

**Annual Report for Wastewater Treatment Works / Wastewater Collection System
Fiscal Year 2015-16**

I. General Information

Name of regulated entity:

Town of Carolina Beach

Responsible entity, person, or contact with phone number & address:

Name: William J. Raymond
Title: Wastewater Treatment Superintendent
Address: 404 S. Dow Road, Carolina Beach, NC
Phone: (910) 458-2976

Listing of applicable permits:

NPDES NC0023256
WWC WQCS00076

Description of collection or treatment process:

The Town of Carolina Beach has fourteen lift stations in the collection system, 30 miles of 10" & 8" gravity sewer lines, 5 miles of force main lines, and a wastewater treatment facility with a permitted flow of 3.0 million gallons per day (MGD) consisting of a mechanical bar screen, manual bar screen, mechanical grit removal, influent and effluent flow recorder & samplers, three extended aeration basins, dual clarifiers, aerobic digestion / dual sludge storage basins, equalization basin, three traveling bridge tertiary filters, gas chlorination / dechlorination system, chlorination / dechlorination contact chamber, and dual emergency generators. The facility also produces residual biosolids from the treatment process that are land applied on permitted agricultural sites. The Town of Carolina Beach used Lewis Farms and Liquid Waste for all contract residual biosolids land applications during the 2016 fiscal year. A total of 992,250 gallons of biosolids were land applied from the WWTP during the 2016 fiscal year.

II. Performance

Text Summary System Performance for the 2016 fiscal year (beginning July 1, 2015):

The Town of Carolina Beach wastewater facility treated 543,372,000 gallons of wastewater during the 2016 fiscal year. The daily average flow treated during the 2016

fiscal year was 1.485 MGD, or 49.5% of the 3.0 MGD treatment capacity. NPDES Permit # NC0023256 requires the Town of Carolina Beach WWTP to analyze its effluent discharge daily Monday through Friday (excluding holidays) for the following parameters: Total Residual Chlorine (TRC), Dissolved Oxygen (DO), pH, Conductivity, and Temperature. Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Enterococcus, and Ammonia Nitrogen are required to be analyzed for the effluent discharge twice a week. All of these tests are analyzed on site at the certified WWTP laboratory. The WWTP must also analyze its incoming influent for BOD and TSS; both of these are analyzed on site as well. Total Nitrogen, Total Phosphorus, Chlorodibromomethane (CDBM), and Dichlorobromomethane (BDCM) are required to be analyzed monthly; these analyses are sent out to a contract laboratory. Total Copper, Total Lead, and Acute Toxicity are required to be analyzed quarterly; these are sent out to a contract laboratory as well. An annual effluent pollutant scan of 109 parameters is also required three times during the five year permit cycle. The results of all these parameters for the calendar years 2015 and 2016 are summarized in the attached spreadsheets with this report.

List (by month) of the number and type of any violations of permit conditions, environmental regulations or environmental laws (i.e. date, type, permit limit violations, monitoring and reporting violations, (illegal) bypass of treatment facilities, sanitary sewer overflows and estimated total monthly volumes and locations of events in which more than 1000 gallons of waste reached surface waters), and describe corrective actions taken:

Permit Limit Violations (Discharge / Non-Discharge)

There were no reportable permit limit violations during the 2016 fiscal year.

Monitoring and Reporting Violations or Deficiencies

There were no reportable monitoring and reporting violations or deficiencies during the 2016 fiscal year.

Sanitary Sewer Overflows

There were two reportable sanitary sewer overflow (SSO) events during the 2016 fiscal year:

- An estimated 4935 gallons of wastewater reached surface waters at Myrtle Grove Sound and Carolina Beach Lake from an SSO at five (5) manholes at 810 Carolina Beach Ave. N, Dolphin Lane & Canal Drive, 409 Canal Drive, Spartanburg Ave. & Lake Park Blvd., and 210 Spartanburg Ave. from 10/5/2015 to 10/6/2015. The SSO was caused by heavy rain and extreme high tides from the leading front of Hurricane Joaquin. Auxiliary pumps were set up to minimize flooding issues and the town's Vactor truck was used to pump down sewer manholes.
- An estimated 600 gallons of wastewater reached surface waters at Carolina Beach Lake from an SSO at four (4) manholes at 1012 S. Lake Park Blvd., Driftwood Lane and Lake Park Blvd., Spartanburg Ave. & Lake Park Blvd., and 210 Spartanburg Ave. from 10/10/2015 to

10/11/2015. The SSO was caused by heavy rain (4.66" rain in less than three hours). Auxiliary pumps were set up to minimize flooding issues.

The SSO events were properly reported to the N.C. Division of Water Resources.

Any known environmental impact of violations:

There were no known environmental impacts from violations.

III. Notification

Statement as to how users or customers have been provided access to the report:

A public notice is placed in the local newspapers stating that copies of the annual report for the wastewater treatment plant and collection system are available upon request at the Town of Carolina Beach administration building. The report is also available on the town's website.

IV. Certification

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report has been made available to the users or customers of the named system and that those users have been notified of its availability.

Gilbert DuBois, Operations Director, Town of Carolina Beach
Permittee (Name of permittee, Title, Entity)


Signature of Permittee

8-29-2016
Date

IMPORTANT DEFINITIONS

NPDES Permit – National Pollutant Discharge Elimination System Permit is the regulatory agency document issued by either a federal state agency designed to control all discharges of pollutants from point sources into U.S. waterways. NPDES permits regulate discharges into navigable waters from all point sources of pollution, including industries, municipal wastewater treatment plants, sanitary landfills; large agricultural feed lots and return irrigation flows.

Biochemical Oxygen Demand (BOD) – The rate at which organisms use the oxygen in water or wastewater while stabilizing decomposable matter serves as food for the bacteria and energy results from its oxidation. BOD measurements are used as a measure of the organic strength of wastewater.

Total Suspended Solids (TSS) – TSS are solids that either float on the surface or are suspended in water, wastewater, or other liquids.

Total Residual Chlorine (Tot. Cl₂) – This is the amount of chlorine remaining after a given contact time. It is also the sum of the combined available residual chlorine and the free available residual chlorine.

pH – A liquid measurement range of acidity or basicity scaled from 0 to 14, with 0 being the most acidic, 14 being the most basic, and 7 being neutral. Natural water usually has a pH between 6.5 and 8.5. NPDES permits in N.C. do not ask for average pH values because pH is measured on a logarithmic scale and arithmetic or geometric means do not apply to the data. This is the reason only monthly maximum and minimum pH values are reported.

Fecal Coliform (FECAL COLIF.) – Fecal coliforms are the coliform bacteria found in the feces of various warm-blooded animals.

Dissolved Oxygen (DO) – Molecular (atmospheric) oxygen dissolved in water and wastewater.

Acute Toxicity (ACUTE TOX.) – This is a bioassay method of determining toxic effects of industrial or other wastes by using live organisms such as fish for test organisms.

Conductivity (COND.) – Conductivity is a numerical measurement representing the ability of a solution to carry electric current.

Enterococci (ENTERO.) – Enterococci are indicator bacteria found in the feces of warm-blooded animals. The switch from fecal coliform to enterococci testing requirements on our discharge permit is a result of EPA studies which indicate enterococci to have a greater correlation with swimming-associated gastrointestinal illness than fecal coliform.

Ammonia Nitrogen (NH₃-N) – Biological processes reduce NH₃-N concentration. Concentration of NH₃-N has permit limits because of its direct relation to fish toxicity.

Total Nitrogen, Total Phosphorus (TOTAL NITR., TOTAL PHOS.) – Nitrogen and phosphorus are important nutrients in the reproduction of microorganisms necessary for biological treatment of waste. However, the concentrations of these two nutrients are monitored because excessive amounts of these nutrients in an effluent can affect the oxygen demand in a receiving stream and cause algal blooms.

Total Copper, Total Lead (TOTAL CU, TOTAL PB) – The concentrations of the metals, copper and lead, are monitored because they are commonly found pollutants that have toxic effects on a receiving stream in excessive amounts.

Chlorodibromomethane, Dichlorobromomethane (CDBM, BDCM) – Two compounds in the trihalomethane group that are considered environmental pollutants in excessive concentrations. They are formed as a by-product of chlorination.

Parts per million (ppm) or Milligrams per liter (mg/L) – one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (µg/L) – one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

Micromhos per centimeter (µMHOS/CM) – Since conductivity represents the ability of a solution/sample to carry electric current (also known as “conductance”) and the reciprocal of conductance is electric resistance, measured in ohms, the measurement of conductance is in reciprocal ohms, or mhos. Micromhos per centimeter is an expression of conductance in mhos converted into a more convenient unit for water analysis.

Most probable number per 100 milliliters (MPN/100 mL) – These are the units designated to count the concentration of enterococci in a test sample.

Median Lethal Concentration (LC₅₀) – This measure is used to estimate the acute toxicity of the organism *Menidia beryllina* for our quarterly acute toxicity requirement. It refers to the estimated concentration of wastewater effluent that would be lethal to 50% of the test organisms in 24 hours.

PLANT PERFORMANCE FORM								
Plant Name: Carolina Beach Wastewater Facility								
YEAR	FLOW	BOD	BOD	TSS	TSS	Tot.CL2	DO	Temp.
2015/ 2016	OUT (MGD)	IN (ppm)	OUT (ppm)	IN (ppm)	OUT (ppm)	OUT (ppb)	OUT (ppm)	OUT (*C)
NPDES PERMIT LIMITS	3.000	X X X	S / 5.0 W / 10.0	X X X	30.0	13	5.00	X X X
JUL.	1.467	211	2	157	0.0	22	6.90	30.6
AUG.	1.457	190	1	156	1.1	23	7.11	30.0
SEPT.	1.380	140	1	128	0.8	24	7.83	28.3
OCT.	2.568	69	1	72	0.0	28	8.27	23.9
NOV.	1.775	79	0	80	0.0	30	8.60	22.1
DEC.	1.238	127	2	122	0.0	27	8.51	20.4
JAN.	1.323	104	3	94	0.0	24	9.29	16.3
FEB.	1.702	97	2	93	0.0	28	9.03	15.5
MAR.	1.304	146	2	127	0.0	30	8.21	19.0
APR.	1.141	148	3	127	0.0	28	7.85	20.9
MAY	1.123	216	3	172	0.0	29	8.12	24.4
JUN.	1.342	259	4	194	0.0	29	7.55	28.1
YEARLY AVG.	1.485	150	2	128	0.2	27	8.08	23.4
Sample frequency - Daily: Tot. CL2, DO, pH, COND., TEMP. (Daily sample frequency represents the Monday through Friday workweek, excluding weekends and holidays.) 2x/Week: BOD, TSS, ENTERO., NH3-N Monthly: TOTAL NITR., TOTAL PHOS., CDBM, BDCM Quarterly: ACUTE TOX., TOTAL CU, TOTAL PB * "S" represents the permitted summer months (April through October) * "W" represents the permitted winter months (November through March)								
NOTE: The N.C. Division of Water Resources considers all effluent total residual chlorine values reported below 50 ppb to be in compliance with the permit.								

PLANT PERFORMANCE FORM

Plant Name: Carolina Beach Wastewater Facility

YEAR	pH	ENTERO.	NH3-N	TOTAL NITR.	TOTAL PHOS.	COND.	TOTAL CU	TOTAL PB	CDBM	BDCM	ACUTE TOX Mysidopsis bahia OUT
		(MPN/ 100 mL)	(ppm)	(ppm)	(ppm)	(µMHOS/ CM)	(ppm)	(ppm)	(ppb)	(ppb)	
NPDES PERMIT LIMITS	6.8 / 8.5	35/100mL	S: 2.0 W: 4.0	X X X	X X X	X X X	X X X	X X X	13	17	PASS/ FAIL
JUL.	6.9 / 7.3	12	0.9	28.6	5.12	1513			<1	<1	
AUG.	6.8 / 7.1	17	0.0	27.0	4.99	1467	0.017	<0.010	27	15	PASS
SEP.	7.0 / 7.3	9	0.0	34.4	6.89	2781			40	19	
OCT.	7.2 / 7.4	33	0.0	17.2	11.40	1988			18	19	
NOV.	7.1 / 7.4	21	0.0	17.0	<0.04	1065	0.011	<0.010	3	3	PASS
DEC.	7.0 / 7.3	3	0.0	17.8	1.93	1152			17	17	
JAN.	7.0 / 7.3	5	0.0	17.6	1.86	1082			28	21	
FEB.	7.0 / 7.3	11	0.0	8.8	1.25	860	<0.010	<0.010	7	13	PASS
MAR.	7.0 / 7.2	12	0.0	16.3	3.97	1097			8	10	
APR.	7.0 / 7.4	10	0.2	2.0	3.06	1601			4	2	
MAY	6.9 / 7.2	24	0.0	17.5	3.11	1759	0.012	<0.010	15	5	PASS
JUN.	6.9 / 7.1	19	0.0	32.4	5.36	1652			30	14	
YEARLY AVG.	X X X	11	0.1	19.7	3.92	1512	0.010	0	20	12	X X X
* "S" represents the permitted summer months (April through October)											
* "W" represents the permitted winter months (November through March)											
Permit limits for CDBM and BDCM do not take effect until June 1, 2019.											

Annual Monitoring and Pollutant Scan

Permit No. NC0023256
 Outfall 001

Month November
 Year 2015

Facility Name Town of Carolina Beach WWTP

ORC William J. Raymond

Date of sampling November 3, 2015

Phone 910-458-2976

Analytical Laboratory Environmental Chemists, Inc.

Parameter	Sample Type	Analytical Method	Quantitation Level	Sample Result	Units of Measurement	Number of samples
Ammonia (as N)	Composite	EPA 350.1	0.2	<0.2	mg/L	24
Dissolved oxygen	Grab	S.M. 4500-O G-2001	0.01	7.48 @ 23.2°C	mg/L	1
Nitrate/Nitrite	Composite	EPA 353.2	0.02	17.0	mg/L	24
Total Kjeldahl nitrogen	Composite	EPA 351.2	0.5	<0.5	mg/L	24
Total Phosphorus	Composite	S.M. 4500-P-F	0.04	<0.04	mg/L	24
Total dissolved solids	Composite	S.M. 2540-C	2.5	781	mg/L	24
Hardness	Composite	S.M. 2340-C	5	245	mg/L	24
Chlorine (total residual, TRC)	Grab	S.M. 4500 Cl G-2000	10	33	µg/L	1
Oil and grease	Grab	EPA 1664	5	<5	mg/L	1
Metals (total recoverable), cyanide and total phenols						
Antimony	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Arsenic	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Beryllium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Cadmium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Chromium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Copper	Composite	EPA 200.7	0.01	0.011	mg/L	24
Lead	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Mercury	Composite	EPA 1631 E	2.00	<2.00	ng/L	24
Nickel	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Selenium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Silver	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Thallium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Zinc	Composite	EPA 200.7	0.01	0.033	mg/L	24
Cyanide	Grab	EPA 335.4	0.005	<0.005	mg/L	1
Total phenolic compounds	Grab	EPA 420.1	0.004	<0.004	mg/L	1
Volatile organic compounds						
Acrolein	Grab	EPA 624	5	<5	µg/L	1
Acrylonitrile	Grab	EPA 624	5	<5	µg/L	1
Benzene	Grab	EPA 624	0.5	<0.5	µg/L	1
Bromoform	Grab	EPA 624	0.5	0.790	µg/L	1
Carbon tetrachloride	Grab	EPA 624	0.5	<0.5	µg/L	1
Chlorobenzene	Grab	EPA 624	0.5	<0.5	µg/L	1
Chlorodibromomethane	Grab	EPA 624	0.5	3.11	µg/L	1
Chloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
2-chloroethylvinyl ether	Grab	EPA 624	0.5	<0.5	µg/L	1
Chloroform	Grab	EPA 624	0.5	0.520	µg/L	1
Dichlorobromomethane	Grab	EPA 624	0.5	3.30	µg/L	1
1,1-dichloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
1,2-dichloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
Trans-1,2-dichloroethylene	Grab	EPA 624	0.5	<0.5	µg/L	1

Permit No. NC0023256
 Outfall 001

Annual Monitoring and Pollutant Scan

Month November
 Year 2015

Parameter	Sample Type	Analytical Method	Quantitation Level	Sample Result	Units of Measurement	Number of samples
Volatile organic compounds (Cont.)						
1,1-dichloroethylene	Grab	EPA 624	0.5	<0.5	µg/L	1
1,2-dichloropropane	Grab	EPA 624	0.5	<0.5	µg/L	1
1,3-dichloropropylene	Grab	EPA 624	0.5	<0.5	µg/L	1
Ethylbenzene	Grab	EPA 624	0.5	<0.5	µg/L	1
Methyl bromide	Grab	EPA 624	0.5	<0.5	µg/L	1
Methyl chloride	Grab	EPA 624	0.5	<0.5	µg/L	1
Methylene chloride	Grab	EPA 624	0.5	<0.5	µg/L	1
1,1,2,2-tetrachloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
Tetrachloroethylene	Grab	EPA 624	0.5	<0.5	µg/L	1
Toluene	Grab	EPA 624	0.5	<0.5	µg/L	1
1,1,1-trichloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
1,1,2-trichloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
Trichloroethylene	Grab	EPA 624	0.5	<0.5	µg/L	1
Vinyl chloride	Grab	EPA 624	0.5	<0.5	µg/L	1
Acid-extractable compounds						
P-chloro-m-cresol	Grab	EPA 625	5	<5	µg/L	1
2-chlorophenol	Grab	EPA 625	5	<5	µg/L	1
2,4-dichlorophenol	Grab	EPA 625	5	<5	µg/L	1
2,4-dimethylphenol	Grab	EPA 625	5	<5	µg/L	1
4,6-dinitro-o-cresol	Grab	EPA 625	25	<25	µg/L	1
2,4-dinitrophenol	Grab	EPA 625	25	<25	µg/L	1
2-nitrophenol	Grab	EPA 625	25	<25	µg/L	1
4-nitrophenol	Grab	EPA 625	25	<25	µg/L	1
Pentachlorophenol	Grab	EPA 625	25	<25	µg/L	1
Phenol	Grab	EPA 625	5	<5	µg/L	1
2,4,6-trichlorophenol	Grab	EPA 625	5	<5	µg/L	1
Base-neutral compounds						
Acenaphthene	Grab	EPA 625	5	<5	µg/L	1
Acenaphthylene	Grab	EPA 625	5	<5	µg/L	1
Anthracene	Grab	EPA 625	5	<5	µg/L	1
Benzidine	Grab	EPA 625	10	<10	µg/L	1
Benzo(a)anthracene	Grab	EPA 625	5	<5	µg/L	1
Benzo(a)pyrene	Grab	EPA 625	5	<5	µg/L	1
3,4 benzofluoranthene	Grab	EPA 625	5	<5	µg/L	1
Benzo(ghi)perylene	Grab	EPA 625	5	<5	µg/L	1
Benzo(k)fluoranthene	Grab	EPA 625	5	<5	µg/L	1
Bis (2-chloroethoxy) methane	Grab	EPA 625	5	<5	µg/L	1
Bis (2-chloroethyl) ether	Grab	EPA 625	5	<5	µg/L	1
Bis (2-chloroisopropyl) ether	Grab	EPA 625	5	<5	µg/L	1
Bis (2-ethylhexyl) phthalate	Grab	EPA 625	5	<5	µg/L	1
4-bromophenyl phenyl ether	Grab	EPA 625	5	<5	µg/L	1
Butyl benzyl phthalate	Grab	EPA 625	5	<5	µg/L	1
2-chloronaphthalene	Grab	EPA 625	5	<5	µg/L	1

Annual Monitoring and Pollutant Scan

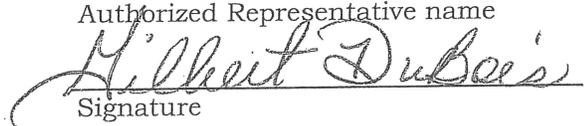
Permit No. NC 0023256Month NovemberOutfall 001Year 2015

Parameter	Sample Type	Analytical Method	Quantitation Level	Sample Result	Units of Measurement	Number of samples
4-chlorophenyl phenyl ether	Grab	EPA 625	5	<5	µg/L	1
Base-neutral compounds (cont.)						
Chrysene	Grab	EPA 625	5	<5	µg/L	1
Di-n-butyl phthalate	Grab	EPA 625	5	<5	µg/L	1
Di-n-octyl phthalate	Grab	EPA 625	5	<5	µg/L	1
Dibenzo(a,h)anthracene	Grab	EPA 625	5	<5	µg/L	1
1,2-dichlorobenzene	Grab	EPA 625	5	<5	µg/L	1
1,3-dichlorobenzene	Grab	EPA 625	5	<5	µg/L	1
1,4-dichlorobenzene	Grab	EPA 625	5	<5	µg/L	1
3,3-dichlorobenzidine	Grab	EPA 625	10	<10	µg/L	1
Diethyl phthalate	Grab	EPA 625	5	<5	µg/L	1
Dimethyl phthalate	Grab	EPA 625	5	<5	µg/L	1
2,4-dinitrotoluene	Grab	EPA 625	5	<5	µg/L	1
2,6-dinitrotoluene	Grab	EPA 625	5	<5	µg/L	1
1,2-diphenylhydrazine	Grab	EPA 625	5	<5	µg/L	1
Fluoranthene	Grab	EPA 625	5	<5	µg/L	1
Fluorene	Grab	EPA 625	5	<5	µg/L	1
Hexachlorobenzene	Grab	EPA 625	5	<5	µg/L	1
Hexachlorobutadiene	Grab	EPA 625	5	<5	µg/L	1
Hexachlorocyclo-pentadiene	Grab	EPA 625	25	<25	µg/L	1
Hexachloroethane	Grab	EPA 625	5	<5	µg/L	1
Indeno(1,2,3-cd)pyrene	Grab	EPA 625	5	<5	µg/L	1
Isophorone	Grab	EPA 625	5	<5	µg/L	1
Naphthalene	Grab	EPA 625	5	<5	µg/L	1
Nitrobenzene	Grab	EPA 625	5	<5	µg/L	1
N-nitrosodi-n-propylamine	Grab	EPA 625	5	<5	µg/L	1
N-nitrosodimethylamine	Grab	EPA 625	5	<5	µg/L	1
N-nitrosodiphenylamine	Grab	EPA 625	5	<5	µg/L	1
Phenanthrene	Grab	EPA 625	5	<5	µg/L	1
Pyrene	Grab	EPA 625	5	<5	µg/L	1
1,2,4,-trichlorobenzene	Grab	EPA 625	5	<5	µg/L	1

"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 managed 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 fines and imprisonment for knowing violations."

Gilbert DuBois

Authorized Representative name


 Signature

12-21-2015
 Date

Annual Monitoring and Pollutant Scan

Permit No. NC 0023256
Outfall 001Month May
Year 2016Facility Name Town of Carolina Beach WWTPORC William J. RaymondDate of sampling May 10, 2016Phone 910-458-2976Analytical Laboratory Environmental Chemists, Inc.

Parameter	Sample Type	Analytical Method	Quantitation Level	Sample Result	Units of Measurement	Number of samples
Ammonia (as N)	Composite	EPA 350.1	0.2	<0.2	mg/L	24
Dissolved oxygen	Grab	S.M. 4500-O G-2001	0.01	8.16 @ 24.5°C	mg/L	1
Nitrate/Nitrite	Composite	EPA 353.2	0.02	16.4	mg/L	24
Total Kjeldahl nitrogen	Composite	EPA 351.2	0.5	1.1	mg/L	24
Total Phosphorus	Composite	S.M. 4500-P-F	0.04	3.11	mg/L	24
Total dissolved solids	Composite	S.M. 2540-C	2.5	1390	mg/L	24
Hardness	Composite	S.M. 2340-C	5	349	mg/L	24
Chlorine (total residual, TRC)	Grab	S.M. 4500 Cl G-2000	10	28	µg/L	1
Oil and grease	Grab	EPA 1664	5	7	mg/L	1
Metals (total recoverable), cyanide and total phenols						
Antimony	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Arsenic	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Beryllium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Cadmium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Chromium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Copper	Composite	EPA 200.7	0.01	0.012	mg/L	24
Lead	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Mercury	Grab	EPA 1631 E	0.500	0.504	ng/L	1
Nickel	Composite	EPA 200.7	0.01	0.017	mg/L	24
Selenium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Silver	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Thallium	Composite	EPA 200.7	0.01	<0.01	mg/L	24
Zinc	Composite	EPA 200.7	0.01	0.048	mg/L	24
Cyanide	Grab	EPA 335.4	0.005	<0.005	mg/L	1
Total phenolic compounds	Grab	EPA 420.1	0.004	<0.004	mg/L	1
Volatile organic compounds						
Acrolein	Grab	EPA 624	5	<5	µg/L	1
Acrylonitrile	Grab	EPA 624	5	<5	µg/L	1
Benzene	Grab	EPA 624	0.5	<0.5	µg/L	1
Bromoform	Grab	EPA 624	0.5	13.2	µg/L	1
Carbon tetrachloride	Grab	EPA 624	0.5	<0.5	µg/L	1
Chlorobenzene	Grab	EPA 624	0.5	<0.5	µg/L	1
Chlorodibromomethane	Grab	EPA 624	0.5	14.8	µg/L	1
Chloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
2-chloroethylvinyl ether	Grab	EPA 624	0.5	<0.5	µg/L	1
Chloroform	Grab	EPA 624	0.5	<0.5	µg/L	1
Dichlorobromomethane	Grab	EPA 624	0.5	5.28	µg/L	1
1,1-dichloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
1,2-dichloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
Trans-1,2-dichloroethylene	Grab	EPA 624	0.5	<0.5	µg/L	1

Annual Monitoring and Pollutant Scan

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Parameter	Sample Type	Analytical Method	Quantitation Level	Sample Result	Units of Measurement	Number of samples
Volatile organic compounds (Cont.)						
1,1-dichloroethylene	Grab	EPA 624	0.5	<0.5	µg/L	1
1,2-dichloropropane	Grab	EPA 624	0.5	<0.5	µg/L	1
1,3-dichloropropylene	Grab	EPA 624	0.5	<0.5	µg/L	1
Ethylbenzene	Grab	EPA 624	0.5	<0.5	µg/L	1
Methyl bromide	Grab	EPA 624	0.5	0.870	µg/L	1
Methyl chloride	Grab	EPA 624	0.5	<0.5	µg/L	1
Methylene chloride	Grab	EPA 624	0.5	<0.5	µg/L	1
1,1,2,2-tetrachloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
Tetrachloroethylene	Grab	EPA 624	0.5	<0.5	µg/L	1
Toluene	Grab	EPA 624	0.5	<0.5	µg/L	1
1,1,1-trichloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
1,1,2-trichloroethane	Grab	EPA 624	0.5	<0.5	µg/L	1
Trichloroethylene	Grab	EPA 624	0.5	<0.5	µg/L	1
Vinyl chloride	Grab	EPA 624	0.5	<0.5	µg/L	1
Acid-extractable compounds						
P-chloro-m-cresol	Grab	EPA 625	5	<5	µg/L	1
2-chlorophenol	Grab	EPA 625	5	<5	µg/L	1
2,4-dichlorophenol	Grab	EPA 625	5	<5	µg/L	1
2,4-dimethylphenol	Grab	EPA 625	5	<5	µg/L	1
4,6-dinitro-o-cresol	Grab	EPA 625	25	<25	µg/L	1
2,4-dinitrophenol	Grab	EPA 625	25	<25	µg/L	1
2-nitrophenol	Grab	EPA 625	25	<25	µg/L	1
4-nitrophenol	Grab	EPA 625	25	<25	µg/L	1
Pentachlorophenol	Grab	EPA 625	25	<25	µg/L	1
Phenol	Grab	EPA 625	5	<5	µg/L	1
2,4,6-trichlorophenol	Grab	EPA 625	5	<5	µg/L	1
Base-neutral compounds						
Acenaphthene	Grab	EPA 625	5	<5	µg/L	1
Acenaphthylene	Grab	EPA 625	5	<5	µg/L	1
Anthracene	Grab	EPA 625	5	<5	µg/L	1
Benzidine	Grab	EPA 625	10	<10	µg/L	1
Benzo(a)anthracene	Grab	EPA 625	5	<5	µg/L	1
Benzo(a)pyrene	Grab	EPA 625	5	<5	µg/L	1
3,4 benzofluoranthene	Grab	EPA 625	5	<5	µg/L	1
Benzo(ghi)perylene	Grab	EPA 625	5	<5	µg/L	1
Benzo(k)fluoranthene	Grab	EPA 625	5	<5	µg/L	1
Bis (2-chloroethoxy) methane	Grab	EPA 625	5	<5	µg/L	1
Bis (2-chloroethyl) ether	Grab	EPA 625	5	<5	µg/L	1
Bis (2-chloroisopropyl) ether	Grab	EPA 625	5	<5	µg/L	1
Bis (2-ethylhexyl) phthalate	Grab	EPA 625	5	<5	µg/L	1
4-bromophenyl phenyl ether	Grab	EPA 625	5	<5	µg/L	1
Butyl benzyl phthalate	Grab	EPA 625	5	<5	µg/L	1
2-chloronaphthalene	Grab	EPA 625	5	<5	µg/L	1

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Parameter	Sample Type	Analytical Method	Quantitation Level	Sample Result	Units of Measurement	Number of samples
4-chlorophenyl phenyl ether	Grab	EPA 625	5	<5	µg/L	1
Base-neutral compounds (cont.)						
Chrysene	Grab	EPA 625	5	<5	µg/L	1
Di-n-butyl phthalate	Grab	EPA 625	5	<5	µg/L	1
Di-n-octyl phthalate	Grab	EPA 625	5	5.44	µg/L	1
Dibenzo(a,h)anthracene	Grab	EPA 625	5	<5	µg/L	1
1,2-dichlorobenzene	Grab	EPA 625	5	<5	µg/L	1
1,3-dichlorobenzene	Grab	EPA 625	5	<5	µg/L	1
1,4-dichlorobenzene	Grab	EPA 625	5	<5	µg/L	1
3,3-dichlorobenzidine	Grab	EPA 625	10	<10	µg/L	1
Diethyl phthalate	Grab	EPA 625	5	<5	µg/L	1
Dimethyl phthalate	Grab	EPA 625	5	<5	µg/L	1
2,4-dinitrotoluene	Grab	EPA 625	5	<5	µg/L	1
2,6-dinitrotoluene	Grab	EPA 625	5	<5	µg/L	1
1,2-diphenylhydrazine	Grab	EPA 625	5	<5	µg/L	1
Fluoranthene	Grab	EPA 625	5	<5	µg/L	1
Fluorene	Grab	EPA 625	5	<5	µg/L	1
Hexachlorobenzene	Grab	EPA 625	5	<5	µg/L	1
Hexachlorobutadiene	Grab	EPA 625	5	<5	µg/L	1
Hexachlorocyclo-pentadiene	Grab	EPA 625	25	<25	µg/L	1
Hexachloroethane	Grab	EPA 625	5	<5	µg/L	1
Indeno(1,2,3-cd)pyrene	Grab	EPA 625	5	<5	µg/L	1
Isophorone	Grab	EPA 625	5	<5	µg/L	1
Naphthalene	Grab	EPA 625	5	<5	µg/L	1
Nitrobenzene	Grab	EPA 625	5	<5	µg/L	1
N-nitrosodi-n-propylamine	Grab	EPA 625	5	<5	µg/L	1
N-nitrosodimethylamine	Grab	EPA 625	5	<5	µg/L	1
N-nitrosodiphenylamine	Grab	EPA 625	5	<5	µg/L	1
Phenanthrene	Grab	EPA 625	5	<5	µg/L	1
Pyrene	Grab	EPA 625	5	<5	µg/L	1
1,2,4,-trichlorobenzene	Grab	EPA 625	5	<5	µg/L	1

"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 managed 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 fines and imprisonment for knowing violations."

Gilbert DuBois

Authorized Representative name

Gilbert DuBois
Signature

7/7/2016
Date