification of All CHEM, MICRO and TOX Laboratories who did analyses for Permit Number: **CT0100641**

Name of Laboratory	Address of Laboratory	U.S. EPA Lab Code	Lab Analysis Check box(es) that apply			Lab Type*	State certfied Laboratory**
			CHEM	MICRO	TOX		
New England Bioassay	77 Batson Drive Manchester, CT 06042 US	CT01041	☐	☐	☒	C	☒
			☐	☐	☐		☐
			☐	☐	☐		☐
			☐	☐	☐		☐

*Lab Type: C=Commercial F=Federal G=Local Government I=Industrial O=Other P=Pharmaceutical

**See Footnote 2 on DMRQA 35 Fact Sheet

If you need addtional space, please make a copy of this page for additional laboratories.

Permittee name: **VEOLIA WATER NORTH AMERICAN** State: **CT** Permittee Number: **CT0100641** EPA Lab code: **CT01041**

WET Organisms/Test Conditions/End Points Checklist

DMRQA 35 study

Analyte Number	Analyte Test	Test Required	Laboratory graded Result		Analytre detremined by state-certified laboratory*
			Acceptable	Not Acceptable (Corrective Action Required)	
Test Code 13 / EPA Method 2000					
754	Fathead Minnow Acute MHSF 25° - LC50	☒	☒	☐	☐
Test Code 14 / EPA Method 2000					
755	Fathead Minnow Acute 20% DMW 25° - LC50	☐	☐	☐	☐
Test Code 15 / EPA Method 1000					
808	Fathead Minnow Chronic MHSF - Growth IC25 (ON)	☒	☒	☐	☐
809	Fathead Minnow Chronic MHSF - Growth IC25 (SN)	☐	☐	☐	☐
810	Fathead Minnow Chronic MHSF - Growth NOEC (ON)	☒	☒	☐	☐
811	Fathead Minnow Chronic MHSF - Growth NOEC (SN)	☐	☐	☐	☐
756	Fathead Minnow Chronic MHSF - Survival NOEC	☒	☒	☐	☐
Test Code 16 / EPA Method 1000					
812	Fathead Minnow Chronic 20 % DMV - Growth IC (ON)	☐	☐	☐	☐
815	Fathead Minnow Chronic 20% DMV - Growth (SN)	☐	☐	☐	☐
813	Fathead Minnow Chronic 20% DMV - Growth IC (SN)	☐	☐	☐	☐
814	Fathead Minnow Chronic 20% DMV - Growth NOEC (ON)	☐	☐	☐	☐
759	Fathead Minnow Chronic 20% DMV - Survival NOEC	☐	☐	☐	☐
Test Code 19 / EPA Method 2002					
764	Ceriodaphnia Acute MHSF 25° - LC50	☒	☒	☐	☐
Test Code 20 / EPA Method 2002					
765	Ceriodaphnia Acute 20% DMW 25° - LC50	☐	☐	☐	☐
Test Code 21 / EPA Method 1002					
767	Ceriodaphnia Chronic MHSF - Reproduction IC25	☒	☒	☐	☐
768	Ceriodaphnia Chronic MHSF - Reproduction NOEC	☒	☒	☐	☐
766	Ceriodaphnia Chronic MHSF - Survival NOEC	☒	☒	☐	☐
Test Code 22 / EPA Method 1002					
770	Ceriodaphnia Chronic 20% DMW - Reproduction IC25	☐	☐	☐	☐
771	Ceriodaphnia Chronic 20% DMW - Reproduction NOEC	☐	☐	☐	☐
769	Ceriodaphnia Chronic 20% DMW - Survival NOEC	☐	☐	☐	☐
Test Code 32 / EPA Method 2021					
788	Daphnia Magna Acute MHSF 25° - LC50	☐	☐	☐	☐
Test Code 38 / EPA Method 2021					
794	Daphnia Pulex MHSF 25° - LC50	☒	☒	☐	☐
Test Code 42 / EPA Method 2007					
798	Mysid Acute 40 F 25° - LC50	☐	☐	☐	☐
Test Code 43 / EPA Method 1007					
816	Mysid Chronic 40 F Growth IC25 (ON)	☐	☐	☐	☐
817	Mysid Chronic 40 F Growth IC25 (SN)	☐	☐	☐	☐
818	Mysid Chronic 40 F Growth NOEC (ON)	☐	☐	☐	☐
819	Mysid Chronic 40 F Growth NOEC (SN)	☐	☐	☐	☐
799	Mysid Chronic 40 F Survival NOEC	☐	☐	☐	☐
Test Code 44 / EPA Method 2006					
803	Menidia Acute 40 F 25° - LC50	☐	☐	☐	☐
Test Code 46 / EPA Method 2004					
804	Sheepshead Minnow Acute 40 F 25° - LC50	☐	☐	☐	☐
Test Code 47 / EPA Method 1004					
820	Sheepshead Minnow Chronic 40 F - Growth IC25 (ON)	☐	☐	☐	☐
821	Sheepshead Minnow Chronic 40 F - Growth IC25 (SN)	☐	☐	☐	☐
822	Sheepshead Minnow Chronic 40 F - Growth NOEC (ON)	☐	☐	☐	☐
823	Sheepshead Minnow Chronic 40 F - Growth NOEC (SN)	☐	☐	☐	☐
805	Sheepshead Minnow Chronic 40 F - Survival NOEC	☐	☐	☐	☐
Test Code 45 / EPA Method 1006					
825	Inland silverside (Menidia berylina) IC25 (ON) GRO	☐	☐	☐	☐
826	Inland silverside (Menidia berylina) NOEC (ON) GRO	☐	☐	☐	☐
		☐	☐	☐	☐

John Batarski	John Batarski	8-12-15
Name	Signature	Date

SIGMA-ALDRICH® RTC

2931 Soldier Springs Rd., Laramie, WY 82070 USA
Phone: 800-576-5690 Website: www.sigmaaldrich.com

NPDES Laboratory Performance Evaluation Report
RTC Laboratory Proficiency Testing Program
DMRQA 35 - Concluding 07/10/2015

NPDES Permit #: CT0100641
Permit Name: VEOLIA WATER NORTH AMERICAN

500 CHERRY ST
NAUGATUCK, CT 06770-4503

If you have any questions about your report, please contact customer service at 800-576-5690 or email: rtcptgroup@sial.com. A copy of this report has been sent to both your State and Regional Coordinator. This report shall not be reproduced except in full, with written approval of the Laboratory. A Laboratory may not claim endorsement by ACLASS, NELAC or any other federal agency. RTC is accredited to perform PT programs for the scope of accreditation to ISO/IEC 17043 under ACLASS certificate AP-1469.

This report may contain data that are not covered by the ACLASS accreditation.

Analyzing Laboratory: New England Bioassay
EPA Labcode: CT01041

Analyte	Analysis Method	Reported Value	Assigned Value	Acceptance Limits	Evaluation
Fathead Minnow Acute MHSF 25° - LC50 754	EPA 2000.0 - Fathead minnow, 48-hr Acute, nonrenewal, MHSF 25°C (2002) 10213602	19.3%	18.9	3.52 to 34.4	Acceptable
Fathead Minnow Chronic MHSF - Survival NOEC 756	EPA 1000.0 - Fathead minnow, 7-day Chronic, daily renewal, MHSF 25°C (2002) 10214207	25.0%	25	12.5 to 50	Acceptable
Ceriodaphnia Acute MHSF 25° - LC50 764	EPA 2002.0 - Ceriodaphnia dubia, 48-hr Acute, renewal, MHSF 25°C (2002) 10214809	17.8%	24.9	0 to 52.3	Acceptable
Ceriodaphnia Chronic MHSF - Survival NOEC 766	EPA 1002.0 - Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF 25°C (2002) 10215006	25.0%	12.5	0 to 37.5	Acceptable
Ceriodaphnia Chronic MHSF - Reproduction IC25 767	EPA 1002.0 - Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF 25°C (2002) 10215006	25.7%	17.5	4.2 to 30.8	Acceptable
Ceriodaphnia Chronic MHSF - Reproduction NOEC 768	EPA 1002.0 - Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF 25°C (2002) 10215006	25.0%	12.5	6.25 to 25	Acceptable

SIGMA-ALDRICH RTC

2931 Soldier Springs Rd., Laramie, WY 82070 USA
Phone: 800-576-5690 Website: www.sigmaaldrich.com

Daphnia Pulex MHSF 25° - LC50 794	EPA 2021.0 - Daphnia pulex, 48hr Acute, nonrenewal, MHSF 25°C (2002) 10215619	23.6%	26.6	4.2 to 49	Acceptable
Fathead Minnow Chronic MHSF - Growth IC25 (ON) 808	EPA 1000.0 - Fathead minnow, 7-day Chronic, daily renewal, MHSF 25°C (2002) 10214207	30.64%	35.7	5.69 to 65.8	Acceptable
Fathead Minnow Chronic MHSF - Growth NOEC (ON) 810	EPA 1000.0 - Fathead minnow, 7-day Chronic, daily renewal, MHSF 25°C (2002) 10214207	25.0%	25	12.5 to 50	Acceptable

Certifying Officer:

ACLASS ACCREDITED
PROFICIENCY TESTING PROVIDER

Date: 07-31-2015

VEOLIA

Sent Certified R.R.R. mail #7014 1200 0002 2236 9807 on Aug. 27, 2015

Water Toxics Program Coordinator
Connecticut Department of Energy and Environmental Protection
Bureau of Water Protection & Land Reuse
79 Elm Street
Hartford, CT 06106-5127

Aug. 27, 2015

Re: Stormwater Monitoring Report Naugatuck, CT WWTP, NPDES # CT0100641

Dear Sir/Madam,

Enclosed are the results for the recent Storm Water Testing at the Naugatuck WWTP.

Please contact me if you have any questions regarding the enclosed report.

Sincerely,
Veolia North America – Northeast, LLC

John Batorski
Plant Manager

cc: James R. Stewart PE, LS, Director of Public Works, Borough of Naugatuck
(Enclosure)

Veolia Water NA -Naugatuck
500 Cherry Street, Naugatuck, CT 06770
Tel 203-723-1433 / 203-723-8539
www.veoliawaterna.com

New England Bioassay, a Division of GZA GeoEnvironmental, Inc.
www.nebio.com

Stormwater Monitoring Report (SMR) Instruction Form:

Client Name/Project: Phoenix / SW Test Date: 8/5/15

Sample ID #1: BJ607503
Sample ID #2: _____
Sample ID #3: _____
Sample ID #4: _____

New England Bioassay
a Division of GZA GeoEnvironmental, Inc.

77 Batson Drive
Manchester, CT
06042
860-643-9560
FAX 860-646-7169

Please complete the items on this bulleted list prior to submission of this data to the CTDEEP:

- Complete the "Facility Information" section on page one of the SMR. ✓
- Complete the "Sampling Information" section on page one of the SMR. If you failed to record the date of the previous storm event it may be found at www.weather.com. Enter your zip code or city name in the box and select "go". Select the "Monthly" tab in the row of options. Select the month you are interested in by using the "previous month" and "next month" options at the top of the calendar. The bottom entry in the square for each date is the precipitation in inches in that city on that date. An alternative is to use the National Weather Service website at http://www.erh.noaa.gov/box/dailystns.shtml. Select the month and year that you are interested in and the Connecticut town closest to your facility and then hit the "get data" button. The dates are in the column at the far left and precipitation amounts are in the column titled WTR. ✓
- Complete the "Monitoring Results" section on page one of the SMR. Don't forget to include the units in the results section (e.g. 0.1 mg/L). If you have additional monitoring for 'discharge to impaired waters' please fill in the box on top of page 3. ✓
- If you have exceeded any of the Bench Marks (see monitoring results section) please refer to Section 5 (e)(1)(B)(iv) on page 32 of the permit located on the CT DEEP website: http://www.ct.gov/dep/lib/dep/Permits_and_Licenses/Water_Discharge_General_Permits/storm_indust_gp_100111.pdf ✓
- An authorized official from your facility must sign the "Statement of Certification" section on page three of the SMR. ✓
- Fill in the Data Tracking Sheet with your facility information and chemical analysis results for each event tested under the new permit. Keep this information in your files for submittal to the DEEP after all four events are filled in. ✓

Please detach this instruction form and the Chain-of-Custody and keep for your records. Within 90 days of your sample collection date file the completed form as follows:

- The completed SMR must be sent to the Bureau of Water Management at the following address:

  Water Toxics Program Coordinator
  Connecticut Department of Energy and Environmental Protection
  Bureau of Water Protection & Land Reuse
  79 Elm St.
  Hartford, CT 06106-5127

Questions? Please contact Kim Wills, Lab Manager at (860) 858-3153 or kimberly.wills@gza.com

General Permit for the Discharge of Stormwater Associated with Industrial Activity, effective 10/1/2011
Stormwater Monitoring Report Form
Sector G - Municipal or Federal Facilities

Facility Information

Permittee Name: BOROUGH OF NAUGATUCK Site Name: NAUGATUCK WWTP
Mailing Address: 500 CHERRY ST EXT. NAUGATUCK, CT 06770
Contact Person: JOHN BATORSKI Title: PLANT MANAGER
Business Phone: 203-723-1433 ext: 2015 Email: JOHN.BATORSKI@VEOLIA.COM
Site Address: 500 CHERRY ST. EXT. NAUGATUCK, CT 06770
Receiving Water (name/basin): NAUGATUCK RIVER
Permit #: GSI CT0120641 Primary SIC:
Discharges into an Impaired Waterbody: Yes ☐ No ☒ (if yes, complete the table on page 3 of this form)

Sample Information

Sample Location: UPSTREAM OF OUTFALL Person Collecting Sample: PATRICK LITTLE
Date/Time Collected: 8/4/15 @ 0525 Date of Previous Storm Event: 7-30-15
This report is for samples required: Semi-annually ☐ Annually ☒ Other ☐
Check here if the sample contains snow or ice melt: ☐
Check here if a benchmark exceedance is soley due to background or off site sources ☐ see note below

Monitoring Results

Parameter	Required Frequency	Results (units)	Benchmark	Benchmark Exceedance (see pg 4)	Test Method	Laboratory Name
Oil & Grease	Semi-annual	4.0 mg/L	5.0 mg/L	☐	1664A	Phoenix
Rainfall pH	Semi-annual		n/a			
Sample pH	Semi-annual	7.26 SU	6-9 SU	☐	SM4500-H B	Phoenix
COD	Semi-annual	128 mg/L	75 mg/L	☐	SM5220D	"
TSS	Semi-annual	90 mg/L	90 mg/L	☐	SM2540D	"
TP	Semi-annual	4.2 mg/L	0.40 mg/L	☐	SM4500PE	"
TKN	Semi-annual	2.99 mg/L	2.30 mg/L	☐	351.1	"
NO_3-N	Semi-annual	0.21 mg/L	1.10 mg/L	☐	353.2	"
Total Copper	Semi-annual	0.084 mg/L	0.059 mg/L	☐	200.7	"
Total Zinc	Semi-annual	0.255 mg/L	0.160 mg/L	☐	200.7	"
Total Lead	Semi-annual	0.015 mg/L	0.076 mg/L	☐	200.7	"
24 Hr. LC_{50}	Annual -Year 1&2	>100%	n/a		EPA-821-R-02-012	NEB
48 Hr. LC_{50}	Annual -Year 1&2	>100%	n/a		EPA-821-R-02-012	NEB

*** See Additional Sector G Monitoring Section on page 3 of this form for Federal or Municipal facilities with incidental solid deicing material storage only.**

Exemptions

List here any parameter(s) that will not be sampled for the remainder of the permit term: see note below

NOTE: Complete the "Data Tracking Table" (page 4 on this form) to show the parameter is eligible for the monitoring exemption in Section 5(e)(1)(B)(iii) of the general permit. If you are discontinuing monitoring for impaired water parameters (per Section 5(e)(1)(D)), or parameters that are present due to natural or background levels or off site run-on (per Section 5(e)(1)(B)(V)), attach additional supporting information to this form.

STORMWATER ACUTE TOXICITY TEST DATA SHEET
(required annually only during Year 1 and Year 2 of the permit)

Site Name:	Phoenix / BJ67503		COC #	C35-2902	
Date / Time Begin:	8/5/15	@ 1135	Date / Time End:	8/7/15	@ 1105
Sample Hardness (mg/L):	128		Sample Conductivity (µS):	765	
Test Species: *Daphnia pulex* < 24 hrs old			Dilution Water Hardness (mg/L):	46	

Effluent Dilution	Number of Organisms Surviving			Dissolved Oxygen (mg/L)			Temperature (°C)			pH (su)		
Hour	00	24	48	00	24	48	00	24	48	00	24	48
CONTROL 1	5	5	5	8.8	8.8	8.7	20	20	20	7.1	7.3	7.5
CONTROL 2	5	5	5	8.8	8.8	8.7	20	20	20	7.1	7.3	7.5
CONTROL 3	5	5	5	8.8	8.8	8.7	20	20	20	7.1	7.3	7.5
CONTROL 4	5	5	5	8.8	8.8	8.7	20	20	20	7.1	7.3	7.5
6.25% A	5	5	5	8.6	8.6	8.5	20	20	20	7.1	7.3	7.5
6.25% B	5	5	5	8.6	8.6	8.5	20	20	20	7.1	7.3	7.5
6.25% C	5	5	5	8.6	8.6	8.5	20	20	20	7.1	7.3	7.5
6.25% D	5	5	5	8.6	8.6	8.5	20	20	20	7.1	7.3	7.5
12.5% A	5	5	5	8.6	8.6	8.4	20	19	20	7.1	7.3	7.4
12.5% B	5	5	5	8.6	8.6	8.4	20	19	20	7.1	7.3	7.4
12.5% C	5	5	5	8.6	8.6	8.4	20	19	20	7.1	7.3	7.4
12.5% D	5	5	5	8.6	8.6	8.4	20	19	20	7.1	7.3	7.4
25% A	5	5	5	8.4	8.6	8.3	20	19	20	7.1	7.3	7.4
25% B	5	5	5	8.4	8.6	8.3	20	19	20	7.1	7.3	7.4
25% C	5	5	5	8.4	8.6	8.3	20	19	20	7.1	7.3	7.4
25% D	5	5	5	8.4	8.6	8.3	20	19	20	7.1	7.3	7.4
50% A	5	5	5	7.9	8.2	7.9	20	20	20	7.1	7.3	7.3
50% B	5	5	5	7.9	8.2	7.9	20	20	20	7.1	7.3	7.3
50% C	5	5	5	7.9	8.2	7.9	20	20	20	7.1	7.3	7.3
50% D	5	5	5	7.9	8.2	7.9	20	20	20	7.1	7.3	7.3
100% A	5	5	5	6.9	7.4	6.9	21	20	20	6.9	7.2	7.3
100% B	5	5	5	6.9	7.4	6.9	21	20	20	6.9	7.2	7.3
100% C	5	5	5	6.9	7.4	6.9	21	20	20	6.9	7.2	7.3
100% D	5	5	5	6.9	7.4	6.9	21	20	20	6.9	7.2	7.3

REFERENCE TOXICANT RESULTS

Test Species	Date	Reference Toxicant	Source	LC50
Daphnia pulex	8/3/15	$CuNO_3$# 015-0128-009	NEB	2.32 µg/L

Additional Monitoring:Sector G

For Federal or Municipal facilities with incidental solid deicing material storage only:

Parameter	Required Frequency	Results (units)	Benchmark	Test Method	Laboratory Name
Chloride	Semi-annual Years 1&2 only		n/a		
Cyanide	Semi-annual Years 1&2 only		n/a		

Additional Monitoring for Discharges to Impaired Waters (if applicable):

Parameter	Frequency	Results (units)	Test Method	Laboratory Name

Statement of Certification

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute."

John Batarski	8-27-15
Signature of Permittee	Date
John Batarski	Plant Manager
Name of Permittee (print or type)	Title (if applicable)
Signature of Preparer (if different than above)	Date
Name of Preparer (print or type)	Title (if applicable)

Please send all completed forms to:

WATER TOXICS PROGRAM COORDINATOR
BUREAU OF WATER PROTECTION AND LAND REUSE
CT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

General Permit for the Discharge of Stormwater Associated with
Industrial Activity, effective 10/1/2011
Data Tracking Sheet
Sector G - Municipal for Federal Facilities

Permittee Name: BOROUGH OF NAUGATUCK Permit # GSI CT0100641
Site Name: NAUGATUCK WWTF
Site Address: 500 CHERRY ST. EXT. NAUGATUCK, CT 06770
Sample Location: PLANT STORMWATER TANK DISCHARGE

Enter the sample dates and the data reported for the four (4) most recent semi-annual sample results at this discharge location into the chart below. To determine the average for the four samples add up each of the four results and then divide that number by 4. ***Only monitoring collected under the current permit (effective 10/1/11), can be used to earn the monitoring exemption.***

Average = (Sample 1 + Sample 2 + Sample 3 + Sample 4) / 4

	Sample Result						
Parameter	1	2	3	4	Average	Benchmark*	Qualify for exemption?
Sample Date	8-19-12	8-9-13	9-16-14	8-4-15			
O&G	<1.4	1.5	<1.4	4.0	2.98	5.0 mg/L	
Sample pH	6.82	6.97	7.14	7.26	7.05	6-9 S.U.	
COD	30	60	35	128	63.25	75 mg/L	
TSS	76	59	<5.0	90	57.5	90 mg/L	
TP	1.81	3.57	1.33	4.2	2.73	0.40 mg/L	
TKN	0.95	3.16	2.86	2.99	2.42	2.30 mg/L	
NO3-N	0.29	0.31	0.40	0.21	0.30	1.10 mg/L	
Total Copper	0.072	0.080	0.012	0.0084	0.062	0.059 mg/L	
Total Zinc	0.208	0.191	0.102	0.255	0.189	0.160 mg/L	
Total Lead	0.022	0.017	0.003	0.015	0.014	0.076 mg/L	

*If the average of the four (4) most recent samples is less than the benchmark listed, your facility is no longer required to sample semi-annually for that parameter for the rest of the permit (current permit expires 9/30/2016). If your facility qualifies for an exemption from monitoring for sample pH, your facility is also exempt from monitoring rainfall pH for the remainder of the permit.

If the average of the four (4) most resent samples is equal to or greater than the benchmark listed, check the appropriate box on page 1.If so, you have exceeded the benchmark and must continue to sample this parameter semiannually until the average is below the benchmark. See Section 5(e)(1)(B) of the General permit for requirements when exceeding a benchmark.

If the sample result reported by the testing laboratory was below detection limit, for the purpose of averaging, use a value that is 1/2 the detection limit for that parameter in the formula above. For example, if the result for Oil & Grease was <2.0 mg/L, use a value of 1.0 mg/L for determining the average. Please refer to Section 5 e(1)B(iii) of the General Permit for a more detailed explanation.

STORM WATER 2015

PHOENIX
Environmental Laboratories, Inc.

Wednesday, August 26, 2015

Attn: Mr. Tom Deller
Veolia Water, Naugatuck Plant
500 Cherry Street
Naugatuck, CT 06770

Project ID: NAUGATUCK
Sample ID#s: BJ67503

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Telephone (860) 645-1102 Fax (860) 645-0823

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 26, 2015

FOR: Attn: Mr. Tom Deller
Veolia Water, Naugatuck Plant
500 Cherry Street
Naugatuck, CT 06770

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:	TD	08/04/15	5:25
Location Code:	VEOLIANA	Received by:	LK	08/04/15	9:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	2015 STORM WATER				

Laboratory Data

SDG ID: GBJ67503
Phoenix ID: BJ67503

Project ID: NAUGATUCK
Client ID: STORM WATER

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Copper	0.084	0.005	mg/L	1	08/05/15	LK	E200.7
Lead	0.015	0.002	mg/L	1	08/05/15	LK	E200.7
Zinc	0.255	0.002	mg/L	1	08/05/15	LK	E200.7
Fecal Coliforms	>2000	10	/100 mls	1	08/04/15 10:00	RM1	SW9222D
C.O.D.	128	10	mg/L	1	08/06/15	MSF	SM5220D-97
Ammonia as Nitrogen	1.49	0.05	mg/L	1	08/06/15	WHM	E350.1
Nitrate-N	0.21	0.02	mg/L	1	08/04/15 20:47	CAL	E353.2
Oil and Grease by EPA 1664	4.0	1.4	mg/L	1	08/06/15	MSF	E1664A
pH	7.26	0.10	pH Units	1	08/04/15 23:22	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	2.99	0.10	mg/L	1	08/06/15	WHM	E351.1
Phosphorus, as P	4.2	0.1	mg/L	10	08/05/15	JR	SM4500PE-99
Total Suspended Solids	90	10	mg/L	2	08/05/15	TM	SM2540D-97
Total Metals Digestion	Completed				08/04/15	AG	
Aquatic Toxicity	Completed				08/25/15	*	

Project ID: NAUGATUCK
Client ID: STORM WATER

Phoenix I.D.: BJ67503

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

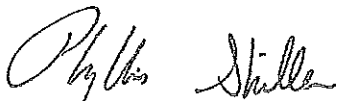
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

* See Attached

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
August 26, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

August 26, 2015

QA/QC Data

SDG I.D.: GBJ67503

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 316048 (mg/L), QC Sample No: BJ67336 (BJ67503)													
ICP Metals - Aqueous													
Copper	BRL	0.005	0.461	0.442	4.20	102	102	0.0	101	103	2.0	75 - 125	20
Lead	BRL	0.002	0.664	0.646	2.70	98.3	97.6	0.7	96.8	96.4	0.4	75 - 125	20
Zinc	BRL	0.002	1.16	1.11	4.40	99.1	98.4	0.7	97.8	101	3.2	75 - 125	20

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

August 26, 2015

QA/QC Data

SDG I.D.: GBJ67503

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 316252 (mg/L), QC Sample No: BJ66603 (BJ67503)													
Oil and Grease by EPA 1664	BRL	1.4				98.0						85 - 115	20
QA/QC Batch 316120 (mg/L), QC Sample No: BJ67210 (BJ67503)													
Phosphorus, as P	BRL	0.01	0.05	0.04	NC	103			91.4			85 - 115	20
QA/QC Batch 316122 (mg/L), QC Sample No: BJ67428 (BJ67503)													
Total Suspended Solids	BRL	5.0	9.0	10	NC	93.0						85 - 115	20
QA/QC Batch 316137 (mg/L), QC Sample No: BJ67572 (BJ67503)													
Ammonia as Nitrogen	BRL	0.05	<0.05	<0.05	NC	103			98.0			85 - 115	20
Nitrogen Tot Kjeldahl	BRL	0.10	0.20	0.23	NC	93.7			76.1			85 - 115	20
QA/QC Batch 316104 (pH), QC Sample No: BJ67579 (BJ67503)													
pH			7.20	7.12	1.10	97.0						85 - 115	20
QA/QC Batch 316085 (mg/L), QC Sample No: BJ67889 (BJ67503)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	98.9			90.6			85 - 115	20
QA/QC Batch 316302 (mg/L), QC Sample No: BJ68692 (BJ67503)													
C.O.D.	BRL	10	12	12	NC	93.6			101			85 - 115	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
August 26, 2015

Wednesday, August 26, 2015

Criteria: None

State: CT

Sample Criteria Exceedences Report

GBJ67503 - VEOLIANA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Cooler: Yes [x] No [ ]
Coolant: IPK [x] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Temp 4.9 °C Pg 1 of 1

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery:
[ ] Fax #:
[x] Email: tom.deller@veolia.com

Customer: Veolia Water, NA
Address: 500 Cherry St Ext
Naugatuck, Ct 06770
Attn: Tom Deller

Project: Naugatuck
Report to: Tom Deller
Invoice to: 2015 Storm Water
Phone #: 203-723-1433 ext 2004
Fax #: 203-723-8539

Project P.O: 2015 Storm Water

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: T.Deller Date: 8-4-15

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
OIL=Oil B=Bulk L=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Aquatic Toxicity	Copper, Lead, Zinc	Fecal Coliforms, COD, NH3	Nitrate-N, Oil & Grease, pH, TKN	Total Phosphorus, TSS	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [x] H2SO4	PL As is [x] 250ml [ ] 500ml [x] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [x] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
	Storm Water	GW	8/4/2015	5:25am	x	x	x	x	x					x	2	x	x		x

Relinquished by:	Accepted by:	Date:	Time:
T.Deller		8/4/15	6:20

Comments, Special Requirements or Regulations:

Storm Water

Turnaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[x] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1
[ ] S-2
[ ] S-3
[ ] MWRA eSMART
[ ] Other

State where samples were collected: CT

Data Format
[ ] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

Storm Water Testing Bench Sheet

Storm magnitude must be >.1 inch

Storm must be 72 hours after last measurable storm of >.1 inch

Grab sample must be taken in first 30 minutes of storm.

DATE OF RAIN EVENT 8/4/15

DATE OF LAST RAIN EVENT 7-30-15 (.13)
72 HOURS PRIOR

TIME OF START 4:55 AM

TIME OF SAMPLE 5:25 AM
WITHIN 30 MINUTES OF START TIME

MAGNITUDE OF STORM .11

PH OF SAMPLE 6.93

MONTHLY CLIMATOLOGICAL SUMMARY for AUG. 2015

NAME: adminweather CITY: STATE:
ELEV: 270 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	73.8	86.9	2:25p	63.8	2:40a	0.1	8.9	0.01	2.5	21.0	4:15p	ESE
2	73.0	84.5	2:00p	59.9	6:15a	0.7	8.7	0.01	3.1	24.0	12:55p	ESE
3	76.1	85.8	3:05p	65.3	5:45a	0.0	11.1	0.00	6.5	25.0	4:55p	ESE
4	71.9	72.8	12:05a	69.9	6:00a	0.0	1.7	0.11	2.5	14.0	5:10a	ESE
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
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20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
	73.7	86.9	1	59.9	2	0.8	30.4	0.13	3.7	25.0	3	ESE

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 0.11 ON 08/04/15
Days of Rain: 1 (>.01 in) 1 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

adminweather 8/04/15

Date	Time	Temp Out	Hi Temp	Low Temp	Out Hum	Dew Pt.	Wind Speed	Wind Dir	Wind Run	Hi Speed	Hi Dir	Wind Chill	Heat Index	THW Index	Bar	Rain	Rain Rate	Heat D-D	Cool D-D
8/04/15	4:25a	72.2	72.2	72.1	99	71.9	0.0	---	0.00	0.0	---	72.2	75.6	75.6	------	0.00	0.00	0.000	0.025
8/04/15	4:30a	72.2	72.2	72.2	99	71.9	0.0	---	0.00	0.0	---	72.2	75.6	75.6	------	0.00	0.00	0.000	0.025
8/04/15	4:35a	72.3	72.3	72.2	99	72.0	0.0	---	0.00	0.0	---	72.3	75.7	75.7	------	0.00	0.00	0.000	0.025
8/04/15	4:40a	72.3	72.4	72.3	99	72.0	0.0	---	0.00	0.0	---	72.3	75.7	75.7	------	0.00	0.00	0.000	0.025
8/04/15	4:45a	72.4	72.4	72.3	99	72.1	1.0	NNW	0.08	2.0	NNW	72.4	75.8	75.8	------	0.00	0.00	0.000	0.026
8/04/15	4:50a	72.5	72.5	72.4	99	72.2	2.0	WNW	0.17	4.0	WNW	72.5	75.9	75.9	------	0.01	0.00	0.000	0.026
8/04/15	4:55a	72.6	72.6	72.4	99	72.3	1.0	WNW	0.08	5.0	WNW	72.6	76.0	76.0	------	0.01	0.22	0.000	0.026
8/04/15	5:00a	72.8	72.8	72.6	100	72.8	0.0	---	0.00	0.0	---	72.8	76.4	76.4	------	0.00	0.07	0.000	0.027
8/04/15	5:05a	72.7	72.8	72.7	99	72.4	3.0	SSE	0.25	12.0	SSE	72.7	76.1	76.1	------	0.01	0.07	0.000	0.027
8/04/15	5:10a	72.4	72.7	72.4	99	72.1	8.0	SE	0.67	14.0	SE	71.9	75.8	75.3	------	0.01	0.13	0.000	0.026
8/04/15	5:15a	72.5	72.5	72.4	99	72.2	1.0	ESE	0.08	6.0	SE	72.5	75.9	75.9	------	0.02	0.32	0.000	0.026
8/04/15	5:20a	72.6	72.6	72.5	99	72.3	3.0	ENE	0.25	7.0	ESE	72.6	76.0	76.0	------	0.02	0.42	0.000	0.026
8/04/15	5:25a	71.9	72.6	71.9	99	71.6	4.0	ENE	0.33	7.0	SSE	71.9	75.3	75.3	------	0.01	0.29	0.000	0.024
8/04/15	5:30a	71.6	71.9	71.6	98	71.0	2.0	SE	0.17	6.0	SE	71.6	74.9	74.9	------	0.01	0.13	0.000	0.023
8/04/15	5:35a	71.2	71.6	71.2	98	70.6	4.0	ESE	0.33	9.0	SSE	71.2	74.5	74.5	------	0.01	0.13	0.000	0.022
8/04/15	5:40a	70.9	71.2	70.9	97	70.0	6.0	ESE	0.50	9.0	ESE	70.9	74.0	74.0	------	0.00	0.09	0.000	0.020
8/04/15	5:45a	70.6	70.9	70.6	96	69.4	4.0	ESE	0.33	8.0	ESE	70.6	73.4	73.4	------	0.00	0.05	0.000	0.019
8/04/15	5:50a	70.1	70.6	70.1	96	68.9	4.0	SSW	0.33	9.0	ESE	70.1	72.8	72.8	------	0.00	0.04	0.000	0.018
8/04/15	5:55a	70.1	70.2	70.1	96	68.9	7.0	WSW	0.58	8.0	W	70.1	72.8	72.8	------	0.00	0.00	0.000	0.018
8/04/15	6:00a	69.9	70.2	69.9	96	68.7	7.0	WSW	0.58	9.0	WSW	69.9	72.6	72.6	------	0.00	0.00	0.000	0.017

*If you make a determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice to implement additional control measures or meet the benchmarks, you must continue monitoring once per year. ***Documentation that no further pollutant reductions are achievable must be submitted to DEP for written approval.*** All records related to this documentation must be kept in the Plan.

*If you make a determination that an exceedance of a benchmark is attributable solely to the presence of that pollutant in the natural background or in "run-on" entering from off-site, the permittee is not required to perform corrective actions or additional benchmark monitoring provided *all* of the following conditions are met:

- The average concentration of the benchmark monitoring results is less than or equal to the concentration of that pollutant in the natural background or off-site run-on;
- Documentation supporting the rationale that benchmark exceedances are attributable solely to natural background or off-site pollutant levels is maintained in your Plan;
- The infeasibility or impracticality of the diversion of off-site run-on is demonstrated;
- ***You notify the Department on the final semiannual benchmark SMR that the benchmark exceedances are attributable solely to natural background or off-site pollutant levels***;

  AND
- The Department approves your documentation demonstrating that the benchmark exceedances are attributable solely to natural background or off-site pollutant levels.

Evaluation of Benchmark Monitoring Results
Section 5(e)(1)(B)

Does the average of your four quarterly benchmark samples for any pollutant exceed the applicable benchmark concentration?

OR

If you have not yet completed your four quarterly benchmark samples, does the total value of your samples already make an exceedance of the benchmark mathematically certain (e.g., the sum of the concentration of your samples exceeds four times (4X) the benchmark concentration)?

YES	NO
Within 120 days you must … o Evaluate whether modifications to the stormwater control measures used at your site are necessary. Consider whether there is a problem in the selection, design, installation, and/or operation of applicable control measures. o Follow the evaluation and corrective action process in Section 5(e)(1)(B). o If applicable, submit documentation of your evaluation to the Department * o Update your Plan as required by Section 5(c)(5). --- An exceedance of a benchmark is not, in itself, a violation of the general permit.	**You may discontinue monitoring for that parameter for the duration of the permit.** Sample results below benchmark limits provide an indication that your control measures are working as intended to minimize the discharge of pollutants. You are still required to meet all requirements in the permit affecting the implementation and maintenance of your control measures, despite the good results of your benchmark monitor

(1) Parameters without benchmarks must be sampled throughout the permit term, unless specifically noted.
(2) Although covered by a statewide TMDL addressing nitrogen loading to Long Island Sound, additional monitoring for TKN and nitrate is not required if the concentration of these parameters in your stormwater is below the benchmarks.

VEOLIA
WATER

Sent Certified R.R.R. mail #7014 1200 0002 2236 9791 on August 26, 2015

Connecticut Department of Energy and Environmental Protection
Bureau of Water Management
Chronic ATMR
79 Elm Street
Hartford, CT 06106-5127

August 26, 2015

Re: 2015 Chronic Aquatic Toxicity Monitoring Report

Dear Sir:

Enclosed please find the Naugatuck Chronic Aquatic Toxicity Monitoring Report for 2015.

Please contact me if you have any questions regarding the enclosed report.

Sincerely,
Veolia Water North America – Northeast, LLC

John Batorski
Plant Manager

cc: James R. Stewart PE, LS, Director of Public Works, Borough of Naugatuck (enclosure)

Veolia Water NA -Naugatuck
500 Cherry Street, Naugatuck, CT 06770
Tel 203-723-1433 / 203-723-8539
www.veoliawaterna.com

STATE OF CONNECTICUT**DEPARTMENT OF ENVIRONMENTAL PROTECTION
CHRONIC ATMR PART 1

FACILITY NAME:	Naugatuck WPCF	**PIPE:**	CT0100641
RECEIVING WATER:	Naugatuck River	**WATERBODY ID:**	6900

SAMPLE INFORMATION		Site Water	DSN-001 Effluent	Rain ?
Sample #1	Collection Dates	7/27/15	7/26-27/15	
	Collection Times	0700	0135-0111	
	Flow (gpd)			
Sample #2	Collection Dates	7/29/15	7/28-29/15	
	Collection Times	0700	0125-0150	
	Flow (gpd)			
Sample #3	Collection Dates	7/31/15	7/30-31/15	
	Collection Times	0700	0127-0200	
	Flow (gpd)			

CHRONIC TOXICITY SUMMARY: Single Concentration			
Invertebrate: Ceriodaphnia dubia	**Lab Water**	**Site Water**	**100% Effluent - DSN-001**
48-hour % Survival	100%	100%	100%
7-day % Survival	100%	100%	100%
Mean # young/female	29.4	41.3	33.4
# females with 3 broods	10	10	10
% Fecundity	NA	NA	NA
Growth (weight; mg/mysid)	NA	NA	NA
Acceptability Criteria met?	Yes	Yes	
Vertebrate: Pimephales promelas	**Lab Water**	**Site Water**	**100% Effluent - DSN-001**
48-hour % Survival	100%	100%	100%
7-day % Survival	100%	97.5%	100%
Growth (weight; mg/fish)	0.612	0.574	0.600
Acceptability Criteria met?	Yes	Yes	

STATEMENT OF ACKNOWLEDGEMENT

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.

Authorized Official: John Batorski — Title: Plant Manager

John Batorski

Signature John Batorski — Date: 8-26-15

STATE OF CONNECTICUT**DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRONIC ATMR PART 1

FACILITY NAME:	Naugatuck WPCF	PIPE:	CT0100641
RECEIVING WATER:	Naugatuck River	WATERBODY ID:	6900

CHRONIC TOXICITY SUMMARY: Definitive Multi-Concentration Tests			
Invertebrate: Ceriodaphnia dubia	**Lab Water Not Applicable**	**Site Water Not Applicable**	**Effluent - DSN-001 (%)**
48-hour LC50			>100%
7-day LC50			>100%
7-day EC50 (reproduction)			Not Applicable
7-day EC50 (growth)			Not Applicable
IC25 (reproduction)			>100%
IC50 (reproduction)			>100%
C-LOEC-Survival			>100%
C-NOEC-Survival			100%
C-LOEC-Reproduction (Fecundity)			100%
C-NOEC-Reproduction (Fecundity)			50%
C-LOEC-Growth			Not Applicable
C-NOEC-Growth			Not Applicable
Vertebrate: Pimephales promelas	**Lab Water Not Applicable**	**Site Water Not Applicable**	**Effluent - DSN-001 (%)**
48-hour LC50			>100%
7-day LC50			>100%
7-day EC50 (growth)			Not Applicable
IC25 (growth)			>100%
IC50 (growth)			>100%
C-LOEC-Survival			>100%
C-NOEC-Survival			100%
C-LOEC-Growth			>100%
C-NOEC-Growth			100%

STATE OF CONNECTICUT**DEPARTMENT OF ENVIRONMENTAL PROTECTION
CHRONIC ATMR PART 1

FACILITY NAME:	Naugatuck WPCF	PIPE:	CT0100641
RECEIVING WATER:	Naugatuck River	WATERBODY ID:	6900

TOXICITY LAB MEASUREMENTS

	Effluent #1	Receiving Water#1	Effluent #2	Receiving Water #2	Effluent #3	Receiving Water #3
Sample Dates	7/26-27/15	7/27/15	7/28-29/15	7/29/15	7/30-31/15	7/31/15
NEB COC #'s	C35-2814	C35-2815	C35-2847	C35-2848	C35-2874	C35-2875
Arrival Temperature (°C)	4.6	5.1	7.4	7.8	3.3	3.1, 3.3
Dissolved Oxygen (mg/L)	9.6	9.6	9.0	9.4	9.9	9.4
pH (SU)	6.8	7.4	6.8	7.1	6.9	6.5
Alkalinity (mg/L as $CaCO_3$)	30	30	35	35	30	30
Hardness (mg/L as $CaCO_3$)	116	74	116	80	118	68
Salinity (ppt)	<1	<1	< 1	< 1	<1	<1
Specific Conductivity (µmhos/cm)	884	425	884	470	917	379
TRC (mg/L)	0.03	<0.02	0.03	0.02	<0.02	<0.02

CHRONIC AQUATIC TOXICITY TEST REPORT

Borough of Naugatuck WPCF
DSN 001
NPDES Permit: CT0100641
Receiving Water: Naugatuck River

Test Start Date: 7/28/15

Test Period: July 2015

Report Prepared by:

New England Bioassay
A Division of GZA GeoEnvironmental, Inc.
77 Batson Dr.
Manchester, CT 06042

NEB Project Number: 05.0044745.00

Report Date: August 21, 2015

Report Submitted to:

Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06040

Sample ID: BJ63609/10

Please contact the Lab Manager, Kim Wills, at (860) 858-3153 or Kimberly.wills@gza.com if you have any questions concerning these results.

Whole Effluent Toxicity Testing Report Instruction Form

Client Name/Project: Naugatuck WPCF Test Date: 7/28/15

Sample ID: BJ63609/10

Your results were as follows:

☒ Monitoring Only

□ Fail – Please proceed according to the instructions in your permit.

□ Invalid – **Retesting is still required. Retest report will be sent at a later date under separate cover.**

□ Original Test Invalid – **Valid retest performed. Both test and retest results are attached.**

□ Retesting will be or has been performed according to the Case 1 Protocols outlined in the attached copy of EPA-New England's species-specific, self-implementing policy for alternate dilution water.

□ This is your _____ case of dilution water toxicity. Please proceed according to the Case 2 Protocols outlined in the attached copy of EPA-New England's species-specific, self-implementing policy for alternate dilution water. The alternate dilution water you select for future tests for this species should be described as follows: "synthetic laboratory water made up according to EPA's toxicity test protocols, by adding specified amounts of salts into deionized water in order to match the hardness of our receiving water." Writing this letter should help you to avoid retests in the future.

□ Available information is insufficient to determine whether this test passed or failed. Please compare results to your permit limits. Please submit a current copy of your permit to the NEB Lab so that we can determine the status of future tests results and help ensure your compliance with permit requirements.

Please complete the items on this list before reporting these results according to the instructions in the "Monitoring and Reporting" Section of your permit.

- Please complete, sign and date the upper portion of the "Whole Effluent Toxicity Test Report Certification" page which is the page directly following this page.
- Fill in the Sample Type and Sample Method (upper right) and the Permit Limits (lower left) on the New England Bioassay-EPA Toxicity Test Summary Sheet(s) if they are incomplete.
- Fill in any missing information on the NEB Chain-of-Custody documents. This includes ensuring that the following information is recorded: Sampler's name and title, Facility name and address, Sample collection methods, Sample collection start and end dates and times, Types of sample, Chlorination status of samples upon shipment to NEB, Site description and Sample collection procedures.
- Monitoring results should be summarized on your monthly Discharge Monitoring Report Form.
- Signed and dated originals of this report must be submitted to the State (and Federal) Agencies specified in the "Monitoring and Reporting" section of your permit.

Questions? Please contact the Lab Manager, Kim Wills, at (860) 858-3153 or Kimberly.wills@gza.com

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 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 Aug. 26, 2015
[Date]

John Batarski
[Authorized Signature]

John Batarski
[Print or Type Name and Title]

Borough of Naugatuck
[Print or Type the Permittee's Name]

CT0100641
[Print or Type the NPDES Permit No.]

Since the WET test and report check is complicated, New England Bioassay has certified the validity of the WET test data in the section below. Please note that this does not relieve the permittee from its responsibility to sign and certify the report under 40 C.F.R. S 122.41(k).

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 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 8/21/15
[Date]

[Authorized Signature]

Kim Wills, Laboratory Manager
[Print or Type Name and Title]

New England Bioassay
[Print or Type Name of Bioassay Laboratory]

24. Telephone Contacts
If you have questions, please contact Joy Hilton, Water Technical Unit, at (617) 918-1877 or David McDonald, Ecosystem Assessment Unit, at (617) 918-8609.

New England Bioassay - EPA Toxicity Test Summary Sheet

Facility Name: Naugatuck WPCF Test Start Date: 7/28/15
NPDES Permit Number: CT0100641 Pipe Number: _____

Test Type	Test Species	Sample Type	Sample Method
_ Acute	_ Fathead Minnow	_ Prechlorinated	_ Grab
_ Chronic	X Ceriodaphnia	X Dechlorinated	X Composite
X Modified (chronic reporting acute values)	_ Daphnia Pulex	_ Chlorine Spiked in Lab	_ Flowthru
	_ Mysid Shrimp	_ Chlorinated on site	_ Other
_ 24hr screening	_ Sheepshead	_ Unchlorinated	
	_ Menidia		
	_ Sea Urchin		
	_ Champia		
	_ Selenastrum		
	_ Other_____		

Dilution Water

X receiving water collected at a point upstream of or away from the discharge, free from toxicity or other sources of contamination; (Receiving water name: Naugatuck River)

_ alternate surface water of known quality and a hardness, etc. to generally reflect the characteristics of the receiving water; (Surface water name:_____)

_ synthetic water prepared using either Millipore Mill-Q or equivalent deionized water and reagent grade chemicals; or deionized water combined with mineral water;

_ or artificial sea salts mixed with deionized water;

_ deionized water and hypersaline brine; or

_ other_____.

Effluent sampling date (s): 7/26-27/15 7/28-29/15 7/30-31/15

Effluent concentrations tested (in%): 0 6.25 12.5 25 50 100
* Permit limit concentration: Monitoring only

Was effluent salinity adjusted? No
If yes, to what value? N/A ppt
With sea salts? N/A Hypersaline brine solution? N/A

Actual effluent concentrations tested after salinity adjustment (%): 0 6.25 12.5 25 50 100

Reference Toxicant test date: 7/1/15

Test Acceptability Criteria

Mean Control Survival: 100%
Mean Diluent Survival: 100%
Mean Control Weight: N/A
Mean Diluent Weight: N/A

Mean Control Reproduction: 29.4 young/female
Mean Diluent Reproduction: 41.3 young/female
Mean Control Cell Count: N/A
Mean Diluent Cell Count: N/A

	Limits		Results
LC50	Monitoring only	LC50	>100%
		Upper Value	±∞
		Lower Value	100%
		Data Analysis Method Used	Graphical
A-NOEC	N/A	A-NOEC	100%
C-NOEC	Monitoring only	C-NOEC	50%
		LOEC	100%
IC25	N/A	IC25	>100%
IC50	N/A	IC50	>100%

New England Bioassay - EPA Toxicity Test Summary Sheet

Facility Name: Naugatuck WPCF Test Start Date: 7/28/15
NPDES Permit Number: CT0100641 Pipe Number: _____

Test Type	Test Species	Sample Type	Sample Method
_ Acute	X Fathead Minnow	_ Prechlorinated	_ Grab
_ Chronic	_ Ceriodaphnia	X Dechlorinated	X Composite
X Modified (chronic reporting acute values)	_ Daphnia Pulex	_ Chlorine Spiked in Lab	_ Flowthru
_ 24hr screening	_ Mysid Shrimp	_ Chlorinated on site	_ Other
	_ Sheepshead	_ Unchlorinated	
	_ Menidia		
	_ Sea Urchin		
	_ Champia		
	_ Selenastrum		
	_ Other_____		

Dilution Water

X receiving water collected at a point upstream of or away from the discharge, free from toxicity or other sources of contamination; (Receiving water name: Naugatuck River)

_ alternate surface water of known quality and a hardness, etc. to generally reflect the characteristics of the receiving water; (Surface water name:_____)

_ synthetic water prepared using either Millipore Mill-Q or equivalent deionized water and reagent grade chemicals; or deionized water combined with mineral water;

_ or artificial sea salts mixed with deionized water;

_ deionized water and hypersaline brine; or

_ other_____.

Effluent sampling date (s): 7/26-27/15 7/28-29/15 7/30-31/15

Effluent concentrations tested (in%): 0 6.25 12.5 25 50 100
* Permit limit concentration: Monitoring only

Was effluent salinity adjusted? No
If yes, to what value? N/A ppt
With sea salts? N/A Hypersaline brine solution? N/A

Actual effluent concentrations tested after salinity adjustment (%): 0 6.25 12.5 25 50 100

Reference Toxicant test date: 7/1/14

Test Acceptability Criteria

Mean Control Survival:	100%	Mean Control Reproduction:	N/A
Mean Diluent Survival:	97.5%	Mean Diluent Reproduction:	N/A
Mean Control Weight:	0.612 mg	Mean Control Cell Count:	N/A
Mean Diluent Weight:	0.574 mg	Mean Diluent Cell Count:	N/A

	Limits		Results
LC50	Monitoring only	LC50	>100%
		Upper Value	±∞
		Lower Value	100%
		Data Analysis Method Used	Graphical
A-NOEC	N/A	A-NOEC	100%
C-NOEC	Monitoring only	C-NOEC	100%
		LOEC	>100%
IC25	N/A	IC25	>100%
IC50	N/A	IC50	>100%

CERIODAPHNIA DUBIA AQUATIC TOXICITY TEST REPORT

Test Reference Manual:	EPA 821-R-02-013, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms", Fourth Edition
Test Method:	*Ceriodaphnia dubia* Survival and Reproduction Test – 1002.0
Test Type:	Modified Chronic Static Renewal Freshwater Test
Temperature:	25 ± 1°C
Light Quality:	Ambient Laboratory Illumination
Photoperiod:	16 hours light, 8 hours dark
Test Chamber Size:	30 mL
Test Solution Volume:	Minimum 15 mL
Renewal of Test Solutions:	Daily, using most recently collected sample
Age of Test Organisms:	Less than 24 hours
Number of Neonates Per Test Chamber:	1
Number of Replicate Test Chambers Per Treatment:	10
Number of Neonates Per Test Concentration:	10
Feeding Regime:	Fed 0.1 mL each of YCT and algal suspension per exposure chamber daily.
Aeration:	None
Dilution Water:	Naugatuck River
Alternate Control Water:	NEB Lab Synthetic Soft Water (hardness 50 ± 5 mg/L)
Effluent Concentrations:	0%, 6.25%, 12.5%, 25%, 50% and 100% effluent
Test Duration:	Until 60% of control females have three broods - 7 days
End Points:	Survival and reproduction.
Test Acceptability:	Control Survival: ≥ 80% Yes X No _ Control Reproduction: Average ≥ 15/control female Yes X No _
Sampling Requirements:	A minimum of 3 samples are collected Yes X No _ Samples first used within 36 hours of collection Yes X No _
Sample Volume Required:	Minimum 2 liters/day

Test Organism Source: NEB

Test Acceptability Criteria: Mean Alternate Water Control Survival = 100%
Mean Dilution Water Control Survival = 100%
Mean Alternate Control Reproduction = 29.4 /female
Mean Dilution Control Reproduction = 41.3 /female

Test Results:

	Limits	Results	Status
48-hour LC50	Monitor only	>100%	Monitor only
Upper Value		±∞	
Lower Value		100%	
Data Analysis Method Used		Graphical	
A-NOEC		100%	
Survival C-NOEC		100%	
Reproduction C-NOEC		50%	
Reportable C-NOEC	Monitor only	50%	Monitor only
LOEC		100%	
MATC		70.7%	

Reference Toxicant Data:

Date:	7/1/15
Toxicant:	Sodium chloride
Dilution Water:	NEB Lab Synthetic Soft Water
Source:	New England Bioassay
IC_{25}:	1.073g/L
In Acceptable Range:	Yes X No ____

Dechlorination Procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method.

X Dechlorination is not allowed under this permit

_ Sample was dechlorinated by adding sodium thiosulfate to the sample prior to test initiation. Since dechlorination of the effluent was necessary, a thiosulfate control of diluent water spiked with sodium thiosulfate was also included in the test series. Chlorine was _____ mg/L in a dechlorinated sample.

_ Chlorine Measurement was elevated due to interference. Chlorine was _____ mg/L in a filtered sample.

_ Total Residual Chlorine was re-measured following aeration, and was found to be _____ mg/L.

PIMEPHALES PROMELAS AQUATIC TOXICITY TEST REPORT

Test Reference Manual:	EPA 821-R-02-013, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms", Fourth Edition	
Test Method:	*Pimephales promelas* Larval Survival and Growth Test – 1000.0	
Test Type:	Modified Chronic Static Renewal Freshwater Test	
Temperature:	25 ± 1°C	
Light Quality:	Ambient Laboratory Illumination	
Photoperiod:	16 hours light, 8 hours dark	
Test Chamber Size:	600 mL	
Test Solution Volume:	Minimum 250 mL	
Renewal of Test Solutions:	Daily, using most recently collected sample	
Age of Test Organisms:	Less than 24 hours	
Number of Larvae Per Test Chamber:	10	
Number of Replicate Test Chambers Per Concentration:	4	
Number of Larvae Per Test Concentration:	40	
Feeding Regime:	Fed 0.15 g newly hatched brine shrimp nauplii twice daily.	
Cleaning:	Siphoned daily, immediately before test solution renewal.	
Aeration:	DO concentration fell below 4.0 mg/L Aerated at <100 bubbles/minute	Yes__ No X Yes _ No X
Dilution Water:	Naugatuck River	
Alternate Control Water:	NEB Lab Synthetic Soft Water (hardness 50 ± 5 mg/L)	
Effluent Concentrations:	0%, 6.25%, 12.5%, 25%, 50% and 100% effluent	
Test Duration:	7 days	
End Points:	Survival and growth.	
Test Acceptability:	Control Survival: ≥ 80% Control Average Dry Weight ≥ 0.25 mg	Yes X No _ Yes X No _
Sampling Requirements:	A minimum of 3 samples are collected Samples first used within 36 hours of collection.	Yes X No _ Yes X No _

Sample Volume Required: Minimum 2.5 liters/day

Test Organism Source: NEB

Test Acceptability Criteria: Mean Alternate Water Control Survival = 100%
Mean Dilution Water Control Survival = 97.5%
Mean Alternate Water Control Weight = 0.612 mg
Mean Dilution Water Control Weight = 0.574 mg

Test Results:

	Limits	Results	Status
48-hour LC50	Monitor only	>100%	Monitor
Upper Value		±∞	
Lower Value		100%	
Data Analysis Method Used		Graphical	
A-NOEC		100%	
Survival C-NOEC		100%	
Growth C-NOEC		100%	
Reportable C-NOEC	Monitor only	100%	Monitor
LOEC		>100%	
MATC		>100%	

Reference Toxicant Data:

Date:	7/1/15
Toxicant:	Sodium chloride
Dilution Water:	NEB Lab Synthetic Soft Water
Source:	New England Bioassay
IC_{25}:	1.221 g/L
In Acceptable Range:	Yes X No

Dechlorination Procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method.

XDechlorination is not allowed under this permit

_ Sample was dechlorinated by adding sodium thiosulfate to the sample prior to test initiation. Since dechlorination of the effluent was necessary, a thiosulfate control of diluent water spiked with sodium thiosulfate was also included in the test series. Chlorine was _____ mg/L in a dechlorinated sample.

_ Chlorine Measurement was elevated due to interference. Chlorine was _____ mg/L in a filtered sample.

_ Total Residual Chlorine was re-measured following aeration, and was found to be _____ mg/L.

Additional Notes:

Due to a courier error, the samples collected on 7/31/15 were not delivered to the NEB laboratory until 8/3/15. The samples collected on 7/29/15 were used at reduced volumes until 8/3/15, then the 7/31/15 samples were used from 8/3/15 to 8/4/15 to finish the test.

NEW ENGLAND BIOASSAY TOXICITY DATA FORM
CHRONIC COVER SHEET

CLIENT: Phoenix Environmental Laboratories
ADDRESS: 587 East Middle Turnpike
Manchester, CT 06040
SAMPLE TYPE: Naugatuck WPCF
DILUTION WATER: Naugatuck River

C.dubia TEST ID # 15-1049A
COC # C35-2814/15
PROJECT # 05.0044745.00

INVERTEBRATES

TEST SET UP (TECH INIT) CW
TEST SPECIES *Ceriodaphnia dubia*
NEB LOT# Cd15(RMH179)
AGE < 24 hours
TEST SOLUTION VOLUME (mls) 15
NO. ORGANISMS PER TEST CHAMBER 1
NO. ORGANISMS PER CONCENTRATION 10

Laboratory Control Water (SRCF)

Batch Number	Hardness mg/L $CaCO_3$	Alkalinity mg/L $CaCO_3$
C35-S013	46	35

	DATE	TIME
TEST START:	7/28/15	1245
TEST END:	8/4/15	1445

Results of *Ceriodaphnia dubia* Chronic Test

		95% Confidence Limits
48 Hour LC50	>100%	100%±∞
7 Day LC50	>100%	100%±∞
Survival NOEC	100%	
Survival LOEC	>100%	
Reproduction NOEC	50%	
Reproduction LOEC	100%	
Reproduction IC_{25}	>100%	

NOEC: NO OBSERVABLE EFFECT CONCENTRATIC LOEC: LOWEST OBSERVABLE EFFECT CONCENTRATION

Comments: _____

REVIEWD BY: _____ DATE: 8/21/15

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

FACILITY NAME & ADDRESS:	Naugatuck WPCF, 500 Cherry Street Ext., Naugatuck CT 06770		
NEB PROJECT NUMBER:	05.0044745.00	NEB TEST NUMBER: 15-1049A	COC # C35-2814/15
TEST ORGANISM:	*Ceriodaphnia dubia*	AGE: <24 hours	Lot # Cd15(RMH179)
START DATE:	7/28/15 TIME: 1245	END DATE: 8/4/15	TIME: 1445

Effluent Concentration	Cup #	Culture Lot#				Cd15(RMH179)						Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A2	A8	A13	B1	B5	B6	B8	B10	B11	B13				
	Day Number	Replicate													
		A	B	C	D	E	F	G	H	I	J				
NEB Lab Synthetic Control	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10	CW	
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10	MV	
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10	CW	
	3	6	6	5	3	4	5	6	4	5	4	48	10	PD	PD
	4	8	10	12	12	12	12	12	10	10	10	108	10	CW	CW
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CW	CW
	6	14	11	13	16	15	17	15	11	13	13	138	10	KO	KO
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	MG	MG
	totals	28	27	30	31	31	34	33	25	28	27	294	10		MG
		A	B	C	D	E	F	G	H	I	J				
Naugatuck River Diluent	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	3	5	✓	✓	4	✓	✓	✓	✓	✓	✓	9	10		
	4	12	12	12	14	10	14	11	12	13	4	114	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	12	12	10		
	6	18	12	14	13	15	16	13	12	14	✓	127	10		
	7	~~19~~	18	20	~~22~~	18	17	23	19	18	18	151	10		
	totals	35	42	46	31	43	47	47	43	45	34	413	10		
		A	B	C	D	E	F	G	H	I	J				
6.25%	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	11	7	12	10	8	11	10	10	12	9	100	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	12	10	12	11	10	14	16	11	13	4	113	10		
	7	10	15	18	20	17	16	14	16	20	17	163	10		
	totals	33	32	42	41	35	41	40	37	45	30	376	10		

Notes: Neonates marked with a strike-through on Day 7 were considered to be 4th broods and were not counted in the statistical analysis for reproduction per EPA protocols.

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

FACILITY NAME & ADDRESS:	Naugatuck WPCF, 500 Cherry Street Ext., Naugatuck CT 06770		
NEB PROJECT NUMBER:	05.0044745.00	ORGANISM: *Ceriodaphnia dubia*	START DATE: 7/28/15

Effluent Concentration	Day Number	Replicate A	B	C	D	E	F	G	H	I	J	Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
12.5%	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	10	10	10	13	7	10	9	12	12	8	101	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	14	8	12	14	8	9	7	13	13	11	109	10		
	7	15	14	18	23	11	19	18	19	20	18	175	10		
	totals	39	32	40	50	26	38	34	44	45	37	385	10		
25%		A	B	C	D	E	F	G	H	I	J				
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	3	✓	✓	✓	2	✓	✓	✓	✓	✓	✓	2	10		
	4	10	10	8	12	6	12	10	9	12	12	101	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	14	10	10	14	12	14	13	14	14	14	129	10		
	7	22	16	17	16	19	15	16	18	17	18	174	10		
	totals	46	36	35	44	37	41	39	41	43	44	406	10		
50%		A	B	C	D	E	F	G	H	I	J				
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	7	10	10	8	10	10	12	10	8	10	95	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	10	13	14	x/ 1	12	14	12	14	12	11	113	9		
	7	16	11	17	X	16	15	15	16	17	13	136	9		
	totals	33	34	41	9	38	39	39	40	37	34	344	9		
100%		A	B	C	D	E	F	G	H	I	J				
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	3	4	✓	2	4	4	1	✓	✓	✓	1	16	10		
	4	12	10	10	11	10	12	12	10	12	8	107	10		
	5	✓	✓	✓	✓	✓	✓	20	15	✓	✓	35	10		
	6	13	13	12	12	14	20	✓	✓	13	12	109	10		
	7	~~16~~	16	~~19~~	~~15~~	~~19~~	~~18~~	18	17	16	~~16~~	67	10		
	totals	29	39	24	27	28	33	50	42	41	21	334	10		

Ceriodaphnia 7-d Survival and Reproduction Test — New England Bioassay

Analysis ID:	14-3403-9956	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:41	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	03-3554-3155	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	28 Jul-15 12:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	04 Aug-15 14:45	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	7d 2h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	37h	Station:			

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	1931398	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	N/A	N/A	<1	NA	NA

2d Survival Rate Summary — Calculated Variate(A/B)

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Dilution Water	10	1	1	1	0	0	0.0%	0.0%	10	10
6.25		10	1	1	1	0	0	0.0%	0.0%	10	10
12.5		10	1	1	1	0	0	0.0%	0.0%	10	10
25		10	1	1	1	0	0	0.0%	0.0%	10	10
50		10	1	1	1	0	0	0.0%	0.0%	10	10
100		10	1	1	1	0	0	0.0%	0.0%	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	1	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	1	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
100		1	1	1	1	1	1	1	1	1	1

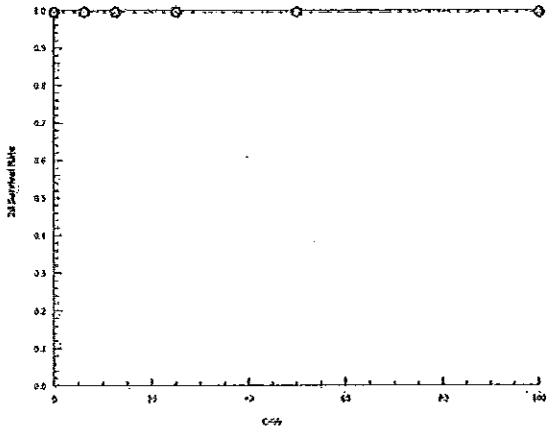
2d Survival Rate Binomials

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	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test — New England Bioassay

Analysis ID:	14-3403-9956	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:41	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes

Graphics



Ceriodaphnia 7-d Survival and Reproduction Test — New England Bioassay

Analysis ID:	02-3388-6879	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:41	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	03-3554-3155	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	28 Jul-15 12:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	04 Aug-15 14:45	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	7d 2h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	37h	Station:			

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	1270960	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	N/A	N/A	<1	NA	NA

7d Survival Rate Summary — Calculated Variate(A/B)

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Dilution Water	10	1	1	1	0	0	0.0%	0.0%	10	10
6.25		10	1	1	1	0	0	0.0%	0.0%	10	10
12.5		10	1	1	1	0	0	0.0%	0.0%	10	10
25		10	1	1	1	0	0	0.0%	0.0%	10	10
50		10	0.9	0	1	0.1	0.3162	35.14%	10.0%	9	10
100		10	1	1	1	0	0	0.0%	0.0%	10	10

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	1	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	1	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	0	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

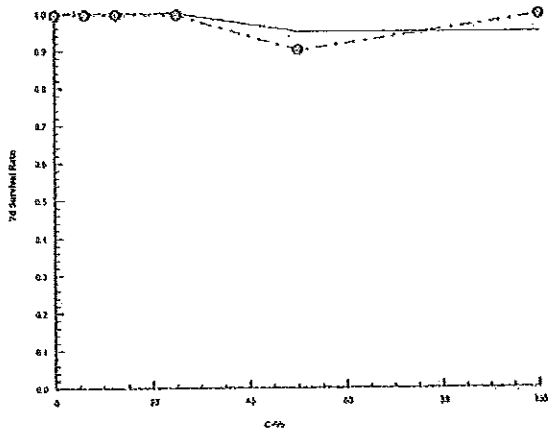
7d Survival Rate Binomials

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	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test
New England Bioassay

Analysis ID: 02-3388-6879 Endpoint: 7d Survival Rate CETIS Version: CETISv1.8.8
Analyzed: 13 Aug-15 16:41 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

Graphics



Ceriodaphnia 7-d Survival and Reproduction Test — New England Bioassay

Analysis ID:	14-7052-4239	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:41	Analysis:	STP 2x2 Contingency Tables	Official Results:	Yes
Batch ID:	03-3554-3155	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	28 Jul-15 12:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	04 Aug-15 14:45	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	7d 2h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	37h	Station:			

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	1	1.0000	Exact	Non-Significant Effect
		12.5	1	1.0000	Exact	Non-Significant Effect
		25	1	1.0000	Exact	Non-Significant Effect
		50	0.5	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	10	0	10	1	0	0.0%
6.25		10	0	10	1	0	0.0%
12.5		10	0	10	1	0	0.0%
25		10	0	10	1	0	0.0%
50		9	1	10	0.9	0.1	10.0%
100		10	0	10	1	0	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	1	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	1	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	0	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

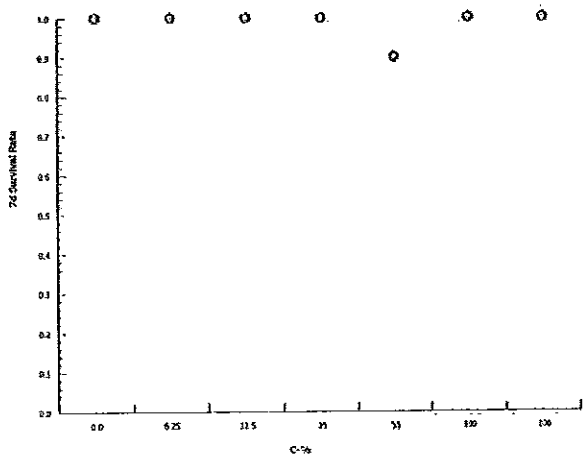
7d Survival Rate Binomials

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	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test — New England Bioassay

Analysis ID:	14-7052-4239	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:41	Analysis:	STP 2x2 Contingency Tables	Official Results:	Yes

Graphics



Ceriodaphnia 7-d Survival and Reproduction Test — New England Bioassay

Analysis ID:	05-5403-1265	Endpoint:	Reproduction	CETIS Version:	CETISv1.8.8
Analyzed:	21 Aug-15 9:31	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes
Batch ID:	03-3554-3155	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	28 Jul-15 12:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	04 Aug-15 14:45	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	7d 2h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	37h	Station:			

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Untransformed	NA	C > T	NA	NA	17.3%	50	100	70.71	2

Dunnett Multiple Comparison Test

Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Dilution Water		6.25	1.184	2.289	7.153	18	0.3362	CDF	Non-Significant Effect
		12.5	0.8961	2.289	7.153	18	0.4642	CDF	Non-Significant Effect
		25	0.224	2.289	7.153	18	0.7584	CDF	Non-Significant Effect
		50	2.208	2.289	7.153	18	0.0595	CDF	Non-Significant Effect
		100*	2.528	2.289	7.153	18	0.0290	CDF	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	513.7333	102.7467	5	2.105	0.0789	Non-Significant Effect
Error	2636.2	48.81852	54			
Total	3149.933		59			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	10.19	15.09	0.0700	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9482	0.9459	0.0128	Normal Distribution

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	10	41.3	37.13	45.47	43	31	47	1.844	14.12%	0.0%
6.25		10	37.6	34.06	41.14	38.5	30	45	1.565	13.16%	8.96%
12.5		10	38.5	33.56	43.44	38.5	26	50	2.182	17.92%	6.78%
25		10	40.6	37.92	43.28	41	35	46	1.185	9.23%	1.7%
50		10	34.4	27.72	41.08	37.5	9	41	2.952	27.14%	16.71%
100		10	33.4	26.78	40.02	31	21	50	2.926	27.7%	19.13%

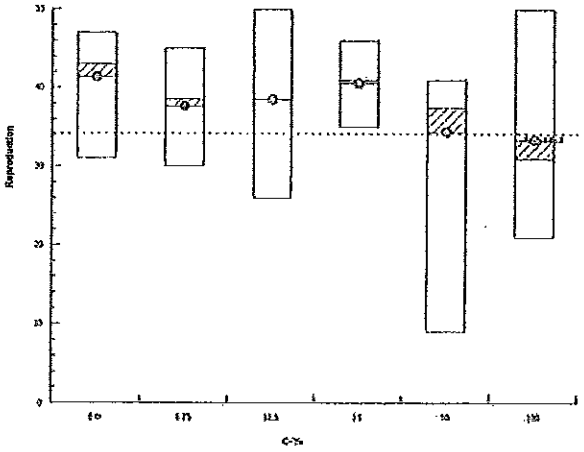
Reproduction Detail

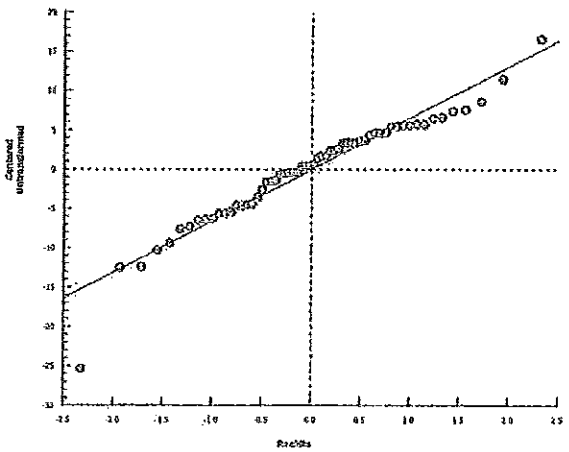
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	35	42	46	31	43	47	47	43	45	34
6.25		33	32	42	41	35	41	40	37	45	30
12.5		39	32	40	50	26	38	34	44	45	37
25		46	36	35	44	37	41	39	41	43	44
50		33	34	41	9	38	39	39	40	37	34
100		29	39	24	27	28	33	50	42	41	21

Ceriodaphnia 7-d Survival and Reproduction Test
New England Bioassay

Analysis ID:	05-5403-1265	Endpoint:	Reproduction	CETIS Version:	CETISv1.8.8
Analyzed:	21 Aug-15 9:31	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes

Graphics





CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test — New England Bioassay

Analysis ID:	09-6956-3570	Endpoint:	Reproduction	CETIS Version:	CETISv1.8.8
Analyzed:	21 Aug-15 9:31	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	03-3554-3155	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	28 Jul-15 12:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	04 Aug-15 14:45	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	7d 2h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	37h	Station:			

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1995115	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>100	N/A	N/A	<1	NA	NA
IC50	>100	N/A	N/A	<1	NA	NA

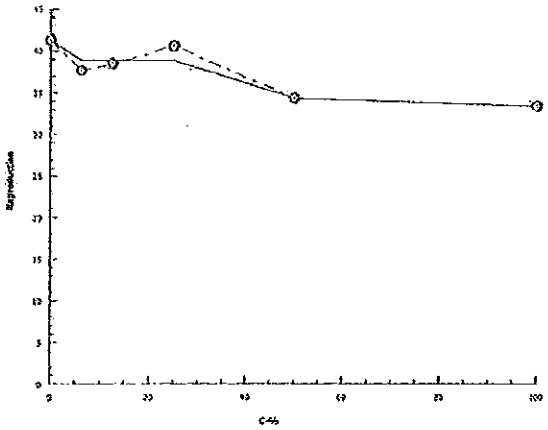
Reproduction Summary — Calculated Variate

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	10	41.3	31	47	1.844	5.832	14.12%	0.0%
6.25		10	37.6	30	45	1.565	4.949	13.16%	8.96%
12.5		10	38.5	26	50	2.182	6.9	17.92%	6.78%
25		10	40.6	35	46	1.185	3.748	9.23%	1.7%
50		10	34.4	9	41	2.952	9.336	27.14%	16.71%
100		10	33.4	21	50	2.926	9.252	27.7%	19.13%

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	35	42	46	31	43	47	47	43	45	34
6.25		33	32	42	41	35	41	40	37	45	30
12.5		39	32	40	50	26	38	34	44	45	37
25		46	36	35	44	37	41	39	41	43	44
50		33	34	41	9	38	39	39	40	37	34
100		29	39	24	27	28	33	50	42	41	21

Graphics



NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:	Naugatuck WPCF, 500 Cherry Street Ext., Naugatuck CT 06770							
NEB PROJECT NUMBER:	05.0044745.00			TEST ORGANISM			*Ceriodaphnia dubia*	
DILUTION WATER SOURCE:	Naugatuck River			START DATE:			7/28/15 TIME:	1245
ANALYST	PD	MG	PD	CW	PD	CW	KO	
NEB Lab Synthetic Control	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.3	25.7	25.8	25.5	24.0	24.0	24.0	
D.O. mg/L Initial	7.5	7.7	7.7	7.9	8.7	9.0	8.9	
pH s.u. Initial	7.2	7.7	7.8	7.7	7.5	7.6	7.4	
Conductivity µS Initial	176	174	174	179	175	177	175	
Temp °C Final	25.4	24.6	25.0	24.9	24.7	24.4	26.0	
D.O. mg/L Final	7.8	7.6	7.9	7.9	8.3	7.9	5.3	
pH s.u. Final	7.8	7.5	8.2	8.1	8.4	7.9	7.5	
Conductivity µS Final	201	211	204	201	246	277	206	
Naugatuck River Diluent	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	26.0	25.2	25.6	24.1	25.9	25.0	
D.O. mg/L Initial	8.8	8.7	8.9	8.5	8.8	8.3	8.0	
pH s.u. Initial	7.1	7.4	7.6	7.5	7.4	7.6	7.2	
Conductivity µS Initial	426	423	468	477	478	476	315	
Temp °C Final	25.9	24.9	24.9	25.0	25.0	24.7	26.0	
D.O. mg/L Final	7.8	7.6	7.9	8.0	8.3	8.0	7.0	
pH s.u. Final	7.8	7.4	8.0	8.0	8.4	7.8	7.4	
Conductivity µS Final	430	453	515	475	488	492	338	
6.25%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	26.0	25.2	25.7	24.2	25.9	25.5	
D.O. mg/L Initial	8.5	8.2	8.7	8.5	8.7	8.2	8.0	
pH s.u. Initial	7.0	7.4	7.5	7.5	7.4	7.6	7.2	
Conductivity µS Initial	457	446	490	507	505	506	353	
Temp °C Final	25.8	25.1	24.9	25.0	25.0	24.8	26.0	
D.O. mg/L Final	7.3	7.6	8.2	8.1	8.4	7.8	7.0	
pH s.u. Final	7.8	7.5	7.9	8.0	8.3	7.8	7.3	
Conductivity µS Final	467	475	550	520	517	527	371	
12.5%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	26.0	26.0	25.3	25.7	24.2	25.9	25.5	
D.O. mg/L Initial	8.4	8.4	8.6	8.5	8.6	8.3	8.0	
pH s.u. Initial	7.0	7.3	7.4	7.5	7.3	7.5	7.0	
Conductivity µS Initial	485	476	521	530	532	535	390	
Temp °C Final	25.7	25.0	24.8	25.0	25.0	24.8	26.0	
D.O. mg/L Final	7.8	7.8	7.9	8.1	8.3	8.0	7.1	
pH s.u. Final	7.7	7.6	7.8	8.0	8.2	7.8	7.2	
Conductivity µS Final	493	503	600	541	537	556	406	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:	Naugatuck WPCF, 500 Cherry Street Ext., Naugatuck CT 06770							
NEB PROJECT NUMBER:	05.0044745.00			TEST ORGANISM			*Ceriodaphnia dubia*	
DILUTION WATER SOURCE:	Naugatuck River			START DATE:			7/28/15 TIME:	1245
25%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	26.0	25.4	25.7	24.2	25.9	25.4	
D.O. mg/L Initial	8.4	8.4	8.6	8.5	8.7	8.2	8.1	
pH s.u. Initial	6.9	7.2	7.3	7.4	7.3	7.5	7.0	
Conductivity µS Initial	542	543	571	585	565	563	477	
Temp °C Final	25.6	24.9	24.9	25.2	25.1	25.0	26.0	
D.O. mg/L Final	7.9	7.9	8.0	8.1	8.2	7.7	6.3	
pH s.u. Final	7.8	7.6	7.8	8.0	8.1	7.7	7.2	
Conductivity µS Final	548	560	732	593	584	589	494	
50%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	26.0	25.5	25.7	24.1	25.9	25.5	
D.O. mg/L Initial	8.3	8.5	8.5	8.6	8.7	8.4	8.3	
pH s.u. Initial	6.8	7.1	7.2	7.2	7.2	7.4	6.8	
Conductivity µS Initial	656	649	676	685	687	689	619	
Temp °C Final	25.6	24.9	25.0	25.4	25.1	24.9	26.0	
D.O. mg/L Final	8.0	7.9	8.0	8.0	8.4	7.9	7.2	
pH s.u. Final	7.7	7.6	7.8	7.9	8.1	7.7	7.1	
Conductivity µS Final	670	688	855	701	689	701	622	
100%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	24.0	25.9	25.5	24.0	24.0	25.4	
D.O. mg/L Initial	8.5	9.0	8.6	8.9	8.7	8.7	9.2	
pH s.u. Initial	6.6	6.9	7.0	7.1	7.1	7.2	6.7	
Conductivity µS Initial	882	877	874	892	893	892	920	
Temp °C Final	25.9	24.7	25.0	25.6	25.2	24.9	26.0	
D.O. mg/L Final	7.8	7.7	8.0	8.1	8.5	7.8	6.9	
pH s.u. Final	7.6	7.5	7.6	7.8	8.0	7.6	7.1	
Conductivity µS Final	873	894	901	888	914	913	942	
	1	2	3	4	5	6	7	Remarks
Temp °C Initial								
D.O. mg/L Initial								
pH s.u. Initial								
Conductivity µS Initial								
Temp °C Final								
D.O. mg/L Final								
pH s.u. Final								
Conductivity µS Final								

Ceriodaphnia dubia Culture Chart Lot # Cd 15 (RMH 179) A

Brood mother source: RMH 176-A1 Source's brood size: 17 (Qty.) Naugatuck, 7-28-15

Tech	LC	LC	LC	LC	LC		LC	LC		LC						
Date	7/20	7/21	7/22	7/23	7/24		7/26	7/27		7/28						
Day acc.	0	1	2	3	4	5	6	7		8	9	10	11	12	13	14
Cup # 1	N	N	N	6	0		2Y	Y	1	N						
2	N	N	N	6	0		2Y	N	2	19 Y (T1)						
3	N	N	N	5	0		2Y	N	3	18 Y T1						
4	N	N	N	6	0		2Y	N	4	21 Y T2						
5	N	N	N	5	0		2Y	Y	5	N						
6	N	N	N	5	0		2Y	N	6	18 Y T3						
7	N	N	N	5	0		2Y	N	7	Y						
8	N	N	N	6	0		2Y	Y	8	22 Y (T3)						
9	N	N	N	4	0		2Y	N	9	18 Y T4						
10	N	N	N	5	0		2Y	N	10	19 Y T5						
11	N	N	N	7	0		2Y	N	11	20 Y T6						
12	N	N	N	6	0		2Y	N	12	17 Y T7						
13	N	N	N	5	0		2Y	N	13	13 Y (T3)						

Y = neonates present, and *criterion has been met:* ≥ 20 neonates produced in total by 3rd brood. **N** = no neonates

2B = two broods present. **2Y** = two broods and criterion met: ≥ 20 neos. by 3rd brood. **X** = brood mother dead ae = aborted eggs

✓ or **P** = neonates present after renewal on previous day (see time in log). **A→** = acceptable for acute testing only

T# = neonates used in test, replicate number of test noted (and brood counted). acc. = *if acclimated*, H_2O type used w/ renewal this day.

Test organism collection:

Project #	Symbols (✓ / P)	Tray diagram used? (Y/N)	Time period, neonates released	Collection date / time
	T ~	Y	7-27-15 / 1115 → 1315	7-28-15 / 0900
	T ~	Y	7-27-15 / 1115 → 1315	7-28-15 / 0900
0044745	(T) ~	Y	7-27-15 / 1315 → 1620	7-28-15 / 0930
	T			
	T			
	T			

Ceriodaphnia dubia Culture Chart

Lot # Cd15 (RMH 179) B

Brood mother source: RMH 176-B7 Source's brood size: 20 (Qty.) Naugatuck, 7-28-15

Tech	LC	LC	LC	LC	LC		LC	LC		LC						
Date	7/20	7/21	7/22	7/23	7/24		7/26	7/27		7/28						
Day acc.	0	1	2	3	4	5	6	7		8	9	10	11	12	13	14
Cup # 1	N	N	N	4	0		2Y	N	1	22 Y (T11)						
2	N	N	N	5	0		2Y	N	2	22 Y T8						
3	N	N	N	4	0		2Y	N	3	Y						
4	N	N	N	4	0		2Y	N	4	Y						
5	N	N	N	6	0		2Y	N	5	16 Y T5						
6	N	N	N	6	0		2Y	N	6	18 Y (T6)						
7	N	N	N	5	0		2Y	N	7	20 Y T9						
8	N	N	N	4	0		2Y	N	8	20 Y (T7)						
9	N	N	N	5	0		2Y	N	9	Y						
10	N	N	N	5	0		2Y	N	10	20 Y (T8)						
11	N	N	N	5	0		2Y	N	11	20 Y (T9)						
12	N	N	N	6	0		2Y	N	12	21 Y T10						
13	N	N	N	5	0		2Y	N	13	17 Y (T10)						

Y = neonates present, and *criterion has been met:* ≥ 20 neonates produced in total by 3rd brood. N = no neonates

2B = two broods present. 2Y = two broods and criterion met: ≥ 20 neos. by 3rd brood. X = brood mother dead ae = aborted eggs

✓ or P = neonates present after renewal on previous day (see time in log). A→ = acceptable for acute testing only

T# = neonates used in test, replicate number of test noted (and brood counted). acc. = *if acclimated*, H_2O type used w/ renewal this day.

Test organism collection:

Project #	Symbols (✓ / P)		Tray diagram used? (Y/N)	Time period, neonates released	Collection date / time
	T	–	Y	7-27-15 / 1115 → 1315	7-28-15 / 0900
	T	–	Y	7-27-15 / 1115 → 1315	7-28-15 / 0900
0044745	(T)	–	Y	7-27-15 / 1315 → 1620	7-28-15 / 0930
	T				
	T				
	T				

Table of Random Permutations of 16 | C.dubia Test ID# | 15-1049A

7	12	15	15	1	2	7	16	10	2	14	15	7	13	13	10	6	1	8	10
13	3	8	16	7	10	11	10	13	5	11	7	13	16	7	7	5	13	2	14
3	1	4	5	14	13	3	14	9	13	13	2	9	15	6	2	8	4	5	8
11	8	16	14	15	6	2	6	2	16	8	5	12	3	9	13	4	3	10	4
14	9	1	6	3	9	14	13	8	6	5	8	14	7	3	15	13	11	4	7
2	16	10	13	5	5	13	2	11	7	3	12	5	14	12	16	2	2	9	15
4	6	13	7	2	15	1	9	1	4	7	10	6	9	11	9	7	6	16	11
6	14	6	10	4	14	4	15	3	3	4	16	2	6	5	1	12	10	6	9
10	15	2	1	13	12	16	3	4	8	10	1	15	5	14	12	14	12	3	2
12	10	7	12	9	11	9	8	12	14	15	4	11	8	16	8	9	14	14	1
15	7	5	2	10	7	8	12	6	15	6	13	16	12	15	4	11	8	12	6
16	2	11	8	8	8	15	5	16	1	1	9	8	1	8	14	16	5	13	5
9	13	14	3	6	4	10	11	5	12	9	3	10	4	4	3	10	9	1	3
8	11	9	4	11	3	12	7	7	10	12	14	3	10	1	6	15	16	15	12
1	5	12	11	16	16	5	4	14	9	16	11	1	2	10	5	1	15	7	13
5	4	3	9	12	1	6	1	15	11	2	6	4	11	2	11	3	7	11	16
11	8	16	5	5	13	1	13	2	16	14	12	9	8	7	5	13	3	13	3
2	2	8	8	14	16	4	3	8	11	10	14	15	1	2	11	4	5	15	9
6	13	2	13	6	5	9	15	11	10	12	6	16	15	16	9	10	12	16	15
14	12	4	16	16	11	14	10	5	12	3	3	12	14	15	13	6	4	1	16
8	6	3	9	4	10	6	4	16	2	2	9	8	16	4	6	5	15	7	8
9	15	12	10	3	2	12	6	1	15	4	13	7	7	9	12	14	8	8	11
3	10	11	12	13	12	5	11	7	8	9	5	14	11	10	1	3	13	3	5
16	1	13	14	8	14	15	5	3	7	11	15	6	12	5	7	11	1	14	4
1	14	14	2	9	15	16	14	6	14	7	8	3	13	11	8	7	7	12	7
4	4	6	4	12	3	11	8	15	9	8	1	13	6	3	3	15	9	9	12
15	5	1	11	10	6	3	7	10	5	5	11	10	10	12	15	16	14	5	2
5	3	5	6	7	7	13	2	14	3	16	4	5	5	13	4	9	16	2	6
12	7	15	15	15	9	8	12	12	13	15	10	1	4	6	16	2	6	11	1
10	11	10	3	2	4	2	1	4	6	6	7	11	9	14	10	8	11	4	13
7	9	7	7	11	1	7	16	13	1	13	2	4	2	1	2	12	2	10	14
13	16	9	1	1	8	10	9	9	4	1	16	2	3	8	14	1	10	6	10
					Conc														
1	6	7	4	8	6	5	2	8	15	4	6	6	1	4	5	7	13	2	10
9	15	11	3	11	15	9	10	1	3	8	2	15	7	9	8	16	1	14	3
10	16	4	5	12	9	16	11	7	1	7	16	11	8	3	3	12	2	3	4
4	14	1	9	5	5	4	13	6	8	15	5	12	5	7	16	5	11	8	1
7	3	13	14	15	2	1	14	16	5	14	9	2	16	1	12	6	14	4	13
16	11	2	1	14	16	6	9	3	4	16	14	3	15	11	11	3	9	12	5
3	10	16	16	13	7	13	1	11	14	9	10	16	2	10	2	10	7	10	16
11	13	9	13	4	13	8	3	5	13	10	12	5	12	5	14	13	16	5	6
15	2	3	12	9	12	2	4	13	10	3	13	14	4	2	1	14	8	6	12
14	1	14	6	10	1	3	12	4	2	2	4	13	3	16	9	9	3	7	14
13	12	5	11	3	11	15	8	2	7	11	7	8	14	6	4	4	4	15	11
12	5	10	7	2	14	7	15	14	16	13	1	9	10	12	10	11	10	9	8
8	9	8	10	6	4	11	7	10	11	6	8	4	9	8	15	8	6	11	9
2	7	6	2	1	8	10	6	15	12	1	11	7	11	13	6	1	15	13	15
6	4	15	8	16	10	14	16	9	6	12	3	10	6	14	7	2	12	16	7
5	8	12	15	7	3	12	5	12	9	5	15	1	13	15	13	15	5	1	2
													Rep						
13	4	10	4	16	13	16	13	5	3	6	14	1	16	8	7	2	3	3	12
5	14	4	6	8	2	15	1	13	14	16	4	15	4	3	12	12	1	4	7
2	2	2	15	14	16	9	12	16	6	10	15	14	9	10	1	14	8	8	16
7	12	15	8	12	3	5	14	7	12	5	13	16	1	7	5	11	2	9	3
6	9	7	14	9	14	10	11	15	11	12	1	12	12	14	16	3	11	11	8
14	5	16	7	10	8	11	8	14	13	7	11	6	3	11	4	4	6	6	9
15	11	8	9	7	12	8	7	1	15	9	3	3	7	13	11	10	4	5	1
11	6	6	1	4	1	3	16	12	5	4	9	13	13	6	8	15	9	1	14
4	10	3	16	2	11	7	9	6	9	1	8	4	11	5	2	16	10	12	4
1	8	1	13	1	15	4	4	11	4	2	16	5	8	1	9	5	12	16	6
9	7	14	2	6	4	14	10	9	8	15	10	7	10	9	10	6	14	10	11
12	1	9	10	15	5	2	15	10	2	14	2	8	2	4	13	8	5	15	5
3	3	12	11	5	9	6	6	3	10	13	12	9	6	2	15	7	15	7	13
10	15	11	5	13	7	12	5	2	7	11	5	10	15	12	3	1	13	13	10
8	13	13	3	3	10	13	2	4	1	8	6	11	14	15	6	9	16	2	2
16	16	5	12	11	6	1	3	8	16	3	7	2	5	16	14	13	7	14	15

NEW ENGLAND BIOASSAY TOXICITY DATA FORM
CHRONIC COVER SHEET

CLIENT: Phoenix Environmental Laboratories
ADDRESS: 587 East Middle Turnpike
Manchester, CT 06040
SAMPLE TYPE: Naugatuck WPCF
DILUTION WATER: Naugatuck River

P.prometas TEST ID # 15-1049b
COC # C35-2814/15
PROJECT # 05.0044745.00

VERTEBRATES

TEST SET UP (TECH INIT)	PD
TEST SPECIES	*Pimephales promelas*
NEB LOT#	Pp15 (7-28)
AGE	< 24 hours
TEST SOLUTION VOLUME (mls)	400
NO. ORGANISMS PER TEST CHAMBER	10
NO. ORGANISMS PER CONCENTRATION	40

Laboratory Control Water (SRCF)

Batch Number	Hardness mg/L $CaCO_3$	Alkalinity mg/L $CaCO_3$
C35-S013	46	35

	DATE	TIME
TEST START:	7/28/15	1345
TEST END:	8/4/15	1235

Results of *Pimephales promelas* Chronic Test

		95% Confidence Limits
48 Hour LC50	>100%	100%±∞
7 Day LC50	>100%	100%±∞
Survival NOEC	100%	
Survival LOEC	>100%	
Growth NOEC	100%	
Growth LOEC	>100%	
Growth IC_{25}	>100%	

NOEC: NO OBSERVABLE EFFECT CONCENTRATI LOEC: LOWEST OBSERVABLE EFFECT CONCENTRATION

Comments: _____

REVIEWD BY: _____ DATE: 8/21/15

NEB'S SURVIVAL DATA SHEET FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADDRESS:	Naugatuck WPCF, 500 Cherry Street Ext., Naugatuck CT 06770						
NEB PROJECT NUMBER:	05.0044745.00	TEST NUMBER:	15-1049b	COC #	C35-2814/15		
TEST ORGANISM:	*Pimephales promelas*	AGE:	<24 hours	Lot #	Pp15 (7-28)		
START DATE:	7/28/15	TIME:	1345	END DATE:	8/4/15	TIME:	1235

Effluent Concentration	Replicate Number	Number of Survivors								
		Day								
		0	1	2	3	4	5	6	7	Remarks
	ANALYST	PD	KO	KO	CW	CW	CW	MV	KO	
NEB Lab Synthetic Control	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
Naugatuck River Diluent	A	10	10	10	10	10	10	10	10	
	B	10	10	10	9	9	9	9	9	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
6.25%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
12.5%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	9	9	7	6	6	
25%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	9	9	9	9	9	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
50%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	9	9	9	9	9	
	D	10	10	10	10	10	10	10	10	
100%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	

D.O. concentration fell below 4.0 mg/L _____

All test solutions were aerated at <100 bubbles/minute as of _____

NEW ENGLAND BIOASSAY WEIGHT DATA FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADDRESS:	Naugatuck WPCF, 500 Cherry Street Ext., Naugatuck CT 06770		
NEB PROJECT #	05.0044745.00	NEB TEST NUMBER:	15-1049b
TEST START DATE	7/28/15	WEIGHING DATE:	8/5/15
TEST END DATE	8/4/15		
DRYING TEMPERATURE (°C)	100 ± 4	DRYING TIME:	minimum 6 hours
ANALYST-INITIAL WEIGHTS	MG	ANALYST-FINAL WEIGHTS	MG

Effluent Concentration	Replicate Number	A Weight of boat (mg)	B Dry Weight: Foil and Larvae (mg)
NEB Lab Synthetic Control	A	933.01	939.37
	B	934.55	940.79
	C	937.14	942.88
	D	934.82	940.95
Naugtuck River Diluent	A	933.19	939.27
	B	930.08	935.75
	C	931.04	936.81
	D	928.42	933.85
6.25%	A	929.99	936.03
	B	930.01	936.38
	C	934.61	940.92
	D	931.11	937.31
12.5%	A	935.78	941.57
	B	935.73	941.56
	C	935.34	941.03
	D	932.49	937.44
25%	A	933.23	938.83
	B	932.14	937.40
	C	934.39	940.13
	D	935.12	940.48
50%	A	939.03	944.54
	B	938.99	944.41
	C	936.54	942.32
	D	934.15	939.72
100%	A	935.44	941.23
	B	931.59	937.76
	C	932.27	938.16
	D	939.12	945.27

Fathead Minnow 7-d Larval Survival and Growth Test — New England Bioassay

Analysis ID:	00-0977-6689	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:45	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	20-5029-8252	Test Type:	Growth-Survival (7d)	Analyst:	
Start Date:	27 Jul-15 13:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	03 Aug-15 12:25	Species:	Pimephales promelas	Brine:	Not Applicable
Duration:	6d 23h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	14h	Station:			

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	1847498	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	N/A	N/A	<1	NA	NA

2d Survival Rate Summary — Calculated Variate(A/B)

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Dilution Water	4	1	1	1	0	0	0.0%	0.0%	40	40
6.25		4	1	1	1	0	0	0.0%	0.0%	40	40
12.5		4	1	1	1	0	0	0.0%	0.0%	40	40
25		4	1	1	1	0	0	0.0%	0.0%	40	40
50		4	1	1	1	0	0	0.0%	0.0%	40	40
100		4	1	1	1	0	0	0.0%	0.0%	40	40

2d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1	1	1	1
6.25		1	1	1	1
12.5		1	1	1	1
25		1	1	1	1
50		1	1	1	1
100		1	1	1	1

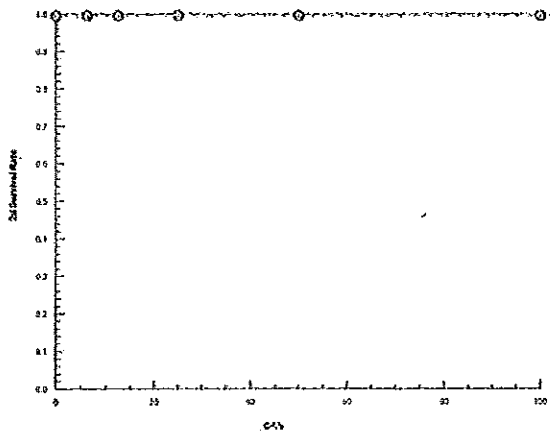
2d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

Fathead Minnow 7-d Larval Survival and Growth Test — New England Bioassay

Analysis ID:	00-0977-6689	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:45	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes

Graphics



Fathead Minnow 7-d Larval Survival and Growth Test — New England Bioassay

Analysis ID:	17-4594-8579	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:45	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	20-5029-8252	Test Type:	Growth-Survival (7d)	Analyst:	
Start Date:	27 Jul-15 13:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	03 Aug-15 12:25	Species:	Pimephales promelas	Brine:	Not Applicable
Duration:	6d 23h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	14h	Station:			

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	734883	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	N/A	N/A	<1	NA	NA

7d Survival Rate Summary — Calculated Variate(A/B)

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Dilution Water	4	0.975	0.9	1	0.025	0.05	5.13%	0.0%	39	40
6.25		4	1	1	1	0	0	0.0%	-2.56%	40	40
12.5		4	0.9	0.6	1	0.1	0.2	22.22%	7.69%	36	40
25		4	0.975	0.9	1	0.025	0.05	5.13%	0.0%	39	40
50		4	0.975	0.9	1	0.025	0.05	5.13%	0.0%	39	40
100		4	1	1	1	0	0	0.0%	-2.56%	40	40

7d Survival Rate Detail

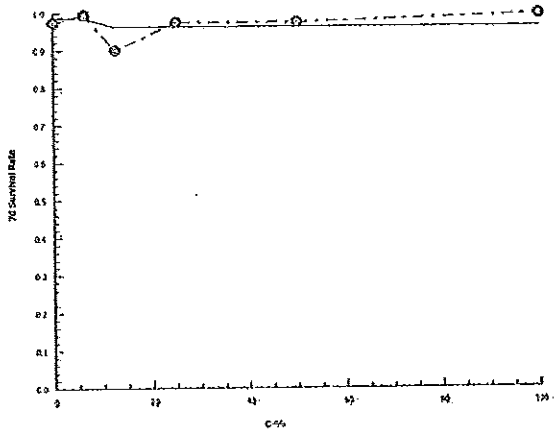
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1	0.9	1	1
6.25		1	1	1	1
12.5		1	1	1	0.6
25		1	0.9	1	1
50		1	1	0.9	1
100		1	1	1	1

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

Analysis ID: 17-4594-8579 Endpoint: 7d Survival Rate CETIS Version: CETISv1.8.8
Analyzed: 13 Aug-15 16:45 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

Graphics



Fathead Minnow 7-d Larval Survival and Growth Test — New England Bioassay

Analysis ID:	17-7978-3983	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:45	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes
Batch ID:	20-5029-8252	Test Type:	Growth-Survival (7d)	Analyst:	
Start Date:	27 Jul-15 13:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	03 Aug-15 12:25	Species:	Pimephales promelas	Brine:	Not Applicable
Duration:	6d 23h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	14h	Station:			

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Angular (Corrected)	NA	C > T	NA	NA	13.5%	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	20	10	1	6	0.9516	Asymp	Non-Significant Effect
		12.5	17.5	10	1	6	0.7867	Asymp	Non-Significant Effect
		25	18	10	2	6	0.8333	Asymp	Non-Significant Effect
		50	18	10	2	6	0.8333	Asymp	Non-Significant Effect
		100	20	10	1	6	0.9516	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0461591	0.00923182	5	0.6219	0.6851	Non-Significant Effect
Error	0.2672174	0.01484541	18			
Total	0.3133765		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	0.6219	4.248	0.6851	Equal Variances
Variances	Levene Equality of Variance	5.597	4.248	0.0028	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.7381	0.884	<0.0001	Non-normal Distribution

7d Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	0.975	0.8954	1	1	0.9	1	0.025	5.13%	0.0%
6.25		4	1	1	1	1	1	1	0	0.0%	-2.56%
12.5		4	0.9	0.5818	1	1	0.6	1	0.1	22.22%	7.69%
25		4	0.975	0.8954	1	1	0.9	1	0.025	5.13%	0.0%
50		4	0.975	0.8954	1	1	0.9	1	0.025	5.13%	0.0%
100		4	1	1	1	1	1	1	0	0.0%	-2.56%

Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	0.0%
6.25		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	-2.97%
12.5		4	1.281	0.8621	1.699	1.412	0.8861	1.412	0.1315	20.54%	6.62%
25		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	0.0%
50		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	0.0%
100		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	-2.97%

Fathead Minnow 7-d Larval Survival and Growth Test — New England Bioassay

Analysis ID: 17-7978-3983 Endpoint: 7d Survival Rate CETIS Version: CETISv1.8.8
Analyzed: 13 Aug-15 16:45 Analysis: Nonparametric-Control vs Treatments Official Results: Yes

7d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1	0.9	1	1
6.25		1	1	1	1
12.5		1	1	1	0.6
25		1	0.9	1	1
50		1	1	0.9	1
100		1	1	1	1

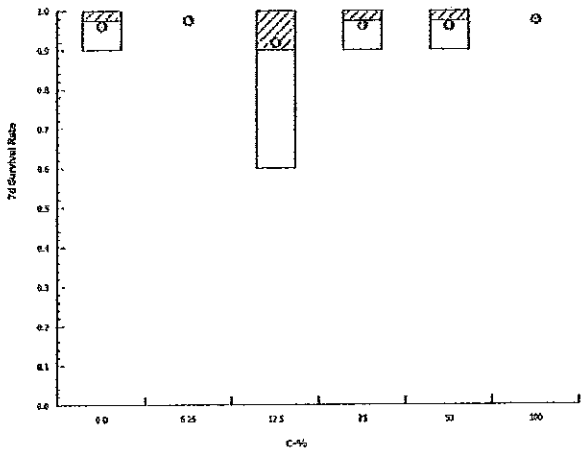
Angular (Corrected) Transformed Detail

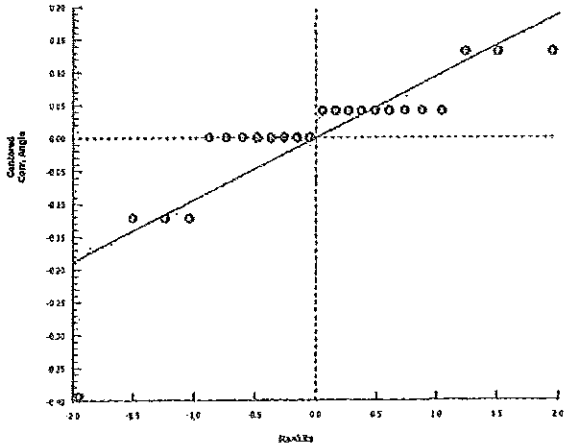
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1.412	1.249	1.412	1.412
6.25		1.412	1.412	1.412	1.412
12.5		1.412	1.412	1.412	0.8661
25		1.412	1.249	1.412	1.412
50		1.412	1.412	1.249	1.412
100		1.412	1.412	1.412	1.412

7d Survival Rate Binomials

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

Graphics





Fathead Minnow 7-d Larval Survival and Growth Test — New England Bioassay

Analysis ID:	08-8407-0187	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:45	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes
Batch ID:	20-5029-8252	Test Type:	Growth-Survival (7d)	Analyst:	
Start Date:	27 Jul-15 13:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	03 Aug-15 12:25	Species:	Pimephales promelas	Brine:	Not Applicable
Duration:	6d 23h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E08C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	14h	Station:			

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Untransformed	NA	C > T	NA	NA	7.39%	100	>100	NA	1

Dunnett Multiple Comparison Test

Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Dilution Water		6.25	-2.795	2.407	0.042	6	0.9999	CDF	Non-Significant Effect
		12.5	0.9791	2.407	0.042	6	0.4311	CDF	Non-Significant Effect
		25	1.405	2.407	0.042	6	0.2599	CDF	Non-Significant Effect
		50	0.9509	2.407	0.042	6	0.4437	CDF	Non-Significant Effect
		100	-1.49	2.407	0.042	6	0.9971	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.01703452	0.003406904	5	5.488	0.0031	Significant Effect
Error	0.0111741	0.0006207831	18			
Total	0.02820862		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	4.49	15.09	0.4813	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9522	0.884	0.3018	Normal Distribution

Mean Dry Biomass-mg Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	0.5738	0.5309	0.6166	0.572	0.543	0.608	0.01346	4.69%	0.0%
6.25		4	0.623	0.5999	0.6461	0.6255	0.604	0.637	0.007244	2.33%	-8.58%
12.5		4	0.5565	0.4906	0.6224	0.574	0.495	0.583	0.02071	7.44%	3.01%
25		4	0.549	0.5141	0.5839	0.548	0.526	0.574	0.01097	4.0%	4.31%
50		4	0.557	0.5327	0.5813	0.554	0.542	0.578	0.00765	2.75%	2.92%
100		4	0.6	0.5699	0.6301	0.602	0.579	0.617	0.00947	3.16%	-4.58%

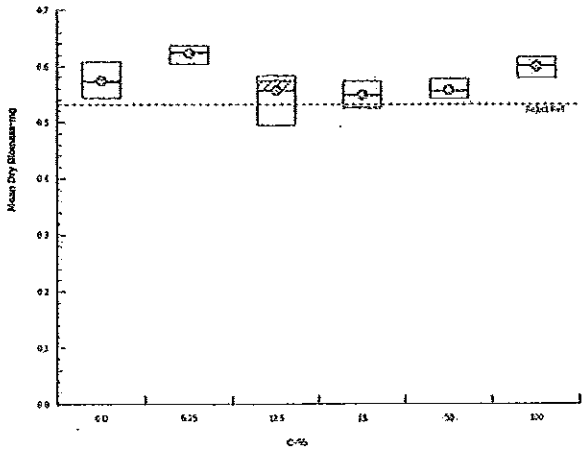
Mean Dry Biomass-mg Detail

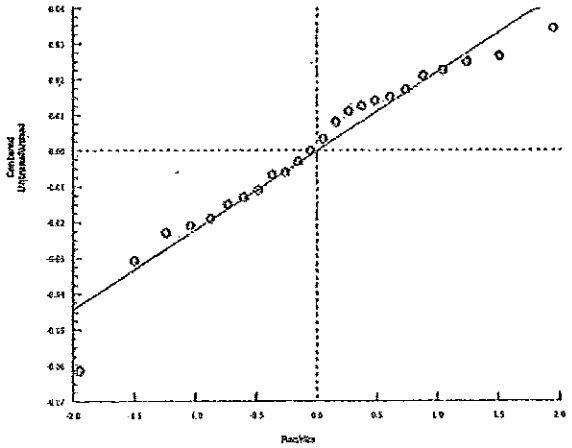
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	0.608	0.567	0.577	0.543
6.25		0.604	0.637	0.631	0.62
12.5		0.579	0.583	0.569	0.495
25		0.56	0.526	0.574	0.536
50		0.551	0.542	0.578	0.557
100		0.579	0.617	0.589	0.615

Fathead Minnow 7-d Larval Survival and Growth Test — New England Bioassay

Analysis ID:	08-8407-0187	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:45	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes

Graphics





Fathead Minnow 7-d Larval Survival and Growth Test — New England Bioassay

Analysis ID:	19-9434-8582	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.8.8
Analyzed:	13 Aug-15 16:46	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes
Batch ID:	20-5029-8252	Test Type:	Growth-Survival (7d)	Analyst:	
Start Date:	27 Jul-15 13:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Receiving Water
Ending Date:	03 Aug-15 12:25	Species:	Pimephales promelas	Brine:	Not Applicable
Duration:	6d 23h	Source:	In-House Culture	Age:	<24H
Sample ID:	04-0776-6721	Code:	184E06C1	Client:	Phoenix Environmental Labs
Sample Date:	27 Jul-15	Material:	WWTF Effluent	Project:	
Receive Date:	28 Jul-15	Source:	Naugatuck WPCF		
Sample Age:	14h	Station:			

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	390612	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>100	N/A	N/A	<1	NA	NA
IC50	>100	N/A	N/A	<1	NA	NA

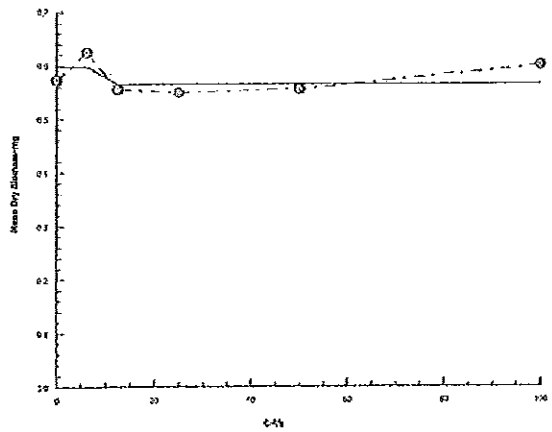
Mean Dry Biomass-mg Summary — Calculated Variate

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	4	0.5738	0.543	0.608	0.01346	0.02693	4.69%	0.0%
6.25		4	0.623	0.604	0.637	0.007244	0.01449	2.33%	-8.58%
12.5		4	0.5565	0.495	0.583	0.02071	0.04142	7.44%	3.01%
25		4	0.549	0.526	0.574	0.01097	0.02194	4.0%	4.31%
50		4	0.557	0.542	0.578	0.00765	0.0153	2.75%	2.92%
100		4	0.6	0.579	0.617	0.00947	0.01894	3.16%	-4.58%

Mean Dry Biomass-mg Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	0.608	0.567	0.577	0.543
6.25		0.604	0.637	0.631	0.62
12.5		0.579	0.583	0.569	0.495
25		0.56	0.526	0.574	0.536
50		0.551	0.542	0.578	0.557
100		0.579	0.617	0.589	0.615

Graphics



Concentration	Rep	Final Weight (mg)	Initial Weight (mg)	Total Weight (mg)	Average per fish (mg)	Mean fish weight (mg)	Standard Deviation
NEB Lab Synthetic Control	1	939.37	933.01	6.36	0.636	0.6118	0.026862303
	2	940.79	934.55	6.24	0.624		
	3	942.88	937.14	5.74	0.574		
	4	940.95	934.82	6.13	0.613		
Naugtuck River Diluent	1	939.27	933.19	6.08	0.608	0.5737	0.026924277
	2	935.75	930.08	5.67	0.567		
	3	936.81	931.04	5.77	0.577		
	4	933.85	928.42	5.43	0.543		
6.25%	1	936.03	929.99	6.04	0.604	0.6230	0.014491377
	2	936.38	930.01	6.37	0.637		
	3	940.92	934.61	6.31	0.631		
	4	937.31	931.11	6.20	0.620		
12.5%	1	941.57	935.78	5.79	0.579	0.5565	0.041420607
	2	941.56	935.73	5.83	0.583		
	3	941.03	935.34	5.69	0.569		
	4	937.44	932.49	4.95	0.495		
25%	1	938.83	933.23	5.60	0.560	0.5490	0.02193931
	2	937.40	932.14	5.26	0.526		
	3	940.13	934.39	5.74	0.574		
	4	940.48	935.12	5.36	0.536		
50%	1	944.54	939.03	5.51	0.551	0.5570	0.015297059
	2	944.41	938.99	5.42	0.542		
	3	942.32	936.54	5.78	0.578		
	4	939.72	934.15	5.57	0.557		
100%	1	941.23	935.44	5.79	0.579	0.6000	0.018938497
	2	937.76	931.59	6.17	0.617		
	3	938.16	932.27	5.89	0.589		
	4	945.27	939.12	6.15	0.615		

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:	Naugatuck WPCF, 500 Cherry Street Ext., Naugatuck CT 06770							
NEB PROJECT NUMBER:	05.0044745.00			TEST ORGANISM			*Pimephales promelas*	
DILUTION WATER SOURCE:	Naugatuck River			START DATE:		7/28/15	TIME:	1345
ANALYST	PD	MG	PD	CW	PD	CW	KO	
NEB Lab Synthetic Control	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.3	25.7	25.8	25.5	24.0	24.0	24.0	
D.O. mg/L Initial	7.5	7.7	7.7	7.9	8.7	9.0	8.9	
pH s.u. Initial	7.2	7.7	7.8	7.7	7.5	7.6	7.4	
Conductivity µS Initial	176	174	174	179	175	177	175	
Temp °C Final	25.6	25.7	25.5	24.7	24.8	25.0	26.0	
D.O. mg/L Final	6.5	6.3	6.8	5.8	6.5	6.3	5.3	
pH s.u. Final	7.5	7.5	7.5	7.4	7.5	7.6	7.5	
Conductivity µS Final	188	190	199	202	219	224	206	
Naugatuck River Diluent	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	26.0	25.2	25.6	24.1	25.9	25.0	
D.O. mg/L Initial	8.8	8.7	8.9	8.5	8.8	8.3	8.0	
pH s.u. Initial	7.1	7.4	7.6	7.5	7.4	7.6	7.2	
Conductivity µS Initial	426	423	468	477	478	476	315	
Temp °C Final	25.7	25.7	25.5	24.9	24.9	25.2	26.0	
D.O. mg/L Final	6.8	5.6	6.9	6.4	6.4	5.7	5.4	
pH s.u. Final	7.4	7.4	7.3	7.2	7.4	7.4	7.3	
Conductivity µS Final	437	439	492	496	519	529	399	
6.25%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	26.0	25.2	25.7	24.2	25.9	25.5	
D.O. mg/L Initial	8.5	8.2	8.7	8.5	8.7	8.2	8.0	
pH s.u. Initial	7.0	7.4	7.5	7.5	7.4	7.6	7.2	
Conductivity µS Initial	457	446	490	507	505	506	353	
Temp °C Final	25.8	25.7	25.6	24.9	25.0	25.0	26.0	
D.O. mg/L Final	6.5	6.0	7.0	6.4	6.4	6.1	5.3	
pH s.u. Final	7.3	7.3	7.3	7.2	7.4	7.4	7.2	
Conductivity µS Final	469	459	515	525	550	565	428	
12.5%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	26.0	26.0	25.3	25.7	24.2	25.9	25.5	
D.O. mg/L Initial	8.4	8.4	8.6	8.5	8.6	8.3	8.0	
pH s.u. Initial	7.0	7.3	7.4	7.5	7.3	7.5	7.0	
Conductivity µS Initial	485	476	521	530	532	535	390	
Temp °C Final	25.6	25.7	25.6	24.9	24.8	25.1	26.0	
D.O. mg/L Final	6.6	5.7	6.7	6.5	6.6	6.2	5.5	
pH s.u. Final	7.2	7.2	7.2	7.2	7.4	7.3	7.4	
Conductivity µS Final	493	491	548	553	578	586	439	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:	Naugatuck WPCF, 500 Cherry Street Ext., Naugatuck CT 06770							
NEB PROJECT NUMBER:	05.0044745.00			TEST ORGANISM			*Pimephales promelas*	
DILUTION WATER SOURCE:	Naugatuck River			START DATE:			7/28/15	TIME: 1345

25%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	26.0	25.4	25.7	24.2	25.9	25.4	
D.O. mg/L Initial	8.4	8.4	8.6	8.5	8.7	8.2	8.1	
pH s.u. Initial	6.9	7.2	7.3	7.4	7.3	7.5	7.0	
Conductivity µS Initial	542	543	571	585	565	563	477	
Temp °C Final	25.6	25.6	25.6	24.8	24.7	25.0	26.0	
D.O. mg/L Final	6.7	5.9	6.8	6.6	6.7	6.7	6.0	
pH s.u. Final	7.2	7.1	7.1	7.1	7.3	7.3	7.3	
Conductivity µS Final	551	560	599	607	629	633	540	
50%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	26.0	25.5	25.7	24.1	25.9	25.5	
D.O. mg/L Initial	8.3	8.5	8.5	8.6	8.7	8.4	8.3	
pH s.u. Initial	6.8	7.1	7.2	7.2	7.2	7.4	6.8	
Conductivity µS Initial	656	649	676	685	687	689	619	
Temp °C Final	25.4	25.7	25.6	24.8	24.8	25.0	25.6	
D.O. mg/L Final	7.0	5.6	6.7	6.4	6.5	6.5	5.9	
pH s.u. Final	7.2	7.1	7.1	7.1	7.3	7.3	7.4	
Conductivity µS Final	666	665	707	705	727	733	655	
100%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	24.0	25.9	25.5	24.0	24.0	25.4	
D.O. mg/L Initial	8.5	9.0	8.6	8.9	8.7	8.7	9.2	
pH s.u. Initial	6.6	6.9	7.0	7.1	7.1	7.2	6.7	
Conductivity µS Initial	882	877	874	892	893	892	920	
Temp °C Final	25.4	25.5	25.6	24.8	24.8	25.0	25.8	
D.O. mg/L Final	6.9	6.7	6.8	6.7	6.7	6.3	5.8	
pH s.u. Final	7.0	7.1	7.0	7.1	7.2	7.2	7.3	
Conductivity µS Final	888	891	915	916	947	954	949	
	1	2	3	4	5	6	7	Remarks
Temp °C Initial								
D.O. mg/L Initial								
pH s.u. Initial								
Conductivity µS Initial								
Temp °C Final								
D.O. mg/L Final								
pH s.u. Final								
Conductivity µS Final								

Table of Random Permutations of 16

P.promelas Test ID# 15-1049b

7	12	15	15	1	2	7	16	10	2	14	15	7	13	13	10	6	1	8	10
13	3	8	16	7	10	11	10	13	5	11	7	13	16	7	7	5	13	2	14
3	1	4	5	14	13	3	14	9	13	13	2	9	15	6	2	8	4	5	8
11	8	16	14	15	6	2	6	2	16	8	5	12	3	9	13	4	3	10	4
14	9	1	6	3	9	14	13	8	6	5	8	14	7	3	15	13	11	4	7
2	16	10	13	5	5	13	2	11	7	3	12	5	14	12	16	2	2	9	15
4	6	13	7	2	15	1	9	1	4	7	10	6	9	11	9	7	6	16	11
6	14	6	10	4	14	4	15	3	3	4	16	2	6	5	1	12	10	6	9
10	15	2	1	13	12	16	3	4	8	10	1	15	5	14	12	14	12	3	2
12	10	7	12	9	11	9	8	12	14	15	4	11	8	16	8	9	14	14	1
15	7	5	2	10	7	8	12	6	15	6	13	16	12	15	4	11	8	12	6
16	2	11	8	8	8	15	5	16	1	1	9	8	1	8	14	16	5	13	5
9	13	14	3	6	4	10	11	5	12	9	3	10	4	4	3	10	9	1	3
8	11	9	4	11	3	12	7	7	10	12	14	3	10	1	6	15	16	15	12
1	5	12	11	16	16	5	4	14	9	16	11	1	2	10	5	1	15	7	13
5	4	3	9	12	1	6	1	15	11	2	6	4	11	2	11	3	7	11	16
11	8	16	5	5	13	1	13	2	16	14	12	9	8	7	5	Conc	3	13	3
2	2	8	8	14	16	4	3	8	11	10	14	15	1	2	11		5	15	9
6	13	2	13	6	5	9	15	11	10	12	6	16	15	16	9		12	16	15
14	12	4	16	16	11	14	10	5	12	3	3	12	14	15	13		4	1	16
8	6	3	9	4	10	6	4	16	2	2	9	8	16	4	6		15	7	8
9	15	12	10	3	2	12	6	1	15	4	13	7	7	9	12		8	8	11
3	10	11	12	13	12	5	11	7	8	9	5	14	11	10	1		13	3	5
16	1	13	14	8	14	15	5	3	7	11	15	6	12	5	7		1	14	4
1	14	14	2	9	15	16	14	6	14	7	8	3	13	11	8		7	12	7
4	4	6	4	12	3	11	8	15	9	8	1	13	6	3	3		9	9	12
15	5	1	11	10	6	3	7	10	5	5	11	10	10	12	15		14	5	2
5	3	5	6	7	7	13	2	14	3	16	4	5	5	13	4		16	2	6
12	7	15	15	15	9	8	12	12	13	15	10	1	4	6	16		6	11	1
10	11	10	3	2	4	2	1	4	6	6	7	11	9	14	10		11	4	13
7	9	7	7	11	1	7	16	13	1	13	2	4	2	1	2		2	10	14
13	16	9	1	1	8	10	9	9	4	1	16	2	3	8	14		10	6	10
1	6	7	4	8	6	5	2	8	15	Rep	6	6	1	4	5	7	13	2	10
9	15	11	3	11	15	9	10	1	3		2	15	7	9	8	16	1	14	3
10	16	4	5	12	9	16	11	7	1		16	11	8	3	3	12	2	3	4
4	14	1	9	5	5	4	13	6	8		5	12	5	7	16	5	11	8	1
7	3	13	14	15	2	1	14	16	5		9	2	16	1	12	6	14	4	13
16	11	2	1	14	16	6	9	3	4		14	3	15	11	11	3	9	12	5
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12	5	10	7	2	14	7	15	14	16		1	9	10	12	10	11	10	9	8
8	9	8	10	6	4	11	7	10	11		8	4	9	8	15	8	6	11	9
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6	4	15	8	16	10	14	16	9	6		3	10	6	14	7	2	12	16	7
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13	4	10	4	16	13	16	13	5	3	6	14	1	16	8	7	2	3	3	12
5	14	4	6	8	2	15	1	13	14	16	4	15	4	3	12	12	1	4	7
2	2	2	15	14	16	9	12	16	6	10	15	14	9	10	1	14	8	8	16
7	12	15	8	12	3	5	14	7	12	5	13	16	1	7	5	11	2	9	3
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10	15	11	5	13	7	12	5	2	7	11	5	10	15	12	3	1	13	13	10
8	13	13	3	3	10	13	2	4	1	8	6	11	14	15	6	9	16	2	2
16	16	5	12	11	6	1	3	8	16	3	7	2	5	16	14	13	7	14	15

NEW ENGLAND BIOASSAY
INITIAL CHEMISTRY DATA

CLIENT: Phoenix - Naugatuck WPCF
NEB JOB # 05.0044745.00
TEST ID # C.dubia 15-1049a P.promelas 15-1049b

DATE RECEIVED	7/28/15		7/30/15		8/3/15	
SAMPLE TYPE:	EFF #1	RIVER #1	EFF #2	RIVER #2	EFF #3	RIVER #3
COC #	C35-2814	C35-2815	C35-2847	C35-2848	C35-2874	C35-2875
pH (SU)	6.8	7.4	6.8	7.1	6.9	6.5
Temperature (^{0}C)	4.6	5.1	7.4	7.8	3.3	3.1, 3.3
Dissolved Oxygen (mg/L)	9.6	9.6	9.0	9.4	9.9	9.4
Conductivity (µmhos)	884	425	884	470	917	379
Salinity (ppt)	<1	<1	< 1	< 1	<1	<1
TRC - DPD (mg/L)	0.03	<0.02	0.03	0.02	<0.02	<0.02
Hardness (mg/L as $CaCO_3$)	116	74	116	80	118	68
Alkalinity (mg/l as $CaCO_3$)	30	30	35	35	30	30
Tech Initials	MG	MG	CW	CW	MG	MG

NOTE: NA = NOT APPLICABLE

Data Reviewed By: _____ Date Reviewed: 8/21/15

Sample Set #1

NEW ENGLAND BIOASSAY
CHAIN-OF-CUSTODY

EFFLUENT

Sampler: Tom Deller
Title: Lead Operator
Facility: Borough of Naugatuck WPCF
Address:
Naugatuck, Connecticut

RECEIVING WATER

Sampler: Tom Deller
Title: Lead Operator
Facility: Borough of Naugatuck WPCF
Address:
Naugatuck, Connecticut

Sample Information

Collection Method: ___ Grab / X Composite
Sample ID: EFFLUENT BJ63609
Start & End Dates: 7-26-15 to 7-27-15
Start & End Times: 1:35 Am to 1:11 Am
Type of Sample: X WWTF Effluent / ___ Industrial Effluent / ___ Other ___
Is the sample: ___ Prechlorinated / X Dechlorinated / ___ Chlorine spiked in lab / ___ Unchlorinated

Collection Method: X Grab / ___ Composite
Sample ID: Naugatuck River BJ63610
Date Collected: 7-27-15
Time Collected: 7:00 Am
Type of Sample: X Receiving Water / ___ Other ___
Is the sample: X Unchlorinated

Site Description:

Sample Collection Procedures:

Sample Shipment

Method of Shipment: Phoenix

Relinquished By: T. Deller	Date: 7-27-15	Time: 13:15
Received By:	Date: 7/27/15	Time: 13:14
Relinquished By:	Date: 7-28-15	Time: 0820
Received By:	Date: 7/28/15	Time: 0820

FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 4.6 °C
Temperature of Receiving Water Upon Receipt at Lab: 5.1 °C
Effluent COC# C35-2814
Receiving Water COC# C35-2815

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042

Sample Set # 2

NEW ENGLAND BIOASSAY
CHAIN-OF-CUSTODY

EFFLUENT

Sampler: Tom Deller
Title: Lead Operator
Facility: Borough of Naugatuck WPCF
Address:
Naugatuck, Connecticut

RECEIVING WATER

Sampler: Tom Deller
Title: Lead Operator
Facility: Borough of Naugatuck WPCF
Address:
Naugatuck, Connecticut

Sample Information

Collection Method: ___ Grab / X Composite

Sample ID: EFFLUENT

Start & End Dates: 7-28-15 to 7-29-15

Start & End Times: 1:25am to 1:50 am

Type of Sample: X WWTF Effluent / ___ Industrial Effluent / ___ Other ___

Is the sample: ___ Prechlorinated / X Dechlorinated / ___ Chlorine spiked in lab / ___ Unchlorinated

Collection Method: X Grab / ___ Composite

Sample ID: Naugatuck River

Date Collected: 7-29-15

Time Collected: 7:00 am

Type of Sample: X Receiving Water / ___ Other ___

Is the sample: X Unchlorinated

Site Description:

Sample Collection Procedures:

Sample Shipment

Method of Shipment: Phoenix

Relinquished By: T. Deller Date: 7-29-15 Time: 13:32

Received By: Date: 7/29/15 Time: 13:32

Relinquished By: Date: Time:

Received By: Date: 7/30/15 Time: 0850

FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 7.4 °C

Effluent COC# C35-2847

Temperature of Receiving Water Upon Receipt at Lab: 7.8 °C

Receiving Water COC# C35-2848

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042

Sample Set #3

NEW ENGLAND BIOASSAY
CHAIN-OF-CUSTODY

EFFLUENT

Sampler: Tom Deiler
Title: Lead Operator
Facility: Borough of Naugatuck WPCF
Address:
Naugatuck, Connecticut

RECEIVING WATER

Sampler: Tom Deiler
Title: Lead Operator
Facility: Borough of Naugatuck WPCF
Address:
Naugatuck, Connecticut

Sample Information

Collection Method: ___ Grab / X Composite
Sample ID: EFFWENT
Start & End Dates: 7-30-15 to 7-31-15
Start & End Times: 1:37pm to 1:00am
Type of Sample: X WWTF Effluent / ___ Industrial Effluent / ___ Other ___
Is the sample: ___ Prechlorinated / X Dechlorinated / ___ Chlorine spiked in lab / ___ Unchlorinated

Collection Method: X Grab / ___ Composite
Sample ID: Naugatuck River
Date Collected: 7-31-15
Time Collected: 7:00am
Type of Sample: X Receiving Water / ___ Other ___
Is the sample: X Unchlorinated

Site Description:

Sample Collection Procedures:

Sample Shipment

Method of Shipment: Phoenix

Relinquished By: T. Deiller	Date: 7-31-15	Time: 1:06
Received By:	Date: 2015/7/31	Time: 1:06
Relinquished By:	Date: 2015/7/31	Time:
Received By: Meghan Wagner	Date: 8/3/15	Time: 0910

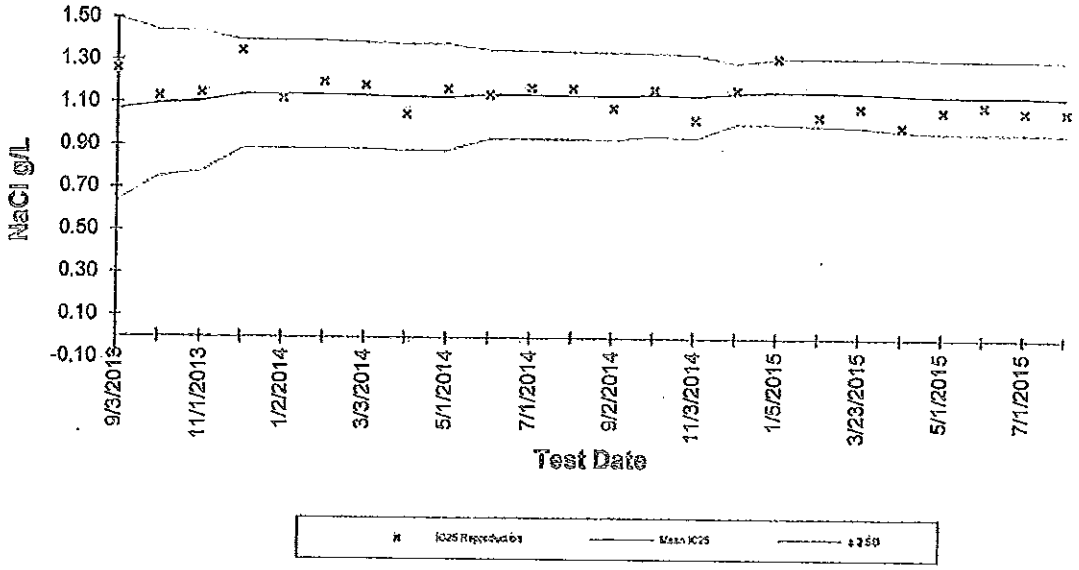
FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 3.3 °C
Temperature of Receiving Water Upon Receipt at Lab: 3.1, 3.3°C

Effluent COC# C35-2874
Receiving Water COC# C35-2875

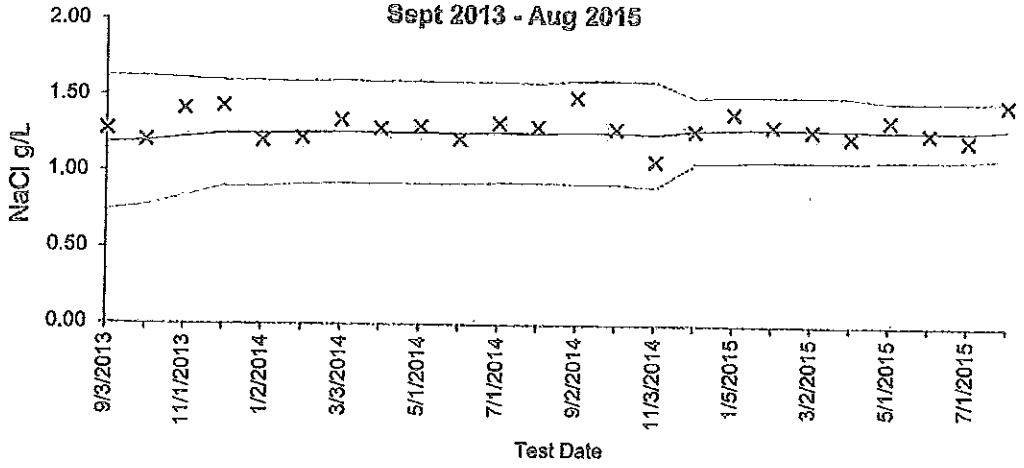
IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042

Sodium Chloride Reference Toxicant Data
Ceriodaphnia dubia Chronic Toxicity
Sept 2013 - Aug 2015



Test ID	Date	IC_{25}	Mean IC_{25}	STD	-2STD	+2STD	CV %
13-1894	9/3/2013	1.26	1.07	0.22	0.64	1.50	20.2
13-2139	10/1/2013	1.13	1.10	0.17	0.75	1.44	15.7
13-2263	11/1/2013	1.15	1.11	0.17	0.78	1.44	14.9
13-2438	12/3/2013	1.35	1.14	0.13	0.88	1.40	11.2
14-45	1/2/2014	1.12	1.14	0.13	0.89	1.40	11.2
14-174	2/3/2014	1.20	1.14	0.13	0.89	1.40	11.2
14-256	3/3/2014	1.19	1.14	0.13	0.89	1.39	11.0
14-580	4/14/2014	1.05	1.13	0.13	0.88	1.38	11.1
14-708	5/1/2014	1.17	1.13	0.13	0.88	1.38	11.1
14-913	6/2/2014	1.15	1.15	0.11	0.94	1.36	9.2
14-1016	7/1/2014	1.18	1.14	0.10	0.94	1.35	9.0
14-1202	8/1/2014	1.18	1.14	0.10	0.94	1.35	9.0
14-1426	9/2/2014	1.08	1.14	0.10	0.93	1.35	9.1
14-1629	10/1/2014	1.17	1.15	0.10	0.95	1.34	8.5
14-1886	11/3/2014	1.03	1.14	0.10	0.94	1.34	8.7
14-1982	12/1/2014	1.17	1.15	0.07	1.01	1.30	6.2
15-79	1/5/2015	1.32	1.16	0.08	1.01	1.32	6.6
15-148	2/2/2015	1.05	1.16	0.08	1.00	1.32	6.8
15-378	3/23/2015	1.09	1.16	0.08	1.00	1.32	7.0
15-460	4/1/2015	1.00	1.15	0.09	0.98	1.32	7.5
15-602	5/1/2015	1.07	1.14	0.09	0.97	1.32	7.5
15-750	6/1/2015	1.10	1.14	0.09	0.97	1.32	7.5
15-955	7/1/2015	1.07	1.14	0.09	0.97	1.32	7.5
15-1211	8/3/2015	1.07	1.14	0.09	0.97	1.31	7.6

Reference Toxicant Data
7-day Chronic Toxicity Test
P. promelas Growth Data
Sept 2013 - Aug 2015



Test ID	Date	IC_{25}	Mean IC_{25}	STD	-2STD	+2STD	CV %
13-2053	9/3/2013	1.28	1.19	0.22	0.74	1.63	18.66
13-2138	10/1/2013	1.20	1.20	0.21	0.77	1.62	17.68
13-2358	11/1/2013	1.41	1.23	0.19	0.84	1.61	15.79
13-2537	12/3/2013	1.43	1.25	0.17	0.90	1.60	13.89
14-46	1/2/2014	1.21	1.25	0.17	0.90	1.60	13.94
14-175	2/3/2014	1.22	1.26	0.17	0.92	1.60	13.46
14-325	3/3/2014	1.34	1.26	0.17	0.92	1.60	13.45
14-448	4/1/2014	1.29	1.26	0.17	0.92	1.60	13.39
14-709	5/1/2014	1.30	1.26	0.17	0.92	1.60	13.38
14-914	6/2/2014	1.22	1.26	0.17	0.92	1.59	13.36
14-1061	7/1/2014	1.32	1.26	0.17	0.93	1.60	13.20
14-1231	8/1/2014	1.30	1.26	0.16	0.93	1.59	13.03
14-1427	9/2/2014	1.49	1.27	0.17	0.92	1.61	13.44
14-1630	10/1/2014	1.29	1.27	0.17	0.93	1.61	13.44
14-1887	11/3/2014	1.08	1.25	0.17	0.91	1.60	13.83
14-2051	12/1/2014	1.28	1.28	0.11	1.07	1.50	8.44
15-80	1/5/2015	1.39	1.29	0.11	1.07	1.51	8.45
15-149	2/2/2015	1.31	1.30	0.11	1.08	1.51	8.24
15-255	3/2/2015	1.28	1.29	0.11	1.08	1.51	8.25
15-461	4/1/2015	1.24	1.29	0.11	1.08	1.50	8.28
15-604	5/1/2015	1.35	1.28	0.10	1.09	1.48	7.54
15-803	6/1/2015	1.27	1.28	0.10	1.09	1.48	7.54
15-956	7/1/2015	1.22	1.28	0.10	1.09	1.48	7.46
15-1212	8/3/2015	1.46	1.30	0.09	1.11	1.49	7.2

STATE OF CONNECTICUT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
WATER PROTECTION AND LAND REUSE BUREAU

BYPASS REPORT FORM

City or Town: Naugatuck, CT

Type of Bypass
- ✓ Raw Sewage
- ____ Disinfected Raw Sewage
- ____ Partially Treated Sewage
- ____ Disinfected Partially Treated Sewage
- ____ Sludge Spill
- ____ Other: _____

Location of Bypass
- ____ Treatment Plant
- ____ Pump Station
- ✓ Manhole, ____ Lateral, ____ Basement
- ____ Main, ____ Private

Cause of Bypass
- ____ Weather Conditions Heavy Rainfall
- ____ Mechanical Equipment Failure
- ____ Electric Utility Failure
- ____ Electrical Equipment Failure
- ____ Approved Shutdown
- ____ Limited capacity: ____ Dry weather ____ Wet weather

Blockage of Sewer Line due to:
____ Grease, ____ Roots, ____ Other: _____

Exact Location of By-Pass: 142 Hillside Ave

Date and Time By-Pass was Discovered: 8 / 11 / 2015 3 : 45 AM/(PM)

Date and Time By-Pass was Stopped: 8 / 11 / 2015 4 : 45 AM/(PM)

How By-Pass was Discovered: Sewage water was seen by resident coming through asphalt

Quantity/Volume of By-Pass: 20 gpm

How Quantity/Volume was Determined: Visual

If Equipment Failure, date of last inspection, maintenance or repairs: N/A / /

Receiving Waters (If Applicable) Naugatuck River (possibly, insignificant volume)

Steps taken to minimize volume and duration of By-Pass: Collections crew jetted line from up-stream | down-stream manholes

Action taken to eliminate By-Pass: CCTV, jetted line

Steps Taken to prevent recurrence of By-Pass: Repaired broken section of sewer

Was area of By-Pass cleaned of debris? ✓ Yes ____ No

Method Used: Manual Labor

Date of Last Blockage__ / Back up__ / Surcharge___ at this location: No record / /

7/27/2011

BYPASS NOTIFICATION LOG

Permittee shall notify DEEP within 2 hours of becoming aware of the bypass and shall submit a written report within 5 days.

2 hours notification required

DATE/ TIME

___/___ CT DEEP - Iliana Raffa (860) 424-3758 (Primary DEEP Contact)
If Iliana Raffa is not available, you **must** call Municipal Facilities Section at number below:

8/11/4:00 PM (By Mail) CT DEEP (860) 424-3704 [(860) 424-3338 (DEEP Emergency Dispatch) only for after hours] DO NOT LEAVE VOICE MAIL MESSAGES

Operator 201 Name of person contacted
case #: 2015-04053

___/___ CT Bureau of Aquaculture (203) 874-0696 Option 2 Monday through Friday 8:00 and 4:30 pm (Required only if bypass is south of Interstate Route 95)
_____ Name of person contacted.
After hours/weekend must refer to call list provided by Bureau of Aquaculture
DO NOT LEAVE VOICE MAIL MESSAGES

___/___ CT Dept. of Public Health (860) 509-7333 (Drinking Water Section) notify Monday through Friday 8:30 to 5:00 pm if bypass occurred in following towns: Bristol, Cheshire, Danbury, Goshen, Groton, Hamden, Manchester, Mansfield, Middletown, North Haven, Norwalk, Ridgefield, Shelton, Stamford Vernon, and Woodstock.

___/___ _____ Name of person contacted

___/___ CT Dept. of Public Health (860) 509-7296 (Recreation Section) notify from Monday through Friday 8:30 to 5:00pm if bypass occurred from April 1st through September 30th.

_____ Name of person contacted

___/___ Local Health Department or Regional Health District
_____ Name of person contacted

___/___ Health Director of Contiguous Towns (Coastal Plants Only) or Health Director of Town Downstream (Inland Plants)

___ _____ Name of person contacted

Final report within 5 days

8/12/1:45 PM Fax to CT DEEP, Iliana Ayala (860) 424-4067

___/___ Fax to CT Aquaculture (203) 783-9976 (If south of I-95)

8/12/2:00 Fax to Local Health Department or Regional Health District

Report Submitted by: John Bartoski Title: Plant Manager
Signature: John Bartoski Date: 8-12-15 Phone # 203-723-1433
Submit Completed Report to either by fax or by mail: State of Connecticut, Department of Energy & Environmental Protection, Water Bureau - Attention: Iliana Raffa, 79 Elm Street, Hartford, CT 06106-5127 Rev. 7/27/2011

* * * Communication Result Report (Aug. 12. 2015 1:43PM) * * *

1) Veolia Water-NET LLC
2)

Date/Time: Aug. 12. 2015 1:42PM

File No.	Mode	Destination	Pg(s)	Result	Page Not Sent
7019	Memory TX	8604244067	P. 2	OK	

Reason for error
E. 1) Hang up or line fail
E. 2) Busy
E. 3) No answer
E. 4) No facsimile connection
E. 5) Exceeded max. E-mail size
E. 6) Destination does not support IP-Fax

STATE OF CONNECTICUT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
WATER PROTECTION AND LAND REUSE BUREAU

BYPASS REPORT FORM

City or Town: Naugatuck, CT

Type of Bypass
- ✓ Raw Sewage
- ___ Disinfected Raw Sewage
- ___ Partially Treated Sewage
- ___ Disinfected Partially Treated Sewage
- ___ Sludge Spill
- ___ Other:

Location of Bypass
- ___ Treatment Plant
- ___ Pump Station
- ✓ Manhole, ___ Lateral, ___ Basement
- ___ Main, ___ Private

Cause of Bypass
- ___ Weather Conditions Heavy Rainfall
- ___ Mechanical Equipment Failure
- ___ Electric Utility Failure
- ___ Electrical Equipment Failure
- ___ Approved Shutdown
- ___ Limited capacity: ___ Dry weather ___ Wet weather
- Blockage of Sewer Line due to: ___ Grease, ___ Roots, ___ Other:

Exact Location of By-Pass: 142 Hillside Ave

Date and Time By-Pass was Discovered: 8 / 11 /2015 3 :15 AM/PM

Date and Time By-Pass was Stopped: 8 / 11 /2015 4 :15 AM/PM

How By-Pass was Discovered: Sewage water was seen by resident coming through asphalt

Quantity/Volume of By-Pass: 20 gpm

How Quantity/Volume was Determined: Visual

If Equipment Failure, date of last inspection, maintenance or repairs: N/A / /

Receiving Waters (If Applicable) Naugatuck River (possibly, insignificant volume)

Steps taken to minimize volume and duration of By-Pass: Collections crew jetted line from up-stream | down-stream manholes

Action taken to eliminate By-Pass: CCTV, jetted line

Steps Taken to prevent recurrence of By-Pass: Repaired broken section of sewer

Was area of By-Pass cleaned of debris? ✓ Yes ___ No

Method Used: Manual Labor

Date of Last Blockage / Backup / Surcharge ___ at this location: No record / /

7/27/2011

* * * Communication Result Report (Aug. 12. 2015 2:01PM) * * *

1) Veolia Water-NET LLC
2)

Date/Time: Aug. 12. 2015 1:54PM

File No.	Mode	Destination	Pg(s)	Result	Page Not Sent
7023	Memory TX	2038813259	P. 1	OK	

Reason for error
E. 1) Hang up or line fail
E. 2) Busy
E. 3) No answer
E. 4) No facsimile connection
E. 5) Exceeded max. E-mail size
E. 6) Destination does not support IP-Fax

BYPASS NOTIFICATION LOG

Permittee shall notify DEEP within 2 hours of becoming aware of the bypass and shall submit a written report within 5 days.

2 hours notification required

DATE/ TIME

__/__ CT DEEP – Iliana Raffa (860) 424-3758 (Primary DEEP Contact)
If Iliana Raffa is not available, you must call Municipal Facilities Section at number below:

8/12/1:00 PM (by Mike)
CT DEEP (860) 424-3704 [(860) 424-3338 (DEEP Emergency Dispatch) only for after hours] DO NOT LEAVE VOICE MAIL MESSAGES

Operator 201 Name of person contacted
case # 2015-01053

__/__ CT Bureau of Aquaculture (203) 874-0696 Option 2 Monday through Friday 8:00 and 4:30 pm (Required only if bypass is south of Interstate Route 95)
_____ Name of person contacted.
After hours/weekend must refer to call list provided by Bureau of Aquaculture
DO NOT LEAVE VOICE MAIL MESSAGES

__/__ CT Dept. of Public Health (860) 509-7333 (Drinking Water Section) notify Monday through Friday 8:30 to 5:00 pm if bypass occurred in following towns: Bristol, Cheshire, Danbury, Goshen, Groton, Hamden, Manchester, Mansfield, Middletown, North Haven, Norwalk, Ridgefield, Shelton, Stamford Vernon, and Woodstock.
__/__ _____ Name of person contacted

__/__ CT Dept. of Public Health (860) 509-7296 (Recreation Section) notify from Monday through Friday 8:30 to 5:00pm if bypass occurred from April 1st through September 30th.
_____ Name of person contacted

__/__ Local Health Department or Regional Health District
_____ Name of person contacted

__/__ Health Director of Contiguous Towns (Coastal Plants Only) or Health Director of Town Downstream (Inland Plants)
___ _____ Name of person contacted

Final report within 5 days

8/12/1:45 PM Fax to CT DEEP, Iliana Ayala (860) 424-4067

__/__ Fax to CT Aquaculture (203) 783-9976 (If south of I-95)

8/12/2:00 Fax to Local Health Department or Regional Health District

Report Submitted by: Tom Belardi Title: Plant Manager
Signature: [signature] Date: 8-12-15 Phone # 203-723-1933
Submit Completed Report to either by fax or by mail: State of Connecticut, Department of Energy & Environmental Protection, Water Bureau - Attention: Iliana Raffa, 79 Elm Street, Hartford, CT 06106-5127 Rev. 7/27/2011

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

Clean Water Fund Memorandum (2015-001)

TO: Connecticut Municipalities, Water Pollution Control Authorities, and Consultants

RE: Progress Payments on Engineering Reports funded through the Connecticut Clean Water Fund

I. PURPOSE

To provide direction on the level of payment to be provided for engineering reports funded through the Connecticut Clean Water Fund prior to final DEEP approval of the report.

II. BACKGROUND

In general, projects whose design and construction are funded through the CWF are initiated by an engineering report (also known as a facilities plan). The engineering report is prepared to identify the severity and extent of the existing and potential pollution which may best be abated by the action of a municipality, develop and evaluate alternatives to address the pollution, recommend an alternative or combination of alternatives for implementation, develop a schedule for implementation, and provide an analysis of the environmental impacts of the recommended project (direct, indirect, economic, and social).

Under the Clean Water Fund, two mechanisms exist for funding of engineering reports: either a combination of grants and loans (generally a 20% grant with a 2% loan for the balance) or a 55% grant with the balance provided by local funds per CGS Section 22a-478(e)(2).

Progress payments to the municipality for the eligible cost of the engineering report are intended to provide reimbursement of the costs of developing that report. Eligible costs for development of an engineering report are those allowed under RCSA Section 22a-482-4(a), and must be approved in writing by DEEP prior to incurring such costs to preserve eligibility for reimbursement. Limitations on those payments are intended to ensure that adequate and timely regulatory and public review are incorporated in the planning process such that the final document is complete, comprehensive and approvable at both the local and state level.

III. PROGRESS PAYMENTS

Clean Water Fund progress payments to the municipality for the development and completion of engineering reports shall have the following limitations:

A. To exceed 50% of the DEEP-approved eligible costs, the engineering report shall have been the subject of a scoping notice published in accordance with the requirements of CEPA.

B. To exceed 90% of the DEEP-approved eligible costs, the engineering report shall have been submitted in draft form for final review by DEEP.

C. To exceed 95% of the DEEP-approved eligible costs, either a draft EIE shall have been published for public review and comment, or a Post-Scoping notice shall have been published, indicating that an EIE is not warranted.

D. To receive 100% of the DEEP-approved eligible costs, a final approval letter authorizing final payment must have been signed by DEEP. Such a letter will not be issued until the report has been revised to reflect all review comments from both DEEP as well as comments received during the CEPA process and public outreach.

IV. EXCEPTIONS

If the generic or agency Environmental Classification Document excludes the subject matter of the engineering report from CEPA requirements, then progress payments on said report shall only be bound by the payment limits in III.B and III.D

V. APPLICABILITY

The conditions contained in this memorandum are effective for all planning projects which are active on or after the date of the memorandum.

VI. DEFINITIONS

CEPA: The Connecticut Environmental Policy Act (RCSA 22a-1a-1 through 12)

CGS: Connecticut General Statutes

CWF: Connecticut Clean Water Fund (CGS 22a-475 through 482)

DEEP: Connecticut Department of Energy and Environmental Protection

EIE: Environmental Impact Evaluation

RCSA: Regulations of Connecticut State Agencies

Municipality: Any "municipality" eligible for the CWF, as defined in Section 22a-475 of the CGS.

August 25, 2015
Date

Denise Ruzicka, Director
Planning & Standards Division
Bureau of Water Protection & Land Reuse

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

WOODARD &CURRAN

TD BANK, NA
PORTLAND, MAINE

52-7445
2112

313656

September 3, 2015

AMOUNT

Five Hundred and 00/100 Dollars

500.00

PAY
TO THE
ORDER
OF

CT DEEP
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
CENTRAL PERMIT PROCESSING UNIT
79 ELM STREET
HARTFORD, CT 06106-5127

Checks over $5000 require two signatures

⑈313656⑈ ⑆211274505⑆ 2427662588⑈

WOODARD &CURRAN

COMMITMENT & INTEGRITY
DRIVE RESULTS

41 Hutchins Drive
Portland, Maine 04102

T 800.426.4262
T 207.774.2112

313656

Check Date: 9/3/2015

Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
090215 CK REQ	9/2/2015	000000416752	500.00			500.00
CT DEEP		TOTAL	500.00			500.00
TDBANK AP - WC	60	028911				

PLEASE DETACH THIS PORTION AND RETAIN FOR YOUR RECORDS.

Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

General Permit Registration Form for Miscellaneous Discharges of Sewer Compatible Wastewater

CPPU USE ONLY
App #:
Doc #:
Check #:
Program: Industrial General Permits

Please complete this form in accordance with the instructions (DEEP-WPED-INST-0012) to ensure the proper handling of your registration. Print or type unless otherwise noted. You must submit the registration fee along with this form.

Part I: Registration Type

Check the appropriate box identifying the registration type.

This registration is for a (check all that apply):	For renewals or modifications:
☒ *New* general permit registration	1. Existing permit or authorization number:
☐ *Replacement* of an individual permit or an authorization	2. Expiration Date:
☐ *Renewal* of an existing registration	
☐ new *ownership*	
☐ A *modification* of an existing registration	
Town Location: Naugatuck	
Brief Description of Activity Producing Discharge: Activities associated with research & development laboratories, offices, and warehouse space.	

Part II: Fee Information

Before completing this part, it will be necessary to complete the table of discharges in Part V.a. of this registration form in order to determine the correct fee below. You will then check the applicable box below identifying your registration type to determine your registration fee.

☒ For discharges requiring **Registration Only**	$500.00 [#1892]
☐ For discharges requiring **Registration with Approval**	$1,000.00 [#1893]
The applicable registration fee checked above is to be submitted with *each* registration that you are submitting. **Each site registering under the General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater requires a separate registration.** The fee for municipalities is 50% of the above listed rate. The registration will not be processed without the fee. The fee shall be non-refundable and shall be paid by check or money order to the Department of Energy and Environmental Protection.	

Part III: Registrant Information

- *If a registrant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, registrant's name shall be stated **exactly** as it is registered with the Secretary of State. The facility operator must be the registrant as opposed to the facility owner. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)*
- *If a registrant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*
- *If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change Company/Individual Information to the address indicated on the form. If there is a change in name of the entity holding a DEEP license or a change in ownership, contact the Office of Planning and Program Development (OPPD) at 860-424-3003. For any other changes you must contact the specific program from which you hold a current DEEP license.*

1. **Registrant/Facility Operator Name:** Chemtura Corporation

Mailing Address: 199 Benson Road

City/Town: Middlebury State: CT Zip Code: 06749

Business Phone: (203) 714-8660 ext.:

Contact Person: Kate Balanda Phone: (203) 558-5489 ext.

*E-mail: kate.balanda@chemtura.com

*By providing this e-mail address you are agreeing to receive official correspondence from the Department, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify the Department if your e-mail address changes.

a) Registrant Type (check one):

☐ Individual ☐ federal agency ☐ state agency ☐ municipality ☐ tribal

☒ *business entity (*If a business entity complete I through iii):

i) check type: ☒ corporation ☐ limited liability company ☐ limited partnership
☐ limited liability partnership ☐ statutory trust ☐ Other: _____

ii) provide Secretary of the State business ID #:0633035 This information can be accessed at *the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)*

iii) ☐ Check here if your business is **NOT** registered with the Secretary of State's office.

☐ Check here if any co-registrants. If so, attach additional sheet(s) with the required information as requested above.

b) Registrant's interest in property at which the proposed activity is to be located:

☒ site owner ☐ option holder ☐ lessee ☐ easement holder ☒ operator

☐ other (specify): _____

2. **Billing contact, if different than the registrant.**

Name: **Same as registrant**

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.:

Contact Person: Phone: ext.

E-mail:

Part III: Registrant Information (continued)

3. **Primary contact for Departmental correspondence and inquiries, if different than the registrant.**

Name: **Same as registrant.**

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.:

Contact Person: Phone: ext.

*E-mail:

*By providing this e-mail address you are agreeing to receive official correspondence from the Department, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify the Department if your e-mail address changes.

4. **Facility Owner, if different than the registrant.**

Name: **Same as registrant.**

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.:

Contact Person: Phone: ext.

E-mail:

5. **Attorney or other representative, if applicable.**

Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.:

Contact Person: Phone: ext.

E-mail:

6. **Engineer(s) or other consultant(s) employed or retained to assist in preparing the registration or in designing or constructing the activity.**

Name: **Woodard & Curran Inc.**

Mailing Address: 1520 Highland Avenue

City/Town: Cheshire State: CT Zip Code: 06410

Business Phone: 203-271-0379 ext.: 2311

Contact Person: Gilbert S. Ryan Phone: 203-699-6105 ext.

E-mail: gryan@woodardcurran.com

Service Provided: **Collection of samples for screening analysis and preparation of registration form.**

☐ Check here if additional sheets are necessary, and label and attach them to this sheet.

Part IV: Site Information

1. **SITE NAME AND LOCATION**

   Name of Site : **Chemtura Corporation**

   Street Address or Location Description: **400 Elm Street and 12 Spencer Street**

   City/Town: **Naugatuck** State: **CT** Zip Code: **06770**

2. **INDIAN LANDS:** Is or will the facility be located on federally recognized Indian lands? ☐ Yes ☒ No

3. **COASTAL BOUNDARY:** Is the activity which is the subject of this registration located within the coastal boundary as delineated on DEEP approved coastal boundary maps? ☐ Yes ☒ No

   If yes, and this registration is for a new authorization or a modification of an existing authorization where the physical footprint of the subject activity is modified, you must submit a *Coastal Consistency Review Form* (DEEP-APP-004) with your application as Attachment A.

   Information on the coastal boundary is available at www.cteco.uconn.edu/map_catalog.asp (Select the town and then select coastal boundary. If the town is not within the coastal boundary you will not be able to select the coastal boundary map.) or the local town hall or on the "Coastal Boundary Map" available at DEEP Maps and Publications (860-424-3555).

4. **ENDANGERED OR THREATENED SPECIES:** According to the most current "State and Federal Listed Species and Natural Communities Map", is the project site located within an area identified as a habitat for endangered, threatened or special concern species? ☐ Yes ☒ No Date of Map: **12/2014**

   If yes, complete and submit a *Request for NDDB State Listed Species Review Form* (DEEP-APP-007) to the address specified on the form. **Please note NDDB review generally takes 4 to 6 weeks and may require additional documentation from the registrant.**

   A **copy** of the completed *Request for NDDB State Listed Species Review Form* **and** the CT NDDB response ***must*** be submitted with this completed registration as Attachment B.

   For more information visit the DEEP website at www.ct.gov/deep/nddbrequest or call the NDDB at 860-424-3011.

5. **AQUIFER PROTECTION AREAS:** Is the site located within a mapped Level A or Level B Aquifer Protection Area, as defined in CGS section 22a-354a through 22a-354bb?

   ☐ Yes ☒ No If **yes**, check one: ☐ Level A **or** ☐ Level B

   If **Level A**, are any of the regulated activities, as defined in RCSA section 22a-354i-1(34), conducted on this site? ☐ Yes ☐ No

   If **yes**, and your business is **not** already registered with the Aquifer Protection Program, contact the local aquifer protection agent or DEEP to take appropriate actions.

   For more information on the Aquifer Protection Area Program visit the DEEP website at www.ct.gov/deep/aquiferprotection or contact the program at 860-424-3020.

6. **CONSERVATION OR PRESERVATION RESTRICTION:** Is the property subject to a conservation or preservation restriction? ☐ Yes ☒ No

   If Yes, proof of written notice of this registration to the holder of such restriction or a letter from the holder of such restriction verifying that this registration is in compliance with the terms of the restriction, must be submitted as Attachment C.

Part V.a: Facility Wastewater Discharge Information

Please see the instructions for Part V for information on completing the table below.

1. MISC Wastewater Categories	2. Max Daily Flow of discharge *NOT* requiring treatment (gpd)	3. Max Daily Flow of discharge requiring treatment (gpd)	4. Sum of #2. & #3. (gpd)	5. NetDMR? (check box if sum in box to left >5000 gpd)
Group I Discharges				
☒ Air Comp. Condensate & Blowdown	0	25	25	☐
☒ Boiler Blowdown	500	0	500	☐
☐ Contact Cooling & Heating Water				☐
☐ Cutting & Grinding				☐
☐ Non-Destruct Testing Rinsewater				☐
☐ Printing and Photo Processing				☐
☐ Tumbling & Cleaning				☐
☒ Water Treatment	1,600	0	1,600	☐
☒ Other (specify in Part Vb):	1,500	0	1,500	☐
6. Cumulative Max Daily Flow of Group I Wastewaters	a. 3,600	b. 25	c. 3,625	
Group II Discharges				
☒ Non-Contact Cooling Water	15,000	0	15,000	NA
☐ Hydrostatic Pressure testing				NA
☐ Commercial Laundry				(>25,000 gpd) ☐
☐ Food Processing				(>25,000 gpd) ☐
7. Cumulative Max Daily Flow of Group II Wastewaters	a. 15,000	b. 0	c. 15,000	
Group III Discharges				
☒ Building Maintenance	100	0	100	NA
☒ Fire Suppression Test	500	0	500	NA
☐ Swimming Pool				NA
8. Cumulative Maximum Daily Flow of Group III Wastewaters	a. 600	b. 0	c. 600	
9. Facility Total Maximum Daily Flow (6c. + 7c. + 8c.)			19,225	

10. Sum of all Group I and Group II discharges (6c.+ 7c.) to determine if Qualified Professional certification is necessary 4,225 (gallons per day)

11. Maximum instantaneous flowrate of the facility: 100 (gallons per minute)

Part V.a: Facility Wastewater Discharge Information (continued)

12. Based on the information gathered in the table in Part V.a. above and further explanatory information in the instructions, please check the appropriate box in the table below to determine if **Registration Only** or **Registration with Approval** is required for your discharge to be authorized. Then please return to "Part II. Fee Information" to check the proper fee box.

Registration Required?	Discharge Group	Total Maximum Daily Flow Thresholds	Fees[1]
No Registration (no further submission necessary)	I	< 1,000 gpd	$0
	II	<5,000 gpd	
	III	All Flows	
☒ **Registration Only**	I (w/o treatment)	1,000 ≤ Flow < 25,000 gpd	$500.00
	II (w/o treatment)	5,000 ≤ Flow < 25,000 gpd	
	II (noncontact cooling water)	Flow ≥ 25,000 gpd	
	IV (w/o treatment)	All Flows	
☐ **Registration with Approval**	All discharges requiring variance	All Flows	$1,000.00
	I (w/treatment)	1,000 ≤ Flow < 25,000 gpd	
	II (w/treatment)	5,000 ≤ Flow < 25,000 gpd	
	IV (w/treatment)	All Flows	
	I + II (with or without treatment)	Flow ≥ 25,000 gpd	

[1]Municipalities will receive a 50% discount on fees.

Part V.b: Individual Discharge Information

The below information must be provided for each category or categories of discharge that will discharge to a sanitary sewer lateral and for which monitoring samples will be taken. Attach additional sheets as necessary. See instructions for further guidance.

1. Discharge Serial Number: **001**
2. If registration is new, the anticipated start date of the discharge: **Existing**
3. Discharge Location: **Sanitary sewer connection**
4. Monitoring Location: **Effluent from oil/water separator**
5. Name of Receiving POTW: **Naugatuck Water Pollution Control Facility**
6. Method by which POTW will receive discharge: ☒ Sanitary Sewer ☐ Transported by truck
7. Miscellaneous Discharge Category(ies) (check all that apply):

☒ Air compressor condensate & blowdown	☐ Non-contact cooling water
☐ Boiler blowdown	☐ Hydrostatic pressure testing wastewater
☐ Contact cooling & heating water	☐ Commercial laundry wastewater
☐ Cutting and grinding wastewater	☐ Food processing wastewater
☐ Non-destruct testing rinsewater	☐ Building maintenance wastewater
☐ Printing and photo processing wastewater	☐ Fire suppression testing wastewater
☐ Tumbling and cleaning wastewater	☐ Swimming pool wastewaters
☐ Water treatment wastewater	☐ **Other processing wastewater**

8. Is discharge: ☐ continuous throughout the operating hours or ☒ a batch discharge
9. Total Maximum Daily Flow (gpd): **25**
10. Method of Flow Measurement: **Estimate from engineering practice**
11. A detailed description of the processes or activities generating the discharge(s). When different processes or activities produce different discharges, please be specific about each.

    Condensate and blowdown from air compressors.

Part V.b: Individual Discharge Information (continued)

12. A list of the substances used or added to the wastewater, including but not limited to those substances for which effluent limits are specified in Section 5(a) of the subject general permit and those substances listed in Appendix B Table II, III and V or Appendix D of section 22a-430-4 of the Regulations of Connecticut State Agencies. Any such substances shall be identified by their generic chemical names and Chemical Abstract System (CAS) number.

    None.

13. A description of any best management practices, such as conservation and reuse of water, minimization, substitution and reuse of chemicals, and other pollution prevention measures, implemented or to be implemented by the registrant to minimize any adverse environmental effects of the subject discharge.

    Air compressors are subject to regular maintenance.

14. A description of any wastewater treatment processes, including, but not limited to, neutralization, oil/water separation, silver recovery and precipitation of solids or metals, etc. which the registrant utilizes or will utilize to achieve compliance with any of the effluent limits or conditions specified in Section 5(a) of this general permit.

    Oil/water separation.

Part V.b: Individual Discharge Information

The below information must be provided for each category or categories of discharge that will discharge to a sanitary sewer lateral and for which monitoring samples will be taken. Attach additional sheets as necessary. See instructions for further guidance.

1. Discharge Serial Number: 002
2. If registration is new, the anticipated start date of the discharge: Existing
3. Discharge Location: Sanitary sewer connection
4. Monitoring Location: From piping prior to discharge to sewer connection
5. Name of Receiving POTW: Naugatuck Water Pollution Control Facility
6. Method by which POTW will receive discharge: ☒ Sanitary Sewer ☐ Transported by truck
7. Miscellaneous Discharge Category(ies) (check all that apply):

☐ Air compressor condensate & blowdown	☐ Non-contact cooling water
☒ Boiler blowdown	☐ Hydrostatic pressure testing wastewater
☐ Contact cooling & heating water	☐ Commercial laundry wastewater
☐ Cutting and grinding wastewater	☐ Food processing wastewater
☐ Non-destruct testing rinsewater	☐ Building maintenance wastewater
☐ Printing and photo processing wastewater	☐ Fire suppression testing wastewater
☐ Tumbling and cleaning wastewater	☐ Swimming pool wastewaters
☐ Water treatment wastewater	☐ **Other processing wastewater**

8. Is discharge: ☐ continuous throughout the operating hours or ☒ a batch discharge
9. Total Maximum Daily Flow (gpd): 500
10. Method of Flow Measurement: Estimate from engineering practice
11. A detailed description of the processes or activities generating the discharge(s). When different processes or activities produce different discharges, please be specific about each.

    This discharge includes: 1) boiler blowdown and equipment draining; 2) deaerator overflow; 3) normal condensate drainage and leakage from the steam supply and return system; and 4) emergency condensate discharge.

Part V.b: Individual Discharge Information (continued)

12. A list of the substances used or added to the wastewater, including but not limited to those substances for which effluent limits are specified in Section 5(a) of the subject general permit and those substances listed in Appendix B Table II, III and V or Appendix D of section 22a-430-4 of the Regulations of Connecticut State Agencies. Any such substances shall be identified by their generic chemical names and Chemical Abstract System (CAS) number.

    There is the potential for boiler treatment chemicals (e.g., antiscalants, corrosion inhibitors, oxygen scavengers, etc.) added to the system to be present in the boiler blowdown and equipment draining, deaerator overflow, and condensate. These treatment products may contain one or more of the following specific chemicals: cyclohexylamine (108-91-8); 2-diethylaminoethanol (100-37-8); 1-hydroxyethylidene-1,1-diphosphoric acid, tetrapotassium salt (14860-53-8); nitrous acid, sodium salt (7632-00-0); potassium hydroxide (1310-58-3); potassium sulfite (10117-38-1); sodium hydroxide (1310-73-2); sodium sulfite (7757-83-7); and sodium tetraborate pentahydrate (12179-04-3).

13. A description of any best management practices, such as conservation and reuse of water, minimization, substitution and reuse of chemicals, and other pollution prevention measures, implemented or to be implemented by the registrant to minimize any adverse environmental effects of the subject discharge.

    The boilers are maintained in accordance with the manufacturers' specifications and inspected / serviced on a regular basis to ensure proper operation. Equipment that is not operating properly is promptly repaired, removed, or replaced. The quantity of wastewater blown down and the quantities of chemicals used in the boilers are limited to those amounts that are necessary to maintain proper operation of the system. Equipment is only drained, as necessary, to perform required maintenance. Regular maintenance is performed n the steam distribution and condensate return system to ensure proper operation and to minimize the loss of condensate to the drain.

14. A description of any wastewater treatment processes, including, but not limited to, neutralization, oil/water separation, silver recovery and precipitation of solids or metals, etc. which the registrant utilizes or will utilize to achieve compliance with any of the effluent limits or conditions specified in Section 5(a) of this general permit.

    None.

Part V.b: Individual Discharge Information

The below information must be provided for each category or categories of discharge that will discharge to a sanitary sewer lateral and for which monitoring samples will be taken. Attach additional sheets as necessary. See instructions for further guidance.

1. Discharge Serial Number: 003
2. If registration is new, the anticipated start date of the discharge: Existing
3. Discharge Location: Sanitary sewer connection
4. Monitoring Location: From piping prior to discharge to sewer connection
5. Name of Receiving POTW: Naugatuck Water Pollution Control Facility
6. Method by which POTW will receive discharge: ☒ Sanitary Sewer ☐ Transported by truck
7. Miscellaneous Discharge Category(ies) (check all that apply):

☐ Air compressor condensate & blowdown	☐ Non-contact cooling water
☐ Boiler blowdown	☐ Hydrostatic pressure testing wastewater
☐ Contact cooling & heating water	☐ Commercial laundry wastewater
☐ Cutting and grinding wastewater	☐ Food processing wastewater
☐ Non-destruct testing rinsewater	☐ Building maintenance wastewater
☐ Printing and photo processing wastewater	☐ Fire suppression testing wastewater
☐ Tumbling and cleaning wastewater	☐ Swimming pool wastewaters
☒ Water treatment wastewater	☐ **Other processing wastewater**

8. Is discharge: ☐ continuous throughout the operating hours or ☒ a batch discharge
9. Total Maximum Daily Flow (gpd): 1,600
10. Method of Flow Measurement: Estimate from engineering practice
11. A detailed description of the processes or activities generating the discharge(s). When different processes or activities produce different discharges, please be specific about each.

    Ion exchange water softeners are used to treat city water that is then used as boiler make-up water. Wastewater is generated through the regeneration of the water softeners using a brine solution consisting of salt and city water.

Part V.b: Individual Discharge Information (continued)

12. A list of the substances used or added to the wastewater, including but not limited to those substances for which effluent limits are specified in Section 5(a) of the subject general permit and those substances listed in Appendix B Table II, III and V or Appendix D of section 22a-430-4 of the Regulations of Connecticut State Agencies. Any such substances shall be identified by their generic chemical names and Chemical Abstract System (CAS) number.

    Sodium chloride (7647-14-5).

13. A description of any best management practices, such as conservation and reuse of water, minimization, substitution and reuse of chemicals, and other pollution prevention measures, implemented or to be implemented by the registrant to minimize any adverse environmental effects of the subject discharge.

    The softeners are maintained in proper operating condition. Regeneration is performed, only as required, in accordance with the manufacturer's and/or service provider's settings.

14. A description of any wastewater treatment processes, including, but not limited to, neutralization, oil/water separation, silver recovery and precipitation of solids or metals, etc. which the registrant utilizes or will utilize to achieve compliance with any of the effluent limits or conditions specified in Section 5(a) of this general permit.

    None.

Part V.b: Individual Discharge Information

The below information must be provided for each category or categories of discharge that will discharge to a sanitary sewer lateral and for which monitoring samples will be taken. Attach additional sheets as necessary. See instructions for further guidance.

1. Discharge Serial Number: 004
2. If registration is new, the anticipated start date of the discharge: Existing
3. Discharge Location: Sanitary sewer connection
4. Monitoring Location: From equipment / piping prior to discharge to sewer connection
5. Name of Receiving POTW: Naugatuck Water Pollution Control Facility
6. Method by which POTW will receive discharge: ☒ Sanitary Sewer ☐ Transported by truck
7. Miscellaneous Discharge Category(ies) (check all that apply):

☐ Air compressor condensate & blowdown	☒ Non-contact cooling water
☐ Boiler blowdown	☐ Hydrostatic pressure testing wastewater
☐ Contact cooling & heating water	☐ Commercial laundry wastewater
☐ Cutting and grinding wastewater	☐ Food processing wastewater
☐ Non-destruct testing rinsewater	☐ Building maintenance wastewater
☐ Printing and photo processing wastewater	☐ Fire suppression testing wastewater
☐ Tumbling and cleaning wastewater	☐ Swimming pool wastewaters
☐ Water treatment wastewater	☐ **Other processing wastewater**

8. Is discharge: ☐ continuous throughout the operating hours or ☒ a batch discharge
9. Total Maximum Daily Flow (gpd): 15,000
10. Method of Flow Measurement: Estimate from engineering practice and knowledge of equipment operation
11. A detailed description of the processes or activities generating the discharge(s). When different processes or activities produce different discharges, please be specific about each.

This discharge includes: 1) cooling tower blowdown and draining for maintenance as well as cooling tower emergency discharges. As part of the operation of the cooling tower, cooling water evaporates and the concentration of dissolved minerals in the water increases. Blowdown is required in order to maintain the dissolved solids concentration / conductivity of the non-contact cooling water at the levels necessary for proper operation of the cooling system; 2) quench water (i.e., city water) that is used to cool boiler blowdown; 3) once-through non-contact cooling water (i.e., city water) used for equipment cooling; 4) draining of equipment containing chilled water; and 5) draining of equipment containing condenser (cooling tower) water.

Part V.b: Individual Discharge Information (continued)

12. A list of the substances used or added to the wastewater, including but not limited to those substances for which effluent limits are specified in Section 5(a) of the subject general permit and those substances listed in Appendix B Table II, III and V or Appendix D of section 22a-430-4 of the Regulations of Connecticut State Agencies. Any such substances shall be identified by their generic chemical names and Chemical Abstract System (CAS) number.

    Water treatment chemicals are used in the cooling tower and chilled water systems to promote heat transfer efficiency, extend equipment life, as biocides, and minimize water usage. These treatment chemicals are generally identified by their treatment characteristics (e.g., "anti-scalant," "anti-corrosive," "microbiocide," etc.). The treatment mixtures for these systems may contain one or more of the following specific chemicals: aromatic azole (blend); benzotriazole (95-14-7); 2-phosphono-1,2,4-butanetricarboxylic acid, sodium salt (40372-66-5); potassium hydroxide (1310-58-3); sodium bromosulfamate (134509-56-1); sodium chlorosulfamate (17172-27-9); sodium hydroxide (1310-73-2); and sodium tetraborate pentahydrate (12179-04-3).

13. A description of any best management practices, such as conservation and reuse of water, minimization, substitution and reuse of chemicals, and other pollution prevention measures, implemented or to be implemented by the registrant to minimize any adverse environmental effects of the subject discharge.

    The non-contact cooling and chilled water systems are maintained in accordance with the manufacturers' and/or service provider's specifications. The systems components are inspected / serviced on a routine basis to ensure proper operation. Equipment that is not operating properly is promptly repaired, removed or replaced. The quantity of wastewater blown down and the quantities of chemicals used in the cooling water system are limited to those amounts that are necessary to maintain proper operation of the system. Equipment is only drained as necessary to perform required maintenance. Only the quantity of quench water that is required to cool the boiler blowdown in order to adequately protect downstream equipment, piping, instrumentation, etc. is used.

14. A description of any wastewater treatment processes, including, but not limited to, neutralization, oil/water separation, silver recovery and precipitation of solids or metals, etc. which the registrant utilizes or will utilize to achieve compliance with any of the effluent limits or conditions specified in Section 5(a) of this general permit.

    None.

Part V.b: Individual Discharge Information

The below information must be provided for each category or categories of discharge that will discharge to a sanitary sewer lateral and for which monitoring samples will be taken. Attach additional sheets as necessary. See instructions for further guidance.

1. Discharge Serial Number: 005
2. If registration is new, the anticipated start date of the discharge: Variable
3. Discharge Location: Sanitary sewer connection
4. Monitoring Location: From equipment / piping prior to discharge to sewer connection
5. Name of Receiving POTW: Naugatuck Water Pollution Control Facility
6. Method by which POTW will receive discharge: ☒ Sanitary Sewer ☐ Transported by truck
7. Miscellaneous Discharge Category(ies) (check all that apply):

☐ Air compressor condensate & blowdown	☐ Non-contact cooling water
☐ Boiler blowdown	☐ Hydrostatic pressure testing wastewater
☐ Contact cooling & heating water	☐ Commercial laundry wastewater
☐ Cutting and grinding wastewater	☐ Food processing wastewater
☐ Non-destruct testing rinsewater	☐ Building maintenance wastewater
☐ Printing and photo processing wastewater	☐ Fire suppression testing wastewater
☐ Tumbling and cleaning wastewater	☐ Swimming pool wastewaters
☐ Water treatment wastewater	☒ **Other processing wastewater**

8. Is discharge: ☐ continuous throughout the operating hours or ☒ a batch discharge
9. Total Maximum Daily Flow (gpd): 1,500
10. Method of Flow Measurement: Estimate from engineering practice and process knowledge
11. A detailed description of the processes or activities generating the discharge(s). When different processes or activities produce different discharges, please be specific about each.

    Cleaning and flushing of equipment and piping, including but not limited to power washing of the Spencer Street cooling tower and condenser coils on the rooftop units at both Elm and Spencer.

Part V.b: Individual Discharge Information (continued)

12. A list of the substances used or added to the wastewater, including but not limited to those substances for which effluent limits are specified in Section 5(a) of the subject general permit and those substances listed in Appendix B Table II, III and V or Appendix D of section 22a-430-4 of the Regulations of Connecticut State Agencies. Any such substances shall be identified by their generic chemical names and Chemical Abstract System (CAS) number.

    Chemicals are sometimes used as part of the cleaning process. These chemicals may contain one or more of the following ingredients: sodium metasilicate (6834-92-0); Poly(oxy-1,2-ethanediyl), alpha-undecyl-omega-hydroxy- (34398-01-1); potassium hydroxide (1310-58-3); sodium lauriminodipropionate (14960-06-6); and sodium tripolyphosphate (7758-29-4).

13. A description of any best management practices, such as conservation and reuse of water, minimization, substitution and reuse of chemicals, and other pollution prevention measures, implemented or to be implemented by the registrant to minimize any adverse environmental effects of the subject discharge.

    Equipment or piping cleaning / flushing is only conducted as necessary to maintain proper system operation.

14. A description of any wastewater treatment processes, including, but not limited to, neutralization, oil/water separation, silver recovery and precipitation of solids or metals, etc. which the registrant utilizes or will utilize to achieve compliance with any of the effluent limits or conditions specified in Section 5(a) of this general permit.

    None.

Part VI: Additional Information and Supporting Documents

Check the applicable box below for each attachment being submitted with this registration form. When submitting any supporting documents, please label the documents as indicated in this part (e.g., Attachment A, etc.) and be sure to include the registrant's name as indicated on this registration form.

☒	Attachment A:	**Approval for Connection/Transport to a POTW (WPED-APPROVAL-001) (required for all registrations)**
☐	Attachment B:	*Coastal Consistency Review Form* (DEEP-APP-004), if applicable.
☐	Attachment C:	**Copy** of the completed *Request for NDDB State Listed Species Review Form* (DEEP-APP-007) and the NDDB response, if applicable.
☐	Attachment D:	**Conservation or Preservation Restriction Information:** if applicable
☐	Attachment E:	**Professional Engineer or Qualified Professional Engineer Certification** (see the certification requirements in Table 4-1 of the General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater)
☐	Attachment F:	**Certified Hazardous Materials Manager or Qualified Certified Hazardous Materials Manager Certification** (see the certification requirements in Table 4-1 of the General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater)
☒	Attachment G:	**Discharge Analysis** For existing discharges only, one screening analysis from the testing of a sample taken within 90 days of registration for pollutants, specified by Section 5(b)(1) of the General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater, shall be submitted with the registration form.
☐	Attachment H:	**Subscriber Agreement** (www.ct.gov/deep/netdmr)

Part VII: Registrant Certification

The registrant must sign this part. A registration will be considered incomplete without this certification.

"I hereby certify that I am making this certification in connection with a registration under the General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater, submitted to the commissioner by

Chemtura Corporation

for an activity located at 400 Elm Street and 12 Spencer Street, Naugatuck, CT 06770

and that such activity is eligible for authorization under such permit. I certify that the registration filed pursuant to such general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(9)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I further certify that I have made the affirmative determination required in accordance with Section 3(b)(9)(B) of such general permit and that my signing this certification constitutes conclusive evidence of my having made such affirmative determination. I certify that written approval from the POTW Authority with jurisdiction over the receiving POTW has been granted on a form provided by the commissioner. I certify that our facility does not use products or chemicals that may result in a discharge of mercury. I understand that the registration filed in connection with such general permit may be denied, revoked or suspended for engaging in professional misconduct, including but not limited to the submission of false or misleading information, or making a false or inaccurate certification. I understand that the certification made pursuant to Section 3(b)(8) of this general permit may be subject to an audit by the commissioner in accordance with section 22a-430b of the Connecticut General Statutes, and that I will be required to provide additional information as may be requested in writing by the commissioner in connection with such audit, and the registration filed in connection with such general permit may be denied, revoked or suspended as a result of such audit. As part of such audit, I understand the commissioner may require that any information prepared in accordance with this general permit to be independently certified by a Qualified Professional Engineer or Qualified Certified Hazardous Materials Manager in accordance with this general permit and that such independent certification shall be at the registrant's expense. I understand that the reasonable cost of any such audit that reveals that a false certification was submitted to the commissioner may be charged to the registrant for this general permit for which such certification was made. I also understand that knowingly making any false statement in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Kate J Balanda	9/1/15
Signature of Registrant	Date
Kate Balanda	EHS+S Specialist
Name of Registrant (print or type)	Title (if applicable)

Part VIII: Preparer Certification

The individual(s) responsible for actually preparing the registration must sign this part. A registration will be considered incomplete unless all required signatures are provided. If the registrant is the preparer, please mark N/A in the spaces provided for the preparer.

"I hereby certify that I am making this certification in connection with a registration under the General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater, submitted to the commissioner by

Chemtura Corporation

for an activity located at 400 Elm Street and 12 Spencer Street, Naugatuck, CT 06770

and that such activity is eligible for authorization under such permit. I certify that the registration filed pursuant to such general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(9)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I understand that the registration filed in connection with such general permit may be denied, revoked or suspended for engaging in professional misconduct, including but not limited to the submission of false or misleading information, or making a false or inaccurate certification. I understand that knowingly making any false statement in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Preparer (if different than above)	Date
Gilbert S. Ryan	9/1/15
Gilbert S. Ryan - Woodard & Curran	**Senior Project Manager**
Name of Preparer (print or type)	Title (if applicable)

☐ Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet. You must include signatures of any person preparing any report or parts thereof required in this registration (i.e., professional engineers, surveyors, soil scientists, consultants, etc.)

Note: Please submit the completed Registration Form, Fee, and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Attachment A: Approval for Connection/Transport to a POTW

Part 1: The registrant must complete and sign Part 1.
Part 2 The form must then be submitted to the Publicly Owned Treatment Works (POTW, or sewage treatment plant) receiving the discharge for approval. Part 2 must be completed and signed by a responsible official of the POTW.
Part 3 Where a local sewer commission acts independently of the POTW (i.e. facilities that receive sewage from more than one town), the registrant ***must also*** have the local sewer commission approve the discharge. In this case, Part 3 must be completed and signed by a responsible official of the local sewer commission.

Part 1: ***The facility listed in this Part is seeking Authority from the Department of Energy and Environmental Protection to discharge wastewater to the sanitary sewer, or for such discharge to be transported to the POTW.***

Facility Name: **Chemtura Corporation**

Site Address: **400 Elm Street and 12 Spencer Street**

City/Town: **Naugatuck, CT 06770**

Facility is requesting approval to (check one):

☒ Connect to the Sanitary Sewer ☐ Truck Transport to the POTW

Discharge volume will not exceed **19,225** gallons per day.

Type of Discharge: **Various, see Part V.a.**

Kate Balanda — Signature of Registrant — 9/1/15 — Date

Part 2: ***To be completed by POTW (sewage treatment plant) receiving discharge whether by sewer line or truck transport:***

Name of Receiving POTW: Naugatuck WPCF

Address of POTW: 500 Cherry Street

City/Town: Naugatuck, CT

☑ Adequate hydraulic capacity to receive the discharge

Approved by: John Batorski — Signature — 9-1-15 — Date:

John Batorski — Name (please print) — Plant Manager — Title

Part 3: ***To be completed by Local Sewer Commission (if separate from POTW) when seeking approval for connection to the sanitary sewer:***

Local Sewer Commission:

Address:

City/Town:

☐ Adequate hydraulic capacity to receive the discharge

Approved by:

Signature — Date:

Name (please print) — Title

Comments:

Chemtura Corporation - Naugatuck

General Permit Registration Form for Miscellaneous Discharges of Sewer Compatible Wastewater

Attachment G - Discharge Analysis

		Group I Wastewater Discharges				Group II Wastewater Discharges
Parameter	MISC General Permit Effluent Limit	Air Compressor Condensate & Blowdown (DSN 001)[3]	Boiler Blowdown (DSN 002)[4]	Water Treatment Wastewater (Water Softener Regeneration Wastewater) (DSN 003)[5]	Other Processing Wastewater (Equipment Cleaning Wastewater) (DSN 005)[6]	Non-contact Cooling Water (Cooling Tower Blowdown) (DSN 004)[7]
	(mg/L)[1]	(mg/L)[1]	(mg/L)[1]	(mg/L)[1]	(mg/L)[1]	(mg/L)[1]
Sample Collection Date:		6/12/2015	6/12/2015	6/12/2015	6/12/2015	6/12/2015
pH[2]	5.0 - 12.0	8.49 S.U.	11.59 S.U.	7.45 S.U.	8.87 S.U.	8.68 S.U.
Temperature (°F)	104°F at POTW	Not Required to be Monitored	Not Required to be Monitored	Not Required to be Monitored	Not Required to be Monitored	84.9
Total Suspended Solids	600.0	ND <5.0	ND <5.0	Not Required to be Monitored	47.0	Not Required to be Monitored
Oil & Grease, TPH	100.0	ND <1.0	ND <1.0	Not Required to be Monitored	ND <1.0	Not Required to be Monitored
Copper, total	2.0	0.0176	0.228	0.0442	0.293	Not Required to be Monitored
Lead, total	0.5	ND <0.0150	0.0317	ND <0.0150	0.083	Not Required to be Monitored
Zinc, total	2.0	ND <0.180	ND <0.180	ND <0.180	1.77	Not Required to be Monitored

Notes:

1. Analytical results are in mg/L for all parameters except pH and temperature. The units for pH are standard units. The units for temperature are degrees Fahrenheit.
2. The pH of each sample was measured in the field using a YSI-63 pH probe.
3. Collection of the blowdown sample was initiated on June 10, 2015. It took until June 12, 2015 to collect enough sample to fill the required containers for laboratory analysis. The pH was measured on 6/12/15, which exceeded the allowable holding time of 15 minutes. TSS was measured on 6/18/15, which exceeded the allowable holding time of 7 days.
4. The blowdown sample was collected from Boiler #2 at Elm Street, which is also representative of the blowdown from Boiler #1 at Elm Street and the two boilers at Spencer Street.
5. This water softener regeneration wastewater sample was collected from the water softener at Elm Street. This sample is also representative of the regeneration wastewater from the water softener at Spencer Street.
6. Samples of power wash wastewater from the cleaning of the condenser coils on two separate units at Elm Street were collected, with the average results reported here. These samples are representative of the wastewater from power washing the third unit at Elm Street and the units at Spencer Street. The only other equipment that is regularly cleaned is the Spencer Street cooling tower. A sample of this wastewater was not available within 90 days of the date of registration. A sample of the wastewater from the power washing of the cooling tower will be collected and analyzed the next time the cooling tower is cleaned.
7. This sample was collected from the cooling tower sump and is representative of the other non-contact cooling water discharges at the site.

ODOR COMPLAINT REPORT

CALLER INFORMATION: DATE: 8-21-15 TIME: 10:54 Am

CALL TAKEN BY: email to Public Works

NAME OF COMPLAINTANT: Laurel Richards PHONE NUMBER: 203-632-8710

ADDRESS/LOCATION WHERE ODOR IS BEING DETECTED: 32 Hard St.

STRENGTH OF ODOR: FAINT ___ NOTICABLE___ DEFINITE___ STRONG___ OVERWHELMING ✓

DESCRIPTION OF ODOR: AMMONIA___ CABBAGE___ FECAL___ FISHY___ GARLIC___ MEDICINAL ___ ROTTEN EGGS___ SKUNKY___ SOLVENT/FUEL___ OTHER ✓ Sewage

DOES THE CALLER WANT A FOLLOW-UP CALL? YES___ NO___

DON'T FORGET TO THANK THE CALLER FOR THEIR CONCERN!!

Please see email (attached)

ODOR INVESTIGATION:

(FROM CONTROL ROOM WEATHER STATION)

WIND DIRECTION: ___ WIND SPEED: ___ WEATHER: TEMP___ RAIN___ HUMID___ DRY___ UNSEASONABLY WARM/COLD___

COMPLETE PLANT SURVEY LISTING POSSIBLE SOURCES OF ODORS CONTRIBUTING TO THE COMPLAINT:

ODOR CONTROL EQUIPMENT STATUS:

PRIMARY SCRUBBER: ON___ OFF___ PH___ ORP___ MAKE UP WATER: 0.5-1 GPM___ SPRAYS___

FILTER BLDG SCRUBBER: ON___ OFF___ PH___ ORP___ MAKE UP WATER: 1-3 GPM___ SPRAYS___

PERMANGANATE FEEDERS:

AERATION: ON___ OFF___ VERIFIED OPERATIONAL: YES___ NO___

SLUDGE STORAGE: ON___ OFF___ VERIFIED OPERATIONAL: YES___ NO___

ODOR COUNTERACTANT SYSTEM: ON___ OFF___ VERIFIED OPERATIONAL: YES___ SPRAYS___

COMPLAINT REVIEWED BY: ___ DATE: ___ TIME: ___

RETURN CALL MADE BY: ___ DATE: ___ TIME: ___

RETURN CALL RESULTS:

Replied via email - please see attachments

Google earth

feet 4000
km 1

VEOLIA

Batorski, John <john.batorski@veolia.com>

RE: Sewage Tx Stench

1 message

Jim Stewart <JStewart@naugatuck-ct.gov> 21 August 2015 at 12:25
To: Laurel <laurelonthehill@gmail.com>
Cc: "Batorski, John" <john.batorski@veolia.com>, Deborah Lichwalla <DLichwalla@naugatuck-ct.gov>, "Ronald Merancy (rjm62156@aol.com)" <rjm62156@aol.com>, "Rimas Balsys (r.balsys@cityofshelton.org)" <r.balsys@cityofshelton.org>

Laurel,

I apologize for any inconveniences that you have experienced regarding odors from the treatment plant. The Borough of Naugatuck WPCA contracts with Veolia to operate and maintain the treatment plant. Both the Borough and Veolia take odor complaints very seriously. Veolia is directly responsible to control odors from the treatment plant and has made significate odor improvement to the treatment plant over the past years. There also continues to be improvements planned in the future to further limit possible odors from the plant. It is important that in the future when you smell significant sewer odors they be immediately reported to the treatment plant day or night at 203-723-1433. When a complaint is received the treatment plant will record the event and investigate the odors. If it is determine that the odors are coming from the plant actions can be taken to mitigate the odors. Unfortunately treatment plant odors are often difficult to track down. Also frequently odors can be traced to another source and actions can be taken to eliminate them.

Please feel free to contact me in the future if you do not receive positive response in the future from Veolia.

Regards

James R. Stewart PE & LS

Director of Public Works

Borough of Naugatuck, CT

246 Rubber Ave

Naugatuck, CT 06770

P (203) 720-7071

jstewart@naugatuck-ct.gov

From: Laurel [mailto:laurelonthehill@gmail.com]
Sent: Friday, August 21, 2015 10:54 AM
To: Public Works
Subject: Sewage Tx Stench

Dear Public Works,

I recently purchased a home on Hard Street. Of course, I expected that there would be some amount of stink drifting over the house – particularly in the hot summer months – but had I known it would be this bad, I *NEVER* would have considered purchasing a house in this neighborhood. Not only is my family suffering now, I fear that should it ever become necessary in the future, I will never be able to sell my house - unless I am somehow able to target the "smelling-impaired" demographic as my potential buyers.

These last few weeks of late July-early August have been so bad, it almost hurts to breathe. Some of these humid mornings, the stench is dizzying, and rather than dissipating as the morning wears on, it stays the same all day. It has become unbearable.

Is there nothing that can be done to dial it down? Even a little?

Sincerely,

Laurel Richards

32 Hard Street

Naugatuck CT 06770

(203) 632-8710

VEOLIA

Batorski, John <john.batorski@veolia.com>

82 Hard Street

1 message

Batorski, John <john.batorski@veolia.com> 21 August 2015 at 13:13
To: laurelonthehill@gmail.com, Rimas Balsys <r.balsys@cityofshelton.org>, Ron Merancy <rjm62156@aol.com>, "James R. Stewart PE" <jstewart@naugatuck-ct.gov>, Christopher Makuch <christopher.makuch@veolia.com>, Natalie Verlezza <natalie.verlezza@veolia.com>

Dear Mr. Richards,

I have read your email to Public Works regarding odors. As Jim Stewart indicated, please call 203-723-1433 if you detect an odor. We do investigate each complaint.

Thank you,

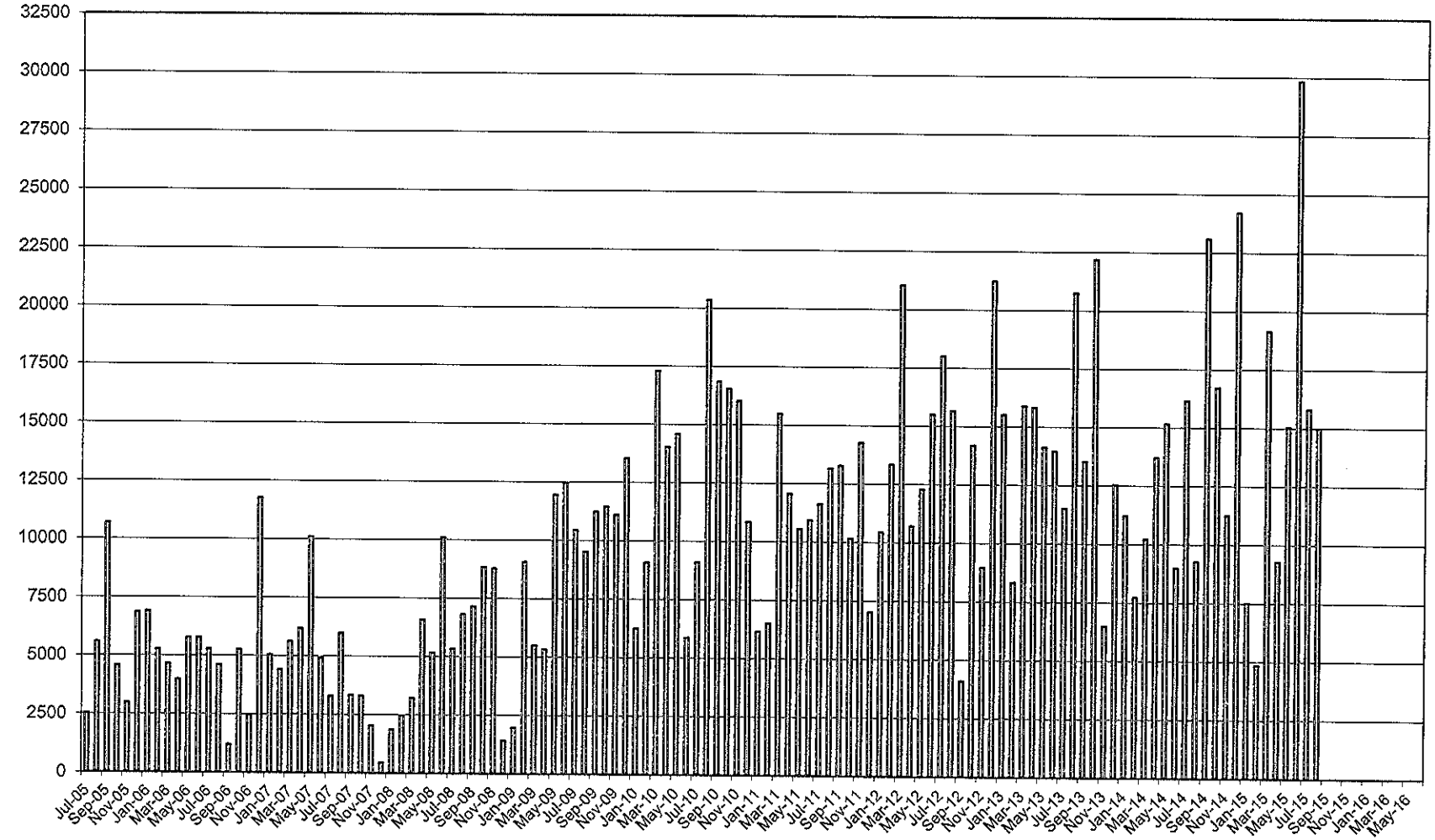
John Batorski
Plant Manager - Northeast LLC
Municipal & Commercial Business
VEOLIA NORTH AMERICA

tel +1 203 723 1433 / cell +1 203 509 6010
500 Cherry Street / Naugatuck, CT 06770
John.Batorski@veolia.com
www.veolianorthamerica.com

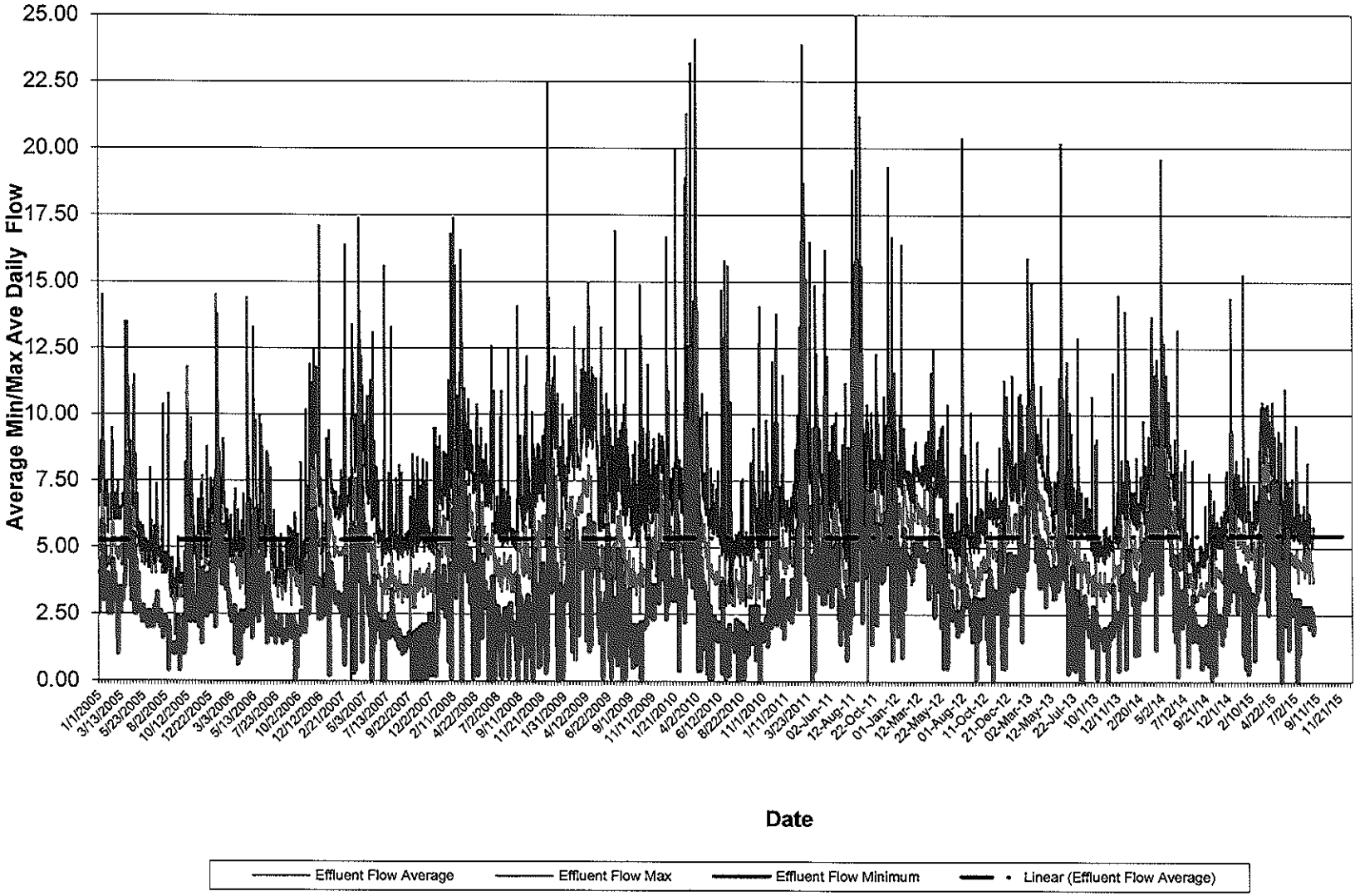
Resourcing the world VEOLIA

Total Feet

Borough of Naugatuck
Total Feet of Sewers Cleaned
July 2005 to Present



Naugatuck WPCF Daily Min/Max/Total Flow Data
2005 to Present MGD



Naugatuck, Middlebury and Oxford
2005 to Present
Monthly Average Flows