North River WWTP
Cogeneration Facility

5 - MWM TCG 2032 V16 Spark Ignited Engines

Number of Engines	5	
Capacity	3370	kW
Horsepower	4519.24414	hP
Heat Input:	31.8	MMBtu/hr/Engine

For Annual Emissions

Digester Gas:	260,632	mmBTU/yr
Natural Gas:	474,747	mmBTU/yr
TOTAL	735,380	mmBTU/yr

		Natural Gas			4 Engines ST Emissions	Annual Emissions	Emissions for Modeling	
CAS #	Contaminant Name	Emission Factors[1]		Control (%)	(lbs/hr)	(lbs/yr)	1-Hour (g/s)	Annual (g/s)
00050-00-0	Formaldehyde	2.00E-02	g/bhp-hr				1.00E-01	7.75E-02
00071-55-6	1,1,1-Trichloroethane	---	(lbs/MMbtu)	80%	---	---	---	---
00079-34-5	1,1,2,2-Tetrachloroethane	4.00E-05	(lbs/MMbtu)	80%	5.09E-03	2.94E+01	1.28E-04	8.46E-05
00079-00-5	1,1,2-Trichloroethane	3.18E-05	(lbs/MMbtu)	80%	4.04E-03	2.34E+01	1.02E-04	6.73E-05
00075-34-3	1,1-Dichloroethane	2.36E-05	(lbs/MMbtu)	80%	3.00E-03	1.74E+01	7.56E-05	4.99E-05
00075-35-4	1,1-Dichloroethene	---	(lbs/MMbtu)	80%	---	---	---	---
00120-82-1	1,2,4-Trichlorobenzene	---	(lbs/MMbtu)	80%	---	---	---	---
00095-63-6	1,2,4-Trimethylbenzene	1.43E-05	(lbs/MMbtu)	80%	1.82E-03	1.05E+01	4.58E-05	3.03E-05
00106-93-4	1,2-Dibromoethane (EDB)	4.43E-05	(lbs/MMbtu)	80%	5.63E-03	3.26E+01	1.42E-04	9.37E-05
00095-50-1	1,2-Dichlorobenzene	---	(lbs/MMbtu)	80%	---	---	---	---
00107-06-2	1,2-Dichloroethane	2.36E-05	(lbs/MMbtu)	80%	3.00E-03	1.74E+01	7.56E-05	4.99E-05
00078-87-5	1,2-Dichloropropane	2.69E-05	(lbs/MMbtu)	80%	3.42E-03	1.98E+01	8.62E-05	5.69E-05
00108-67-8	1,3,5-Trimethylbenzene	3.38E-05	(lbs/MMbtu)	80%	4.30E-03	2.49E+01	1.08E-04	7.15E-05
00106-99-0	1,3-Butadiene	2.67E-04	(lbs/MMbtu)	80%	3.40E-02	1.96E+02	8.56E-04	5.65E-04
00541-73-1	1,3-Dichlorobenzene	---	(lbs/MMbtu)	80%	---	---	---	---
00106-46-7	1,4-Dichlorobenzene	---	(lbs/MMbtu)	80%	---	---	---	---
00123-91-1	1,4-Dioxane	---	(lbs/MMbtu)	80%	---	---	---	---
00540-84-1	2,2,4-Trimethylpentane	2.50E-04	(lbs/MMbtu)	80%	3.18E-02	1.84E+02	8.01E-04	5.29E-04
00078-93-3	2-Butanone (MEK)	---	(lbs/MMbtu)	80%	---	---	---	---
00591-78-6	2-Hexanone	---	(lbs/MMbtu)	80%	---	---	---	---
00091-57-6	2-Methylnaphthalene	3.32E-05	(lbs/MMbtu)	80%	4.22E-03	2.44E+01	1.06E-04	7.02E-05
00067-63-0	2-Propanol	---	(lbs/MMbtu)	80%	---	---	---	---
00107-05-1	3-Chloropropene	---	(lbs/MMbtu)	80%	---	---	---	---
00056-49-5	3-Methylchloranthrene	---	(lbs/MMbtu)	80%	---	---	---	---
00622-96-8	4-Ethyltoluene	---	(lbs/MMbtu)	80%	---	---	---	---
00108-10-1	4-Methyl-2-pentanone	---	(lbs/MMbtu)	80%	---	---	---	---
00057-97-6	7,12-Dimethylbenz(a)anthracene	---	(lbs/MMbtu)	80%	---	---	---	---
00083-32-9	Acenaphthene	1.25E-06	(lbs/MMbtu)	80%	1.59E-04	9.19E-01	4.01E-06	2.64E-06
00208-96-8	Acenaphthylene	5.53E-06	(lbs/MMbtu)	80%	7.03E-04	4.07E+00	1.77E-05	1.17E-05
00075-07-0	Acetaldehyde	8.36E-03	(lbs/MMbtu)	80%	1.06E+00	6.15E+03	2.68E-02	1.77E-02
00067-64-1	Acetone	---	(lbs/MMbtu)	80%	---	---	---	---
00107-02-8	Acrolein	5.14E-03	(lbs/MMbtu)	80%	6.54E-01	3.78E+03	1.65E-02	1.09E-02
00100-44-7	alpha-Chlorotoulene	---	(lbs/MMbtu)	80%	---	---	---	---
07429-90-5	Aluminium	---	(lbs/MMbtu)		---	---	---	---
07664-41-7	Ammonia	---	(lbs/MMbtu)		---	---	---	---
00120-12-7	Anthracene	---	(lbs/MMbtu)	80%	---	---	---	---
07440-36-0	Antimony	---	(lbs/MMbtu)		---	---	---	---
07440-38-2	Arsenic	---	(lbs/MMbtu)		---	---	---	---
07440-39-3	Barium	---	(lbs/MMbtu)		---	---	---	---
00071-43-2	Benzene	4.40E-04	(lbs/MMbtu)	80%	5.60E-02	3.24E+02	1.41E-03	9.31E-04
00056-55-3	Benz(a)anthracene	---	(lbs/MMbtu)	80%	---	---	---	---
00050-32-8	Benzo(a)pyrene	4.15E-07	(lbs/MMbtu)	80%	5.28E-05	3.05E-01	1.33E-06	8.78E-07
00205-99-2	Benzo(b)fluoranthene	1.66E-07	(lbs/MMbtu)	80%	2.11E-05	1.22E-01	5.32E-07	3.51E-07
00207-08-9	Benzo(k)fluoranthene	---	(lbs/MMbtu)	80%	---	---	---	---
	Benzo(b,k)fluoranthene	---	(lbs/MMbtu)	80%	---	---	---	---
00191-24-2	Benzo(g,h,I)perylene	4.14E-07	(lbs/MMbtu)	80%	5.27E-05	3.04E-01	1.33E-06	8.76E-07
07440-41-7	Beryllium	---	(lbs/MMbtu)		---	---	---	---
00117-81-7	Bis(2-ethylhexyl)phthalate (dioctyl ph	---	(lbs/MMbtu)	80%	---	---	---	---
07440-42-8	Boron	---	(lbs/MMbtu)		---	---	---	---
07726-95-6	Bromine	---	(lbs/MMbtu)		---	---	---	---
00075-27-4	Bromodichloromethane	---	(lbs/MMbtu)	80%	---	---	---	---
00075-25-2	Bromoform	---	(lbs/MMbtu)	80%	---	---	---	---
00074-83-9	Bromomethane	---	(lbs/MMbtu)	80%	---	---	---	---
00106-97-8	Butane	5.41E-04	(lbs/MMbtu)	80%	6.88E-02	3.98E+02	1.73E-03	1.14E-03
00085-68-7	Butylbenzylphthalate	---	(lbs/MMbtu)	80%	---	---	---	---
07440-43-9	Cadmium	---	(lbs/MMbtu)		---	---	---	---
07440-70-2	Calcium	---	(lbs/MMbtu)		---	---	---	---
00075-15-0	Carbon Disulfide	---	(lbs/MMbtu)	80%	---	---	---	---
00056-23-5	Carbon Tetrachloride	3.67E-05	(lbs/MMbtu)	80%	4.67E-03	2.70E+01	1.18E-04	7.76E-05
00108-90-7	Chlorobenzene	3.04E-05	(lbs/MMbtu)	80%	3.87E-03	2.24E+01	9.74E-05	6.43E-05
00075-00-3	Chloroethane	1.87E-06	(lbs/MMbtu)	80%	2.38E-04	1.38E+00	5.99E-06	3.96E-06
00067-66-3	Chloroform	2.85E-05	(lbs/MMbtu)	80%	3.63E-03	2.10E+01	9.14E-05	6.03E-05
00074-87-3	Chloromethane	---	(lbs/MMbtu)	80%	---	---	---	---
07440-47-3	Chromium	---	(lbs/MMbtu)		---	---	---	---
00218-01-9	Chrysene	6.93E-07	(lbs/MMbtu)	80%	8.81E-05	5.10E-01	2.22E-06	1.47E-06
00156-59-2	cis-1,2-Dichloroethene	---	(lbs/MMbtu)	80%	---	---	---	---
10061-01-5	cis-1,3-Dichloropopene	2.64E-05	(lbs/MMbtu)	80%	3.36E-03	1.94E+01	8.46E-05	5.58E-05
07440-48-4	Cobalt	---	(lbs/MMbtu)		---	---	---	---
07440-50-8	Copper	---	(lbs/MMbtu)		---	---	---	---
00098-82-8	Cumene (Isopropylbenzene)	---	(lbs/MMbtu)	80%	---	---	---	---
00110-82-7	Cyclohexane	---	(lbs/MMbtu)	80%	---	---	---	---
00053-70-3	Dibenz(a,h)anthracene	---	(lbs/MMbtu)	80%	---	---	---	---
00124-48-1	Dibromochloromethane	---	(lbs/MMbtu)	80%	---	---	---	---
00084-74-2	Dibutyl phthalate	---	(lbs/MMbtu)	80%	---	---	---	---
25321-22-6	Dichlorobenzene	---	(lbs/MMbtu)	80%	---	---	---	---
00084-66-2	Diethyl phthalate	---	(lbs/MMbtu)	80%	---	---	---	---
00115-29-7	Endosulfan-1	---	(lbs/MMbtu)	80%	---	---	---	---
00072-20-8	Endrin	---	(lbs/MMbtu)	80%	---	---	---	---
00074-84-0	Ethane	1.05E-01	(lbs/MMbtu)	80%	1.34E+01	7.72E+04	3.37E-01	2.22E-01
00064-17-5	Ethanol	---	(lbs/MMbtu)	80%	---	---	---	---
00100-41-4	Ethylbenzene	3.97E-05	(lbs/MMbtu)	80%	5.05E-03	2.92E+01	1.27E-04	8.40E-05
00206-44-0	Fluoranthene	1.11E-06	(lbs/MMbtu)	80%	1.41E-04	8.16E-01	3.56E-06	2.35E-06
00086-73-7	Fluorene	5.67E-06	(lbs/MMbtu)	80%	7.21E-04	4.17E+00	1.82E-05	1.20E-05
00075-69-4	Freon 11	---	(lbs/MMbtu)	80%	---	---	---	---
00076-13-1	Freon 113	---	(lbs/MMbtu)	80%	---	---	---	---
00076-14-2	Freon 114	---	(lbs/MMbtu)	80%	---	---	---	---
00075-71-8	Freon 12	---	(lbs/MMbtu)	80%	---	---	---	---
00076-44-8	Heptachlor	---	(lbs/MMbtu)	80%	---	---	---	---
00142-82-5	Heptane	---	(lbs/MMbtu)	80%	---	---	---	---

North River WWTP
Cogeneration Facility

5 - MWM TCG 2032 V16 Spark Ignited Engines

Number of Engines	5	
Capacity	3370	kW
Horsepower	4519.24414	hP
Heat Input:	31.8	MMBtu/hr/Engine

For Annual Emissions

Digester Gas:	260,632	mmBTU/yr
Natural Gas:	474,747	mmBTU/yr
TOTAL	735,380	mmBTU/yr

		Natural Gas			4 Engines ST Emissions	Annual Emissions	Emissions for Modeling	
CAS #	Contaminant Name	Emission Factors[1]		Control (%)	(lbs/hr)	(lbs/yr)	1-Hour (g/s)	Annual (g/s)
00087-68-3	Hexachlorobutadiene	---	(lbs/MMbtu)	80%	---	---	---	---
00319-84-6	alpha-Bhc (alpha-Hexachlorocyclohe	---	(lbs/MMbtu)	80%	---	---	---	---
00319-85-7	beta-Bhc (beta-Hexachlorocyclohexa	---	(lbs/MMbtu)	80%	---	---	---	---
00319-86-8	delta-Bhc (delta-Hexachlorocyclohex	---	(lbs/MMbtu)	80%	---	---	---	---
00058-89-9	gamma-Hexachlorocyclohexane (Lin	---	(lbs/MMbtu)	80%	---	---	---	---
00110-54-3	Hexane	1.11E-03	(lbs/MMbtu)	80%	1.41E-01	8.16E+02	3.56E-03	2.35E-03
00193-39-5	Indeno(1,2,3-cd)pyrene	---	(lbs/MMbtu)	80%	---	---	---	---
15438-31-0	Iron	---	(lbs/MMbtu)		---	---	---	---
07439-92-1	Lead	---	(lbs/MMbtu)		---	---	---	---
07439-96-5	Manganese	---	(lbs/MMbtu)		---	---	---	---
07439-97-6	Mercury	---	(lbs/MMbtu)		---	---	---	---
00074-82-8	Methane	---	(lbs/MMbtu)	80%	---	---	---	---
01634-04-4	Methyl tert-butyl ether	---	(lbs/MMbtu)	80%	---	---	---	---
00075-09-2	Methylene Chloride	2.00E-05	(lbs/MMbtu)	80%	2.54E-03	1.47E+01	6.41E-05	4.23E-05
07439-98-7	Molybdenum	---	(lbs/MMbtu)		---	---	---	---
00091-20-3	Naphthalene	7.44E-05	(lbs/MMbtu)	80%	9.46E-03	5.47E+01	2.38E-04	1.57E-04
07440-02-0	Nickel	---	(lbs/MMbtu)		---	---	---	---
03268-87-9	OCDD (Octachlorodibenzodioxin)	---	(lbs/MMbtu)	80%	---	---	---	---
00109-66-0	Pentane	2.60E-03	(lbs/MMbtu)	80%	3.31E-01	1.91E+03	8.33E-03	5.50E-03
00085-01-8	Phenanthrene	1.04E-05	(lbs/MMbtu)	80%	1.32E-03	7.65E+00	3.33E-05	2.20E-05
00108-95-2	Phenol	2.40E-05	(lbs/MMbtu)	80%	3.05E-03	1.76E+01	7.69E-05	5.08E-05
07723-14-0	Phosphorus (Yellow or white)	---	(lbs/MMbtu)		---	---	---	---
	Polycyclic Organic Matter (POM)	---	(lbs/MMbtu)	80%	---	---	---	---
07440-09-7	Potassium	---	(lbs/MMbtu)		---	---	---	---
00074-98-6	Propane	4.19E-02	(lbs/MMbtu)	80%	5.33E+00	3.08E+04	1.34E-01	8.86E-02
00103-65-1	Propylbenzene	---	(lbs/MMbtu)	80%	---	---	---	---
00115-07-1	Propylene	---	(lbs/MMbtu)	80%	---	---	---	---
00129-00-0	Pyrene	1.36E-06	(lbs/MMbtu)	80%	1.73E-04	1.00E+00	4.36E-06	2.88E-06
07782-49-2	Selenium	---	(lbs/MMbtu)		---	---	---	---
07440-21-3	Silicon	---	(lbs/MMbtu)		---	---	---	---
07440-23-5	Sodium	---	(lbs/MMbtu)		---	---	---	---
00100-42-5	Styrene	2.36E-05	(lbs/MMbtu)	80%	3.00E-03	1.74E+01	7.56E-05	4.99E-05
00127-18-4	Tetrachloroethene (Tetrachloroethyle	---	(lbs/MMbtu)	80%	---	---	---	---
00109-99-9	Tetrahydrofuran	---	(lbs/MMbtu)	80%	---	---	---	---
07440-31-5	Tin	---	(lbs/MMbtu)		---	---	---	---
00108-88-3	Toluene	4.08E-04	(lbs/MMbtu)	80%	5.19E-02	3.00E+02	1.31E-03	8.63E-04
	Total non-methane organic compour	---	(lbs/MMbtu)	80%	---	---	---	---
	Total Organic Compounds (TOC)	---	(lbs/MMbtu)	80%	---	---	---	---
13049829-2	Total PAH (Polycyclic aromatic hydr	2.69E-05	(lbs/MMbtu)	80%	3.42E-03	1.98E+01	8.62E-05	5.69E-05
00156-60-5	Trans-1,2-Dichloroethene	---	(lbs/MMbtu)	80%	---	---	---	---
10061-02-6	trans-1,3-Dichloropropene	---	(lbs/MMbtu)	80%	---	---	---	---
00079-01-6	Trichloroethene	---	(lbs/MMbtu)	80%	---	---	---	---
07440-62-2	Vanadium	---	(lbs/MMbtu)		---	---	---	---
00075-01-4	Vinyl Chloride (Chloroethene)	1.49E-05	(lbs/MMbtu)	80%	1.90E-03	1.10E+01	4.78E-05	3.15E-05
01330-20-7	m,p-Xylene (Xylene)	1.84E-04	(lbs/MMbtu)	80%	2.34E-02	1.35E+02	5.90E-04	3.89E-04
00108-38-3	m-Xylene (1,3-xylene)	---	(lbs/MMbtu)	80%	---	---	---	---
00095-47-6	o-Xylene (1,2-xylene)	---	(lbs/MMbtu)	80%	---	---	---	---
00106-42-3	p-Xylene (1,4-xylene)	---	(lbs/MMbtu)	80%	---	---	---	---
07440-66-6	Zinc	---	(lbs/MMbtu)		---	---	---	---

(1) Emission Factors from AP-42 for 4-Stroke Lean-burn Engines using Natural Gas, Table 3.2-2

North River WWTP

Thermal Oxidizer

354 Btu/cf
8.85 mmBtu/hr

CAS #	Contaminant Name	Natural Gas Emission Factors		EF lbs/mmcf	Emissions (lbs/hr) (1 unit)	Emissions for Modeling 1-Hour (g/s)	Annual (g/s)
00050-00-0	Formaldehyde	7.50E-02	lbs/mmcf (2)	7.50E-02	1.88E-03	2.36E-04	2.36E-04
00071-55-6	1,1,1-Trichloroethane	---	---	---	---	---	---
00079-34-5	1,1,2,2-Tetrachloroethan	---	---	---	---	---	---
00079-00-5	1,1,2-Trichloroethane	---	---	---	---	---	---
00075-34-3	1,1-Dichloroethane	---	---	---	---	---	---
00075-35-4	1,1-Dichloroethene	---	---	---	---	---	---
00120-82-1	1,2,4-Trichlorobenzene	---	---	---	---	---	---
00095-63-6	1,2,4-Trimethylbenzene	---	---	---	---	---	---
00106-93-4	1,2-Dibromoethane (EDI	---	---	---	---	---	---
00095-50-1	1,2-Dichlorobenzene	---	---	---	---	---	---
00107-06-2	1,2-Dichloroethane	---	---	---	---	---	---
00078-87-5	1,2-Dichloropropane	---	---	---	---	---	---
00108-67-8	1,3,5-Trimethylbenzene	---	---	---	---	---	---
00106-99-0	1,3-Butadiene	---	---	---	---	---	---
00541-73-1	1,3-Dichlorobenzene	---	---	---	---	---	---
00106-46-7	1,4-Dichlorobenzene	---	---	---	---	---	---
00123-91-1	1,4-Dioxane	---	---	---	---	---	---
00540-84-1	2,2,4-Trimethylpentane	---	---	---	---	---	---
00078-93-3	2-Butanone (MEK)	---	---	---	---	---	---
00591-78-6	2-Hexanone	---	---	---	---	---	---
00091-57-6	2-Methylnaphthalene	2.40E-05	lbs/mmcf (3)	2.40E-05	6.00E-07	7.56E-08	7.56E-08
00067-63-0	2-Propanol	---	---	---	---	---	---
00107-05-1	3-Chloropropene	---	---	---	---	---	---
00056-49-5	3-Methylchloranthrene	1.80E-06	lbs/mmcf (3,7)	1.80E-06	4.50E-08	5.67E-09	5.67E-09
00622-96-8	4-Ethyltoluene	---	---	---	---	---	---
00108-10-1	4-Methyl-2-pentanone	---	---	---	---	---	---
00057-97-6	7,12-Dimethylbenz(a)ant	1.60E-05	lbs/mmcf (3,7)	1.60E-05	4.00E-07	5.04E-08	5.04E-08
00083-32-9	Acenaphthene	1.80E-06	lbs/mmcf (3,7)	1.80E-06	4.50E-08	5.67E-09	5.67E-09
00208-96-8	Acenaphthylene	1.80E-06	lbs/mmcf (3,7)	1.80E-06	4.50E-08	5.67E-09	5.67E-09
00075-07-0	Acetaldehyde	---	---	---	---	---	---
00067-64-1	Acetone	---	---	---	---	---	---
00107-02-8	Acrolein	---	---	---	---	---	---
00100-44-7	alpha-Chlorotoulene	---	---	---	---	---	---
07429-90-5	Aluminium	---	---	---	---	---	---
07664-41-7	Ammonia	4.90E-01	lbs/mmcf (6)	4.90E-01	1.23E-02	1.54E-03	1.54E-03
00120-12-7	Anthracene	2.40E-06	lbs/mmcf (3,7)	2.40E-06	6.00E-08	7.56E-09	7.56E-09
07440-36-0	Antimony	---	---	---	---	---	---
07440-38-2	Arsenic	2.00E-04	lbs/mmcf (3)	2.00E-04	5.00E-06	6.30E-07	6.30E-07
07440-39-3	Barium	4.40E-03	lbs/mmcf (3)	4.40E-03	1.10E-04	1.39E-05	1.39E-05
00071-43-2	Benzene	2.10E-03	lbs/mmcf (3)	2.10E-03	5.25E-05	6.61E-06	6.61E-06
00056-55-3	Benz(a)anthracene	1.80E-06	lbs/mmcf (3,7)	1.80E-06	4.50E-08	5.67E-09	5.67E-09
00050-32-8	Benzo(a)pyrene	1.20E-06	lbs/mmcf (3,7)	1.20E-06	3.00E-08	3.78E-09	3.78E-09
00205-99-2	Benzo(b)fluoranthene	1.80E-06	lbs/mmcf (3,7)	1.80E-06	4.50E-08	5.67E-09	5.67E-09
00207-08-9	Benzo(k)fluoranthene	1.80E-06	lbs/mmcf (3,7)	1.80E-06	4.50E-08	5.67E-09	5.67E-09
	Benzo(b,k)fluoranthene	---	---	---	---	---	---
00191-24-2	Benzo(g,h,I)perylene	1.20E-06	lbs/mmcf (3,7)	1.20E-06	3.00E-08	3.78E-09	3.78E-09
07440-41-7	Beryllium	1.20E-05	lbs/mmcf (3,7)	1.20E-05	3.00E-07	3.78E-08	3.78E-08
00117-81-7	Bis(2-ethylhexyl)phthalat	---	---	---	---	---	---
07440-42-8	Boron	---	---	---	---	---	---
07726-95-6	Bromine	---	---	---	---	---	---
00075-27-4	Bromodichloromethane	---	---	---	---	---	---
00075-25-2	Bromoform	---	---	---	---	---	---
00074-83-9	Bromomethane	---	---	---	---	---	---
00106-97-8	Butane	2.10E+00	lbs/mmcf (3)	2.10E+00	5.25E-02	6.61E-03	6.61E-03
00085-68-7	Butylbenzylphthalate	---	---	---	---	---	---
07440-43-9	Cadmium	1.10E-03	lbs/mmcf (3)	1.10E-03	2.75E-05	3.46E-06	3.46E-06
07440-70-2	Calcium	---	---	---	---	---	---
00075-15-0	Carbon Disulfide	---	---	---	---	---	---
00056-23-5	Carbon Tetrachloride	---	---	---	---	---	---
00108-90-7	Chlorobenzene	---	---	---	---	---	---
00075-00-3	Chloroethane	---	---	---	---	---	---
00067-66-3	Chloroform	---	---	---	---	---	---
00074-87-3	Chloromethane	---	---	---	---	---	---
07440-47-3	Chromium	1.40E-03	lbs/mmcf (3)	1.40E-03	3.50E-05	4.41E-06	4.41E-06
00218-01-9	Chrysene	1.80E-06	lbs/mmcf (3,7)	1.80E-06	4.50E-08	5.67E-09	5.67E-09
00156-59-2	cis-1,2-Dichloroethene	---	---	---	---	---	---
10061-01-5	cis-1,3-Dichloropopene	---	---	---	---	---	---
07440-48-4	Cobalt	8.40E-05	lbs/mmcf (3)	8.40E-05	2.10E-06	2.65E-07	2.65E-07
07440-50-8	Copper	8.50E-04	lbs/mmcf (3)	8.50E-04	2.13E-05	2.68E-06	2.68E-06
00098-82-8	Cumene (Isopropylbenze	---	---	---	---	---	---
00110-82-7	Cyclohexane	---	---	---	---	---	---
00053-70-3	Dibenz(a,h)anthracene	1.20E-06	lbs/mmcf (3,7)	1.20E-06	3.00E-08	3.78E-09	3.78E-09
00124-48-1	Dibromochloromethane	---	---	---	---	---	---
00084-74-2	Dibutyl phthalate	---	---	---	---	---	---
25321-22-6	Dichlorobenzene	1.20E-03	lbs/mmcf (3)	1.20E-03	3.00E-05	3.78E-06	3.78E-06
00084-66-2	Diethyl phthalate	---	---	---	---	---	---
00115-29-7	Endosulfan-1	---	---	---	---	---	---
00072-20-8	Endrin	---	---	---	---	---	---
00074-84-0	Ethane	3.10E+00	lbs/mmcf (3)	3.10E+00	7.75E-02	9.76E-03	9.76E-03
00064-17-5	Ethanol	---	---	---	---	---	---
00100-41-4	Ethylebenzene	---	---	---	---	---	---
00206-44-0	Fluoranthene	3.00E-06	lbs/mmcf (3)	3.00E-06	7.50E-08	9.45E-09	9.45E-09
00086-73-7	Fluorene	2.80E-06	lbs/mmcf (3)	2.80E-06	7.00E-08	8.82E-09	8.82E-09
00075-69-4	Freon 11	---	---	---	---	---	---

North River WWTP

Thermal Oxidizer

354 Btu/cf
8.85 mmBtu/hr

		Natural Gas			Emissions	Emissions for Modeling	
CAS #	Contaminant Name	Emission Factors		EF lbs/mmcf	(lbs/hr) (1 unit)	1-Hour (g/s)	Annual (g/s)
00076-13-1	Freon 113	---	---	---	---	---	---
00076-14-2	Freon 114	---	---	---	---	---	---
00075-71-8	Freon 12	---	---	---	---	---	---
00076-44-8	Heptachlor	---	---	---	---	---	---
00142-82-5	Heptane	---	---	---	---	---	---
00087-68-3	Hexachlorobutadiene	---	---	---	---	---	---
00319-84-6	alpha-Bhc (alpha-Hexacl	---	---	---	---	---	---
00319-85-7	beta-Bhc (beta-Hexachlc	---	---	---	---	---	---
00319-86-8	delta-Bhc (delta-Hexachl	---	---	---	---	---	---
00058-89-9	gamma-Hexachlorocyclo	---	---	---	---	---	---
00110-54-3	Hexane	1.80E+00	lbs/mmcf (3)	1.80E+00	4.50E-02	5.67E-03	5.67E-03
00193-39-5	Indeno(1,2,3-cd)pyrene	1.80E-06	lbs/mmcf (3,7)	1.80E-06	4.50E-08	5.67E-09	5.67E-09
15438-31-0	Iron	---	---	---	---	---	---
07439-92-1	Lead	5.00E-04	lbs/mmcf (6)	5.00E-04	1.25E-05	1.57E-06	1.57E-06
07439-96-5	Manganese	3.80E-04	lbs/mmcf (3)	3.80E-04	9.50E-06	1.20E-06	1.20E-06
07439-97-6	Mercury	2.60E-04	lbs/mmcf (3)	2.60E-04	6.50E-06	8.19E-07	8.19E-07
00074-82-8	Methane	---	---	---	---	---	---
01634-04-4	Methyl tert-butyl ether	---	---	---	---	---	---
00075-09-2	Methylene Chloride	---	---	---	---	---	---
07439-98-7	Molybdenum	1.10E-03	lbs/mmcf (3)	1.10E-03	2.75E-05	3.46E-06	3.46E-06
00091-20-3	Naphthalene	6.10E-04	lbs/mmcf (3)	6.10E-04	1.53E-05	1.92E-06	1.92E-06
07440-02-0	Nickel	2.10E-03	lbs/mmcf (3)	2.10E-03	5.25E-05	6.61E-06	6.61E-06
03268-87-9	OCDD (Octachlorodiben	---	---	---	---	---	---
00109-66-0	Pentane	2.60E+00	lbs/mmcf (3)	2.60E+00	6.50E-02	8.19E-03	8.19E-03
00085-01-8	Phenanthrene	1.70E-05	lbs/mmcf (3)	1.70E-05	4.25E-07	5.35E-08	5.35E-08
00108-95-2	Phenol	---	---	---	---	---	---
07723-14-0	Phosphorus (Yellow or w	---	---	---	---	---	---
	Polycyclic Organic Matte	---	---	---	---	---	---
07440-09-7	Potassium	---	---	---	---	---	---
00074-98-6	Propane	1.60E+00	lbs/mmcf (3)	1.60E+00	4.00E-02	5.04E-03	5.04E-03
00103-65-1	Propylbenzene	---	---	---	---	---	---
00115-07-1	Propylene	---	---	---	---	---	---
00129-00-0	Pyrene	5.00E-06	lbs/mmcf (3)	5.00E-06	1.25E-07	1.57E-08	1.57E-08
07782-49-2	Selenium	2.40E-05	lbs/mmcf (3,7)	2.40E-05	6.00E-07	7.56E-08	7.56E-08
07440-21-3	Silicon	---	---	---	---	---	---
07440-23-5	Sodium	---	---	---	---	---	---
00100-42-5	Styrene	---	---	---	---	---	---
00127-18-4	Tetrachloroethene (Tetra	---	---	---	---	---	---
00109-99-9	Tetrahydrofuran	---	---	---	---	---	---
07440-31-5	Tin	---	---	---	---	---	---
00108-88-3	Toluene	3.40E-03	lbs/mmcf (3)	3.40E-03	8.50E-05	1.07E-05	1.07E-05
	Total non-methane orgar	---	---	---	---	---	---
	Total Organic Compounc	1.10E+01	lbs/mmcf (6)	1.10E+01	2.75E-01	3.46E-02	3.46E-02
13049829-2	Total PAH (Polycyclic arc	---	---	---	---	---	---
00156-60-5	Trans-1,2-Dichloroethen	---	---	---	---	---	---
10061-02-6	trans-1,3-Dichloropropen	---	---	---	---	---	---
00079-01-6	Trichloroethene	---	---	---	---	---	---
07440-62-2	Vanadium	2.30E-03	lbs/mmcf (3)	2.30E-03	5.75E-05	7.24E-06	7.24E-06
00075-01-4	Vinyl Chloride (Chloroeth	---	---	---	---	---	---
01330-20-7	m,p-Xylene (Xylene)	---	---	---	---	---	---
00108-38-3	m-Xylene (1,3-xylene)	---	---	---	---	---	---
00095-47-6	o-Xylene (1,2-xylene)	---	---	---	---	---	---
00106-42-3	p-Xylene (1,4-xylene)	---	---	---	---	---	---
07440-66-6	Zinc	2.90E-02	lbs/mmcf (3)	2.90E-02	7.25E-04	9.13E-05	9.13E-05

(2) Formaldehyde emission factor are from EPA's webfire database for SIC: 1-03-006-02
(3) Emission Factors from AP-42, Tables 1.4-3 &1.4-4
(6) Additional compounds not listed in AP-42; Emission factors obtained from USEPA's webfire database for SCC: 1-03-006-021, External Combustion sources/ Commercial, Institutional (Natural Gas)
(7) Emission factors are based on 1/2 of the detection limit (represented by "<" in AP-42).

North River WPCP
Baseline Emissions - Boilers

Fuel Oil HHV	140	mmBtu/1000 gallons
Natural Gas HHV	1050	mmBtu/mmcf
Digester Gas HHV	600	mmBtu/mmcf

2 LARGE BOILERS EXHAUST OUT INDIVIDUAL STACKS
1 LARGE AND 1 SMALL BOILER SHARE A COMMON STACK
ANNUAL EMISSIONS ARE DIVIDED BY 4, WEIGHTED, AND MULTIPLIED ACCORDINGLY FOR EACH STACK EXHAUST

Usage	**Boilers**	
#2 Fuel Oil (gals/yr)	0	Per NOx RACT Compliance plan, no future fuel oil usage.
Natural Gas (mmcf/yr)	29.468	
Digester Gas (mmcf/yr)	122.452	

Calculated Operating Hours	
Natural Gas (hrs/yr)	**958**
Digester Gas (hrs/yr)	**2275**

Emissions for Modeling (prorated g/s) per Stack — **Emissions for Modeling (prorated g/s) per Stack**

		#2 Fuel Oil			**Emissions**		**Natural Gas**			**Emissions**		**Digester Gas**			**Emissions**		**Emissions for Modeling per Stacks (1 and 3) each exhausting 1 large Boiler (32.3 Mmbtu/hr)**		**Emissions for Modeling Stack 2 exhausting 1 large Boiler (32.3 Mmbtu/hr)+ 1 small boiler (8.6 Mmbtu/hr)**	
CAS #	**Contaminant Name**	**Emission Factors**		**EF lbs/gallon**	**(lbs/hr) (1 unit)**	**(lbs/yr) (Total)**	**Emission Factors**		**EF lbs/mmcf**	**(lbs/hr) (1 unit)**	**(lbs/yr) (Total)**	**Emission Factors**		**EF lbs/mmcf**	**(lbs/hr) (1 unit)**	**(lbs/yr) (Total)**	**1-hour**	**Annual**	**1-hour**	**Annual**
00050-00-0	Formaldehyde	---	---	---	---	---	7.50E-02	lbs/mmcf (3)	7.50E-02	2.31E-03	2.21	2.94E-04	lbs/mmBtu (10)	0.1764	9.50E-03	21.6005	0.0012	0.00010	0.0015	0.00013
00071-55-6	1,1,1-Trichloroethane	---	---	---	---	---	---	---	---	---	---	6.98E-05	lbs/hr (2,9)	---	6.98E-05	0.15877	8.79E-06	6.99E-07	1.44E-04	8.85E-07
00079-34-5	1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---	8.84E-05	lbs/hr (2,9)	---	8.84E-05	0.20111	1.11E-05	8.86E-07	1.11E-05	1.12E-06
00079-00-5	1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	---	---	6.98E-05	lbs/hr (2,9)	---	6.98E-05	0.15877	8.79E-06	6.99E-07	8.79E-06	8.85E-07
00075-34-3	1,1-Dichloroethane	---	---	---	---	---	---	---	---	---	---	5.21E-05	lbs/hr (2,9)	---	5.21E-05	0.11855	6.57E-06	5.22E-07	6.57E-06	6.61E-07
00075-35-4	1,1-Dichloroethene	---	---	---	---	---	---	---	---	---	---	5.12E-05	lbs/hr (2,9)	---	5.12E-05	0.11643	6.45E-06	5.13E-07	6.45E-06	6.49E-07
00120-82-1	1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---	3.82E-04	lbs/hr (2,9)	---	3.82E-04	0.86795	4.81E-05	3.82E-06	4.81E-05	4.84E-06
00095-63-6	1,2,4-Trimethylbenzene	---	---	---	---	---	---	---	---	---	---	6.33E-05	lbs/hr (2,9)	---	6.33E-05	0.14395	7.97E-06	6.34E-07	7.97E-06	8.03E-07
00106-93-4	1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---	1.02E-04	lbs/hr (2,9)	---	1.02E-04	0.23286	1.29E-05	1.03E-06	1.29E-05	1.30E-06
00095-50-1	1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	7.72E-05	lbs/hr (2,9)	---	7.72E-05	0.17571	9.73E-06	7.74E-07	9.73E-06	9.80E-07
00107-06-2	1,2-Dichloroethane	---	---	---	---	---	---	---	---	---	---	5.21E-05	lbs/hr (2,9)	---	5.21E-05	0.11855	6.57E-06	5.22E-07	6.57E-06	6.61E-07
00078-87-5	1,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---	5.96E-05	lbs/hr (2,9)	---	5.96E-05	0.13548	7.50E-06	5.97E-07	7.50E-06	7.55E-07
00108-67-8	1,3,5-Trimethylbenzene	---	---	---	---	---	---	---	---	---	---	6.33E-05	lbs/hr (2,9)	---	6.33E-05	0.14395	7.97E-06	6.34E-07	7.97E-06	8.03E-07
00106-99-0	1,3-Butadiene	---	---	---	---	---	---	---	---	---	---	2.79E-05	lbs/hr (2,9)	---	2.79E-05	0.06351	3.52E-06	2.80E-07	3.52E-06	3.54E-07
00541-73-1	1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	7.72E-05	lbs/hr (2,9)	---	7.72E-05	0.17571	9.73E-06	7.74E-07	9.73E-06	9.80E-07
00106-46-7	1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	7.72E-05	lbs/hr (2,9)	---	7.72E-05	0.17571	9.73E-06	7.74E-07	9.73E-06	9.80E-07
00123-91-1	1,4-Dioxane	---	---	---	---	---	---	---	---	---	---	1.86E-04	lbs/hr (2,9)	---	1.86E-04	0.42339	2.35E-05	1.86E-06	2.35E-05	2.36E-06
00540-84-1	2,2,4-Trimethylpentane	---	---	---	---	---	---	---	---	---	---	5.96E-05	lbs/hr (2,9)	---	5.96E-05	0.13548	7.50E-06	5.97E-07	7.50E-06	7.55E-07
00078-93-3	2-Butanone (MEK)	---	---	---	---	---	---	---	---	---	---	3.82E-05	lbs/hr (2,9)	---	3.82E-05	0.08679	4.81E-06	3.82E-07	4.81E-06	4.84E-07
00591-78-6	2-Hexanone	---	---	---	---	---	---	---	---	---	---	2.14E-04	lbs/hr (2,9)	---	2.14E-04	0.48690	2.70E-05	2.14E-06	2.70E-05	2.71E-06
00091-57-6	2-Methylnaphthalene	---	---	---	---	---	2.40E-05	lbs/mmcf (4)	2.40E-05	7.38E-07	7.07E-04	---	---	---	---	---	9.30E-08	3.11E-09	1.18E-07	3.94E-09
00067-63-0	2-Propanol	---	---	---	---	---	---	---	---	---	---	1.30E-04	lbs/hr (2,9)	---	1.30E-04	0.29637	1.64E-05	1.31E-06	1.64E-05	1.65E-06
00107-05-1	3-Chloropropene	---	---	---	---	---	---	---	---	---	---	1.58E-04	lbs/hr (2,9)	---	1.58E-04	0.35988	1.99E-05	1.58E-06	1.99E-05	2.01E-06
00056-49-5	3-Methylchloranthrene	---	---	---	---	---	1.80E-06	lbs/mmcf (4,9)	1.80E-06	5.54E-08	5.30E-05	---	---	---	---	---	6.98E-09	2.34E-10	8.83E-09	2.96E-10
00622-96-8	4-Ethyltoluene	---	---	---	---	---	---	---	---	---	---	6.33E-05	lbs/hr (2,9)	---	6.33E-05	0.14395	7.97E-06	6.34E-07	7.97E-06	8.03E-07
00108-10-1	4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	5.21E-05	lbs/hr (2,9)	---	5.21E-05	0.11855	6.57E-06	5.22E-07	6.57E-06	6.61E-07
00057-97-6	7,12-Dimethylbenz(a)anthracer	---	---	---	---	---	1.60E-05	lbs/mmcf (4,9)	1.60E-05	4.92E-07	4.71E-04	---	---	---	---	---	6.20E-08	2.08E-09	7.85E-08	2.63E-09
00083-32-9	Acenaphthene	---	---	---	---	---	1.80E-06	lbs/mmcf (4,9)	1.80E-06	5.54E-08	5.30E-05	---	---	---	---	---	6.98E-09	2.34E-10	8.83E-09	2.96E-10
00208-96-8	Acenaphthylene	---	---	---	---	---	1.80E-06	lbs/mmcf (4,9)	1.80E-06	5.54E-08	5.30E-05	---	---	---	---	---	6.98E-09	2.34E-10	8.83E-09	2.96E-10
00075-07-0	Acetaldehyde	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.41E-04	---
00067-64-1	Acetone	---	---	---	---	---	---	---	---	---	---	4.19E-04	lbs/hr (2)	---	4.19E-04	0.95224	5.27E-05	4.19E-06	5.27E-05	5.31E-06
00107-02-8	Acrolein	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.45E-05	---
00100-44-7	alpha-Chlorotoulene	---	---	---	---	---	---	---	---	---	---	6.61E-05	lbs/hr (2,9)	---	6.61E-05	0.15030	8.33E-06	6.62E-07	8.33E-06	8.38E-07
07429-90-5	Aluminium	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07664-41-7	Ammonia	---	---	---	---	---	4.90E-01	lbs/mmcf (8)	4.90E-01	1.51E-02	1.44E+01	---	---	---	---	---	1.90E-03	6.36E-05	2.40E-03	8.05E-05
00120-12-7	Anthracene	---	---	---	---	---	2.40E-06	lbs/mmcf (4,9)	2.40E-06	7.38E-08	7.07E-05	---	---	---	---	---	9.30E-09	3.11E-10	1.18E-08	3.94E-10
07440-36-0	Antimony	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-38-2	Arsenic	---	---	---	---	---	2.00E-04	lbs/mmcf (4)	2.00E-04	6.15E-06	5.89E-03	---	---	---	---	---	7.75E-07	2.60E-08	9.82E-07	3.29E-08
07440-39-3	Barium	---	---	---	---	---	4.40E-03	lbs/mmcf (4)	4.40E-03	1.35E-04	1.30E-01	---	---	---	---	---	1.71E-05	5.71E-07	2.16E-05	7.23E-07
00071-43-2	Benzene	---	---	---	---	---	2.10E-03	lbs/mmcf (4)	2.10E-03	6.46E-05	6.19E-02	4.09E-05	lbs/hr (2,9)	---	4.09E-05	0.09315	8.14E-06	6.83E-07	3.80E-03	8.64E-07
00056-55-3	Benz(a)anthracene	---	---	---	---	---	1.80E-06	lbs/mmcf (4,9)	1.80E-06	5.54E-08	5.30E-05	---	---	---	---	---	6.98E-09	2.34E-10	8.83E-09	2.96E-10
00050-32-8	Benzo(a)pyrene	---	---	---	---	---	1.20E-06	lbs/mmcf (4,9)	1.20E-06	3.69E-08	3.54E-05	---	---	---	---	---	4.65E-09	1.56E-10	5.89E-09	1.97E-10
00205-99-2	Benzo(b)fluoranthene	---	---	---	---	---	1.80E-06	lbs/mmcf (4,9)	1.80E-06	5.54E-08	5.30E-05	---	---	---	---	---	6.98E-09	2.34E-10	8.83E-09	2.96E-10
00207-08-9	Benzo(k)fluoranthene	---	---	---	---	---	1.80E-06	lbs/mmcf (4,9)	1.80E-06	5.54E-08	5.30E-05	---	---	---	---	---	6.98E-09	2.34E-10	8.83E-09	2.96E-10
	Benzo(b,k)fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00E+00	---
00191-24-2	Benzo(g,h,l)perylene	---	---	---	---	---	1.20E-06	lbs/mmcf (4,9)	1.20E-06	3.69E-08	3.54E-05	---	---	---	---	---	4.65E-09	1.56E-10	5.89E-09	1.97E-10
07440-41-7	Beryllium	---	---	---	---	---	1.20E-05	lbs/mmcf (4,9)	1.20E-05	3.69E-07	3.54E-04	---	---	---	---	---	4.65E-08	1.56E-09	5.89E-08	1.97E-09
00117-81-7	Bis(2-ethylhexyl)phthalate (dioc	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-42-8	Boron	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07726-95-6	Bromine	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-27-4	Bromodichloromethane	---	---	---	---	---	---	---	---	---	---	8.56E-05	lbs/hr (2,9)	---	8.56E-05	0.19476	1.08E-05	8.58E-07	1.08E-05	1.09E-06
00075-25-2	Bromoform	---	---	---	---	---	---	---	---	---	---	1.30E-04	lbs/hr (2,9)	---	1.30E-04	0.29637	1.64E-05	1.31E-06	1.64E-05	1.65E-06
00074-83-9	Bromomethane	---	---	---	---	---	---	---	---	---	---	5.03E-05	lbs/hr (2,9)	---	5.03E-05	0.11432	6.33E-06	5.03E-07	6.33E-06	6.37E-07
00106-97-8	Butane	---	---	---	---	---	2.10E+00	lbs/mmcf (4)	2.10E+00	6.46E-02	6.19E+01	---	---	---	---	---	8.14E-03	2.73E-04	1.03E-02	3.45E-04
00085-68-7	Butylbenzylphthalate	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-43-9	Cadmium	---	---	---	---	---	1.10E-03	lbs/mmcf (4)	1.10E-03	3.38E-05	3.24E-02	---	---	---	---	---	4.26E-06	1.43E-07	5.40E-06	1.81E-07
07440-70-2	Calcium	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-15-0	Carbon Disulfide	---	---	---	---	---	---	---	---	---	---	4.00E-05	lbs/hr (2,9)	---	4.00E-05	0.09103	5.04E-06	4.01E-07	5.04E-06	5.08E-07
00056-23-5	Carbon Tetrachloride	---	---	---	---	---	---	---	---	---	---	8.10E-05	lbs/hr (2,9)	---	8.10E-05	0.18417	1.02E-05	8.11E-07	1.02E-05	1.03E-06
00108-90-7	Chlorobenzene	---	---	---	---	---	---	---	---	---	---	5.96E-05	lbs/hr (2,9)	---	5.96E-05	0.13548	7.50E-06	5.97E-07	7.50E-06	7.55E-07
00075-00-3	Chloroethane	---	---	---	---	---	---	---	---	---	---	3.35E-05	lbs/hr (2,9)	---	3.35E-05	0.07621	4.22E-06	3.36E-07	4.22E-06	4.25E-07
00067-66-3	Chloroform	---	---	---	---	---	---	---	---	---	---	6.24E-05	lbs/hr (2,9)	---	6.24E-05	0.14184	7.86E-06	6.25E-07	7.86E-06	7.91E-07
00074-87-3	Chloromethane	---	---	---	---	---	---	---	---	---	---	1.02E-04	lbs/hr (2,9)	---	1.02E-04	0.23286	1.29E-05	1.03E-06	1.29E-05	1.30E-06
07440-47-3	Chromium	---	---	---	---	---	1.40E-03	lbs/mmcf (4)	1.40E-03	4.31E-05	4.13E-02	---	---	---	---	---	5.43E-06	1.82E-07	6.87E-06	2.30E-07
00218-01-9	Chrysene	---	---	---	---	---	1.80E-06	lbs/mmcf (4,9)	1.80E-06	5.54E-08	5.30E-05	---	---	---	---	---	6.98E-09	2.34E-10	8.83E-09	2.96E-10
00156-59-2	cis-1,2-Dichloroethene	---	---	---	---	---	---	---	---	---	---	5.12E-05	lbs/hr (2,9)	---	5.12E-05	0.11643	6.45E-06	5.13E-07	6.45E-06	6.49E-07
10061-01-5	cis-1,3-Dichloropopene	---	---	---	---	---	---	---	---	---	---	5.86E-05	lbs/hr (2,9)	---	5.86E-05	0.13337	7.39E-06	5.87E-07	7.39E-06	7.44E-07
07440-48-4	Cobalt	---	---	---	---	---	8.40E-05	lbs/mmcf (4)	8.40E-05	2.58E-06	2.48E-03	---	---	---	---	---	3.26E-07	1.09E-08	4.12E-07	1.38E-08
07440-50-8	Copper	---	---	---	---	---	8.50E-04	lbs/mmcf (4)	8.50E-04	2.61E-05	2.50E-02	---	---	---	---	---	3.29E-06	1.10E-07	4.17E-06	1.40E-07
00098-82-8	Cumene (Isopropylbenzene)	---	---	---	---	---	---	---	---	---	---	6.33E-05	lbs/hr (2,9)	---	6.33E-05	0.14395	7.97E-06	6.34E-07	7.97E-06	8.03E-07
00110-82-7	Cyclohexane	---	---	---	---	---	---	---	---	---	---	4.47E-05	lbs/hr (2,9)	---	4.47E-05	0.10161	5.63E-06	4.47E-07	5.63E-06	5.67E-07
00053-70-3	Dibenz(a,h)anthracene	---	---	---	---	---	1.20E-06	lbs/mmcf (4,9)	1.20E-06	3.69E-08	3.54E-05	---	---	---	---	---	4.65E-09	1.56E-10	5.89E-09	1.97E-10
00124-48-1	Dibromochloromethane	---	---	---	---	---	---	---	---	---	---	1.12E-04	lbs/hr (2,9)	---	1.12E-04	0.25403	1.41E-05	1.12E-06	1.41E-05	1.42E-06
00084-74-2	Dibutyl phthalate	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25321-22-6	Dichlorobenzene	---	---	---	---	---	1.20E-03	lbs/mmcf (4)	1.20E-03	3.69E-05	3.54E-02	---	---	---	---	---	4.65E-06	1.56E-07	5.89E-06	1.97E-07
00084-66-2	Diethyl phthalate	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00115-29-7	Endosulfan-1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00072-20-8	Endrin	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00074-84-0	Ethane	---	---	---	---	---	3.10E+00	lbs/mmcf (4)	3.10E+00	9.54E-02	9.14E+01	---	---	---	---	---	1.20E-02	4.02E-04	1.52E-02	5.09E-04
00064-17-5	Ethanol	---	---	---	---	---	---	---	---	---	---	1.49E-03	lbs/hr (2)	---	1.49E-03	3.38712	1.88E-04	1.49E-05	1.88E-04	1.89E-05
00100-41-4	Ethylbenzene	---	---	---	---	---	---	---	---	---	---	5.58E-05	lbs/hr (2,9)	---	5.58E-05	0.12702	7.04E-06	5.59E-07	7.04E-06	7.08E-07
00206-44-0	Fluoranthene	---	---	---	---	---	3.00E-06	lbs/mmcf (4)	3.00E-06	9.23E-08	8.84E-05	---	---	---	---	---	1.16E-08	3.89E-10	1.47E-08	4.93E-10
00086-73-7	Fluorene	---	---	---	---	---	2.80E-06	lbs/mmcf (4)	2.80E-06	8.61E-08	8.25E-05	---	---	---	---	---	1.09E-08	3.63E-10	1.37E-08	4.60E-10
00075-69-4	Freon 11	---	---	---	---	---	---	---	---	---	---	7.26E-05	lbs/hr (2,9)	---	7.26E-05	0.16512	9.15E-06	7.27E-07	9.15E-06	9.21E-07
00076-13-1	Freon 113	---	---	---	---	---	---	---	---	---	---	9.31E-05	lbs/hr (2,9)	---	9.31E-05	0.21169	1.17E-05	9.32E-07	1.17E-05	1.18E-06
00076-14-2	Freon 114	---	---	---	---	---	---	---	---	---	---	8.93E-05	lbs/hr (2,9)	---	8.93E-05	0.20323	1.13E-05	8.95E-07	1.13E-05	1.13E-06
00075-71-8	Freon 12	---	---	---	---	---	---	---	---	---	---	6.33E-05	lbs/hr (2,9)	---	6.33E-05	0.14395	7.97E-06	6.34E-07	7.97E-06	8.03E-07
00076-44-8	Heptachlor	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00142-82-5	Heptane	---	---	---	---	---	---	---	---	---	---	5.21E-05	lbs/hr (2,9)	---	5.21E-05	0.11855	6.57E-06	5.22E-07	6.57E-06	6.61E-07
00087-68-3	Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	5.49E-04	lbs/hr (2,9)	---	5.49E-04	1.24900	6.92E-05	5.50E-06	6.92E-05	6.96E-06
00319-84-6	alpha-Bhc (alpha-Hexachlorocy	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00319-85-7	beta-Bhc (beta-Hexachlorocycl	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00319-86-8	delta-Bhc (delta-Hexachlorocyc	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00058-89-9	gamma-Hexachlorocyclohexane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00110-54-3	Hexane	---	---	---	---	---	1.80E+00	lbs/mmcf (4)	1.80E+00	5.54E-02	5.30E+01	4.56E-05	lbs/hr (2,9)	---	4.56E-05	0.10373	6.98E-03	2.34E-04	8.83E-03	2.96E-04
00193-39-5	Indeno(1,2,3-cd)pyrene	---	---	---	---	---	1.80E-06	lbs/mmcf (4,9)	1.80E-06	5.54E-08	5.30E-05	---	---	---	---	---	6.98E-09	2.34E-10	8.83E-09	2.96E-10
15438-31-0	Iron	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07439-92-1	Lead	---	---	---	---	---	5.00E-04	lbs/mmcf (8)	5.00E-04	1.54E-05	1.47E-02	---	---	---	---	---	1.94E-06	6.49E-08	2.45E-06	8.22E-08
07439-96-5	Manganese	---	---	---	---	---	3.80E-04	lbs/mmcf (4)	3.80E-04	1.17E-05	1.12E-02	---	---	---	---	---	1.47E-06	4.93E-08	1.86E-06	6.24E-08
07439-97-6	Mercury	---	---	---	---	---	2.60E-04	lbs/mmcf (4)	2.60E-04	8.00E-06	7.66E-03	---	---	---	---	---	1.01E-06	3.37E-08	1.28E-06	4.27E-08
00074-82-8	Methane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00E+00	---
01634-04-4	Methyl tert-butyl ether	---	---	---	---	---	---	---	---	---	---	4.65E-05	lbs/hr (2,9)	---	4.65E-05	0.10585	5.86E-06	4.66E-07	5.86E-06	5.90E-07
00075-09-2	Methylene Chloride	---	---	---	---	---	---	---	---	---	---	4.47E-05	lbs/hr (2,9)	---	4.47E-05	0.10161	5.63E-06	4.47E-07	1.54E-04	5.67E-07
07439-98-7	Molybdenum	---	---	---	---	---	1.10E-03	lbs/mmcf (4)	1.10E-03	3.38E-05	3.24E-02	---	---	---	---	---	4.26E-06	1.43E-07	5.40E-06	1.81E-07
00091-20-3	Naphthalene	---	---	---	---	---	6.10E-04	lbs/mmcf (4)	6.10E-04	1.88E-05	1.80E-02	---	---	---	---	---	2.36E-06	7.92E-08	2.99E-06	1.00E-07
07440-02-0	Nickel	---	---	---	---	---	2.10E-03	lbs/mmcf (4)	2.10E-03	6.46E-05	6.19E-02	---	---	---	---	---	8.14E-06	2.73E-07	1.03E-05	3.45E-07
03268-87-9	OCDD (Octachlorodibenzodioxi	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00E+00	---
00109-66-0	Pentane	---	---	---	---	---	2.60E+00	lbs/mmcf (4)	2.60E+00	8.00E-02	7.66E+01	---	---	---	---	---	1.01E-02	3.37E-04	1.28E-02	4.27E-04
00085-01-8	Phenanthrene	---	---	---	---	---	1.70E-05	lbs/mmcf (4)	1.70E-05	5.23E-07	5.01E-04	---	---	---	---	---	6.59E-08	2.21E-09	8.34E-08	2.79E-09
00108-95-2	Phenol	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07723-14-0	Phosphorus (Yellow or white)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Polycyclic Organic Matter (POM	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00E+00	---
07440-09-7	Potassium	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00074-98-6	Propane	---	---	---	---	---	1.60E+00	lbs/mmcf (4)	1.60E+00	4.92E-02	4.71E+01	---	---	---	---	---	6.20E-03	2.08E-04	7.85E-03	2.63E-04
00103-65-1	Propylbenzene	---	---	---	---	---	---	---	---	---	---	6.33E-05	lbs/hr (2,9)	---	6.33E-05	0.14395	7.97E-06	6.34E-07	7.97E-06	8.03E-07
00115-07-1	Propylene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00129-00-0	Pyrene	---	---	---	---	---	5.00E-06	lbs/mmcf (4)	5.00E-06	1.54E-07	1.47E-04	---	---	---	---	---	1.94E-08	6.49E-10	2.45E-08	8.22E-10
07782-49-2	Selenium	---	---	---	---	---	2.40E-05	lbs/mmcf (4,9)	2.40E-05	7.38E-07	7.07E-04	---	---	---	---	---	9.30E-08	3.11E-09	1.18E-07	3.94E-09
07440-21-3	Silicon	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-23-5	Sodium	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00100-42-5	Styrene	---	---	---	---	---	---	---	---	---	---	5.49E-05	lbs/hr (2,9)	---	5.49E-05	0.12490	6.92E-06	5.50E-07	8.97E-05	6.96E-07
00127-18-4	Tetrachloroethene (Tetrachlorc	---	---	---	---	---	---	---	---	---	---	8.75E-05	lbs/hr (2,9)	---	8.75E-05	0.19899	1.10E-05	8.76E-07	1.10E-05	1.11E-06
00109-99-9	Tetrahydrofuran	---	---	---	---	---	---	---	---	---	---	3.82E-05	lbs/hr (2,9)	---	3.82E-05	0.08679	4.81E-06	3.82E-07	4.81E-06	4.84E-07
07440-31-5	Tin	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00108-88-3	Toluene	---	---	---	---	---	3.40E-03	lbs/mmcf (4)	3.40E-03	1.05E-04	1.00E-01	4.84E-05	lbs/hr (2,9)	---	4.84E-05	0.11008	1.32E-05	9.26E-07	1.31E-04	1.17E-06
	Total non-methane organic con	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00E+00	---
	Total Organic Compounds (TOC	---	---	---	---	---	1.10E+01	lbs/mmcf (8)	1.10E+01	3.38E-01	3.24E+02	---	---	---	---	---	4.26E-02	1.43E-03	5.40E-02	1.81E-03
13049829-2	Total PAH (Polycyclic aromatic I	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00156-60-5	Trans-1,2-Dichloroethene	---	---	---	---	---	---	---	---	---	---	5.12E-05	lbs/hr (2,9)	---	5.12E-05	0.11643	6.45E-06	5.13E-07	6.45E-06	6.49E-07
10061-02-6	trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	5.86E-05	lbs/hr (2,9)	---	5.86E-05	0.13337	7.39E-06	5.87E-07	7.39E-06	7.44E-07
00079-01-6	Trichloroethene	---	---	---	---	---	---	---	---	---	---	6.89E-05	lbs/hr (2,9)	---	6.89E-05	0.15665	8.68E-06	6.90E-07	8.68E-06	8.74E-07
07440-62-2	Vanadium	---	---	---	---	---	2.30E-03	lbs/mmcf (4)	2.30E-03	7.08E-05	6.78E-02	---	---	---	---	---	8.91E-06	2.98E-07	1.13E-05	3.78E-07
00075-01-4	Vinyl Chloride (Chloroethene)	---	---	---	---	---	---	---	---	---	---	3.26E-05	lbs/hr (2,9)	---	3.26E-05	0.07409	4.10E-06	3.26E-07	4.10E-06	4.13E-07
01330-20-7	m,p-Xylene (Xylene)	---	---	---	---	---	---	---	---	---	---	5.58E-05	lbs/hr (2,9)	---	5.58E-05	0.12702	7.04E-06	5.59E-07	4.69E-05	7.08E-07
00108-38-3	m-Xylene (1,3-xylene)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
00095-47-6	o-Xylene (1,2-xylene)	---	---	---	---	---	---	---	---	---	---	5.58E-05	lbs/hr (2,9)	---	5.58E-05	0.12702	7.04E-06	5.59E-07	7.04E-06	7.08E-07
00106-42-3	p-Xylene (1,4-xylene)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-66-6	Zinc	---	---	---	---	---	2.90E-02	lbs/mmcf (4)	2.90E-02	8.92E-04	8.55E-01	---	---	---	---	---	1.12E-04	3.76E-06	1.42E-04	4.77E-06

(2) Emission factors are from 2007 stack test data and are the maximum concentrations over 3 test runs.
(3) Formaldehyde emission factor for boilers burning natural gas are from EPA's webfire database for SIC: 1-03-006-02
(4) Emission Factors from AP-42 for Boilers using Natural Gas, Tables 1.4-3 &1.4-4
(8) Additional compounds not listed in AP-42; Emission factors obtained from USEPA's webfire database for SCC: 1-03-006-021, External Combustion sources/ Commercial, Institutional (Natural Gas)
(9) Emission factors are based on 1/2 of the detection limit (represented by "Not Detected" in 2007 stack test report or"<" in AP-42).
(10) Emission Factors from USEPA's webfire for External Combustion/Institutional, Commercial Burning Process Gas (Digestor Gas); SCC ID 1-03-007-01
General Note: Emission Factors for Large boilers are obtained from stack test data and since there is no stack test data for the small boiler, emission factors are obtained from AP-42 or webfire.

Boiler mmBtu/hr	32.3	mmBtu/hr maximum capacity
Operating Conditions:	3	Boilers - Boiler stacks 00N11 and 00N17 exhaust only 1- 32.3 mmBtu/hr boiler.
Boiler mmBtu/hr	8.6	mmBtu/hr
Operating Conditins:	1	Boiler - 1 Large Boiler at 32.3 plus 1 small boiler at 8.6 mmBtu/hr exhausting out 1 stack (stack 00N14)

North River WPCP
Baseline Emissions - 2000 KW Emergency Generator

Assumptions- 1 hour per day bi-weekly testing
Annual hours 26
For modeling assume testing is done during day-time between 7AM-3PM (8 hours),
so pro-rate the 24-hour emissions and turn off night time hours for both ST and Annual runs.

Fuel Oil HHV 140 mmBtu/1000 gallons
Natural Gas HHV 1050 mmBtu/mmcf
Digester Gas HHV 600 mmBtu/mmcf

Calculated Operating Hours
#2 Fuel Oil (hrs/yr) **26** **[per DEC regulation, assumes not subject to NSPS]**
Natural Gas (hrs/yr) NA
Digester Gas (hrs/yr) NA

		#2 Fuel Oil		Emissions			Emissions for Modeling (prorated g/s) per Stack	
CAS #	Contaminant Name	Emission Factors		EF lbs/gallon	(lbs/hr)	(lbs/yr) (Total)	1-hour	Annual
00050-00-0	Formaldehyde	7.89E-05	lbs/mmBtu (1)	---	0.00174	0.04517	2.19E-04	6.50E-07
00071-55-6	1,1,1-Trichloroethane	---	---	---	---	---	---	---
00079-34-5	1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
00079-00-5	1,1,2-Trichloroethane	---	---	---	---	---	---	---
00075-34-3	1,1-Dichloroethane	---	---	---	---	---	---	---
00075-35-4	1,1-Dichloroethene	---	---	---	---	---	---	---
00120-82-1	1,2,4-Trichlorobenzene	---	---	---	---	---	---	---
00095-63-6	1,2,4-Trimethylbenzene	---	---	---	---	---	---	---
00106-93-4	1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---
00095-50-1	1,2-Dichlorobenzene	---	---	---	---	---	---	---
00107-06-2	1,2-Dichloroethane	---	---	---	---	---	---	---
00078-87-5	1,2-Dichloropropane	---	---	---	---	---	---	---
00108-67-8	1,3,5-Trimethylbenzene	---	---	---	---	---	---	---
00106-99-0	1,3-Butadiene	---	---	---	---	---	---	---
00541-73-1	1,3-Dichlorobenzene	---	---	---	---	---	---	---
00106-46-7	1,4-Dichlorobenzene	---	---	---	---	---	---	---
00123-91-1	1,4-Dioxane	---	---	---	---	---	---	---
00540-84-1	2,2,4-Trimethylpentane	---	---	---	---	---	---	---
00078-93-3	2-Butanone (MEK)	---	---	---	---	---	---	---
00591-78-6	2-Hexanone	---	---	---	---	---	---	---
00091-57-6	2-Methylnaphthalene	---	---	---	---	---	---	---
00067-63-0	2-Propanol	---	---	---	---	---	---	---
00107-05-1	3-Chloropropene	---	---	---	---	---	---	---
00056-49-5	3-Methylchloranthrene	---	---	---	---	---	---	---
00622-96-8	4-Ethyltoluene	---	---	---	---	---	---	---
00108-10-1	4-Methyl-2-pentanone	---	---	---	---	---	---	---
00057-97-6	7,12-Dimethylbenz(a)anthrace	---	---	---	---	---	---	---
00083-32-9	Acenaphthene	4.68E-06	lbs/mmBtu (1)	---	1.03E-04	2.68E-03	1.30E-05	3.85E-08
00208-96-8	Acenaphthylene	9.23E-06	lbs/mmBtu (1)	---	2.03E-04	5.28E-03	2.56E-05	7.60E-08
00075-07-0	Acetaldehyde	2.52E-05	lbs/mmBtu (1)	---	5.55E-04	1.44E-02	6.99E-05	2.08E-07
00067-64-1	Acetone	---	---	---	---	---	---	---
00107-02-8	Acrolein	7.88E-06	lbs/mmBtu (1)	---	1.74E-04	4.51E-03	2.19E-05	6.49E-08
00100-44-7	alpha-Chlorotoulene	---	---	---	---	---	---	---
07429-90-5	Aluminium	---	---	---	---	---	---	---
07664-41-7	Ammonia	2.90E+00	lb/1000 gal (3)	2.90E-03	4.56E-01	1.19E+01	5.75E-02	1.71E-04
00120-12-7	Anthracene	1.23E-06	lbs/mmBtu (1)	---	2.71E-05	7.04E-04	3.41E-06	1.01E-08
07440-36-0	Antimony	---	---	---	---	---	---	---
07440-38-2	Arsenic	---	---	---	---	---	---	---
07440-39-3	Barium	---	---	---	---	---	---	---
00071-43-2	Benzene	7.76E-04	lbs/mmBtu (1)	---	1.71E-02	4.44E-01	2.15E-03	6.39E-06
00056-55-3	Benz(a)anthracene	6.22E-07	lbs/mmBtu (1)	---	1.37E-05	3.56E-04	1.73E-06	5.12E-09
00050-32-8	Benzo(a)pyrene	2.57E-07	lbs/mmBtu (1,2)	---	5.66E-06	1.47E-04	7.13E-07	2.12E-09
00205-99-2	Benzo(b)fluoranthene	1.11E-06	lbs/mmBtu (1)	---	2.44E-05	6.35E-04	3.08E-06	9.14E-09
00207-08-9	Benzo(k)fluoranthene	2.18E-07	lbs/mmBtu (1,2)	---	4.80E-06	1.25E-04	6.05E-07	1.80E-09
	Benzo(b,k)fluoranthene	---	---	---	---	---	---	---
00191-24-2	Benzo(g,h,I)perylene	5.56E-07	lbs/mmBtu (1,2)	---	1.22E-05	3.18E-04	1.54E-06	4.58E-09
07440-41-7	Beryllium	---	---	---	---	---	---	---
00117-81-7	Bis(2-ethylhexyl)phthalate (dic	---	---	---	---	---	---	---
07440-42-8	Boron	---	---	---	---	---	---	---
07726-95-6	Bromine	---	---	---	---	---	---	---
00075-27-4	Bromodichloromethane	---	---	---	---	---	---	---
00075-25-2	Bromoform	---	---	---	---	---	---	---
00074-83-9	Bromomethane	---	---	---	---	---	---	---
00106-97-8	Butane	---	---	---	---	---	---	---
00085-68-7	Butylbenzylphthalate	---	---	---	---	---	---	---
07440-43-9	Cadmium	---	---	---	---	---	---	---
07440-70-2	Calcium	---	---	---	---	---	---	---
00075-15-0	Carbon Disulfide	---	---	---	---	---	---	---
00056-23-5	Carbon Tetrachloride	---	---	---	---	---	---	---
00108-90-7	Chlorobenzene	---	---	---	---	---	---	---
00075-00-3	Chloroethane	---	---	---	---	---	---	---
00067-66-3	Chloroform	---	---	---	---	---	---	---
00074-87-3	Chloromethane	---	---	---	---	---	---	---
07440-47-3	Chromium	---	---	---	---	---	---	---
00218-01-9	Chrysene	1.53E-06	lbs/mmBtu (1)	---	3.37E-05	8.76E-04	4.24E-06	1.26E-08
00156-59-2	cis-1,2-Dichloroethene	---	---	---	---	---	---	---
10061-01-5	cis-1,3-Dichloropopene	---	---	---	---	---	---	---
07440-48-4	Cobalt	---	---	---	---	---	---	---
07440-50-8	Copper	---	---	---	---	---	---	---
00098-82-8	Cumene (Isopropylbenzene)	---	---	---	---	---	---	---
00110-82-7	Cyclohexane	---	---	---	---	---	---	---
00053-70-3	Dibenz(a,h)anthracene	3.46E-07	lbs/mmBtu (1,2)	---	7.62E-06	1.98E-04	9.60E-07	2.85E-09
00124-48-1	Dibromochloromethane	---	---	---	---	---	---	---
00084-74-2	Dibutyl phthalate	---	---	---	---	---	---	---
25321-22-6	Dichlorobenzene	---	---	---	---	---	---	---
00084-66-2	Diethyl phthalate	---	---	---	---	---	---	---
00115-29-7	Endosulfan-1	---	---	---	---	---	---	---
00072-20-8	Endrin	---	---	---	---	---	---	---
00074-84-0	Ethane	---	---	---	---	---	---	---
00064-17-5	Ethanol	---	---	---	---	---	---	---
00100-41-4	Ethylbenzene	---	---	---	---	---	---	---
00206-44-0	Fluoranthene	4.03E-06	lbs/mmBtu (1)	---	8.87E-05	2.31E-03	1.12E-05	3.32E-08
00086-73-7	Fluorene	1.28E-05	lbs/mmBtu (1)	---	2.82E-04	7.33E-03	3.55E-05	1.05E-07
00075-69-4	Freon 11	---	---	---	---	---	---	---
00076-13-1	Freon 113	---	---	---	---	---	---	---
00076-14-2	Freon 114	---	---	---	---	---	---	---
00075-71-8	Freon 12	---	---	---	---	---	---	---
00076-44-8	Heptachlor	---	---	---	---	---	---	---
00142-82-5	Heptane	---	---	---	---	---	---	---
00087-68-3	Hexachlorobutadiene	---	---	---	---	---	---	---
00319-84-6	alpha-Bhc (alpha-Hexachloroc	---	---	---	---	---	---	---
00319-85-7	beta-Bhc (beta-Hexachlorocyc	---	---	---	---	---	---	---
00319-86-8	delta-Bhc (delta-Hexachlorocy	---	---	---	---	---	---	---
00058-89-9	gamma-Hexachlorocyclohexar	---	---	---	---	---	---	---
00110-54-3	Hexane	---	---	---	---	---	---	---
00193-39-5	Indeno(1,2,3-cd)pyrene	4.14E-07	lbs/mmBtu (1,2)	---	9.12E-06	2.37E-04	1.15E-06	3.41E-09
15438-31-0	Iron	---	---	---	---	---	---	---
07439-92-1	Lead	---	---	---	---	---	---	---
07439-96-5	Manganese	---	---	---	---	---	---	---

North River WPCP
Baseline Emissions - 2000 KW Emergency Generator

Assumptions- 1 hour per day bi-weekly testing
Annual hours 26
For modeling assume testing is done during day-time between 7AM-3PM (8 hours),
so pro-rate the 24-hour emissions and turn off night time hours for both ST and Annual runs.

Fuel Oil HHV	140	mmBtu/1000 gallons
Natural Gas HHV	1050	mmBtu/mmcf
Digester Gas HHV	600	mmBtu/mmcf

Calculated Operating Hours

#2 Fuel Oil (hrs/yr)	**26**	**[per DEC regulation, assumes not subject to NSPS]**
Natural Gas (hrs/yr)	NA	
Digester Gas (hrs/yr)	NA	

		#2 Fuel Oil		**Emissions**			**Emissions for Modeling (prorated g/s) per Stack**	
CAS #	**Contaminant Name**	**Emission Factors**		**EF lbs/gallon**	**(lbs/hr)**	**(lbs/yr) (Total)**	**1-hour**	**Annual**
07439-97-6	Mercury	---	---	---	---	---	---	---
00074-82-8	Methane	1.11E+00	lb/1000 gal (3)	1.11E-03	1.75E-01	4.54E+00	2.20E-02	6.53E-05
01634-04-4	Methyl tert-butyl ether	---	---	---	---	---	---	---
00075-09-2	Methylene Chloride	---	---	---	---	---	---	---
07439-98-7	Molybdenum	---	---	---	---	---	---	---
00091-20-3	Naphthalene	1.30E-04	lbs/mmBtu (1)	---	2.86E-03	7.44E-02	3.61E-04	1.07E-06
07440-02-0	Nickel	---	---	---	---	---	---	---
03268-87-9	OCDD (Octachlorodibenzodiox	---	---	---	---	---	---	---
00109-66-0	Pentane	---	---	---	---	---	---	---
00085-01-8	Phenanthrene	4.08E-05	lbs/mmBtu (1)	---	8.98E-04	2.34E-02	1.13E-04	3.36E-07
00108-95-2	Phenol	---	---	---	---	---	---	---
07723-14-0	Phosphorus (Yellow or white)	---	---	---	---	---	---	---
	Polycyclic Organic Matter (POI	---	---	---	---	---	---	---
07440-09-7	Potassium	---	---	---	---	---	---	---
00074-98-6	Propane	---	---	---	---	---	---	---
00103-65-1	Propylbenzene	---	---	---	---	---	---	---
00115-07-1	Propylene	2.79E-03	lbs/mmBtu (1)	---	6.14E-02	1.60E+00	7.74E-03	2.30E-05
00129-00-0	Pyrene	3.71E-06	lbs/mmBtu (1)	---	8.17E-05	2.12E-03	1.03E-05	3.06E-08
07782-49-2	Selenium	---	---	---	---	---	---	---
07440-21-3	Silicon	---	---	---	---	---	---	---
07440-23-5	Sodium	---	---	---	---	---	---	---
00100-42-5	Styrene	---	---	---	---	---	---	---
00127-18-4	Tetrachloroethene (Tetrachlor	---	---	---	---	---	---	---
00109-99-9	Tetrahydrofuran	---	---	---	---	---	---	---
07440-31-5	Tin	---	---	---	---	---	---	---
00108-88-3	Toluene	2.81E-04	lbs/mmBtu (1)	---	6.19E-03	1.61E-01	7.80E-04	2.31E-06
	Total non-methane organic co	1.12E+01	lb/1000 gal (3)	1.12E-02	1.76E+00	4.58E+01	2.22E-01	6.59E-04
	Total Organic Compounds (TO	1.23E+01	lb/1000 gal (3)	1.23E-02	1.93E+00	5.03E+01	2.44E-01	7.23E-04
13049829-2	Total PAH (Polycyclic aromatic	2.12E-04	lbs/mmBtu (1,2)	---	4.67E-03	1.21E-01	5.88E-04	1.75E-06
00156-60-5	Trans-1,2-Dichloroethene	---	---	---	---	---	---	---
10061-02-6	trans-1,3-Dichloropropene	---	---	---	---	---	---	---
00079-01-6	Trichloroethene	---	---	---	---	---	---	---
07440-62-2	Vanadium	---	---	---	---	---	---	---
00075-01-4	Vinyl Chloride (Chloroethene)	---	---	---	---	---	---	---
01330-20-7	m,p-Xylene (Xylene)	1.93E-04	lbs/mmBtu (1)	---	4.25E-03	1.10E-01	5.35E-04	1.59E-06
00108-38-3	m-Xylene (1,3-xylene)	---	---	---	---	---	---	---
00095-47-6	o-Xylene (1,2-xylene)	---	---	---	---	---	---	---
00106-42-3	p-Xylene (1,4-xylene)	---	---	---	---	---	---	---
07440-66-6	Zinc	---	---	---	---	---	---	---

(1) Emission factors are from AP-42.
(2) Emission factors are 1/2 the factor in AP-42 represented by "<".
(3) Additional compounds not listed in AP-42; Emissions factors obtained from EPA's websfire for SCC Id: 2-02-004-01, Internal Combustion Engine/Industrial/Large Bore Engines using Diesel.

Emerency Generator 2000 kW
Operating Conditins: 1

North River WPCP
Baseline Emissions - 200 KW Emergency Generator

Assumptions- 1 hour per day bi-weekly testing
Annual hours 26
For modeling assume testing is done during day-time between 7AM-3PM,
so pro-rate the 24-hour emissions and turn off night time hours for both ST and Annual runs.

Fuel Oil HHV 140 mmBtu/1000 gallons
Natural Gas HHV 1050 mmBtu/mmcf
Digester Gas HHV 600 mmBtu/mmcf

Calculated Operating Hours
#2 Fuel Oil (hrs/yr) **26** **[per DEC regulation, assumes not subject to NSPS]**
Natural Gas (hrs/yr) NA
Digester Gas (hrs/yr) NA

		#2 Fuel Oil		Emissions			Emissions for Modeling (prorated g/s) per Stack	
CAS #	Contaminant Name	Emission Factors		EF lbs/gallon	(lbs/hr)	(lbs/yr) (Total)	1-hour	Annual
00050-00-0	Formaldehyde	7.89E-05	lbs/mmBtu (1)	---	1.74E-04	5.E-03	2.19E-05	6.50E-08
00071-55-6	1,1,1-Trichloroethane	---	---	---	---	---	---	---
00079-34-5	1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
00079-00-5	1,1,2-Trichloroethane	---	---	---	---	---	---	---
00075-34-3	1,1-Dichloroethane	---	---	---	---	---	---	---
00075-35-4	1,1-Dichloroethene	---	---	---	---	---	---	---
00120-82-1	1,2,4-Trichlorobenzene	---	---	---	---	---	---	---
00095-63-6	1,2,4-Trimethylbenzene	---	---	---	---	---	---	---
00106-93-4	1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---
00095-50-1	1,2-Dichlorobenzene	---	---	---	---	---	---	---
00107-06-2	1,2-Dichloroethane	---	---	---	---	---	---	---
00078-87-5	1,2-Dichloropropane	---	---	---	---	---	---	---
00108-67-8	1,3,5-Trimethylbenzene	---	---	---	---	---	---	---
00106-99-0	1,3-Butadiene	---	---	---	---	---	---	---
00541-73-1	1,3-Dichlorobenzene	---	---	---	---	---	---	---
00106-46-7	1,4-Dichlorobenzene	---	---	---	---	---	---	---
00123-91-1	1,4-Dioxane	---	---	---	---	---	---	---
00540-84-1	2,2,4-Trimethylpentane	---	---	---	---	---	---	---
00078-93-3	2-Butanone (MEK)	---	---	---	---	---	---	---
00591-78-6	2-Hexanone	---	---	---	---	---	---	---
00091-57-6	2-Methylnaphthalene	---	---	---	---	---	---	---
00067-63-0	2-Propanol	---	---	---	---	---	---	---
00107-05-1	3-Chloropropene	---	---	---	---	---	---	---
00056-49-5	3-Methylchloranthrene	---	---	---	---	---	---	---
00622-96-8	4-Ethyltoluene	---	---	---	---	---	---	---
00108-10-1	4-Methyl-2-pentanone	---	---	---	---	---	---	---
00057-97-6	7,12-Dimethylbenz(a)anthracene	---	---	---	---	---	---	---
00083-32-9	Acenaphthene	4.68E-06	lbs/mmBtu (1)	---	1.03E-05	2.68E-04	1.30E-06	3.85E-09
00208-96-8	Acenaphthylene	9.23E-06	lbs/mmBtu (1)	---	2.03E-05	5.28E-04	2.56E-06	7.60E-09
00075-07-0	Acetaldehyde	2.52E-05	lbs/mmBtu (1)	---	5.55E-05	1.44E-03	6.99E-06	2.08E-08
00067-64-1	Acetone	---	---	---	---	---	---	---
00107-02-8	Acrolein	7.88E-06	lbs/mmBtu (1)	---	1.74E-05	4.51E-04	2.19E-06	6.49E-09
00100-44-7	alpha-Chlorotoulene	---	---	---	---	---	---	---
07429-90-5	Aluminium	---	---	---	---	---	---	---
07664-41-7	Ammonia	2.90E+00	lb/1000 gal (3)	2.90E-03	4.56E-02	1.19E+00	5.75E-03	1.71E-05
00120-12-7	Anthracene	1.23E-06	lbs/mmBtu (1)	---	2.71E-06	7.04E-05	3.41E-07	1.01E-09
07440-36-0	Antimony	---	---	---	---	---	---	---
07440-38-2	Arsenic	---	---	---	---	---	---	---
07440-39-3	Barium	---	---	---	---	---	---	---
00071-43-2	Benzene	7.76E-04	lbs/mmBtu (1)	---	1.71E-03	4.44E-02	2.15E-04	6.39E-07
00056-55-3	Benz(a)anthracene	6.22E-07	lbs/mmBtu (1)	---	1.37E-06	3.56E-05	1.73E-07	5.12E-10
00050-32-8	Benzo(a)pyrene	2.57E-07	lbs/mmBtu (1,2)	---	5.66E-07	1.47E-05	7.13E-08	2.12E-10
00205-99-2	Benzo(b)fluoranthene	1.11E-06	lbs/mmBtu (1)	---	2.44E-06	6.35E-05	3.08E-07	9.14E-10
00207-08-9	Benzo(k)fluoranthene	2.18E-07	lbs/mmBtu (1,2)	---	4.80E-07	1.25E-05	6.05E-08	1.80E-10
	Benzo(b,k)fluoranthene	---	---	---	---	---	---	---
00191-24-2	Benzo(g,h,I)perylene	5.56E-07	lbs/mmBtu (1,2)	---	1.22E-06	3.18E-05	1.54E-07	4.58E-10
07440-41-7	Beryllium	---	---	---	---	---	---	---
00117-81-7	Bis(2-ethylhexyl)phthalate (diocty	---	---	---	---	---	---	---
07440-42-8	Boron	---	---	---	---	---	---	---
07726-95-6	Bromine	---	---	---	---	---	---	---
00075-27-4	Bromodichloromethane	---	---	---	---	---	---	---
00075-25-2	Bromoform	---	---	---	---	---	---	---
00074-83-9	Bromomethane	---	---	---	---	---	---	---
00106-97-8	Butane	---	---	---	---	---	---	---
00085-68-7	Butylbenzylphthalate	---	---	---	---	---	---	---
07440-43-9	Cadmium	---	---	---	---	---	---	---
07440-70-2	Calcium	---	---	---	---	---	---	---
00075-15-0	Carbon Disulfide	---	---	---	---	---	---	---
00056-23-5	Carbon Tetrachloride	---	---	---	---	---	---	---
00108-90-7	Chlorobenzene	---	---	---	---	---	---	---
00075-00-3	Chloroethane	---	---	---	---	---	---	---
00067-66-3	Chloroform	---	---	---	---	---	---	---
00074-87-3	Chloromethane	---	---	---	---	---	---	---
07440-47-3	Chromium	---	---	---	---	---	---	---
00218-01-9	Chrysene	1.53E-06	lbs/mmBtu (1)	---	3.37E-06	8.76E-05	4.24E-07	1.26E-09
00156-59-2	cis-1,2-Dichloroethene	---	---	---	---	---	---	---
10061-01-5	cis-1,3-Dichloropopene	---	---	---	---	---	---	---
07440-48-4	Cobalt	---	---	---	---	---	---	---
07440-50-8	Copper	---	---	---	---	---	---	---
00098-82-8	Cumene (Isopropylbenzene)	---	---	---	---	---	---	---
00110-82-7	Cyclohexane	---	---	---	---	---	---	---
00053-70-3	Dibenz(a,h)anthracene	3.46E-07	lbs/mmBtu (1,2)	---	7.62E-07	1.98E-05	9.60E-08	2.85E-10
00124-48-1	Dibromochloromethane	---	---	---	---	---	---	---
00084-74-2	Dibutyl phthalate	---	---	---	---	---	---	---
25321-22-6	Dichlorobenzene	---	---	---	---	---	---	---
00084-66-2	Diethyl phthalate	---	---	---	---	---	---	---
00115-29-7	Endosulfan-1	---	---	---	---	---	---	---
00072-20-8	Endrin	---	---	---	---	---	---	---
00074-84-0	Ethane	---	---	---	---	---	---	---
00064-17-5	Ethanol	---	---	---	---	---	---	---
00100-41-4	Ethylbenzene	---	---	---	---	---	---	---
00206-44-0	Fluoranthene	4.03E-06	lbs/mmBtu (1)	---	8.87E-06	2.31E-04	1.12E-06	3.32E-09
00086-73-7	Fluorene	1.28E-05	lbs/mmBtu (1)	---	2.82E-05	7.33E-04	3.55E-06	1.05E-08
00075-69-4	Freon 11	---	---	---	---	---	---	---
00076-13-1	Freon 113	---	---	---	---	---	---	---
00076-14-2	Freon 114	---	---	---	---	---	---	---
00075-71-8	Freon 12	---	---	---	---	---	---	---
00076-44-8	Heptachlor	---	---	---	---	---	---	---
00142-82-5	Heptane	---	---	---	---	---	---	---
00087-68-3	Hexachlorobutadiene	---	---	---	---	---	---	---
00319-84-6	alpha-Bhc (alpha-Hexachlorocyclo	---	---	---	---	---	---	---
00319-85-7	beta-Bhc (beta-Hexachlorocyclohe	---	---	---	---	---	---	---
00319-86-8	delta-Bhc (delta-Hexachlorocyclol	---	---	---	---	---	---	---
00058-89-9	gamma-Hexachlorocyclohexane (L	---	---	---	---	---	---	---
00110-54-3	Hexane	---	---	---	---	---	---	---
00193-39-5	Indeno(1,2,3-cd)pyrene	4.14E-07	lbs/mmBtu (1,2)	---	9.12E-07	2.37E-05	1.15E-07	3.41E-10
15438-31-0	Iron	---	---	---	---	---	---	---
07439-92-1	Lead	---	---	---	---	---	---	---
07439-96-5	Manganese	---	---	---	---	---	---	---

North River WPCP
Baseline Emissions - 200 KW Emergency Generator

Assumptions- 1 hour per day bi-weekly testing
Annual hours 26
For modeling assume testing is done during day-time between 7AM-3PM,
so pro-rate the 24-hour emissions and turn off night time hours for both ST and Annual runs.

Fuel Oil HHV 140 mmBtu/1000 gallons
Natural Gas HHV 1050 mmBtu/mmcf
Digester Gas HHV 600 mmBtu/mmcf

Calculated Operating Hours
#2 Fuel Oil (hrs/yr) **26** **[per DEC regulation, assumes not subject to NSPS]**
Natural Gas (hrs/yr) NA
Digester Gas (hrs/yr) NA

		#2 Fuel Oil		**Emissions**			**Emissions for Modeling (prorated g/s) per Stack**	
CAS #	**Contaminant Name**	**Emission Factors**		**EF lbs/gallon**	**(lbs/hr)**	**(lbs/yr) (Total)**	**1-hour**	**Annual**
07439-97-6	Mercury	---	---	---	---	---	---	---
00074-82-8	Methane	1.11E+00	lb/1000 gal (3)	1.11E-03	1.75E-02	4.54E-01	2.20E-03	6.53E-06
01634-04-4	Methyl tert-butyl ether	---	---	---	---	---	---	---
00075-09-2	Methylene Chloride	---	---	---	---	---	---	---
07439-98-7	Molybdenum	---	---	---	---	---	---	---
00091-20-3	Naphthalene	1.30E-04	lbs/mmBtu (1)	---	2.86E-04	7.44E-03	3.61E-05	1.07E-07
07440-02-0	Nickel	---	---	---	---	---	---	---
03268-87-9	OCDD (Octachlorodibenzodioxin)	---	---	---	---	---	---	---
00109-66-0	Pentane	---	---	---	---	---	---	---
00085-01-8	Phenanthrene	4.08E-05	lbs/mmBtu (1)	---	8.98E-05	2.34E-03	1.13E-05	3.36E-08
00108-95-2	Phenol	---	---	---	---	---	---	---
07723-14-0	Phosphorus (Yellow or white)	---	---	---	---	---	---	---
	Polycyclic Organic Matter (POM)	---	---	---	---	---	---	---
07440-09-7	Potassium	---	---	---	---	---	---	---
00074-98-6	Propane	---	---	---	---	---	---	---
00103-65-1	Propylbenzene	---	---	---	---	---	---	---
00115-07-1	Propylene	2.79E-03	lbs/mmBtu (1)	---	6.14E-03	1.60E-01	7.74E-04	2.30E-06
00129-00-0	Pyrene	3.71E-06	lbs/mmBtu (1)	---	8.17E-06	2.12E-04	1.03E-06	3.06E-09
07782-49-2	Selenium	---	---	---	---	---	---	---
07440-21-3	Silicon	---	---	---	---	---	---	---
07440-23-5	Sodium	---	---	---	---	---	---	---
00100-42-5	Styrene	---	---	---	---	---	---	---
00127-18-4	Tetrachloroethene (Tetrachloroeth	---	---	---	---	---	---	---
00109-99-9	Tetrahydrofuran	---	---	---	---	---	---	---
07440-31-5	Tin	---	---	---	---	---	---	---
00108-88-3	Toluene	2.81E-04	lbs/mmBtu (1)	---	6.19E-04	1.61E-02	7.80E-05	2.31E-07
	Total non-methane organic compc	1.12E+01	lb/1000 gal (3)	1.12E-02	1.76E-01	4.58E+00	2.22E-02	6.59E-05
	Total Organic Compounds (TOC)	1.23E+01	lb/1000 gal (3)	1.23E-02	1.93E-01	5.03E+00	2.44E-02	7.23E-05
13049829-2	Total PAH (Polycyclic aromatic hyc	2.12E-04	lbs/mmBtu (1,2)	---	4.67E-04	1.21E-02	5.88E-05	1.75E-07
00156-60-5	Trans-1,2-Dichloroethene	---	---	---	---	---	---	---
10061-02-6	trans-1,3-Dichloropropene	---	---	---	---	---	---	---
00079-01-6	Trichloroethene	---	---	---	---	---	---	---
07440-62-2	Vanadium	---	---	---	---	---	---	---
00075-01-4	Vinyl Chloride (Chloroethene)	---	---	---	---	---	---	---
01330-20-7	m,p-Xylene (Xylene)	1.93E-04	lbs/mmBtu (1)	---	4.25E-04	1.10E-02	5.35E-05	1.59E-07
00108-38-3	m-Xylene (1,3-xylene)	---	---	---	---	---	---	---
00095-47-6	o-Xylene (1,2-xylene)	---	---	---	---	---	---	---
00106-42-3	p-Xylene (1,4-xylene)	---	---	---	---	---	---	---
07440-66-6	Zinc	---	---	---	---	---	---	---

(1) Emission factors are from AP-42.
(2) Emission factors are 1/2 the factor in AP-42 represented by "<".
(3) Additional compounds not listed in AP-42; Emissions factors obtained from EPA's websfire for SCC Id: 2-02-004-01, Internal Combustion Engine/Industrial/Large Bore Engines using Diesel.

Emerency Generator 200 kW
Operating Conditions: 1

North River WPCP
Baseline Emissions - North Odor Control Stacks

Calculated Operating Hours
North Odor Control Stacks **8760**

		Stack 1			Emissions			Stack 2						Stack 1 Emissions for Modeling (prorated g/s) per Stack		Stack 2 Emissions for Modeling (prorated g/s) per Stack	
CAS #	Contaminant Name	Emission Factors		EF lbs/gallon	(lbs/hr)	(lbs/yr) (Total)		Emission Factors		EF lbs/gallon	(lbs/hr)	(lbs/yr) (Total)		1-hour	Annual	1-hour	Annual
00050-00-0	Formaldehyde	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00071-55-6	1,1,1-Trichloroethane	1.72E-03	lbs/hr (1,2)	---	1.72E-03	15		1.53E-03	lbs/hr (1,2)	---	1.53E-03	13		2.17E-04	2.17E-04	1.93E-04	1.93E-04
00079-34-5	1,1,2,2-Tetrachloroethane	2.17E-03	lbs/hr (1,2)	---	2.17E-03	19		1.94E-03	lbs/hr (1,2)	---	1.94E-03	17		2.74E-04	2.74E-04	2.44E-04	2.44E-04
00079-00-5	1,1,2-Trichloroethane	1.72E-03	lbs/hr (1,2)	---	1.72E-03	15		1.53E-03	lbs/hr (1,2)	---	1.53E-03	13		2.17E-04	2.17E-04	1.93E-04	1.93E-04
00075-34-3	1,1-Dichloroethane	1.27E-03	lbs/hr (1,2)	---	1.27E-03	11		1.14E-03	lbs/hr (1,2)	---	1.14E-03	10		1.60E-04	1.60E-04	1.44E-04	1.44E-04
00075-35-4	1,1-Dichloroethene	1.24E-03	lbs/hr (1,2)	---	1.24E-03	11		1.12E-03	lbs/hr (1,2)	---	1.12E-03	10		1.57E-04	1.57E-04	1.42E-04	1.42E-04
00120-82-1	1,2,4-Trichlorobenzene	9.32E-03	lbs/hr (1,2)	---	9.32E-03	82		8.37E-03	lbs/hr (1,2)	---	8.37E-03	73		1.17E-03	1.17E-03	1.05E-03	1.05E-03
00095-63-6	1,2,4-Trimethylbenzene	2.56E-03	lbs/hr (1)	---	2.56E-03	22		1.39E-03	lbs/hr (1,2)	---	1.39E-03	12		3.22E-04	3.22E-04	1.75E-04	1.75E-04
00106-93-4	1,2-Dibromoethane (EDB)	--	--	---	---	---		---	---	---	---	---	Not detected	---	---	---	---
00095-50-1	1,2-Dichlorobenzene	1.89E-03	lbs/hr (1,2)	---	1.89E-03	17		1.69E-03	lbs/hr (1,2)	---	1.69E-03	15		2.38E-04	2.38E-04	2.14E-04	2.14E-04
00107-06-2	1,2-Dichloroethane	1.27E-03	lbs/hr (1,2)	---	1.27E-03	11		1.14E-03	lbs/hr (1,2)	---	1.14E-03	10		1.60E-04	1.60E-04	1.44E-04	1.44E-04
00078-87-5	1,2-Dichloropropane	1.46E-03	lbs/hr (1,2)	---	1.46E-03	13		1.31E-03	lbs/hr (1,2)	---	1.31E-03	11		1.84E-04	1.84E-04	1.65E-04	1.65E-04
00108-67-8	1,3,5-Trimethylbenzene	1.55E-03	lbs/hr (1,2)	---	1.55E-03	14		1.39E-03	lbs/hr (1,2)	---	1.39E-03	12		1.96E-04	1.96E-04	1.75E-04	1.75E-04
00106-99-0	1,3-Butadiene	6.93E-04	lbs/hr (1,2)	---	6.93E-04	6		1.27E-03	lbs/hr (1)	---	1.27E-03	11		8.73E-05	8.73E-05	1.60E-04	1.60E-04
00541-73-1	1,3-Dichlorobenzene	1.89E-03	lbs/hr (1,2)	---	1.89E-03	17		1.69E-03	lbs/hr (1,2)	---	1.69E-03	15		2.38E-04	2.38E-04	2.14E-04	2.14E-04
00106-46-7	1,4-Dichlorobenzene	1.89E-03	lbs/hr (1,2)	---	1.89E-03	17		1.69E-03	lbs/hr (1,2)	---	1.69E-03	15		2.38E-04	2.38E-04	2.14E-04	2.14E-04
00123-91-1	1,4-Dioxane	4.54E-03	lbs/hr (1,2)	---	4.54E-03	40		4.08E-03	lbs/hr (1,2)	---	4.08E-03	36		5.72E-04	5.72E-04	5.15E-04	5.15E-04
00540-84-1	2,2,4-Trimethylpentane	1.48E-03	lbs/hr (1,2)	---	1.48E-03	13		1.31E-03	lbs/hr (1,2)	---	1.31E-03	11		1.87E-04	1.87E-04	1.65E-04	1.65E-04
00078-93-3	2-Butanone (MEK)	2.44E-03	lbs/hr (1)	---	2.44E-03	21		3.55E-03	lbs/hr (1)	---	3.55E-03	31		3.07E-04	3.07E-04	4.48E-04	4.48E-04
00591-78-6	2-Hexanone	5.26E-03	lbs/hr (1,2)	---	5.26E-03	46		4.70E-03	lbs/hr (1,2)	---	4.70E-03	41		6.62E-04	6.62E-04	5.92E-04	5.92E-04
00091-57-6	2-Methylnaphthalene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00067-63-0	2-Propanol	5.58E-03	lbs/hr (1)	---	5.58E-03	49		6.94E-03	lbs/hr (1)	---	6.94E-03	61		7.03E-04	7.03E-04	8.75E-04	8.75E-04
00107-05-1	3-Chloropropene	3.86E-03	lbs/hr (1,2)	---	3.86E-03	34		3.50E-03	lbs/hr (1,2)	---	3.50E-03	31		4.87E-04	4.87E-04	4.41E-04	4.41E-04
00056-49-5	3-Methylchloranthrene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00622-96-8	4-Ethyltoluene	1.55E-03	lbs/hr (1,2)	---	1.55E-03	14		1.39E-03	lbs/hr (1,2)	---	1.39E-03	12		1.96E-04	1.96E-04	1.75E-04	1.75E-04
00108-10-1	4-Methyl-2-pentanone	1.29E-03	lbs/hr (1,2)	---	1.29E-03	11		1.14E-03	lbs/hr (1,2)	---	1.14E-03	10		1.63E-04	1.63E-04	1.44E-04	1.44E-04
00057-97-6	7,12-Dimethylbenz(a)anthracene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00083-32-9	Acenaphthene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00208-96-8	Acenaphthylene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00075-07-0	Acetaldehyde	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00067-64-1	Acetone	1.02E-01	lbs/hr (1)	---	1.02E-01	896		8.98E-02	lbs/hr (1)	---	8.98E-02	787		1.29E-02	1.29E-02	1.13E-02	1.13E-02
00107-02-8	Acrolein	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00100-44-7	alpha-Chlorotoulene	1.62E-03	lbs/hr (1,2)	---	1.62E-03	14		1.45E-03	lbs/hr (1,2)	---	1.45E-03	13		2.05E-04	2.05E-04	1.83E-04	1.83E-04
07429-90-5	Aluminum	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07664-41-7	Ammonia	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00120-12-7	Anthracene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-36-0	Antimony	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-38-2	Arsenic	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-39-3	Barium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00071-43-2	Benzene	2.48E-03	lbs/hr (1)	---	2.48E-03	22		2.23E-03	lbs/hr (1)	---	2.23E-03	20		3.13E-04	3.13E-04	2.81E-04	2.81E-04
00056-55-3	Benz[a]anthracene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00050-32-8	Benzo[a]pyrene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00205-99-2	Benzo[b]fluoranthene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00207-08-9	Benzo[k]fluoranthene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
	Benzo[b,k]fluoranthene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00191-24-2	Benzo[g,h,i]perylene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-41-7	Beryllium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00117-81-7	Bis(2-ethylhexyl)phthalate (dioct	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-42-8	Boron	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07726-95-6	Bromine	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00075-27-4	Bromodichloromethane	6.69E-03	lbs/hr (1)	---	6.69E-03	59		6.12E-03	lbs/hr (1)	---	6.12E-03	54		8.43E-04	8.43E-04	7.71E-04	7.71E-04
00075-25-2	Bromoform	3.35E-03	lbs/hr (1,2)	---	3.35E-03	29		2.86E-03	lbs/hr (1,2)	---	2.86E-03	25		4.21E-04	4.21E-04	3.60E-04	3.60E-04
00074-83-9	Bromomethane	1.22E-03	lbs/hr (1,2)	---	1.22E-03	11		1.10E-03	lbs/hr (1,2)	---	1.10E-03	10		1.54E-04	1.54E-04	1.39E-04	1.39E-04
00106-97-8	Butane	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00085-68-7	Butylbenzylphthalate	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-43-9	Cadmium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-70-2	Calcium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00075-15-0	Carbon Disulfide	1.77E-03	lbs/hr (1)	---	1.77E-03	15		3.24E-03	lbs/hr (1)	---	3.24E-03	28		2.23E-04	2.23E-04	4.08E-04	4.08E-04
00056-23-5	Carbon Tetrachloride	1.98E-03	lbs/hr (1,2)	---	1.98E-03	17		1.78E-03	lbs/hr (1,2)	---	1.78E-03	16		2.50E-04	2.50E-04	2.24E-04	2.24E-04
00108-90-7	Chlorobenzene	1.46E-03	lbs/hr (1,2)	---	1.46E-03	13		1.31E-03	lbs/hr (1,2)	---	1.31E-03	11		1.84E-04	1.84E-04	1.65E-04	1.65E-04
00075-00-3	Chloroethane	8.36E-04	lbs/hr (1,2)	---	8.36E-04	7		7.35E-04	lbs/hr (1,2)	---	7.35E-04	6		1.05E-04	1.05E-04	9.26E-05	9.26E-05
00067-66-3	Chloroform	1.05E-01	lbs/hr (1)	---	1.05E-01	921		1.01E-01	lbs/hr (1)	---	1.01E-01	881		1.32E-02	1.32E-02	1.27E-02	1.27E-02
00074-87-3	Chloromethane	2.63E-03	lbs/hr (1,2)	---	2.63E-03	23		2.31E-03	lbs/hr (1,2)	---	2.31E-03	20		3.31E-04	3.31E-04	2.91E-04	2.91E-04
07440-47-3	Chromium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00218-01-9	Chrysene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00156-59-2	cis-1,2-Dichloroethene	4.65E-03	lbs/hr (1)	---	4.65E-03	41		3.88E-03	lbs/hr (1)	---	3.88E-03	34		5.86E-04	5.86E-04	4.89E-04	4.89E-04
10061-01-5	cis-1,3-Dichloropopene	1.43E-03	lbs/hr (1,2)	---	1.43E-03	13		1.29E-03	lbs/hr (1,2)	---	1.29E-03	11		1.81E-04	1.81E-04	1.62E-04	1.62E-04
07440-48-4	Cobalt	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-50-8	Copper	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00098-82-8	Cumene (Isopropylbenzene)	1.55E-03	lbs/hr (1,2)	---	1.55E-03	14		1.39E-03	lbs/hr (1,2)	---	1.39E-03	12		1.96E-04	1.96E-04	1.75E-04	1.75E-04
00110-82-7	Cyclohexane	1.08E-03	lbs/hr (1,2)	---	1.08E-03	9		9.80E-04	lbs/hr (1,2)	---	9.80E-04	9		1.35E-04	1.35E-04	1.24E-04	1.24E-04
00053-70-3	Dibenz[a,h]anthracene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00124-48-1	Dibromochloromethane	2.63E-03	lbs/hr (1,2)	---	2.63E-03	23		2.45E-03	lbs/hr (1,2)	---	2.45E-03	21		3.31E-04	3.31E-04	3.09E-04	3.09E-04
00084-74-2	Dibutyl phthalate	---	---	---	---	---		---	---	---	---	---		---	---	---	---
25321-22-6	Dichlorobenzene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00084-66-2	Diethyl phthalate	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00115-29-7	Endosulfan-1	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00072-20-8	Endrin	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00074-84-0	Ethane	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00064-17-5	Ethanol	7.44E-03	lbs/hr (1)	---	7.44E-03	65		6.56E-03	lbs/hr (1)	---	6.56E-03	57		9.37E-04	9.37E-04	8.26E-04	8.26E-04
00100-41-4	Ethylbenzene	1.36E-03	lbs/hr (1,2)	---	1.36E-03	12		1.23E-03	lbs/hr (1,2)	---	1.23E-03	11		1.72E-04	1.72E-04	1.54E-04	1.54E-04
00206-44-0	Fluoranthene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00086-73-7	Fluorene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00075-69-4	Freon 11	1.77E-03	lbs/hr (1,2)	---	1.77E-03	15		1.59E-03	lbs/hr (1,2)	---	1.59E-03	14		2.23E-04	2.23E-04	2.01E-04	2.01E-04
00076-13-1	Freon 113	2.39E-03	lbs/hr (1,2)	---	2.39E-03	21		2.12E-03	lbs/hr (1,2)	---	2.12E-03	19		3.01E-04	3.01E-04	2.67E-04	2.67E-04
00076-14-2	Freon 114	2.20E-03	lbs/hr (1,2)	---	2.20E-03	19		1.96E-03	lbs/hr (1,2)	---	1.96E-03	17		2.77E-04	2.77E-04	2.47E-04	2.47E-04
00075-71-8	Freon 12	1.55E-03	lbs/hr (1,2)	---	1.55E-03	14		1.39E-03	lbs/hr (1,2)	---	1.39E-03	12		1.96E-04	1.96E-04	1.75E-04	1.75E-04
00076-44-8	Heptachlor	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00142-82-5	Heptane	1.29E-03	lbs/hr (1,2)	---	1.29E-03	11		2.18E-03	lbs/hr (1)	---	2.18E-03	19		1.63E-04	1.63E-04	2.75E-04	2.75E-04
00087-68-3	Hexachlorobutadiene	1.34E-02	lbs/hr (1,2)	---	1.34E-02	117		1.20E-02	lbs/hr (1,2)	---	1.20E-02	106		1.69E-03	1.69E-03	1.52E-03	1.52E-03
00319-84-6	alpha-Bhc (alpha-Hexachlorocycl	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00319-85-7	beta-Bhc (beta-Hexachlorocyclot	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00319-86-8	delta-Bhc (delta-Hexachlorocycl	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00058-89-9	gamma-Hexachlorocyclohexane (	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00110-54-3	Hexane	1.10E-03	lbs/hr (1,2)	---	1.10E-03	10		1.00E-03	lbs/hr (1,2)	---	1.00E-03	9		1.38E-04	1.38E-04	1.26E-04	1.26E-04
00193-39-5	Indeno(1,2,3-cd)pyrene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
15438-31-0	Iron	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07439-92-1	Lead	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07439-96-5	Manganese	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07439-97-6	Mercury	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00074-82-8	Methane	---	---	---	---	---		---	---	---	---	---		---	---	---	---
01634-04-4	Methyl tert-butyl ether	1.15E-03	lbs/hr (1,2)	---	1.15E-03	10		1.02E-03	lbs/hr (1,2)	---	1.02E-03	9		1.45E-04	1.45E-04	1.29E-04	1.29E-04
00075-09-2	Methylene Chloride	4.14E-02	lbs/hr (1)	---	4.14E-02	362		4.49E-02	lbs/hr (1)	---	4.49E-02	394		5.21E-03	5.21E-03	5.66E-03	5.66E-03
07439-98-7	Molybdenum	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00091-20-3	Naphthalene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-02-0	Nickel	---	---	---	---	---		---	---	---	---	---		---	---	---	---
03268-87-9	OCDD (Octachlorodibenzodioxin(	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00109-66-0	Pentane	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00085-01-8	Phenanthrene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00108-95-2	Phenol	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07723-14-0	Phosphorus (Yellow or white)	---	---	---	---	---		---	---	---	---	---		---	---	---	---
	Polycyclic Organic Matter (POM)	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-09-7	Potassium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00074-98-6	Propane	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00103-65-1	Propylbenzene	1.55E-03	lbs/hr (1,2)	---	1.55E-03	14		1.39E-03	lbs/hr (1,2)	---	1.39E-03	12		1.96E-04	1.96E-04	1.75E-04	1.75E-04
00115-07-1	Propylene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00129-00-0	Pyrene	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07782-49-2	Selenium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-21-3	Silicon	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-23-5	Sodium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00100-42-5	Styrene	1.34E-03	lbs/hr (1,2)	---	1.34E-03	12		1.20E-03	lbs/hr (1,2)	---	1.20E-03	11		1.69E-04	1.69E-04	1.52E-04	1.52E-04
00127-18-4	Tetrachloroethene (Tetrachloroe	1.55E-01	lbs/hr (1)	---	1.55E-01	1,354		1.18E-01	lbs/hr (1)	---	1.18E-01	1,030		1.95E-02	1.95E-02	1.48E-02	1.48E-02
00109-99-9	Tetrahydrofuran	3.54E-03	lbs/hr (1)	---	3.54E-03	31		3.10E-03	lbs/hr (1)	---	3.10E-03	27		4.46E-04	4.46E-04	3.91E-04	3.91E-04
07440-31-5	Tin	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00108-88-3	Toluene	1.53E-02	lbs/hr (1)	---	1.53E-02	134		1.35E-02	lbs/hr (1)	---	1.35E-02	118		1.93E-03	1.93E-03	1.70E-03	1.70E-03
	Total non-methane organic comp	---	---	---	---	---		---	---	---	---	---		---	---	---	---
	Total Organic Compounds (TOC)	---	---	---	---	---		---	---	---	---	---		---	---	---	---
13049829-2	Total PAH (Polycyclic aromatic h	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00156-60-5	Trans-1,2-Dichloroethene	1.24E-03	lbs/hr (1,2)	---	1.24E-03	11		1.12E-03	lbs/hr (1,2)	---	1.12E-03	10		1.57E-04	1.57E-04	1.42E-04	1.42E-04
10061-02-6	trans-1,3-Dichloropropene	1.43E-03	lbs/hr (1,2)	---	1.43E-03	13		1.29E-03	lbs/hr (1,2)	---	1.29E-03	11		1.81E-04	1.81E-04	1.62E-04	1.62E-04
00079-01-6	Trichloroethene	9.55E-03	lbs/hr (1)	---	9.55E-03	84		1.39E-02	lbs/hr (1)	---	1.39E-02	122		1.20E-03	1.20E-03	1.75E-03	1.75E-03
07440-62-2	Vanadium	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00075-01-4	Vinyl Chloride (Chloroethene)	8.12E-04	lbs/hr (1,2)	---	8.12E-04	7		7.15E-04	lbs/hr (1,2)	---	7.15E-04	6		1.02E-04	1.02E-04	9.01E-05	9.01E-05
01330-20-7	m,p-Xylene (Xylene)	4.35E-03	lbs/hr (1)	---	4.35E-03	38		3.19E-03	lbs/hr (1)	---	3.19E-03	28		5.48E-04	5.48E-04	4.02E-04	4.02E-04
00108-38-3	m-Xylene (1,3-xylene)	---	---	---	---	---		---	---	---	---	---		---	---	---	---
00095-47-6	o-Xylene (1,2-xylene)	1.36E-03	lbs/hr (1,2)	---	1.36E-03	12		1.23E-03	lbs/hr (1,2)	---	1.23E-03	11		1.72E-04	1.72E-04	1.54E-04	1.54E-04
00106-42-3	p-Xylene (1,4-xylene)	---	---	---	---	---		---	---	---	---	---		---	---	---	---
07440-66-6	Zinc	---	---	---	---	---		---	---	---	---	---		---	---	---	---

(1) Emission factors are from 2007 Stack Test Data and are the maximum concentrations over 3 test runs.
(2) Emission factors are based on 1/2 of the detection limit (when represented as 'Not Detected' in 2007 stack test data).

North River WPCP
Baseline Emissions - South Odor Control Stack (Total)*

Calculated Operating Hours
South Odor Control Stack **8760**

		SOCS Stack (Total) Emission Rate (1)		Emissions for Modeling (prorated g/s) per Stack	
CAS #	**Contaminant Name**	**(lbs/hr)**	**(lbs/yr) (Total)**	**1-hour**	**Annual**
00050-00-0	Formaldehyde	---	---	---	---
00071-55-6	1,1,1-Trichloroethane	2.51E-03	22.00	3.16E-04	3.16E-04
00079-34-5	1,1,2,2-Tetrachloroethane	3.16E-03	27.72	3.99E-04	3.99E-04
00079-00-5	1,1,2-Trichloroethane	2.51E-03	22.00	3.16E-04	3.16E-04
00075-34-3	1,1-Dichloroethane	1.86E-03	16.29	2.34E-04	2.34E-04
00075-35-4	1,1-Dichloroethene	1.83E-03	16.00	2.30E-04	2.30E-04
00120-82-1	1,2,4-Trichlorobenzene	1.37E-02	120.02	1.73E-03	1.73E-03
00095-63-6	1,2,4-Trimethylbenzene	2.25E-03	19.72	2.84E-04	2.84E-04
00106-93-4	1,2-Dibromoethane (EDB)	---	---	---	---
00095-50-1	1,2-Dichlorobenzene	2.77E-03	24.29	3.49E-04	3.49E-04
00107-06-2	1,2-Dichloroethane	1.86E-03	16.29	2.34E-04	2.34E-04
00078-87-5	1,2-Dichloropropane	2.12E-03	18.57	2.67E-04	2.67E-04
00108-67-8	1,3,5-Trimethylbenzene	2.25E-03	19.72	2.84E-04	2.84E-04
00106-99-0	1,3-Butadiene	1.01E-03	8.86	1.27E-04	1.27E-04
00541-73-1	1,3-Dichlorobenzene	2.77E-03	24.29	3.49E-04	3.49E-04
00106-46-7	1,4-Dichlorobenzene	8.71E-03	52.45	1.10E-03	7.54E-04
00123-91-1	1,4-Dioxane	6.52E-03	57.15	8.22E-04	8.22E-04
00540-84-1	2,2,4-Trimethylpentane	2.15E-03	18.86	2.71E-04	2.71E-04
00078-93-3	2-Butanone (MEK)	1.61E-02	141.40	2.03E-03	2.03E-03
00591-78-6	2-Hexanone	7.50E-03	65.72	9.45E-04	9.45E-04
00091-57-6	2-Methylnaphthalene	---	---	---	---
00067-63-0	2-Propanol	4.57E-03	40.01	5.75E-04	5.75E-04
00107-05-1	3-Chloropropene	5.87E-03	51.44	7.40E-04	7.40E-04
00056-49-5	3-Methylchloranthrene	---	---	---	---
00622-96-8	4-Ethyltoluene	2.25E-03	19.72	2.84E-04	2.84E-04
00108-10-1	4-Methyl-2-pentanone	1.89E-03	16.57	2.38E-04	2.38E-04
00057-97-6	7,12-Dimethylbenz(a)anthracene	---	---	---	---
00083-32-9	Acenaphthene	---	---	---	---
00208-96-8	Acenaphthylene	---	---	---	---
00075-07-0	Acetaldehyde	---	---	---	---
00067-64-1	Acetone	2.95E-02	258.48	3.72E-03	3.72E-03
00107-02-8	Acrolein	---	---	---	---
00100-44-7	alpha-Chlorotoulene	2.38E-03	20.86	3.00E-04	3.00E-04
07429-90-5	Aluminium	---	---	---	---
07664-41-7	Ammonia	---	---	---	---
00120-12-7	Anthracene	---	---	---	---
07440-36-0	Antimony	---	---	---	---
07440-38-2	Arsenic	---	---	---	---
07440-39-3	Barium	---	---	---	---
00071-43-2	Benzene	1.76E-03	13.81	2.22E-04	1.99E-04
00056-55-3	Benz(a)anthracene	---	---	---	---
00050-32-8	Benzo(a)pyrene	---	---	---	---
00205-99-2	Benzo(b)fluoranthene	---	---	---	---
00207-08-9	Benzo(k)fluoranthene	---	---	---	---
	Benzo(b,k)fluoranthene	---	---	---	---
00191-24-2	Benzo(g,h,I)perylene	---	---	---	---
07440-41-7	Beryllium	---	---	---	---
00117-81-7	Bis(2-ethylhexyl)phthalate (dioct	3.86E-04	3.05	4.87E-05	4.39E-05
07440-42-8	Boron	---	---	---	---
07726-95-6	Bromine	---	---	---	---
00075-27-4	Bromodichloromethane	4.24E-03	31.93	5.34E-04	4.59E-04
00075-25-2	Bromoform	4.61E-03	40.39	5.81E-04	5.81E-04
00074-83-9	Bromomethane	1.79E-03	15.72	2.26E-04	2.26E-04
00106-97-8	Butane	---	---	---	---
00085-68-7	Butylbenzylphthalate	4.46E-06	2.30E-02	5.62E-07	3.31E-07
07440-43-9	Cadmium	---	---	---	---
07440-70-2	Calcium	---	---	---	---
00075-15-0	Carbon Disulfide	1.44E-03	12.57	1.81E-04	1.81E-04
00056-23-5	Carbon Tetrachloride	2.90E-03	25.43	3.66E-04	3.66E-04
00108-90-7	Chlorobenzene	2.26E-03	19.04	2.84E-04	2.74E-04
00075-00-3	Chloroethane	1.21E-03	10.57	1.52E-04	1.52E-04
00067-66-3	Chloroform	3.62E-02	198.64	4.56E-03	2.86E-03
00074-87-3	Chloromethane	3.91E-03	34.29	4.93E-04	4.93E-04
07440-47-3	Chromium	---	---	---	---
00218-01-9	Chrysene	---	---	---	---
00156-59-2	cis-1,2-Dichloroethene	1.83E-03	16.00	2.30E-04	2.30E-04
10061-01-5	cis-1,3-Dichloropopene	2.09E-03	18.29	2.63E-04	2.63E-04
07440-48-4	Cobalt	---	---	---	---
07440-50-8	Copper	---	---	---	---
00098-82-8	Cumene (Isopropylbenzene)	2.25E-03	19.72	2.84E-04	2.84E-04
00110-82-7	Cyclohexane	1.57E-03	13.72	1.97E-04	1.97E-04
00053-70-3	Dibenz(a,h)anthracene	---	---	---	---
00124-48-1	Dibromochloromethane	3.91E-03	34.29	4.93E-04	4.93E-04
00084-74-2	Dibutyl phthalate	9.79E-07	5.39E-03	1.23E-07	7.75E-08
25321-22-6	Dichlorobenzene	---	---	---	---
00084-66-2	Diethyl phthalate	1.59E-06	7.96E-03	2.00E-07	1.14E-07
00115-29-7	Endosulfan-1	1.12E-07	5.88E-04	1.41E-08	8.45E-09
00072-20-8	Endrin	1.15E-07	1.01E-03	1.45E-08	1.45E-08
00074-84-0	Ethane	---	---	---	---
00064-17-5	Ethanol	3.59E-03	31.43	4.52E-04	4.52E-04
00100-41-4	EthylBenzene	2.29E-03	19.43	2.89E-04	2.80E-04
00206-44-0	Fluoranthene	---	---	---	---
00086-73-7	Fluorene	---	---	---	---
00075-69-4	Freon 11	2.58E-03	22.57	3.25E-04	3.25E-04
00076-13-1	Freon 113	3.59E-03	31.43	4.52E-04	4.52E-04
00076-14-2	Freon 114	3.20E-03	28.00	4.03E-04	4.03E-04
00075-71-8	Freon 12	2.28E-03	20.00	2.88E-04	2.88E-04
00076-44-8	Heptachlor	5.08E-06	1.33E-02	6.40E-07	1.92E-07
00142-82-5	Heptane	1.89E-03	16.57	2.38E-04	2.38E-04
00087-68-3	Hexachlorobutadiene	1.96E-02	171.45	2.47E-03	2.47E-03
00319-84-6	alpha-Bhc (alpha-Hexachlorocycl	5.18E-07	2.27E-03	6.52E-08	3.26E-08
00319-85-7	beta-Bhc (beta-Hexachlorocyclol	3.96E-08	1.73E-04	4.99E-09	2.49E-09
00319-86-8	delta-Bhc (delta-Hexachlorocyclc	8.58E-08	2.82E-04	1.08E-08	4.06E-09
00058-89-9	gamma-Hexachlorocyclohexane	1.54E-07	6.76E-04	1.95E-08	9.72E-09
00110-54-3	Hexane	1.63E-03	14.29	2.06E-04	2.06E-04
00193-39-5	Indeno(1,2,3-cd)pyrene	---	---	---	---
15438-31-0	Iron	---	---	---	---
07439-92-1	Lead	---	---	---	---
07439-96-5	Manganese	---	---	---	---
07439-97-6	Mercury	---	---	---	---
00074-82-8	Methane	---	---	---	---
01634-04-4	Methyl tert-butyl ether	2.52E-03	19.06	3.18E-04	2.74E-04
00075-09-2	Methylene Chloride	2.98E-02	138.85	3.76E-03	2.00E-03

North River WPCP
Baseline Emissions - South Odor Control Stack (Total)*

Calculated Operating Hours
South Odor Control Stack **8760**

		SOCS Stack (Total) Emission Rate (1)		Emissions for Modeling (prorated g/s) per Stack	
CAS #	**Contaminant Name**	**(lbs/hr)**	**(lbs/yr) (Total)**	**1-hour**	**Annual**
07439-98-7	Molybdenum	---	---	---	---
00091-20-3	Naphthalene	---	---	---	---
07440-02-0	Nickel	---	---	---	---
03268-87-9	OCDD (Octachlorodibenzodioxin	---	---	---	---
00109-66-0	Pentane	---	---	---	---
00085-01-8	Phenanthrene	---	---	---	---
00108-95-2	Phenol	8.96E-07	5.29E-03	1.13E-07	7.61E-08
07723-14-0	Phosphorus (Yellow or white)	---	---	---	---
	Polycyclic Organic Matter (POM)	---	---	---	---
07440-09-7	Potassium	---	---	---	---
00074-98-6	Propane	---	---	---	---
00103-65-1	Propylbenzene	2.25E-03	19.72	2.84E-04	2.84E-04
00115-07-1	Propylene	---	---	---	---
00129-00-0	Pyrene	---	---	---	---
07782-49-2	Selenium	---	---	---	---
07440-21-3	Silicon	---	---	---	---
07440-23-5	Sodium	---	---	---	---
00100-42-5	Styrene	1.96E-03	17.15	2.47E-04	2.47E-04
00127-18-4	Tetrachloroethene (Tetrachloroe	3.70E-02	236.28	4.67E-03	3.40E-03
00109-99-9	Tetrahydrofuran	5.55E-03	48.64	7.00E-04	7.00E-04
07440-31-5	Tin	---	---	---	---
00108-88-3	Toluene	1.18E-01	990.50	1.49E-02	1.42E-02
	Total non-methane organic comp	---	---	---	---
	Total Organic Compounds (TOC)	---	---	---	---
13049829-2	Total PAH (Polycyclic aromatic h	---	---	---	---
00156-60-5	Trans-1,2-Dichloroethene	1.83E-03	16.00	2.30E-04	2.30E-04
10061-02-6	trans-1,3-Dichloropropene	2.09E-03	18.29	2.63E-04	2.63E-04
00079-01-6	Trichloroethene	3.46E-03	25.60	4.36E-04	3.68E-04
07440-62-2	Vanadium	---	---	---	---
00075-01-4	Vinyl Chloride (Chloroethene)	1.17E-03	10.29	1.48E-04	1.48E-04
01330-20-7	m,p-Xylene (Xylene)	1.99E-03	17.43	2.51E-04	2.51E-04
00108-38-3	m-Xylene (1,3-xylene)	9.64E-04	3.28	1.21E-04	4.72E-05
00095-47-6	o-Xylene (1,2-xylene)	2.20E-03	18.41	2.77E-04	2.65E-04
00106-42-3	p-Xylene (1,4-xylene)	2.64E-04	9.00E-01	3.33E-05	1.29E-05
07440-66-6	Zinc	---	---	---	---

* The SOCS currently controls the following areas: Gravty Thickener room, Anaerobic Digester Overflow Boxes, Sludge Storage Tank, Gas Holding Tank, FST Influent Channel (Mixed Liquor Channel), FST Launder Drop to Effluent Channel, FST Weirs, Chlorine Contact Tank, and Chlorine Contact Tank Weirs.
However, the 2007 stack test only includes the Gravty Thickener room, Anaerobic Digester Overflow Boxes, Sludge Storage Tank, Gas Holding Tank, and the FST Influent Channel. The rest of the processes not included in the stack test were modeled using TOXCHEM+.
The results of the TOXCHEM+ modeling in a 2003 modeling report, "WP-164 N River WPCP Contrct 35.pdf", were used to estimate the maximum and average VOC emission rates from the processes not included in the stack test report.
These results were based on influent OPP data from 2000-2002. A comparison was made between this OPP data and recent (2008 - 2010) OPP data, which showed that the prior OPP data is representative and use of the 2003 TOXCHEM modeling analysis is appropriate.
The TOXCHEM+ modeling results were then added to the stack test results for total emissions from the SOCS.

(1) Short-term and Annual emissions presented are the sum of emission rates obtained from 2007 Stack test data and TOXCHEM+ model results from 2003 modeling report.

- 2007 Stack Test Data includes emissions only from Final Tank Influent Channel (mixed liquor channel), Thickeners, and Digestor Overflow Boxes.
- 2003 modeling report ("WP-164 N River WPCP Contrct 35.pdf") includes emission rates for FST Effulent Channel & Eff Launders, FST Weirs, Chlorine Contact and Chlorine Contact Weir obtained through the TOXCHEM+ model.

North River WPCP
Baseline Emissions - South Odor Control Stack (Stack Test)*

Calculated Operating Hours	
South Odor Control Stack	**8760**

					Emissions		
CAS #	**Contaminant Name**	**Emission Factors**			**EF lbs/gallon**	**(lbs/hr)**	**(lbs/yr) (Total)**
00050-00-0	Formaldehyde	---	---		---	---	---
00071-55-6	1,1,1-Trichloroethane	2.51E-03	lbs/hr (1,2)		---	2.51E-03	22.00
00079-34-5	1,1,2,2-Tetrachloroethane	3.16E-03	lbs/hr (1,2)		---	3.16E-03	27.72
00079-00-5	1,1,2-Trichloroethane	2.51E-03	lbs/hr (1,2)		---	2.51E-03	22.00
00075-34-3	1,1-Dichloroethane	1.86E-03	lbs/hr (1,2)		---	1.86E-03	16.29
00075-35-4	1,1-Dichloroethene	1.83E-03	lbs/hr (1,2)		---	1.83E-03	16.00
00120-82-1	1,2,4-Trichlorobenzene	1.37E-02	lbs/hr (1,2)		---	1.37E-02	120.02
00095-63-6	1,2,4-Trimethylbenzene	2.25E-03	lbs/hr (1,2)		---	2.25E-03	19.72
00106-93-4	1,2-Dibromoethane (EDB)	---	---		---	---	---
00095-50-1	1,2-Dichlorobenzene	2.77E-03	lbs/hr (1,2)		---	2.77E-03	24.29
00107-06-2	1,2-Dichloroethane	1.86E-03	lbs/hr (1,2)		---	1.86E-03	16.29
00078-87-5	1,2-Dichloropropane	2.12E-03	lbs/hr (1,2)		---	2.12E-03	18.57
00108-67-8	1,3,5-Trimethylbenzene	2.25E-03	lbs/hr (1,2)		---	2.25E-03	19.72
00106-99-0	1,3-Butadiene	1.01E-03	lbs/hr (1,2)		---	1.01E-03	8.86
00541-73-1	1,3-Dichlorobenzene	2.77E-03	lbs/hr (1,2)		---	2.77E-03	24.29
00106-46-7	1,4-Dichlorobenzene	2.77E-03	lbs/hr (1,2)		---	2.77E-03	24.29
00123-91-1	1,4-Dioxane	6.52E-03	lbs/hr (1,2)		---	6.52E-03	57.15
00540-84-1	2,2,4-Trimethylpentane	2.15E-03	lbs/hr (1,2)		---	2.15E-03	18.86
00078-93-3	2-Butanone (MEK)	1.61E-02	lbs/hr (1)		---	1.61E-02	141.40
00591-78-6	2-Hexanone	7.50E-03	lbs/hr (1,2)		---	7.50E-03	65.72
00091-57-6	2-Methylnaphthalene	---	---		---	---	---
00067-63-0	2-Propanol	4.57E-03	lbs/hr (1,2)		---	4.57E-03	40.01
00107-05-1	3-Chloropropene	5.87E-03	lbs/hr (1,2)		---	5.87E-03	51.44
00056-49-5	3-Methylchloranthrene	---	---		---	---	---
00622-96-8	4-Ethyltoluene	2.25E-03	lbs/hr (1,2)		---	2.25E-03	19.72
00108-10-1	4-Methyl-2-pentanone	1.89E-03	lbs/hr (1,2)		---	1.89E-03	16.57
00057-97-6	7,12-Dimethylbenz(a)anthracene	---	---		---	---	---
00083-32-9	Acenaphthene	---	---		---	---	---
00208-96-8	Acenaphthylene	---	---		---	---	---
00075-07-0	Acetaldehyde	---	---		---	---	---
00067-64-1	Acetone	2.95E-02	lbs/hr (1)		---	2.95E-02	258.48
00107-02-8	Acrolein	---	---		---	---	---
00100-44-7	alpha-Chlorotoulene	2.38E-03	lbs/hr (1,2)		---	2.38E-03	20.86
07429-90-5	Aluminium	---	---		---	---	---
07664-41-7	Ammonia	---	---		---	---	---
00120-12-7	Anthracene	---	---		---	---	---
07440-36-0	Antimony	---	---		---	---	---
07440-38-2	Arsenic	---	---		---	---	---
07440-39-3	Barium	---	---		---	---	---
00071-43-2	Benzene	1.47E-03	lbs/hr (1,2)		---	1.47E-03	12.86
00056-55-3	Benz(a)anthracene	---	---		---	---	---
00050-32-8	Benzo(a)pyrene	---	---		---	---	---
00205-99-2	Benzo(b)fluoranthene	---	---		---	---	---
00207-08-9	Benzo(k)fluoranthene	---	---		---	---	---
	Benzo(b,k)fluoranthene	---	---		---	---	---
00191-24-2	Benzo(g,h,I)perylene	---	---		---	---	---
07440-41-7	Beryllium	---	---		---	---	---
00117-81-7	Bis(2-ethylhexyl)phthalate (dioct	---	---		---	---	---
07440-42-8	Boron	---	---		---	---	---
07726-95-6	Bromine	---	---		---	---	---
00075-27-4	Bromodichloromethane	3.07E-03	lbs/hr (1,2)		---	3.07E-03	26.86
00075-25-2	Bromoform	4.61E-03	lbs/hr (1,2)		---	4.61E-03	40.39
00074-83-9	Bromomethane	1.79E-03	lbs/hr (1,2)		---	1.79E-03	15.72
00106-97-8	Butane	---	---		---	---	---
00085-68-7	Butylbenzylphthalate	---	---		---	---	---
07440-43-9	Cadmium	---	---		---	---	---
07440-70-2	Calcium	---	---		---	---	---
00075-15-0	Carbon Disulfide	1.44E-03	lbs/hr (1,2)		---	1.44E-03	12.57
00056-23-5	Carbon Tetrachloride	2.90E-03	lbs/hr (1,2)		---	2.90E-03	25.43
00108-90-7	Chlorobenzene	2.12E-03	lbs/hr (1,2)		---	2.12E-03	18.57
00075-00-3	Chloroethane	1.21E-03	lbs/hr (1,2)		---	1.21E-03	10.57
00067-66-3	Chloroform	1.04E-02	lbs/hr (1)		---	1.04E-02	91.44
00074-87-3	Chloromethane	3.91E-03	lbs/hr (1,2)		---	3.91E-03	34.29
07440-47-3	Chromium	---	---		---	---	---
00218-01-9	Chrysene	---	---		---	---	---
00156-59-2	cis-1,2-Dichloroethene	1.83E-03	lbs/hr (1,2)		---	1.83E-03	16.00
10061-01-5	cis-1,3-Dichloropopene	2.09E-03	lbs/hr (1,2)		---	2.09E-03	18.29
07440-48-4	Cobalt	---	---		---	---	---
07440-50-8	Copper	---	---		---	---	---
00098-82-8	Cumene (Isopropylbenzene)	2.25E-03	lbs/hr (1,2)		---	2.25E-03	19.72
00110-82-7	Cyclohexane	1.57E-03	lbs/hr (1,2)		---	1.57E-03	13.72
00053-70-3	Dibenz(a,h)anthracene	---	---		---	---	---
00124-48-1	Dibromochloromethane	3.91E-03	lbs/hr (1,2)		---	3.91E-03	34.29
00084-74-2	Dibutyl phthalate	---	---		---	---	---
25321-22-6	Dichlorobenzene	---	---		---	---	---
00084-66-2	Diethyl phthalate	---	---		---	---	---
00115-29-7	Endosulfan-1	---	---		---	---	---
00072-20-8	Endrin	---	---		---	---	---
00074-84-0	Ethane	---	---		---	---	---
00064-17-5	Ethanol	3.59E-03	lbs/hr (1,2)		---	3.59E-03	31.43
00100-41-4	EthylBenzene	1.99E-03	lbs/hr (1,2)		---	1.99E-03	17.43
00206-44-0	Fluoranthene	---	---		---	---	---
00086-73-7	Fluorene	---	---		---	---	---
00075-69-4	Freon 11	2.58E-03	lbs/hr (1,2)		---	2.58E-03	22.57
00076-13-1	Freon 113	3.59E-03	lbs/hr (1,2)		---	3.59E-03	31.43
00076-14-2	Freon 114	3.20E-03	lbs/hr (1,2)		---	3.20E-03	28.00
00075-71-8	Freon 12	2.28E-03	lbs/hr (1,2)		---	2.28E-03	20.00
00076-44-8	Heptachlor	---	---		---	---	---
00142-82-5	Heptane	1.89E-03	lbs/hr (1,2)		---	1.89E-03	16.57
00087-68-3	Hexachlorobutadiene	1.96E-02	lbs/hr (1,2)		---	1.96E-02	171.45
00319-84-6	alpha-Bhc (alpha-Hexachlorocycl	---	---		---	---	---
00319-85-7	beta-Bhc (beta-Hexachlorocyclol	---	---		---	---	---
00319-86-8	delta-Bhc (delta-Hexachlorocycl	---	---		---	---	---
00058-89-9	gamma-Hexachlorocyclohexane	---	---		---	---	---
00110-54-3	Hexane	1.63E-03	lbs/hr (1,2)		---	1.63E-03	14.29
00193-39-5	Indeno(1,2,3-cd)pyrene	---	---		---	---	---
15438-31-0	Iron	---	---		---	---	---
07439-92-1	Lead	---	---		---	---	---
07439-96-5	Manganese	---	---		---	---	---
07439-97-6	Mercury	---	---		---	---	---
00074-82-8	Methane	---	---		---	---	---
01634-04-4	Methyl tert-butyl ether	1.66E-03	lbs/hr (1,2)		---	1.66E-03	14.57
00075-09-2	Methylene Chloride	4.86E-03	lbs/hr (1)		---	4.86E-03	42.54
07439-98-7	Molybdenum	---	---		---	---	---
00091-20-3	Naphthalene	---	---		---	---	---
07440-02-0	Nickel	---	---		---	---	---
03268-87-9	OCDD (Octachlorodibenzodioxin	---	---		---	---	---
00109-66-0	Pentane	---	---		---	---	---
00085-01-8	Phenanthrene	---	---		---	---	---
00108-95-2	Phenol	---	---		---	---	---
07723-14-0	Phosphorus (Yellow or white)	---	---		---	---	---
	Polycyclic Organic Matter (POM)	---	---		---	---	---
07440-09-7	Potassium	---	---		---	---	---
00074-98-6	Propane	---	---		---	---	---
00103-65-1	Propylbenzene	2.25E-03	lbs/hr (1,2)		---	2.25E-03	19.72
00115-07-1	Propylene	---	---		---	---	---
00129-00-0	Pyrene	---	---		---	---	---
07782-49-2	Selenium	---	---		---	---	---
07440-21-3	Silicon	---	---		---	---	---
07440-23-5	Sodium	---	---		---	---	---
00100-42-5	Styrene	1.96E-03	lbs/hr (1,2)		---	1.96E-03	17.15
00127-18-4	Tetrachloroethene (Tetrachloroe	2.15E-02	lbs/hr (1)		---	2.15E-02	188.48
00109-99-9	Tetrahydrofuran	5.55E-03	lbs/hr (1)		---	5.55E-03	48.64
07440-31-5	Tin	---	---		---	---	---
00108-88-3	Toluene	1.11E-01	lbs/hr (1)		---	1.11E-01	971.56
	Total non-methane organic com	---	---		---	---	---
	Total Organic Compounds (TOC)	---	---		---	---	---
13049829-2	Total PAH (Polycyclic aromatic hr	---	---		---	---	---
00156-60-5	Trans-1,2-Dichloroethene	1.83E-03	lbs/hr (1,2)		---	1.83E-03	16.00
10061-02-6	trans-1,3-Dichloropropene	2.09E-03	lbs/hr (1,2)		---	2.09E-03	18.29
00079-01-6	Trichloroethene	2.48E-03	lbs/hr (1,2)		---	2.48E-03	21.72
07440-62-2	Vanadium	---	---		---	---	---
00075-01-4	Vinyl Chloride (Chloroethene)	1.17E-03	lbs/hr (1,2)		---	1.17E-03	10.29
01330-20-7	m,p-Xylene (Xylene)	1.99E-03	lbs/hr (1,2)		---	1.99E-03	17.43
00108-38-3	m-Xylene (1,3-xylene)	---	---		---	---	---
00095-47-6	o-Xylene (1,2-xylene)	1.99E-03	lbs/hr (1,2)		---	1.99E-03	17.43
00106-42-3	p-Xylene (1,4-xylene)	---	---		---	---	---
07440-66-6	Zinc	---	---		---	---	---

* The SOCS currently controls the following areas: Gravty Thickener room, Anaerobic Digester Overflow Boxes, Sludge Storage Tank, Gas Holding Tank, FST Influent Channel (Mixed Liquor Channel), FST Launder Drop to Effluent Channel, FST Weirs, Chlorine Contact Tank, and Chlorine Contact Tank Weirs.
However, the 2007 stack test only includes the Gravty Thickener room, Anaerobic Digester Overflow Boxes, Sludge Storage Tank, Gas Holding Tank, and the FST Influent Channel. The rest of the processes not included in the stack test were modeled using TOXCHEM+.
The results of the TOXCHEM+ modeling in a 2003 modeling report, "WP-164 N River WPCP Contrct 35.pdf", were used to estimate the maximum and average VOC emission rates from the processes not included in the stack test report.
These results were based on influent OPP data from 2000-2002. A comparison was made between this OPP data and recent (2008 - 2010) OPP data, which showed that the prior OPP data is representative and use of the 2003 TOXCHEM modeling analysis is appropriate.
The TOXCHEM+ modeling reults were then added to the stack test results for total emissions from the SOCS (see tab: South OC Stack (stacktest+TOXCH).

(1) Emission factors are from 2007 Stack Test Data and are the maximum concentrations over 3 test runs.
(2) Emission factors are based on 1/2 of the detection limit (when represented as 'Not Detected' in 2007 stack test data).

- 2007 Stack Test Data includes emissions only from Final Tank Influent Channel (mixed liquor channel), Thickeners, and Digestor Overflow Boxes.

North River WPCP

Baseline Emissions - South Odor Control Stack (TOXCHEM+) - For processes not included in the 2007 stack test*

Emission Rates obtained from TOXCHEM

Calculated Operating Hours

South Odor Control Stack **8760**

		Maximum Emissions (Short-term) (1)						Average Emissions (Annual) (2)						
		Emission Rate (lbs/day)						Emission Rate (lbs/day)						
CAS #	Contaminant Name	FST Eff Channels & Eff Launders	FST wiers	Chlorine Contact	Chlorine Contact Weir	Total Emissions (lbs/day)	Emissions (lbs/hr)	FST Eff Channels & Eff Launders	FST wiers	Chlorine Contact	Chlorine Contact Weir	Total Average Emissions (lbs/day)	Average Emissions (lbs/hr)	Annual Average Emissions (lbs/yr)
00050-00-0	Formaldehyde	---	---	---	---	---	---	---	---	---	---	---	---	---
00071-55-6	1,1,1-Trichloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00079-34-5	1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00079-00-5	1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-34-3	1,1-Dichloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-35-4	1,1-Dichloroethene	---	---	---	---	---	---	---	---	---	---	---	---	---
00120-82-1	1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---
00095-63-6	1,2,4-Trimethylbenzene	---	---	---	---	---	---	---	---	---	---	---	---	---
00106-93-4	1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---	---	---	---
00095-50-1	1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---
00107-06-2	1,2-Dichloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00078-87-5	1,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---	---	---	---
00108-67-8	1,3,5-Trimethylbenzene	---	---	---	---	---	---	---	---	---	---	---	---	---
00106-99-0	1,3-Butadiene	---	---	---	---	---	---	---	---	---	---	---	---	---
00541-73-1	1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---
00106-46-7	1,4-Dichlorobenzene	2.05E-02	8.00E-02	2.00E-03	4.00E-02	1.43E-01	5.94E-03	1.60E-02	4.00E-02	1.14E-03	2.00E-02	7.71E-02	3.21E-03	28.16
00123-91-1	1,4-Dioxane	---	---	---	---	---	---	---	---	---	---	---	---	---
00540-84-1	2,2,4-Trimethylpentane	---	---	---	---	---	---	---	---	---	---	---	---	---
00078-93-3	2-Butanone (MEK)	---	---	---	---	---	---	---	---	---	---	---	---	---
00591-78-6	2-Hexanone	---	---	---	---	---	---	---	---	---	---	---	---	---
00091-57-6	2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---	---	---	---
00067-63-0	2-Propanol	---	---	---	---	---	---	---	---	---	---	---	---	---
00107-05-1	3-Chloropropene	---	---	---	---	---	---	---	---	---	---	---	---	---
00056-49-5	3-Methylchloranthrene	---	---	---	---	---	---	---	---	---	---	---	---	---
00622-96-8	4-Ethyltoluene	---	---	---	---	---	---	---	---	---	---	---	---	---
00108-10-1	4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	---	---	---
00057-97-6	7,12-Dimethylbenz(a)anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---
00083-32-9	Acenaphthene	---	---	---	---	---	---	---	---	---	---	---	---	---
00208-96-8	Acenaphthylene	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-07-0	Acetaldehyde	---	---	---	---	---	---	---	---	---	---	---	---	---
00067-64-1	Acetone	---	---	---	---	---	---	---	---	---	---	---	---	---
00107-02-8	Acrolein[3]	---	---	---	---	---	---	---	---	---	---	---	---	---
00100-44-7	alpha-Chlorotoulene	---	---	---	---	---	---	---	---	---	---	---	---	---
07429-90-5	Aluminium	---	---	---	---	---	---	---	---	---	---	---	---	---
07664-41-7	Ammonia	---	---	---	---	---	---	---	---	---	---	---	---	---
00120-12-7	Anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-36-0	Antimony	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-38-2	Arsenic	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-39-3	Barium	---	---	---	---	---	---	---	---	---	---	---	---	---
00071-43-2	Benzene	1.36E-03	3.60E-03	6.36E-05	1.98E-03	7.00E-03	2.92E-04	5.04E-04	1.34E-03	2.36E-05	7.33E-04	2.60E-03	1.08E-04	0.95
00056-55-3	Benz(a)anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---
00050-32-8	Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---	---	---	---
00205-99-2	Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---
00207-08-9	Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---
	Benzo(b,k)fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---
00191-24-2	Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-41-7	Beryllium	---	---	---	---	---	---	---	---	---	---	---	---	---
00117-81-7	Bis(2-ethylhexyl)phthalate (dioctyl phthalate)[4]	1.12E-03	3.28E-03	2.04E-03	6.91E-04	9.27E-03	3.86E-04	1.01E-03	2.96E-03	1.84E-03	6.24E-04	8.36E-03	3.49E-04	3.05
07440-42-8	Boron	---	---	---	---	---	---	---	---	---	---	---	---	---
07726-95-6	Bromine	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-27-4	Bromodichloromethane	4.35E-03	1.81E-02	7.46E-04	5.01E-03	2.82E-02	1.18E-03	2.14E-03	8.91E-03	3.67E-04	2.46E-03	1.39E-02	5.78E-04	5.07
00075-25-2	Bromoform	---	---	---	---	---	---	---	---	---	---	---	---	---
00074-83-9	Bromomethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00106-97-8	Butane	---	---	---	---	---	---	---	---	---	---	---	---	---
00085-68-7	Butylbenzylphthalate	1.81E-05	4.68E-05	3.25E-05	9.71E-06	1.07E-04	4.46E-06	1.07E-05	2.75E-05	1.91E-05	5.71E-06	6.30E-05	2.63E-06	0.02
07440-43-9	Cadmium	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-70-2	Calcium	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-15-0	Carbon Disulfide	---	---	---	---	---	---	---	---	---	---	---	---	---
00056-23-5	Carbon Tetrachloride	---	---	---	---	---	---	---	---	---	---	---	---	---
00108-90-7	Chlorobenzene	6.12E-04	1.78E-03	3.76E-05	8.56E-04	3.29E-03	1.37E-04	2.40E-04	6.99E-04	1.47E-05	3.35E-04	1.29E-03	5.37E-05	4.70E-01
00075-00-3	Chloroethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00067-66-3	Chloroform	1.22E-01	3.40E-01	6.56E-03	1.50E-01	6.19E-01	2.58E-02	6.07E-02	1.60E-01	2.99E-03	7.00E-02	2.94E-01	1.22E-02	1.07E+02
00074-87-3	Chloromethane	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-47-3	Chromium	---	---	---	---	---	---	---	---	---	---	---	---	---
00218-01-9	Chrysene	---	---	---	---	---	---	---	---	---	---	---	---	---
00156-59-2	cis-1,2-Dichloroethene	---	---	---	---	---	---	---	---	---	---	---	---	---
10061-01-5	cis-1,3-Dichloropopene	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-48-4	Cobalt	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-50-8	Copper	---	---	---	---	---	---	---	---	---	---	---	---	---
00098-82-8	Cumene (Isopropylbenzene)	---	---	---	---	---	---	---	---	---	---	---	---	---
00110-82-7	Cyclohexane	---	---	---	---	---	---	---	---	---	---	---	---	---
00053-70-3	Dibenz(a,h)anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---
00124-48-1	Dibromochloromethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00084-74-2	Dibutyl phthalate	4.02E-06	1.02E-05	7.16E-06	2.11E-06	2.35E-05	9.79E-07	2.53E-06	6.40E-06	4.50E-06	1.33E-06	1.48E-05	6.15E-07	5.39E-03
25321-22-6	Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---
00084-66-2	Diethyl phthalate	6.54E-06	1.68E-05	1.13E-05	3.48E-06	3.81E-05	1.59E-06	3.74E-06	9.60E-06	6.47E-06	1.99E-06	2.18E-05	9.08E-07	7.96E-03
00115-29-7	Endosulfan-1	4.27E-07	1.26E-06	7.37E-07	2.62E-07	2.69E-06	1.12E-07	2.56E-07	7.55E-07	4.42E-07	1.57E-07	1.61E-06	6.71E-08	5.88E-04
00072-20-8	Endrin	4.48E-07	1.27E-06	7.75E-07	2.65E-07	2.76E-06	1.15E-07	4.48E-07	1.27E-06	7.75E-07	2.65E-07	2.76E-06	1.15E-07	1.01E-03
00074-84-0	Ethane	---	---	---	---	---	---	---	---	---	---	---	---	---
00064-17-5	Ethanol	---	---	---	---	---	---	---	---	---	---	---	---	---
00100-41-4	EthylBenzene	1.48E-03	3.36E-03	6.40E-05	2.38E-03	7.28E-03	3.04E-04	1.11E-03	2.53E-03	4.82E-05	1.80E-03	5.49E-03	2.29E-04	2.00E+00
00206-44-0	Fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---
00086-73-7	Fluorene	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-69-4	Freon 11	---	---	---	---	---	---	---	---	---	---	---	---	---
00076-13-1	Freon 113	---	---	---	---	---	---	---	---	---	---	---	---	---
00076-14-2	Freon 114	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-71-8	Freon 12	---	---	---	---	---	---	---	---	---	---	---	---	---
00076-44-8	Heptachlor	1.93E-05	7.21E-05	3.29E-06	2.72E-05	1.22E-04	5.08E-06	5.78E-06	2.16E-05	9.86E-07	8.15E-06	3.65E-05	1.52E-06	1.33E-02
00142-82-5	Heptane	---	---	---	---	---	---	---	---	---	---	---	---	---
00087-68-3	Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	---	---	---
00319-84-6	alpha-Bhc (alpha-Hexachlorocyclohexane) (apha-Linden)	2.02E-06	5.89E-06	3.29E-06	1.22E-06	1.24E-05	5.18E-07	1.01E-06	2.94E-06	1.65E-06	6.12E-07	6.21E-06	2.59E-07	2.27E-03
00319-85-7	beta-Bhc (beta-Hexachlorocyclohexane) (beta-Linden)	1.65E-07	4.20E-07	2.78E-07	8.69E-08	9.50E-07	3.96E-08	8.24E-08	2.10E-07	1.39E-07	4.35E-08	4.75E-07	1.98E-08	1.73E-04
00319-86-8	delta-Bhc (delta-Hexachlorocyclohexane) (delta-Linden)	3.56E-07	9.09E-07	6.05E-07	1.89E-07	2.06E-06	8.58E-08	1.34E-07	3.41E-07	2.27E-07	7.07E-08	7.73E-07	3.22E-08	2.82E-04
00058-89-9	gamma-Hexachlorocyclohexane (Lindane)	6.30E-07	1.67E-06	1.06E-06	3.46E-07	3.71E-06	1.54E-07	3.15E-07	8.33E-07	5.30E-07	1.73E-07	1.85E-06	7.71E-08	6.76E-04
00110-54-3	Hexane	---	---	---	---	---	---	---	---	---	---	---	---	---
00193-39-5	Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---	---	---	---
15438-31-0	Iron	---	---	---	---	---	---	---	---	---	---	---	---	---
07439-92-1	Lead	---	---	---	---	---	---	---	---	---	---	---	---	---
07439-96-5	Manganese	---	---	---	---	---	---	---	---	---	---	---	---	---
07439-97-6	Mercury	---	---	---	---	---	---	---	---	---	---	---	---	---
00074-82-8	Methane	---	---	---	---	---	---	---	---	---	---	---	---	---
01634-04-4	Methyl tert-butyl ether	2.98E-03	1.34E-02	8.86E-04	3.30E-03	2.06E-02	8.57E-04	1.79E-03	8.00E-03	5.30E-04	1.97E-03	1.23E-02	5.12E-04	4.49E+00
00075-09-2	Methylene Chloride	1.02E-01	3.60E-01	7.28E-03	1.30E-01	5.99E-01	2.50E-02	4.07E-02	1.60E-01	3.15E-03	6.00E-02	2.64E-01	1.10E-02	9.63E+01
07439-98-7	Molybdenum	---	---	---	---	---	---	---	---	---	---	---	---	---
00091-20-3	Naphthalene	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-02-0	Nickel	---	---	---	---	---	---	---	---	---	---	---	---	---
03268-87-9	OCDD (Octachlorodibenzodioxin)	---	---	---	---	---	---	---	---	---	---	---	---	---
00109-66-0	Pentane	---	---	---	---	---	---	---	---	---	---	---	---	---
00085-01-8	Phenanthrene	---	---	---	---	---	---	---	---	---	---	---	---	---
00108-95-2	Phenol	3.83E-06	9.63E-06	6.03E-06	2.01E-06	2.15E-05	8.96E-07	2.58E-06	6.50E-06	4.07E-06	1.35E-06	1.45E-05	6.04E-07	5.29E-03

North River WPCP

Baseline Emissions - South Odor Control Stack (TOXCHEM+) - For processes not included in the 2007 stack test*

Calculated Operating Hours

Emission Rates obtained from TOXCHEM South Odor Control Stack **8760**

		Maximum Emissions (Short-term) (1)						Average Emissions (Annual) (2)						
		Emission Rate (lbs/day)						Emission Rate (lbs/day)						
CAS #	Contaminant Name	FST Eff Channels & Eff Launders	FST wiers	Chlorine Contact	Chlorine Contact Weir	Total Emissions (lbs/day)	Emissions (lbs/hr)	FST Eff Channels & Eff Launders	FST wiers	Chlorine Contact	Chlorine Contact Weir	Total Average Emissions (lbs/day)	Average Emissions (lbs/hr)	Annual Average Emissions (lbs/yr)
07723-14-0	Phosphorus (Yellow or white)	---	---	---	---	---	---	---	---	---	---	---	---	---
	Polycyclic Organic Matter (POM)	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-09-7	Potassium	---	---	---	---	---	---	---	---	---	---	---	---	---
00074-98-6	Propane	---	---	---	---	---	---	---	---	---	---	---	---	---
00103-65-1	Propylbenzene	---	---	---	---	---	---	---	---	---	---	---	---	---
00115-07-1	Propylene	---	---	---	---	---	---	---	---	---	---	---	---	---
00129-00-0	Pyrene	---	---	---	---	---	---	---	---	---	---	---	---	---
07782-49-2	Selenium	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-21-3	Silicon	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-23-5	Sodium	---	---	---	---	---	---	---	---	---	---	---	---	---
00100-42-5	Styrene	---	---	---	---	---	---	---	---	---	---	---	---	---
00127-18-4	Tetrachloroethene (Tetrachloroethylene)	8.05E-02	1.40E-01	2.07E-03	1.50E-01	3.73E-01	1.55E-02	2.02E-02	6.00E-02	7.62E-04	5.00E-02	1.31E-01	5.46E-03	4.78E+01
00109-99-9	Tetrahydrofuran	---	---	---	---	---	---	---	---	---	---	---	---	---
07440-31-5	Tin	---	---	---	---	---	---	---	---	---	---	---	---	---
00108-88-3	Toluene	4.04E-02	8.00E-02	1.59E-03	6.00E-02	1.82E-01	7.58E-03	1.14E-02	2.00E-02	5.00E-04	2.00E-02	5.19E-02	2.16E-03	1.89E+01
	Total non-methane organic compound (TNMOC)	---	---	---	---	---	---	---	---	---	---	---	---	---
	Total Organic Compounds (TOC)	---	---	---	---	---	---	---	---	---	---	---	---	---
13049829-2	Total PAH (Polycyclic aromatic hydrocarbons)	---	---	---	---	---	---	---	---	---	---	---	---	---
00156-60-5	Trans-1,2-Dichloroethene	---	---	---	---	---	---	---	---	---	---	---	---	---
10061-02-6	trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---	---	---
00079-01-6	Trichloroethene	4.80E-03	1.06E-02	1.60E-04	7.91E-03	2.35E-02	9.78E-04	2.18E-03	4.79E-03	7.27E-05	3.59E-03	1.06E-02	4.43E-04	3.88E+00
07440-62-2	Vanadium	---	---	---	---	---	---	---	---	---	---	---	---	---
00075-01-4	Vinyl Chloride (Chloroethene)	---	---	---	---	---	---	---	---	---	---	---	---	---
01330-20-7	m,p-Xylene (Xylene)	---	---	---	---	---	---	---	---	---	---	---	---	---
00108-38-3	m-Xylene (1,3-xylene)	4.68E-03	1.07E-02	2.04E-04	7.54E-03	2.31E-02	9.64E-04	1.82E-03	4.15E-03	7.95E-05	2.94E-03	8.99E-03	3.75E-04	3.28E+00
00095-47-6	o-Xylene (1,2-xylene)	9.76E-04	2.52E-03	5.23E-05	1.47E-03	5.02E-03	2.09E-04	5.20E-04	1.34E-03	2.79E-05	7.82E-04	2.67E-03	1.11E-04	9.75E-01
00106-42-3	p-Xylene (1,4-xylene)	1.29E-03	2.90E-03	5.52E-05	2.09E-03	6.34E-03	2.64E-04	5.01E-04	1.13E-03	2.15E-05	8.12E-04	2.46E-03	1.03E-04	9.00E-01
07440-66-6	Zinc	---	---	---	---	---	---	---	---	---	---	---	---	---

* The SOCS currently controls the following areas: Gravty Thickener room, Anaerobic Digester Overflow Boxes, Sludge Storage Tank, Gas Holding Tank, FST Influent Channel (Mixed Liquor Channel), FST Launder Drop to Effluent Channel, FST Weirs, Chlorine Contact Tank, and Chlorine Contact Tank Weirs. However, the 2007 stack test only includes the Gravty Thickener room, Anaerobic Digester Overflow Boxes, Sludge Storage Tank, Gas Holding Tank, and the FST Influent Channel. The rest of the processes not included in the stack test were modeled using TOXCHEM+.
The results of the TOXCHEM+ modeling in a 2003 modeling report, "WP-164 N River WPCP Contrct 35.pdf", were used to estimate the maximum and average VOC emission rates from the processes not included in the stack test report.
These results were based on influent OPP data from 2000-2002. A comparison was made between this OPP data and recent (2008 - 2010) OPP data, which showed that the prior OPP data is representative and use of the 2003 TOXCHEM modeling analysis is appropriate.
The TOXCHEM+ modeling reults were then added to the stack test results for total emissions from the SOCS (see tab: South OC Stack (stacktest+TOXCH).

(1) Maximum emission rates were determined by using single maximum concentration detected within three years of Organic Priority Pollutant (OPP) data.
(2) Annual average emission rates were determined by averaging the 3 years of OPP concentration data for each compound.
(3) The laboratory detected a positive result for Acrolein in the 2010 OPP data, however, it could not be confirmed due to the low concentration, and is therefore questionable and is not included in the modeling analysis.
(4) The recent (2008-2010) influent OPP data showed a slightly higher influent concentration as compared to the prior (2000-2002) OPP data, therefore, Bis(2-ethylhexyl)phthalate concentrations were prorated by approximately 1.3.

- 2003 modeling report ("WP-164 N River WPCP Contrct 35.pdf") includes emission rates for FST Effulent Channel & Eff Launders, FST Weirs, Chlorine Contact and Chlorine Contact Weir obtained through the TOXCHEM+ model.

North River WPCP
Baseline Emissions - Uncovered FINAL SETTLING TANKS (FST)

Emission Rates obtained from TOXCHEM+ (1)

Calculated Operating Hours **8760**

		Maximum Emissions (Short-term) (2)				Average Emissions (Annual) (3)				Emissions for Modeling (prorated g/s) per Stack	
		Emission Rate (lbs/day)				Emission Rate (lbs/day)					
CAS #	Contaminant Name	East FSTs	West FSTs	Total Emissions (lbs/day)	Emissions (lbs/hr)	East FSTs	West FSTs	Total Average Emissions (lbs/day)	Average Emissions (lbs/hr)	1-hour	Annual
00050-00-0	Formaldehyde	---	---	---	---	---	---	---	---	---	---
00071-55-6	1,1,1-Trichloroethane	---	---	---	---	---	---	---	---	---	---
00079-34-5	1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---
00079-00-5	1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	---	---
00075-34-3	1,1-Dichloroethane	---	---	---	---	---	---	---	---	---	---
00075-35-4	1,1-Dichloroethene	---	---	---	---	---	---	---	---	---	---
00120-82-1	1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---
00095-63-6	1,2,4-Trimethylbenzene	---	---	---	---	---	---	---	---	---	---
00106-93-4	1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---
00095-50-1	1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---
00107-06-2	1,2-Dichloroethane	---	---	---	---	---	---	---	---	---	---
00078-87-5	1,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---
00108-67-8	1,3,5-Trimethylbenzene	---	---	---	---	---	---	---	---	---	---
00106-99-0	1,3-Butadiene	---	---	---	---	---	---	---	---	---	---
00541-73-1	1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---
00106-46-7	1,4-Dichlorobenzene	3.00E-02	3.00E-02	6.00E-02	2.50E-03	2.00E-02	2.00E-02	4.00E-02	1.67E-03	3.15E-04	2.10E-04
00123-91-1	1,4-Dioxane	---	---	---	---	---	---	---	---	---	---
00540-84-1	2,2,4-Trimethylpentane	---	---	---	---	---	---	---	---	---	---
00078-93-3	2-Butanone (MEK)	---	---	---	---	---	---	---	---	---	---
00591-78-6	2-Hexanone	---	---	---	---	---	---	---	---	---	---
00091-57-6	2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---
00067-63-0	2-Propanol	---	---	---	---	---	---	---	---	---	---
00107-05-1	3-Chloropropene	---	---	---	---	---	---	---	---	---	---
00056-49-5	3-Methylchloranthrene	---	---	---	---	---	---	---	---	---	---
00622-96-8	4-Ethyltoluene	---	---	---	---	---	---	---	---	---	---
00108-10-1	4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---
00057-97-6	7,12-Dimethylbenz(a)anthracene	---	---	---	---	---	---	---	---	---	---
00083-32-9	Acenaphthene	---	---	---	---	---	---	---	---	---	---
00208-96-8	Acenaphthylene	---	---	---	---	---	---	---	---	---	---
00075-07-0	Acetaldehyde	---	---	---	---	---	---	---	---	---	---
00067-64-1	Acetone	---	---	---	---	---	---	---	---	---	---
00107-02-8	Acrolein	---	---	---	---	---	---	---	---	---	---
00100-44-7	alpha-Chlorotoulene	---	---	---	---	---	---	---	---	---	---
07429-90-5	Aluminium	---	---	---	---	---	---	---	---	---	---
07664-41-7	Ammonia	---	---	---	---	---	---	---	---	---	---
00120-12-7	Anthracene	---	---	---	---	---	---	---	---	---	---
07440-36-0	Antimony	---	---	---	---	---	---	---	---	---	---
07440-38-2	Arsenic	---	---	---	---	---	---	---	---	---	---
07440-39-3	Barium	---	---	---	---	---	---	---	---	---	---
00071-43-2	Benzene	1.12E-03	1.12E-03	2.24E-03	9.33E-05	4.16E-04	4.16E-04	8.32E-04	3.47E-05	1.18E-05	4.37E-06
00056-55-3	Benz(a)anthracene	---	---	---	---	---	---	---	---	---	---
00050-32-8	Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---
00205-99-2	Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---
00207-08-9	Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---
	Benzo(b,k)fluoranthene	---	---	---	---	---	---	---	---	---	---
00191-24-2	Benzo(g,h,I)perylene	---	---	---	---	---	---	---	---	---	---
07440-41-7	Beryllium	---	---	---	---	---	---	---	---	---	---
00117-81-7	Bis(2-ethylhexyl)phthalate (dioctyl phthalate)[4]	3.00E-02	3.00E-02	7.80E-02	3.25E-03	3.00E-02	3.00E-02	7.80E-02	3.25E-03	4.09E-04	4.09E-04
07440-42-8	Boron	---	---	---	---	---	---	---	---	---	---
07726-95-6	Bromine	---	---	---	---	---	---	---	---	---	---
00075-27-4	Bromodichloromethane	1.00E-02	1.00E-02	2.00E-02	8.33E-04	6.40E-03	6.40E-03	1.28E-02	5.33E-04	1.05E-04	6.72E-05
00075-25-2	Bromoform	---	---	---	---	---	---	---	---	---	---
00074-83-9	Bromomethane	---	---	---	---	---	---	---	---	---	---
00106-97-8	Butane	---	---	---	---	---	---	---	---	---	---
00085-68-7	Butylbenzylphthalate	5.43E-04	5.43E-04	1.09E-03	4.53E-05	3.20E-04	3.20E-04	6.40E-04	2.67E-05	5.70E-06	3.36E-06
07440-43-9	Cadmium	---	---	---	---	---	---	---	---	---	---
07440-70-2	Calcium	---	---	---	---	---	---	---	---	---	---
00075-15-0	Carbon Disulfide	---	---	---	---	---	---	---	---	---	---
00056-23-5	Carbon Tetrachloride	---	---	---	---	---	---	---	---	---	---
00108-90-7	Chlorobenzene	6.34E-04	6.34E-04	1.27E-03	5.28E-05	2.49E-04	2.49E-04	4.98E-04	2.08E-05	6.66E-06	2.61E-06
00075-00-3	Chloroethane	---	---	---	---	---	---	---	---	---	---
00067-66-3	Chloroform	1.20E-01	1.20E-01	2.40E-01	1.00E-02	5.00E-02	5.00E-02	1.00E-01	4.17E-03	1.26E-03	5.25E-04
00074-87-3	Chloromethane	---	---	---	---	---	---	---	---	---	---
07440-47-3	Chromium	---	---	---	---	---	---	---	---	---	---
00218-01-9	Chrysene	---	---	---	---	---	---	---	---	---	---
00156-59-2	cis-1,2-Dichloroethene	---	---	---	---	---	---	---	---	---	---
10061-01-5	cis-1,3-Dichloropopene	---	---	---	---	---	---	---	---	---	---
07440-48-4	Cobalt	---	---	---	---	---	---	---	---	---	---
07440-50-8	Copper	---	---	---	---	---	---	---	---	---	---
00098-82-8	Cumene (Isopropylbenzene)	---	---	---	---	---	---	---	---	---	---
00110-82-7	Cyclohexane	---	---	---	---	---	---	---	---	---	---
00053-70-3	Dibenz(a,h)anthracene	---	---	---	---	---	---	---	---	---	---
00124-48-1	Dibromochloromethane	---	---	---	---	---	---	---	---	---	---
00084-74-2	Dibutyl phthalate	1.23E-04	1.23E-04	2.46E-04	1.03E-05	7.74E-05	7.74E-05	1.55E-04	6.45E-06	1.29E-06	8.13E-07
25321-22-6	Dichlorobenzene	---	---	---	---	---	---	---	---	---	---
00084-66-2	Diethyl phthalate	2.21E-04	2.21E-04	4.42E-04	1.84E-05	1.26E-04	1.26E-04	2.52E-04	1.05E-05	2.32E-06	1.32E-06
00115-29-7	Endosulfan-1	1.19E-05	1.19E-05	2.38E-05	9.92E-07	7.12E-06	7.12E-06	1.42E-05	5.93E-07	1.25E-07	7.48E-08
00072-20-8	Endrin	1.29E-05	1.29E-05	2.58E-05	1.08E-06	1.29E-05	1.29E-05	2.58E-05	1.08E-06	1.35E-07	1.35E-07
00074-84-0	Ethane	---	---	---	---	---	---	---	---	---	---
00064-17-5	Ethanol	---	---	---	---	---	---	---	---	---	---
00100-41-4	Ethylbenzene	1.04E-03	1.04E-03	2.08E-03	8.67E-05	7.82E-04	7.82E-04	1.56E-03	6.52E-05	1.09E-05	8.21E-06
00206-44-0	Fluoranthene	---	---	---	---	---	---	---	---	---	---
00086-73-7	Fluorene	---	---	---	---	---	---	---	---	---	---
00075-69-4	Freon 11	---	---	---	---	---	---	---	---	---	---
00076-13-1	Freon 113	---	---	---	---	---	---	---	---	---	---
00076-14-2	Freon 114	---	---	---	---	---	---	---	---	---	---
00075-71-8	Freon 12	---	---	---	---	---	---	---	---	---	---
00076-44-8	Heptachlor	4.33E-05	4.33E-05	8.66E-05	3.61E-06	1.30E-05	1.30E-05	2.60E-05	1.08E-06	4.55E-07	1.36E-07
00142-82-5	Heptane	---	---	---	---	---	---	---	---	---	---
00087-68-3	Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---
00319-84-6	alpha-Bhc (alpha-Hexachlorocyclohexane) (apha-Lind	6.08E-05	6.08E-05	1.22E-04	5.07E-06	3.04E-05	3.04E-05	6.08E-05	2.53E-06	6.38E-07	3.19E-07
00319-85-7	beta-Bhc (beta-Hexachlorocyclohexane) (beta-Linden	5.42E-06	5.42E-06	1.08E-05	4.52E-07	2.71E-06	2.71E-06	5.42E-06	2.26E-07	5.69E-08	2.85E-08
00319-86-8	delta-Bhc (delta-Hexachlorocyclohexane) (delta-Linde	1.18E-05	1.18E-05	2.36E-05	9.83E-07	4.44E-06	4.44E-06	8.88E-06	3.70E-07	1.24E-07	4.66E-08
00058-89-9	gamma-Hexachlorocyclohexane (Lindane)	2.04E-05	2.04E-05	4.08E-05	1.70E-06	1.02E-05	1.02E-05	2.04E-05	8.50E-07	2.14E-07	1.07E-07
00110-54-3	Hexane	---	---	---	---	---	---	---	---	---	---
00193-39-5	Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---
15438-31-0	Iron	---	---	---	---	---	---	---	---	---	---
07439-92-1	Lead	---	---	---	---	---	---	---	---	---	---
07439-96-5	Manganese	---	---	---	---	---	---	---	---	---	---
07439-97-6	Mercury	---	---	---	---	---	---	---	---	---	---
00074-82-8	Methane	---	---	---	---	---	---	---	---	---	---
01634-04-4	Methyl tert-butyl ether	2.00E-02	2.00E-02	4.00E-02	1.67E-03	9.11E-03	9.11E-03	1.82E-02	7.59E-04	2.10E-04	9.57E-05
00075-09-2	Methylene Chloride	1.40E-01	1.40E-01	2.80E-01	1.17E-02	6.00E-02	6.00E-02	1.20E-01	5.00E-03	1.47E-03	6.30E-04
07439-98-7	Molybdenum	---	---	---	---	---	---	---	---	---	---
00091-20-3	Naphthalene	---	---	---	---	---	---	---	---	---	---

North River WPCP
Baseline Emissions - Uncovered FINAL SETTLING TANKS (FST)

Emission Rates obtained from TOXCHEM+ (1)

Calculated Operating Hours **8760**

		Maximum Emissions (Short-term) (2)				Average Emissions (Annual) (3)				Emissions for Modeling (prorated g/s) per Stack	
		Emission Rate (lbs/day)				Emission Rate (lbs/day)					
CAS #	Contaminant Name	East FSTs	West FSTs	Total Emissions (lbs/day)	Emissions (lbs/hr)	East FSTs	West FSTs	Total Average Emissions (lbs/day)	Average Emissions (lbs/hr)	1-hour	Annual
07440-02-0	Nickel	---	---	---	---	---	---	---	---	---	---
03268-87-9	OCDD (Octachlorodibenzodioxin)	---	---	---	---	---	---	---	---	---	---
00109-66-0	Pentane	---	---	---	---	---	---	---	---	---	---
00085-01-8	Phenanthrene	---	---	---	---	---	---	---	---	---	---
00108-95-2	Phenol	1.57E-04	1.57E-04	3.14E-04	1.31E-05	1.06E-04	1.06E-04	2.12E-04	8.83E-06	1.65E-06	1.11E-06
07723-14-0	Phosphorus (Yellow or white)	---	---	---	---	---	---	---	---	---	---
	Polycyclic Organic Matter (POM)	---	---	---	---	---	---	---	---	---	---
07440-09-7	Potassium	---	---	---	---	---	---	---	---	---	---
00074-98-6	Propane	---	---	---	---	---	---	---	---	---	---
00103-65-1	Propylbenzene	---	---	---	---	---	---	---	---	---	---
00115-07-1	Propylene	---	---	---	---	---	---	---	---	---	---
00129-00-0	Pyrene	---	---	---	---	---	---	---	---	---	---
07782-49-2	Selenium	---	---	---	---	---	---	---	---	---	---
07440-21-3	Silicon	---	---	---	---	---	---	---	---	---	---
07440-23-5	Sodium	---	---	---	---	---	---	---	---	---	---
00100-42-5	Styrene	---	---	---	---	---	---	---	---	---	---
00127-18-4	Tetrachloroethene (Tetrachloroethylene)	4.00E-02	4.00E-02	8.00E-02	3.33E-03	1.00E-02	1.00E-02	2.00E-02	8.33E-04	4.20E-04	1.05E-04
00109-99-9	Tetrahydrofuran	---	---	---	---	---	---	---	---	---	---
07440-31-5	Tin	---	---	---	---	---	---	---	---	---	---
00108-88-3	Toluene	3.00E-02	3.00E-02	6.00E-02	2.50E-03	8.42E-03	8.42E-03	1.68E-02	7.02E-04	3.15E-04	8.84E-05
	Total non-methane organic compound (TNMOC)	---	---	---	---	---	---	---	---	---	---
	Total Organic Compounds (TOC)	---	---	---	---	---	---	---	---	---	---
13049829-2	Total PAH (Polycyclic aromatic hydrocarbons)	---	---	---	---	---	---	---	---	---	---
00156-60-5	Trans-1,2-Dichloroethene	---	---	---	---	---	---	---	---	---	---
10061-02-6	trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---
00079-01-6	Trichloroethene	2.87E-03	2.87E-03	5.74E-03	2.39E-04	1.30E-03	1.30E-03	2.60E-03	1.08E-04	3.01E-05	1.36E-05
07440-62-2	Vanadium	---	---	---	---	---	---	---	---	---	---
00075-01-4	Vinyl Chloride (Chloroethene)	---	---	---	---	---	---	---	---	---	---
01330-20-7	m,p-Xylene (Xylene)	---	---	---	---	---	---	---	---	---	---
00108-38-3	m-Xylene (1,3-xylene)	3.30E-03	3.30E-03	6.60E-03	2.75E-04	1.29E-03	1.29E-03	2.58E-03	1.08E-04	3.46E-05	1.35E-05
00095-47-6	o-Xylene (1,2-xylene)	8.45E-04	8.45E-04	1.69E-03	7.04E-05	4.50E-04	4.50E-04	9.00E-04	3.75E-05	8.87E-06	4.72E-06
00106-42-3	p-Xylene (1,4-xylene)	8.93E-04	8.93E-04	1.79E-03	7.44E-05	3.48E-04	3.48E-04	6.96E-04	2.90E-05	9.38E-06	3.65E-06
07440-66-6	Zinc	---	---	---	---	---	---	---	---	---	---

(1) 2003 modeling report used the TOXCHEM+ Model to estimate maximum and average VOC emission rates.
(2) Maximum emission rates were determined by using single maximum concentration detected within three years of Organic Priority Pollutant (OPP) data.
(3) Annual average emission rates were determined by averaging the 3 years of OPP concentration data for each compound.
(4) The recent (2008-2010) influent OPP data showed a slightly higher influent concentration as compared to the prior (2000-2002) OPP data, therefore, Bis(2-ethylhexyl)phthalate concentrations were prorated by approximately 1.3.