

**HUNTS POINT WPCP
FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)**

**Appendix 9
Non-Criteria Air Pollutants**

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Provided in this attachment are the emission factors for the short-term and annual impacts modeling analysis of the non-criteria pollutants from the plant's wastewater process sources with ethanol addition and from the plant's combustion sources. Also provided are the unitary modeled results of the proposed action for the wastewater process, carbon addition, and combustion sources. Exhibit 9-1 is a site map showing the source and receptor locations.

WASTEWATER PROCESS EMISSION RATES FOR ETHANOL ADDITION

Maximum hourly and annual average emission rates were determined from the TOXCHEM+ model for the proposed action with either methanol or ethanol addition. Speciated non-criteria pollutant emission rates when methanol is added are presented in Chapter 9, "*Non-Criteria Pollutants*". Speciated non-criteria pollutant emission rates when ethanol is added are provided below in Tables 9-1 and 9-2.

Table 9-1
Future With the Proposed Action
Wastewater Process Maximum Hourly Emissions for Ethanol Addition

Pollutant	Source Group (g/s)												
	AT1-3	AT4	AT5-6	FC1-2 & FC5-6	FC3-4	FC7-8	PST1-4	PST5-6	CLTANK	GT1-12 ²	CRB1-5	PICA1-3	CVOCS1-2 & BVOCS1-4 ³
Acetone	8.03E-04	4.57E-06	4.65E-04	4.72E-04	8.92E-04	6.82E-04	1.16E-02	5.81E-03	2.40E-04	5.07E-05	7.03E-07	3.15E-04	1.59E-08
Benzene	2.30E-04	1.99E-06	1.38E-04	2.01E-05	2.86E-05	2.78E-05	9.45E-04	4.72E-04	2.38E-05	7.13E-06	2.71E-08	3.15E-04	1.49E-07
Bis(2-ethylhexyl)phthalate	2.27E-04	5.84E-05	1.43E-04	1.05E-04	1.75E-04	1.05E-04	1.75E-04	8.75E-05	5.83E-05	6.25E-06	6.30E-09	1.75E-06	4.63E-07
Chloroform	5.56E-03	4.32E-04	3.11E-03	4.72E-04	6.30E-04	6.30E-04	1.68E-03	8.40E-04	4.21E-04	3.28E-05	4.54E-08	4.72E-04	6.01E-08
1,4-Dichlorobenzene	4.26E-03	8.92E-04	2.33E-03	3.67E-04	5.25E-04	5.25E-04	1.33E-03	6.65E-04	3.68E-04	2.86E-05	3.44E-08	3.15E-04	3.22E-06
Dichlorobromomethane	1.49E-04	4.63E-06	8.57E-05	4.08E-05	5.91E-05	5.25E-05	4.20E-04	2.10E-04	1.99E-05	4.48E-06	1.29E-08	5.25E-05	5.07E-08
cis-1,2-Dichloroethylene	1.07E-03	3.91E-05	5.90E-04	1.05E-04	1.23E-04	1.05E-04	7.70E-04	3.85E-04	8.81E-05	9.24E-06	1.98E-08	2.10E-04	1.83E-07
Methylene Chloride	2.53E-03	1.59E-04	1.45E-03	3.15E-04	4.20E-04	4.20E-04	1.12E-03	5.60E-04	2.54E-04	2.00E-05	2.82E-08	2.62E-04	7.92E-08
Ethyl benzene	1.52E-04	2.67E-06	9.06E-05	9.84E-06	1.41E-05	1.36E-05	4.90E-04	2.45E-04	1.42E-05	4.50E-06	1.43E-08	1.57E-04	8.63E-07
Hexachlorocyclohexane	6.33E-08	1.79E-08	4.01E-08	2.87E-08	5.79E-08	4.44E-08	4.89E-08	2.44E-08	1.90E-08	1.92E-09	4.92E-12	1.15E-09	1.84E-11
Methyl isobutyl ketone	5.15E-04	2.81E-05	2.37E-04	1.57E-04	2.42E-04	2.10E-04	7.35E-04	3.67E-04	7.19E-05	1.11E-05	2.94E-08	1.05E-04	1.88E-08
Naphthalene	2.34E-05	5.83E-07	1.37E-05	9.09E-06	1.37E-05	1.27E-05	2.45E-04	1.22E-04	3.99E-06	2.44E-06	9.16E-09	2.54E-05	6.29E-08
Phenanthrene	8.60E-06	7.49E-07	5.42E-06	3.92E-06	7.33E-06	5.89E-06	3.50E-05	1.75E-05	2.25E-06	4.44E-07	2.12E-09	9.62E-07	1.92E-08
Tetrachloroethylene	1.28E-02	9.27E-04	7.16E-03	4.20E-04	6.30E-04	5.77E-04	1.99E-03	9.97E-04	7.88E-04	3.57E-05	5.82E-08	7.87E-04	1.27E-06
Toulene	3.11E-03	5.84E-05	1.77E-03	2.10E-04	3.05E-04	2.62E-04	5.07E-03	2.54E-03	2.45E-04	4.96E-05	1.52E-07	1.78E-03	3.40E-06
m-Xylene	8.00E-04	2.96E-05	4.28E-04	4.06E-05	5.80E-05	5.25E-05	7.00E-04	3.50E-04	5.94E-05	7.93E-06	2.10E-08	2.62E-04	1.40E-06
o-Xylene	5.92E-05	7.51E-07	3.67E-05	5.03E-06	7.20E-06	6.96E-06	6.30E-04	3.15E-04	6.23E-06	5.69E-06	1.99E-08	2.10E-04	6.88E-07
p-Xylene	1.40E-04	1.91E-06	8.33E-05	9.01E-06	1.29E-05	1.25E-05	7.00E-04	3.50E-04	1.33E-05	6.40E-06	2.13E-08	2.62E-04	1.08E-06

Notes:
 1. Emissions represent the total emissions per source group.
 2. The sludge thickeners were modeled as 10 area sources (ST1, ST2, ST3, ST4, ST5, ST6, ST7, ST8, ST10, and ST12). During normal operations, only 10 of the 12 sludge thickeners are used, therefore, ST2, ST4, ST7, ST9, and ST11 were not assigned emission rates in the model.
 3. CVOCS2 and BVOCS3 are considered standby and were not modeled.

Table 9-2
Future With the Proposed Action
Wastewater Process Annual Average Emissions for Ethanol Addition

Pollutant	Source Group (g/s)												
	AT1-3	AT4	AT5-6	FC1-2 & FC5-6	FC3-4	FC7-8	PST1-4	PST5-6	CLTANK	GT1-12 ²	CRB1-5	PICA1-3	CVOCs1-2 & BVOCs1-4 ³
Acetone	4.67E-04	3.22E-06	2.82E-04	3.67E-04	5.77E-04	5.25E-04	7.70E-03	3.85E-03	1.80E-04	3.92E-05	2.73E-06	2.10E-04	1.33E-08
Benzene	1.16E-04	1.17E-06	6.84E-05	1.44E-05	1.96E-05	1.96E-05	5.95E-04	2.97E-04	1.67E-05	4.89E-06	9.49E-08	2.10E-04	1.06E-07
Bis(2-ethylhexyl)phthalate	1.79E-04	4.69E-05	1.14E-04	5.25E-05	1.73E-04	1.05E-04	1.75E-04	8.75E-05	5.07E-05	5.97E-06	2.95E-08	1.59E-06	4.78E-07
Chloroform	3.17E-03	3.72E-04	1.78E-03	3.67E-04	5.25E-04	5.25E-04	1.19E-03	5.95E-04	3.67E-04	2.77E-05	1.81E-07	3.67E-04	5.31E-08
1,4-Dichlorobenzene	3.08E-03	7.87E-04	1.69E-03	3.67E-04	5.77E-04	5.25E-04	1.19E-03	5.95E-04	3.68E-04	2.96E-05	1.72E-07	3.15E-04	3.47E-06
Dichlorobromomethane	1.00E-04	3.67E-06	5.79E-05	3.96E-05	5.50E-05	5.25E-05	3.50E-04	1.75E-04	1.76E-05	4.36E-06	6.40E-08	5.25E-05	5.27E-08
cis-1,2-Dichloroethylene	8.04E-04	3.44E-05	4.31E-04	1.05E-04	1.23E-04	1.05E-04	6.65E-04	3.32E-04	8.79E-05	9.33E-06	9.90E-08	2.10E-04	1.93E-07
Methylene Chloride	1.78E-03	1.56E-04	9.75E-04	2.62E-04	3.67E-04	3.67E-04	9.45E-04	4.72E-04	1.94E-04	1.99E-05	1.35E-07	2.62E-04	8.27E-08
Ethyl benzene	8.73E-05	1.76E-06	5.04E-05	8.03E-06	1.10E-05	1.10E-05	3.50E-04	1.75E-04	1.12E-05	3.56E-06	5.81E-08	1.05E-04	7.09E-07
Hexachlorocyclohexane	4.99E-08	1.44E-08	3.19E-08	2.46E-08	4.91E-08	3.79E-08	4.09E-08	2.05E-08	1.60E-08	1.78E-09	2.27E-11	1.04E-09	1.86E-11
Methyl isobutyl ketone	4.54E-04	2.50E-05	2.30E-04	1.57E-04	1.89E-04	2.10E-04	6.30E-04	3.15E-04	6.69E-05	1.13E-05	1.47E-07	1.05E-04	1.97E-08
Naphthalene	1.69E-05	4.79E-07	9.98E-06	8.73E-06	1.26E-05	1.21E-05	2.10E-04	1.05E-04	3.56E-06	2.34E-06	4.55E-08	2.31E-05	6.39E-08
Phenanthrene	6.82E-06	6.38E-07	4.33E-06	3.52E-06	6.44E-06	5.25E-06	3.50E-05	1.75E-05	1.95E-06	4.25E-07	1.02E-08	8.75E-07	1.97E-08
Tetrachloroethylene	7.90E-03	8.27E-04	4.35E-03	3.67E-04	5.25E-04	5.25E-04	1.43E-03	7.17E-04	7.35E-04	3.11E-05	2.34E-07	5.77E-04	1.15E-06
Toulene	1.78E-03	4.22E-05	9.70E-04	1.57E-04	2.44E-04	2.10E-04	3.67E-03	1.84E-03	2.34E-04	3.97E-05	6.16E-07	1.36E-03	2.82E-06
m-Xylene	3.75E-04	1.89E-05	2.04E-04	3.06E-05	4.19E-05	4.18E-05	4.55E-04	2.27E-04	4.41E-05	5.86E-06	7.83E-08	1.57E-04	1.08E-06
o-Xylene	4.26E-05	6.14E-07	2.62E-05	5.15E-06	7.06E-06	7.03E-06	5.60E-04	2.80E-04	6.23E-06	5.52E-06	9.93E-08	2.10E-04	6.95E-07
p-Xylene	7.40E-05	1.18E-06	4.37E-05	6.84E-06	9.37E-06	9.33E-06	4.55E-04	2.27E-04	9.95E-06	4.66E-06	7.95E-08	1.57E-04	8.17E-07

Notes:

1. Emissions represent the total emissions per source group.
2. The sludge thickeners were modeled as 10 area sources (ST1, ST2, ST3, ST4, ST5, ST6, ST7, ST8, ST10, and ST12). During normal operations, only 10 of the 12 sludge thickeners are used, therefore, ST2, ST4, ST7, ST9, and ST11 were not assigned emission rates in the model.
3. CVOCs2 and BVOCs3 are considered standby and were not modeled.

COMBUSTION SOURCE EMISSION FACTORS

Non-criteria air pollutants, including speciated VOC, HAPs and metals emissions from the combustion units, were developed during the Phases I and II analysis and were updated in some cases using emission factors from similarly sized units and fuels. Emission factors were developed using EPA AP-42 Emission Factors (EPA, 2000) and utilizing data from the Newtown Creek SEIS (*Newtown Creek Water Pollution Control Plant Track 3 Upgrade Final Supplemental Environmental Impact Statement*, dated June 6, 2003). The compound list and emission rate factors for the combustion sources are presented in Tables 9-3 through 9-6.

**Table 9-3
Main Building Boilers
Non-Criteria Pollutant Emission Factors**

CAS No.	Pollutant	Natural Gas Combustion		Digester Gas Combustion		
		Emiss. Factor (lb/10 ⁶ scf)	Basis	Emiss. Factor (lb/mmBtu)	Basis	Emiss. Factor (lb/mmBtu)
75-35-4	1,1-Dichloroethene	-	-	-	(2)	5.76E-07
71-55-6	1,1,1-Trichloroethane	-	-	-	(2)	7.62E-06
107-06-2	1,2-Dichloroethane	-	-	-	(2)	4.38E-08
95-50-1	1,2-Dichlorobenzene	-	-	-	(2)	3.26E-07
541-73-1	1,3-Dichlorobenzene	-	-	-	(2)	3.26E-07
91-57-6	2-Methylnaphthalene	2.40E-05	(1)	2.35E-08	-	-
56-49-5	3-Methylchloranthrene	1.80E-06	(1)	1.76E-09	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	1.60E-05	(1)	1.57E-08	-	-
83-32-9	Acenaphthene	1.80E-06	(1)	1.76E-09	-	-
203-96-8	Acenaphthylene	1.80E-06	(1)	1.76E-09	-	-
75-07-0	Acetaldehyde	-	-	-	1.64E-03 (2)	5.53E-05
107-02-8	Acrolein	-	-	-	**	**
120-12-7	Anthracene	2.40E-06	(1)	2.35E-09	-	-
56-55-3	Benz(a)anthracene	1.80E-06	(1)	1.76E-09	-	-
50-32-8	Benzo(a)pyrene	1.20E-06	(1)	1.18E-09	-	-
205-99-2	Benzo(b)fluoranthene	1.80E-06	(1)	1.76E-09	-	-
191-24-2	Benzo(b,k)fluoranthene	-	-	-	-	-
191-24-2	Benzo(g,h,i)perylene	1.20E-06	(1)	1.18E-09	-	-
205-82-3	Benzo(k)fluoranthene	1.80E-06	(1)	1.76E-09	-	-
106-97-8	Butane	2.10E+00	(1)	2.06E-03	-	-
56-23-5	Carbon Tetrachloride	-	-	-	3.57E-05 (2)	1.20E-06
218-01-9	Chrysene	1.80E-06	(1)	1.76E-09	-	-
53-70-3	Dibenzo(a,h)anthracene	1.20E-06	(1)	1.18E-09	-	-
25321-22-6	Dichlorobenzene	1.20E-03	(1)	1.18E-06	-	-
74-84-0	Ethane	3.10E+00	(1)	3.04E-03	-	-
206-44-0	Fluoranthene	3.00E-06	(1)	2.94E-09	-	-
86-73-7	Fluorene	2.80E-06	(1)	2.75E-09	-	-
50-00-0	Formaldehyde	7.50E-02	(1)	7.35E-05	5.48E-02 (2)	1.85E-03
110-54-3	Hexane	1.80E+00	(1)	1.76E-03	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	1.80E-06	(1)	1.76E-09	-	-
109-66-0	Pentane	2.60E+00	(1)	2.55E-03	-	-
74-98-6	Polycyclic Organic Matter	-	-	-	-	-
74-98-6	Propane	1.60E+00	(1)	1.57E-03	-	-
115-07-1	Propylene	-	-	-	-	-
129-00-0	Pyrene	5.00E-06	(1)	4.90E-09	-	-
79-01-6	Trichloroethene	-	-	-	3.50E-05 (2)	1.18E-06
75-01-4	Vinyl Chloride	-	-	-	1.65E-06 (2)	5.56E-08
1330-20-7	Xylenes	-	-	-	4.60E-04 (2)	1.55E-05
7440-38-2	Arsenic	2.00E-04	(1)	1.96E-07	-	-
7440-39-3	Barium	4.40E-03	(1)	4.31E-06	-	-
7440-41-7	Beryllium	1.20E-05	(1)	1.18E-08	-	-

**Table 9-3 (Continued)
Main Building Boilers
Non-Criteria Pollutant Emission Factors**

CAS No.	Pollutant	Natural Gas Combustion		Digester Gas Combustion		Basis	Digester Gas Combustion Emiss. Factor (lb/mmBtu)
		Emiss. Factor (lb/10 ⁶ scf)	Basis	Emiss. Factor (lb/mmBtu)	Emiss. Factor (lb/hr)		
7440-43-9	Cadmium	1.10E-03	(1)	1.08E-06	-	-	-
7440-47-3	Chromium	1.40E-03	(1)	1.37E-06	-	-	-
7440-48-4	Cobalt	8.40E-05	(1)	8.24E-08	-	-	-
7440-50-8	Copper	8.50E-04	(1)	8.33E-07	-	-	-
7439-92-1	Lead	0.0005	(1)	4.90E-07	-	-	-
7439-96-5	Manganese	3.80E-04	(1)	3.73E-07	-	-	-
7439-97-6	Mercury	2.60E-04	(1)	2.55E-07	-	-	-
7439-98-7	Molybdenum	1.10E-03	(1)	1.08E-06	-	-	-
7440-02-0	Nickel	2.10E-03	(1)	2.06E-06	-	-	-
7782-49-2	Selenium	2.40E-05	(1)	2.35E-08	-	-	-
7440-62-2	Vanadium	2.30E-03	(1)	2.25E-06	-	-	-
7440-66-6	Zinc	2.90E-02	(1)	2.84E-05	-	-	-
67-64-1	Acetone	-	-	-	-	-	-
71-43-2	Benzene	2.10E-03	(1)	2.06E-06	1.83E-03	(2)	6.17E-05
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-	-	-	-
67-66-3	Chloroform	-	-	-	9.43E-04	(2)	3.18E-05
106-46-7	1,4-Dichlorobenzene	-	-	-	3.73E-05	(2)	1.26E-06
75-27-4	Dichlorobromomethane	-	-	-	-	-	-
156-59-2	Dichloroethylene 1,2cis	-	-	-	-	-	-
75-09-2	Methylene Chloride (Dichloromethane)	-	-	-	1.03E-02	(2)	3.47E-04
100-41-4	Ethylbenzene	-	-	-	-	-	-
608-73-1	Hexachlorocyclohexane	-	-	-	-	-	-
108-10-1	Methyl isobutyl ketone	-	-	-	-	-	-
91-20-3	Naphthalene	6.10E-04	(1)	5.98E-07	-	-	-
85-01-8	Phenanthrene	1.70E-05	(1)	1.67E-08	-	-	-
127-18-4	Tetrachloroethene	-	-	-	1.15E-04	(2)	3.88E-06
108-88-3	Toluene	3.40E-03	(1)	3.33E-06	2.36E-02	(2)	7.95E-04
108-38-3	Xylene, m	-	-	-	-	-	-
95-47-6	Xylene, o	-	-	-	-	-	-
106-42-3	Xylene, p	-	-	-	-	-	-

Notes:

1. Emission Factors from AP-42 Section 1.4 Natural Gas Combustion, 7/98, Table 1.4-3 Emission Factors for Speciated Organic Compounds from Natural Gas Combustion and Table 1.4-4 Emission Factors for Metals from Natural Gas Combustion.

2. Emission factors from a boiler firing digester gas at the Hyperion Wastewater Treatment Plant in Los Angeles, CA.

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.

Table 9-4
Dewatering Building Boilers
Non-Criteria Pollutant Emission Factors

CAS No.	Pollutant	No. 2 Fuel Oil Combustion Emiss. Factor (lb/10 ³ gals)	Basis	No. 2 Fuel Oil Combustion Emiss. Factor (lb/mmBtu)
75-35-4	1,1-Dichloroethene	-	-	-
71-55-6	1,1,1-Trichloroethane	2.36E-04	(1)	1.69E-06
107-06-2	1,2-Dichloroethane	-	-	-
95-50-1	1,2-Dichlorobenzene	-	-	-
541-73-1	1,3-Dichlorobenzene	-	-	-
91-57-6	2-Methylnaphthalene	-	-	-
56-49-5	3-Methylchloranthrene	-	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	-	-	-
83-32-9	Acenaphthene	2.11E-05	(1)	1.51E-07
203-96-8	Acenaphthylene	2.53E-07	(1)	1.81E-09
75-07-0	Acetaldehyde	-	-	-
107-02-8	Acrolein	**	**	**
120-12-7	Anthracene	1.22E-06	(1)	8.71E-09
56-55-3	Benz(a)anthracene	4.01E-06	(1)	2.86E-08
50-32-8	Benzo(a)pyrene	-	-	-
205-99-2	Benzo(b)fluoranthene	-	-	-
	Benzo(b,k)fluoranthene	1.48E-06	(1)	1.06E-08
191-24-2	Benzo(g,h,i)perylene	2.26E-06	(1)	1.61E-08
205-82-3	Benzo(k)fluoranthene	-	-	-
106-97-8	Butane	-	-	-
56-23-5	Carbon Tetrachloride	-	-	-
218-01-9	Chrysene	2.38E-06	(1)	1.70E-08
53-70-3	Dibenzo(a,h)anthracene	1.67E-06	(1)	1.19E-08
25321-22-6	Dichlorobenzene	-	-	-
74-84-0	Ethane	-	-	-
206-44-0	Fluoranthene	4.84E-06	(1)	3.46E-08
86-73-7	Fluorene	4.47E-06	(1)	3.19E-08
50-00-0	Formaldehyde	6.10E-02	(2)	4.36E-04
110-54-3	Hexane	-	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	2.14E-06	(1)	1.53E-08
109-66-0	Pentane	-	-	-
	Polycyclic Organic Matter	3.30E-03	(2)	2.36E-05
74-98-6	Propane	-	-	-
115-07-1	Propylene	-	-	-
129-00-0	Pyrene	4.25E-06	(1)	3.04E-08
79-01-6	Trichloroethene	-	-	-
75-01-4	Vinyl Chloride	-	-	-
1330-20-7	Xylenes	-	-	-
7440-38-2	Arsenic	5.60E-04	(1)	4.00E-06
7440-39-3	Barium	-	-	-
7440-41-7	Beryllium	4.20E-04	(1)	3.00E-06
7440-43-9	Cadmium	4.20E-04	(1)	3.00E-06
7440-47-3	Chromium	4.20E-04	(1)	3.00E-06
7440-48-4	Cobalt	-	-	-
7440-50-8	Copper	8.40E-04	(1)	6.00E-06
7439-92-1	Lead	1.26E-03	(1)	9.00E-06
7439-96-5	Manganese	8.40E-04	(1)	6.00E-06
7439-97-6	Mercury	4.20E-04	(1)	3.00E-06
7439-98-7	Molybdenum	-	-	-
7440-02-0	Nickel	4.20E-04	(1)	3.00E-06
7782-49-2	Selenium	2.10E-03	(1)	1.50E-05
7440-62-2	Vanadium	-	-	-
7440-66-6	Zinc	5.60E-04	(1)	4.00E-06
67-64-1	Acetone	-	-	-

Table 9-4 (Continued)
Dewatering Building Boilers
Non-Criteria Pollutant Emission Factors

CAS No.	Pollutant	No. 2 Fuel Oil Combustion Emiss. Factor (lb/10 ³ gals)	Basis	No. 2 Fuel Oil Combustion Emiss. Factor (lb/mmBtu)
71-43-2	Benzene	2.14E-04	(1)	1.53E-06
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-
67-66-3	Chloroform	-	-	-
106-46-7	1,4-Dichlorobenzene	-	-	-
75-27-4	Dichlorobromomethane	-	-	-
156-59-2	Dichloroethylene 1,2cis	-	-	-
	Methylene Chloride			
75-09-2	(Dichloromethane)	-	-	-
100-41-4	Ethylbenzene	6.36E-05	(1)	4.54E-07
608-73-1	Hexachlorocyclohexane	-	-	-
108-10-1	Methyl isobutyl ketone	-	-	-
91-20-3	Naphthalene	1.13E-03	(1)	8.07E-06
85-01-8	Phenanthrene	1.05E-05	(1)	7.50E-08
127-18-4	Tetrachloroethene	-	-	-
108-88-3	Toluene	6.20E-03	(1)	4.43E-05
108-38-3	Xylene, m	-	-	-
95-47-6	Xylene, o	1.09E-04	(1)	7.79E-07
106-42-3	Xylene, p	-	-	-

Notes:

(1) Emission factors from AP-42, Section 1.3 Fuel Oil Combustion, 9/98, Table 1.3-9 Emission Factors for Speciated Organic Compounds from Fuel Oil Combustion and Table 1.3-10 Emission Factors for Trace Elements from Distillate Fuel Oil Combustion Sources.

(2) Emission factors from AP-42, Section 1.3 Fuel Oil Combustion, 9/98, Table 1.3-8, Emission Factors for Nitrous Oxide (N₂O), Polycyclic Organic Matter (POM), and Formaldehyde (HCOH) from Fuel Oil Combustion.

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.

Table 9-5
Waste Gas Burners
Non-Criteria Pollutant Emission Factors

CAS No.	Pollutant	Digester Gas Combustion Emiss. Factor (lb/hr)	Basis	Digester Gas Combustion Emiss. Factor (lb/mmBtu)
75-35-4	1,1-Dichloroethene	6.08E-04	(1)	1.03E-05
71-55-6	1,1,1-Trichloroethane	1.37E-03	(1)	2.33E-05
107-06-2	1,2-Dichloroethane	5.32E-04	(1)	9.05E-06
95-50-1	1,2-Dichlorobenzene	9.10E-05	(1)	1.55E-06
541-73-1	1,3-Dichlorobenzene	3.95E-05	(1)	6.72E-07
91-57-6	2-Methylnaphthalene	-	-	-
56-49-5	3-Methylchloranthrene	-	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	-	-	-
83-32-9	Acenaphthene	-	-	-
203-96-8	Acenaphthylene	-	-	-
75-07-0	Acetaldehyde	6.65E-03	(1)	1.13E-04
107-02-8	Acrolein	**	**	**
120-12-7	Anthracene	-	-	-
56-55-3	Benz(a)anthracene	-	-	-
50-32-8	Benzo(a)pyrene	-	-	-
205-99-2	Benzo(b)fluoranthene	-	-	-
	Benzo(b,k)fluoranthene	-	-	-
191-24-2	Benzo(g,h,i)perylene	-	-	-
205-82-3	Benzo(k)fluoranthene	-	-	-
106-97-8	Butane	-	-	-
56-23-5	Carbon Tetrachloride	1.65E-05	(1)	2.81E-07
218-01-9	Chrysene	-	-	-
53-70-3	Dibenzo(a,h)anthracene	-	-	-
25321-22-6	Dichlorobenzene	-	-	-
74-84-0	Ethane	-	-	-
206-44-0	Fluoranthene	-	-	-
86-73-7	Fluorene	-	-	-
50-00-0	Formaldehyde	3.14E-02	(1)	5.34E-04
110-54-3	Hexane	-	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	-	-	-
109-66-0	Pentane	-	-	-
	Polycyclic Organic Matter	-	-	-
74-98-6	Propane	-	-	-
115-07-1	Propylene	-	-	-
129-00-0	Pyrene	-	-	-
79-01-6	Trichloroethene	2.20E-04	(1)	-
75-01-4	Vinyl Chloride	6.72E-06	(1)	1.14E-07
1330-20-7	Xylenes	3.30E-05	(1)	5.62E-07
7440-38-2	Arsenic	-	-	-
7440-39-3	Barium	-	-	-
7440-41-7	Beryllium	-	-	-
7440-43-9	Cadmium	-	-	-
7440-47-3	Chromium	-	-	-
7440-48-4	Cobalt	-	-	-
7440-50-8	Copper	-	-	-
7439-92-1	Lead	-	-	-
7439-96-5	Manganese	-	-	-
7439-97-6	Mercury	-	-	-
7439-98-7	Molybdenum	-	-	-
7440-02-0	Nickel	-	-	-
7782-49-2	Selenium	-	-	-
7440-62-2	Vanadium	-	-	-
7440-66-6	Zinc	-	-	-
67-64-1	Acetone	-	-	-
71-43-2	Benzene	9.91E-04	(1)	1.69E-05
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-
67-66-3	Chloroform	6.83E-04	(1)	1.16E-05
106-46-7	1,4-Dichlorobenzene	5.34E-04	(1)	9.09E-06

Table 9-5 (Continued)
Waste Gas Burners
Non-Criteria Pollutant Emission Factors

CAS No.	Pollutant	Digester Gas Combustion Emiss. Factor (lb/hr)	Basis	Digester Gas Combustion Emiss. Factor (lb/mmBtu)
75-27-4	Dichlorobromomethane	-	-	-
156-59-2	Dichloroethylene 1,2cis Methylene Chloride	-	-	-
75-09-2	(Dichloromethane)	1.18E-01	(1)	2.01E-03
100-41-4	Ethylbenzene	-	-	-
608-73-1	Hexachlorocyclohexane	-	-	-
108-10-1	Methyl isobutyl ketone	-	-	-
91-20-3	Naphthalene	-	-	-
85-01-8	Phenanthrene	-	-	-
127-18-4	Tetrachloroethene	8.97E-04	(1)	1.53E-05
108-88-3	Toluene	2.30E-02	(1)	3.91E-04
108-38-3	Xylene, m	-	-	-
95-47-6	Xylene, o	-	-	-
106-42-3	Xylene, p	-	-	-

Notes:

(1) Emission factors from a digester gas flare at the Hyperion Wastewater Treatment Plant in Los Angeles, CA.

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.

Table 9-6
Emergency Generator
Non-Criteria Pollutant Emission Factors

CAS No.	Pollutant	Diesel Combustion Emiss. Factor (lb/mmBtu)	Basis
75-35-4	1,1-Dichloroethene	2.18E-07	(2)
71-55-6	1,1,1-Trichloroethane	-	-
107-06-2	1,2-Dichloroethane	-	-
95-50-1	1,2-Dichlorobenzene	1.53E-06	(2)
541-73-1	1,3-Dichlorobenzene	3.46E-07	(2)
91-57-6	2-Methylnaphthalene	-	-
56-49-5	3-Methylchloranthrene	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	4.03E-06	(2)
83-32-9	Acenaphthene	1.28E-05	(2)
203-96-8	Acenaphthylene	7.89E-05	(1)
75-07-0	Acetaldehyde	-	-
107-02-8	Acrolein	**	**
120-12-7	Anthracene	-	-
56-55-3	Benz(a)anthracene	-	-
50-32-8	Benzo(a)pyrene	-	-
205-99-2	Benzo(b)fluoranthene	2.79E-03	(1)
	Benzo(b,k)fluoranthene	3.71E-06	(2)
191-24-2	Benzo(g,h,i)perylene	-	-
205-82-3	Benzo(k)fluoranthene	-	-
106-97-8	Butane	1.93E-04	(1)
56-23-5	Carbon Tetrachloride	-	-
218-01-9	Chrysene	-	-
53-70-3	Dibenzo(a,h)anthracene	-	-
25321-22-6	Dichlorobenzene	-	-
74-84-0	Ethane	-	-
206-44-0	Fluoranthene	-	-
86-73-7	Fluorene	-	-
50-00-0	Formaldehyde	-	-
110-54-3	Hexane	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	-	-
109-66-0	Pentane	-	-
	Polycyclic Organic Matter	-	-
74-98-6	Propane	-	-
115-07-1	Propylene	-	-
129-00-0	Pyrene	-	-
79-01-6	Trichloroethene	-	-
75-01-4	Vinyl Chloride	7.76E-04	(1)
1330-20-7	Xylenes	-	-
7440-38-2	Arsenic	-	-
7440-39-3	Barium	-	-
7440-41-7	Beryllium	-	-
7440-43-9	Cadmium	-	-
7440-47-3	Chromium	-	-
7440-48-4	Cobalt	-	-
7440-50-8	Copper	-	-
7439-92-1	Lead	-	-
7439-96-5	Manganese	1.30E-04	(2)
7439-97-6	Mercury	4.08E-05	(2)
7439-98-7	Molybdenum	-	-
7440-02-0	Nickel	2.81E-04	(1)
7782-49-2	Selenium	-	-
7440-62-2	Vanadium	-	-
7440-66-6	Zinc	-	-
67-64-1	Acetone	2.18E-07	(2)
71-43-2	Benzene	-	-

Table 9-6 (Continued)
Emergency Generator
Non-Criteria Pollutant Emission Factors

CAS No.	Pollutant	Diesel Combustion Emiss. Factor (lb/mmBtu)	Basis
117-81-7	Bis(2-ethylhexyl)phthalate	-	-
67-66-3	Chloroform	1.53E-06	(2)
106-46-7	1,4-Dichlorobenzene	3.46E-07	(2)
75-27-4	Dichlorobromomethane	-	-
156-59-2	Dichloroethylene 1,2cis	-	-
75-09-2	Methylene Chloride (Dichloromethane)	4.03E-06	(2)
100-41-4	Ethylbenzene	1.28E-05	(2)
608-73-1	Hexachlorocyclohexane	7.89E-05	(1)
108-10-1	Methyl isobutyl ketone	-	-
91-20-3	Naphthalene	4.14E-07	(2)
85-01-8	Phenanthrene	-	-
127-18-4	Tetrachloroethene	-	-
108-88-3	Toluene	-	-
108-38-3	Xylene, m	2.79E-03	(1)
95-47-6	Xylene, o	3.71E-06	(2)
106-42-3	Xylene, p	-	-

Notes:

(1) Emission factors from AP-42, Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines, 10/96, Table 3.4-3, Speciated Organic Compound Emission Factors for Large Uncontrolled Stationary Diesel Engines.

(2) Emission factors from AP-42, Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines, 10/96, Table 3.4-4, PAH Emission Factors for Large Uncontrolled Stationary Diesel Engines.

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.

COMBUSTION SOURCE EMISSION RATES

Tables 9-7 through 9-10 present the combustion source short-term and annual emission rates in grams per second (g/s).

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-7
Main Building Boilers
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)

CAS No.	Pollutant	Short-term (g/s)			Annual (g/s)								
		Main Bldg. Boilers 1 and 2 (100% Natural Gas)	Main Bldg. Boilers 3 and 4 (100% Natural Gas)	Boiler 1 digester gas (shares flue)	Boiler 1 digester gas	Boiler 1 digester gas	Boiler 4 natural gas	Boiler 2 natural gas (shares flue)	Boiler 3 natural gas	Boiler 3 natural gas	Boiler 2 natural gas	Boiler 3 natural gas	Boiler 3 natural gas
No. of Boilers exhausted through stack	Fuel	2	2	1	1	1	1	1	1	1	1	1	1
Average Utilization Factor	1.00	1.00	0.85	0.2	0.5	0.2	1.00	1.00	1.00	0.50	0.30	0.91	
CAS No.	Pollutant	MB1	MB2	MB1	MB2	MB3	MB4	MB5	MB6	MB7	MB8	MB9	MB10
75-35-4	1,1-Dichloroethene	-	-	1.83E-06	4.31E-07	1.08E-06	-	-	-	-	-	-	-
71-55-6	1,1,1-Trichloroethane	-	-	2.42E-05	5.70E-06	1.42E-05	-	-	-	-	-	-	-
107-06-2	1,2-Dichloroethane	-	-	1.39E-07	3.28E-08	8.19E-08	-	-	-	-	-	-	-
95-50-1	1,2-Dichlorobenzene	-	-	1.04E-06	2.44E-07	6.10E-07	-	-	-	-	-	-	-
541-73-1	1,3-Dichlorobenzene	-	-	1.04E-06	2.44E-07	6.10E-07	-	-	-	-	-	-	-
91-57-6	2-Methylnaphthalene	1.86E-07	1.86E-07	-	-	-	1.86E-08	9.30E-08	9.30E-08	9.30E-08	4.65E-08	2.79E-08	8.47E-08
56-49-5	3-Methylchloranthrene	1.40E-08	1.40E-08	-	-	-	1.40E-09	6.98E-09	6.98E-09	6.98E-09	3.49E-09	2.09E-09	6.35E-09
57-97-6	7,12-Dimethylbenz(a)anthracene	1.24E-07	1.24E-07	-	-	-	1.24E-08	6.20E-08	6.20E-08	6.20E-08	3.10E-08	1.86E-08	5.64E-08
83-32-9	Acenaphthene	1.40E-08	1.40E-08	-	-	-	1.40E-09	6.98E-09	6.98E-09	6.98E-09	3.49E-09	2.09E-09	6.35E-09
203-96-8	Acenaphthylene	1.40E-08	1.40E-08	-	-	-	1.40E-09	6.98E-09	6.98E-09	6.98E-09	3.49E-09	2.09E-09	6.35E-09
75-07-0	Acetaldehyde	-	-	1.76E-04	4.13E-05	1.03E-04	-	-	-	-	-	-	-
107-02-8	Acrolein	**	**	**	**	**	**	**	**	**	**	**	**
120-12-7	Anthracene	1.86E-08	1.86E-08	-	-	-	1.86E-09	9.30E-09	9.30E-09	9.30E-09	4.65E-09	2.79E-09	8.47E-09
56-55-3	Benz(a)anthracene	1.40E-08	1.40E-08	-	-	-	1.40E-09	6.98E-09	6.98E-09	6.98E-09	3.49E-09	2.09E-09	6.35E-09
50-32-8	Benzo(a)pyrene	9.30E-09	9.30E-09	-	-	-	9.30E-10	4.65E-09	4.65E-09	4.65E-09	2.33E-09	1.40E-09	4.23E-09
205-99-2	Benzo(b)fluoranthene	1.40E-08	1.40E-08	-	-	-	1.40E-09	6.98E-09	6.98E-09	6.98E-09	3.49E-09	2.09E-09	6.35E-09
	Benzo(b,k)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-
191-24-2	Benzo(g,h,i)perylene	9.30E-09	9.30E-09	-	-	-	9.30E-10	4.65E-09	4.65E-09	4.65E-09	2.33E-09	1.40E-09	4.23E-09
205-82-3	Benzo(k)fluoranthene	1.40E-08	1.40E-08	-	-	-	1.40E-09	6.98E-09	6.98E-09	6.98E-09	3.49E-09	2.09E-09	6.35E-09
106-97-8	Butane	1.63E-02	1.63E-02	-	-	-	1.63E-03	8.14E-03	8.14E-03	8.14E-03	4.07E-03	2.44E-03	7.41E-03
56-23-5	Carbon Tetrachloride	-	-	3.82E-06	9.00E-07	2.25E-06	-	-	-	-	-	-	-
218-01-9	Chrysene	1.40E-08	1.40E-08	-	-	-	1.40E-09	6.98E-09	6.98E-09	6.98E-09	3.49E-09	2.09E-09	6.35E-09
53-70-3	Dibenzo(a,h)anthracene	9.30E-09	9.30E-09	-	-	-	9.30E-10	4.65E-09	4.65E-09	4.65E-09	2.33E-09	1.40E-09	4.23E-09
25321-22-6	Dichlorobenzene	9.30E-06	9.30E-06	-	-	-	9.30E-07	4.65E-06	4.65E-06	4.65E-06	2.33E-06	1.40E-06	4.23E-06
74-84-0	Ethane	2.40E-02	2.40E-02	-	-	-	2.40E-03	1.20E-02	1.20E-02	1.20E-02	6.01E-03	3.61E-03	1.09E-02
206-44-0	Fluoranthene	2.33E-08	2.33E-08	-	-	-	2.33E-09	1.16E-08	1.16E-08	1.16E-08	5.81E-09	3.49E-09	1.06E-08

Table 9-7 (Continued)
Main Building Boilers
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)

CAS No.	Pollutant	Short-term (g/s)		Annual (g/s)									
		Main Bldg. Boilers 1 and 2 (100% Natural Gas)	Main Bldg. Boilers 3 and 4 (100% Natural Gas)	Boiler 1 digester gas (shares flue)	Boiler 1 digester gas	Boiler 1 digester gas	Boiler 4 natural gas	Boiler 2 natural gas (shares flue)	Boiler 3 natural gas	Boiler 3 natural gas	Boiler 2 natural gas	Boiler 3 natural gas	Boiler 3 natural gas
No. of Boilers exhausted through stack Fuel	Average Utilization Factor	2 Natural Gas	2 Natural Gas	1 Digester Gas	1 Digester Gas	1 Digester Gas	1 Natural Gas	1 Natural Gas	1 Natural Gas	1 Natural Gas	1 Natural Gas	1 Natural Gas	1 Natural Gas
		1.00	1.00	0.85	0.2	0.5	0.2	1.00	1.00	1.00	0.50	0.30	0.91
		MB1	MB2	MB1	MB2	MB3	MB4	MB5	MB6	MB7	MB8	MB9	MB10
86-73-7	Fluorene	2.17E-08	2.17E-08	-	-	-	2.17E-09	1.09E-08	1.09E-08	1.09E-08	5.43E-09	3.26E-09	9.88E-09
50-00-0	Formaldehyde	5.81E-04	5.81E-04	5.87E-03	1.38E-03	3.45E-03	5.81E-05	2.91E-04	2.91E-04	2.91E-04	1.45E-04	8.72E-05	2.65E-04
110-54-3	Hexane	1.40E-02	1.40E-02	-	-	-	1.40E-03	6.98E-03	6.98E-03	6.98E-03	3.49E-03	2.09E-03	6.35E-03
193-39-5	Indeno(1,2,3-cd)pyrene	1.40E-08	1.40E-08	-	-	-	1.40E-09	6.98E-09	6.98E-09	6.98E-09	3.49E-09	2.09E-09	6.35E-09
109-66-0	Pentane	2.02E-02	2.02E-02	-	-	-	2.02E-03	1.01E-02	1.01E-02	1.01E-02	5.04E-03	3.02E-03	9.17E-03
	Polycyclic Organic Matter	-	-	-	-	-	-	-	-	-	-	-	-
74-98-6	Propane	1.24E-02	1.24E-02	-	-	-	1.24E-03	6.20E-03	6.20E-03	6.20E-03	3.10E-03	1.86E-03	5.64E-03
115-07-1	Propylene	-	-	-	-	-	-	-	-	-	-	-	-
129-00-0	Pyrene	3.88E-08	3.88E-08	-	-	-	3.88E-09	1.94E-08	1.94E-08	1.94E-08	9.69E-09	5.81E-09	1.76E-08
79-01-6	Trichloroethene	-	-	3.75E-06	8.82E-07	2.20E-06	-	-	-	-	-	-	-
75-01-4	Vinyl Chloride	-	-	1.77E-07	4.16E-08	1.04E-07	-	-	-	-	-	-	-
1330-20-7	Xylenes	-	-	4.93E-05	1.16E-05	2.90E-05	-	-	-	-	-	-	-
7440-38-2	Arsenic	1.55E-06	1.55E-06	-	-	-	1.55E-07	7.75E-07	7.75E-07	7.75E-07	3.88E-07	2.33E-07	7.06E-07
7440-39-3	Barium	3.41E-05	3.41E-05	-	-	-	3.41E-06	1.71E-05	1.71E-05	1.71E-05	8.53E-06	5.12E-06	1.55E-05
7440-41-7	Beryllium	9.30E-08	9.30E-08	-	-	-	9.30E-09	4.65E-08	4.65E-08	4.65E-08	2.33E-08	1.40E-08	4.23E-08
7440-43-9	Cadmium	8.53E-06	8.53E-06	-	-	-	8.53E-07	4.26E-06	4.26E-06	4.26E-06	2.13E-06	1.28E-06	3.88E-06
7440-47-3	Chromium	1.09E-05	1.09E-05	-	-	-	1.09E-06	5.43E-06	5.43E-06	5.43E-06	2.71E-06	1.63E-06	4.94E-06
7440-48-4	Cobalt	6.51E-07	6.51E-07	-	-	-	6.51E-08	3.26E-07	3.26E-07	3.26E-07	1.63E-07	9.77E-08	2.96E-07
7440-50-8	Copper	6.59E-06	6.59E-06	-	-	-	6.59E-07	3.30E-06	3.30E-06	3.30E-06	1.65E-06	9.89E-07	3.00E-06
7439-92-1	Lead	3.88E-06	3.88E-06	-	-	-	3.88E-07	1.94E-06	1.94E-06	1.94E-06	9.69E-07	5.81E-07	1.76E-06
7439-96-5	Manganese	2.95E-06	2.95E-06	-	-	-	2.95E-07	1.47E-06	1.47E-06	1.47E-06	7.37E-07	4.42E-07	1.34E-06
7439-97-6	Mercury	2.02E-06	2.02E-06	-	-	-	2.02E-07	1.01E-06	1.01E-06	1.01E-06	5.04E-07	3.02E-07	9.17E-07
7439-98-7	Molybdenum	8.53E-06	8.53E-06	-	-	-	8.53E-07	4.26E-06	4.26E-06	4.26E-06	2.13E-06	1.28E-06	3.88E-06
7440-02-0	Nickel	1.63E-05	1.63E-05	-	-	-	1.63E-06	8.14E-06	8.14E-06	8.14E-06	4.07E-06	2.44E-06	7.41E-06
7782-49-2	Selenium	1.86E-07	1.86E-07	-	-	-	1.86E-08	9.30E-08	9.30E-08	9.30E-08	4.65E-08	2.79E-08	8.47E-08
7440-62-2	Vanadium	1.78E-05	1.78E-05	-	-	-	1.78E-06	8.92E-06	8.92E-06	8.92E-06	4.46E-06	2.67E-06	8.11E-06
7440-66-6	Zinc	2.25E-04	2.25E-04	-	-	-	2.25E-05	1.12E-04	1.12E-04	1.12E-04	5.62E-05	3.37E-05	1.02E-04
67-64-1	Acetone	-	-	-	-	-	-	-	-	-	-	-	-
71-43-2	Benzene	1.63E-05	1.63E-05	1.96E-04	4.61E-05	1.15E-04	1.63E-06	8.14E-06	8.14E-06	8.14E-06	4.07E-06	2.44E-06	7.41E-06
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-	-	-	-	-	-	-	-	-	-

Table 9-7 (Continued)
Main Building Boilers
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)

CAS No.	Pollutant	Short-term (g/s)		Annual (g/s)									
		Main Bldg. Boilers 1 and 2 (100% Natural Gas)	Main Bldg. Boilers 3 and 4 (100% Natural Gas)	Boiler 1 digester gas (shares flue)	Boiler 1 digester gas	Boiler 1 digester gas	Boiler 4 natural gas	Boiler 2 natural gas (shares flue)	Boiler 3 natural gas	Boiler 3 natural gas	Boiler 2 natural gas	Boiler 3 natural gas	Boiler 3 natural gas
	No. of Boilers exhausted through stack Fuel	2	2	1	1	1	1	1	1	1	1	1	1
	Average Utilization Factor	1.00	1.00	0.85	0.2	0.5	0.2	1.00	1.00	1.00	0.50	0.30	0.91
		Natural Gas	Natural Gas	Digester Gas	Digester Gas	Digester Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
		MB1	MB2	MB1	MB2	MB3	MB4	MB5	MB6	MB7	MB8	MB9	MB10
67-66-3	Chloroform	-	-	1.01E-04	2.38E-05	5.94E-05	-	-	-	-	-	-	-
106-46-7	1,4-Dichlorobenzene	-	-	3.99E-06	9.40E-07	2.35E-06	-	-	-	-	-	-	-
75-27-4	Dichlorobromomethane	-	-	-	-	-	-	-	-	-	-	-	-
156-59-2	Dichloroethylene 1,2cis	-	-	-	-	-	-	-	-	-	-	-	-
75-09-2	Methylene Chloride (Dichloromethane)	-	-	1.10E-03	2.60E-04	6.49E-04	-	-	-	-	-	-	-
100-41-4	Ethylbenzene	-	-	-	-	-	-	-	-	-	-	-	-
608-73-1	Hexachlorocyclohexane	-	-	-	-	-	-	-	-	-	-	-	-
108-10-1	Methyl isobutyl ketone	-	-	-	-	-	-	-	-	-	-	-	-
91-20-3	Naphthalene	4.73E-06	4.73E-06	-	-	-	4.73E-07	2.36E-06	2.36E-06	2.36E-06	1.18E-06	7.09E-07	2.15E-06
85-01-8	Phenanthrene	1.32E-07	1.32E-07	-	-	-	1.32E-08	6.59E-08	6.59E-08	6.59E-08	3.30E-08	1.98E-08	6.00E-08
127-18-4	Tetrachloroethene	-	-	1.23E-05	2.90E-06	7.24E-06	-	-	-	-	-	-	-
108-88-3	Toluene	2.64E-05	2.64E-05	2.53E-03	5.95E-04	1.49E-03	2.64E-06	1.32E-05	1.32E-05	1.32E-05	6.59E-06	3.95E-06	1.20E-05
108-38-3	Xylene, m	-	-	-	-	-	-	-	-	-	-	-	-
95-47-6	Xylene, o	-	-	-	-	-	-	-	-	-	-	-	-
106-42-3	Xylene, p	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-8			
Dewatering Building Boilers			
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)			
		Short-term	Annual
		Dewatering Bldg. Boiler (100% No. 2 fuel oil)	Dewatering Bldg. Boiler No. 2 fuel oil
No. of Boilers exhausted through stack		1	1
Fuel		No. 2 Fuel Oil	No. 2 Fuel Oil
Average Utilization Factor		1.00	0.62
CAS No.	Pollutant	DB	DB
75-35-4	1,1-Dichloroethene	-	-
71-55-6	1,1,1-Trichloroethane	3.55E-06	2.20E-06
107-06-2	1,2-Dichloroethane	-	-
95-50-1	1,2-Dichlorobenzene	-	-
541-73-1	1,3-Dichlorobenzene	-	-
91-57-6	2-Methylnaphthalene	-	-
56-49-5	3-Methylchloranthrene	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	-	-
83-32-9	Acenaphthene	3.18E-07	1.97E-07
203-96-8	Acenaphthylene	3.81E-09	2.36E-09
75-07-0	Acetaldehyde	-	-
107-02-8	Acrolein	**	**
120-12-7	Anthracene	1.84E-08	1.14E-08
56-55-3	Benz(a)anthracene	6.04E-08	3.75E-08
50-32-8	Benzo(a)pyrene	-	-
205-99-2	Benzo(b)fluoranthene	-	-
	Benzo(b,k)fluoranthene	2.23E-08	1.38E-08
191-24-2	Benzo(g,h,i)perylene	3.40E-08	2.11E-08
205-82-3	Benzo(k)fluoranthene	-	-
106-97-8	Butane	-	-
56-23-5	Carbon Tetrachloride	-	-
218-01-9	Chrysene	3.59E-08	2.22E-08
53-70-3	Dibenzo(a,h)anthracene	2.52E-08	1.56E-08
25321-22-6	Dichlorobenzene	-	-
74-84-0	Ethane	-	-
206-44-0	Fluoranthene	7.29E-08	4.52E-08
86-73-7	Fluorene	6.73E-08	4.17E-08
50-00-0	Formaldehyde	9.19E-04	5.70E-04
110-54-3	Hexane	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	3.22E-08	2.00E-08
109-66-0	Pentane	-	-
	Polycyclic Organic Matter	4.97E-05	3.08E-05
74-98-6	Propane	-	-
115-07-1	Propylene	-	-
129-00-0	Pyrene	6.40E-08	3.97E-08
79-01-6	Trichloroethene	-	-
75-01-4	Vinyl Chloride	-	-
1330-20-7	Xylenes	-	-
7440-38-2	Arsenic	8.44E-06	5.23E-06
7440-39-3	Barium	-	-
7440-41-7	Beryllium	6.33E-06	3.92E-06
7440-43-9	Cadmium	6.33E-06	3.92E-06
7440-47-3	Chromium	6.33E-06	3.92E-06
7440-48-4	Cobalt	-	-
7440-50-8	Copper	1.27E-05	7.85E-06
7439-92-1	Lead	1.90E-05	1.18E-05

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-8 (Continued)			
Dewatering Building Boilers			
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)			
		Short-term	Annual
		Dewatering Bldg. Boiler (100% No. 2 fuel oil)	Dewatering Bldg. Boiler No. 2 fuel oil
No. of Boilers exhausted through stack		1	1
Fuel		No. 2 Fuel Oil	No. 2 Fuel Oil
Average Utilization Factor		1.00	0.62
CAS No.	Pollutant	DB	DB
7439-96-5	Manganese	1.27E-05	7.85E-06
7439-97-6	Mercury	6.33E-06	3.92E-06
7439-98-7	Molybdenum	-	-
7440-02-0	Nickel	6.33E-06	3.92E-06
7782-49-2	Selenium	3.16E-05	1.96E-05
7440-62-2	Vanadium	-	-
7440-66-6	Zinc	8.44E-06	5.23E-06
67-64-1	Acetone	-	-
71-43-2	Benzene	3.22E-06	2.00E-06
117-81-7	Bis(2-ethylhexyl)phthalate	-	-
67-66-3	Chloroform	-	-
106-46-7	1,4-Dichlorobenzene	-	-
75-27-4	Dichlorobromomethane	-	-
156-59-2	Dichloroethylene 1,2cis	-	-
75-09-2	Methylene Chloride (Dichloromethane)	-	-
100-41-4	Ethylbenzene	9.58E-07	5.94E-07
608-73-1	Hexachlorocyclohexane	-	-
108-10-1	Methyl isobutyl ketone	-	-
91-20-3	Naphthalene	1.70E-05	1.06E-05
85-01-8	Phenanthrene	1.58E-07	9.81E-08
127-18-4	Tetrachloroethene	-	-
108-88-3	Toluene	9.34E-05	5.79E-05
108-38-3	Xylene, m	-	-
95-47-6	Xylene, o	1.64E-06	1.02E-06
106-42-3	Xylene, p	-	-
Notes:			
** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.			

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-9
Waste Gas Burners
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)

		Short-term		Annual	
		Waste Gas Burner 1 (100%)	Waste Gas Burner 2 (100%)	Waste Gas Burner 1	Waste Gas Burner 2
No. of WGBs exhausted through stack		1	1	1	1
Fuel		Digester Gas	Digester Gas	Digester Gas	Digester Gas
Average Utilization Factor		1.00	1.00	0.81	0.43
CAS No.	Pollutant	FL1	FL2	FL1	FL2
75-35-4	1,1-Dichloroethene	3.84E-06	3.84E-06	3.11E-06	1.65E-06
71-55-6	1,1,1-Trichloroethane	8.65E-06	8.65E-06	7.01E-06	3.72E-06
107-06-2	1,2-Dichloroethane	3.36E-06	3.36E-06	2.72E-06	1.44E-06
95-50-1	1,2-Dichlorobenzene	5.75E-07	5.75E-07	4.65E-07	2.47E-07
541-73-1	1,3-Dichlorobenzene	2.49E-07	2.49E-07	2.02E-07	1.07E-07
91-57-6	2-Methylnaphthalene	-	-	-	-
56-49-5	3-Methylchloranthrene	-	-	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	-	-	-	-
83-32-9	Acenaphthene	-	-	-	-
203-96-8	Acenaphthylene	-	-	-	-
75-07-0	Acetaldehyde	4.20E-05	4.20E-05	3.40E-05	1.81E-05
107-02-8	Acrolein	**	**	**	**
120-12-7	Anthracene	-	-	-	-
56-55-3	Benz(a)anthracene	-	-	-	-
50-32-8	Benzo(a)pyrene	-	-	-	-
205-99-2	Benzo(b)fluoranthene	-	-	-	-
	Benzo(b,k)fluoranthene	-	-	-	-
191-24-2	Benzo(g,h,i)perylene	-	-	-	-
205-82-3	Benzo(k)fluoranthene	-	-	-	-
106-97-8	Butane	-	-	-	-
56-23-5	Carbon Tetrachloride	1.04E-07	1.04E-07	8.44E-08	4.48E-08
218-01-9	Chrysene	-	-	-	-
53-70-3	Dibenzo(a,h)anthracene	-	-	-	-
25321-22-6	Dichlorobenzene	-	-	-	-
74-84-0	Ethane	-	-	-	-
206-44-0	Fluoranthene	-	-	-	-
86-73-7	Fluorene	-	-	-	-
50-00-0	Formaldehyde	1.98E-04	1.98E-04	1.61E-04	8.52E-05
110-54-3	Hexane	-	-	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	-	-	-	-
109-66-0	Pentane	-	-	-	-
	Polycyclic Organic Matter	-	-	-	-
74-98-6	Propane	-	-	-	-
115-07-1	Propylene	-	-	-	-
129-00-0	Pyrene	-	-	-	-
79-01-6	Trichloroethene	-	-	-	-
75-01-4	Vinyl Chloride	4.24E-08	4.24E-08	3.44E-08	1.82E-08
1330-20-7	Xylenes	2.08E-07	2.08E-07	1.69E-07	8.96E-08
7440-38-2	Arsenic	-	-	-	-
7440-39-3	Barium	-	-	-	-
7440-41-7	Beryllium	-	-	-	-
7440-43-9	Cadmium	-	-	-	-
7440-47-3	Chromium	-	-	-	-
7440-48-4	Cobalt	-	-	-	-
7440-50-8	Copper	-	-	-	-

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-9 (Continued)
Waste Gas Burners
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)

		Short-term		Annual	
		Waste Gas Burner 1 (100%)	Waste Gas Burner 2 (100%)	Waste Gas Burner 1	Waste Gas Burner 2
No. of WGBs exhausted through stack		1	1	1	1
Fuel		Digester Gas	Digester Gas	Digester Gas	Digester Gas
Average Utilization Factor		1.00	1.00	0.81	0.43
CAS No.	Pollutant	FL1	FL2	FL1	FL2
7439-92-1	Lead	-	-	-	-
7439-96-5	Manganese	-	-	-	-
7439-97-6	Mercury	-	-	-	-
7439-98-7	Molybdenum	-	-	-	-
7440-02-0	Nickel	-	-	-	-
7782-49-2	Selenium	-	-	-	-
7440-62-2	Vanadium	-	-	-	-
7440-66-6	Zinc	-	-	-	-
67-64-1	Acetone	-	-	-	-
71-43-2	Benzene	6.26E-06	6.26E-06	5.07E-06	2.69E-06
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-	-
67-66-3	Chloroform	4.31E-06	4.31E-06	3.49E-06	1.85E-06
106-46-7	1,4-Dichlorobenzene	3.37E-06	3.37E-06	2.73E-06	1.45E-06
75-27-4	Dichlorobromomethane	-	-	-	-
156-59-2	Dichloroethylene 1,2cis	-	-	-	-
75-09-2	Methylene Chloride (Dichloromethane)	7.45E-04	7.45E-04	6.03E-04	3.20E-04
100-41-4	Ethylbenzene	-	-	-	-
608-73-1	Hexachlorocyclohexane	-	-	-	-
108-10-1	Methyl isobutyl ketone	-	-	-	-
91-20-3	Naphthalene	-	-	-	-
85-01-8	Phenanthrene	-	-	-	-
127-18-4	Tetrachloroethene	5.66E-06	5.66E-06	4.59E-06	2.44E-06
108-88-3	Toluene	1.45E-04	1.45E-04	1.18E-04	6.24E-05
108-38-3	Xylene, m	-	-	-	-
95-47-6	Xylene, o	-	-	-	-
106-42-3	Xylene, p	-	-	-	-

Notes:

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-10
Emergency Generators
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)

		Short-term				Annual	
		PLM	2A	2B			
		Six 2000 kW emergency generators (diesel)	Four 2000 kW emergency generators (diesel)	Three 2000 kW emergency generators (diesel)	One 500 kW emergency generator (diesel)	Six 2,000 kW generators (diesel)	One 500 kW emergency generator (diesel)
No. of Generators exhausted through stack		6	4	3	1	6	1
Fuel		Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Average Utilization Factor / Hours Per Year (annual condition)		0.75	0.75	0.50	1.00	106	65
CAS No.	Pollutant	EGPLM	EG2A	EG2B	SMEG	EG	SMEG
75-35-4	1,1-Dichloroethene	-	-	-	-	-	-
71-55-6	1,1,1-Trichloroethane	-	-	-	-	-	-
107-06-2	1,2-Dichloroethane	-	-	-	-	-	-
95-50-1	1,2-Dichlorobenzene	-	-	-	-	-	-
541-73-1	1,3-Dichlorobenzene	-	-	-	-	-	-
91-57-6	2-Methylnaphthalene	-	-	-	-	-	-
56-49-5	3-Methylchloranthrene	-	-	-	-	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	-	-	-	-	-	-
83-32-9	Acenaphthene	4.15E-05	2.77E-05	1.38E-05	2.84E-06	6.69E-07	2.11E-08
203-96-8	Acenaphthylene	8.18E-05	5.46E-05	2.73E-05	5.60E-06	1.32E-06	4.16E-08
75-07-0	Acetaldehyde	2.23E-04	1.49E-04	7.45E-05	1.53E-05	3.60E-06	1.13E-07
107-02-8	Acrolein	**	**	**	**	**	**
120-12-7	Anthracene	1.09E-05	7.27E-06	3.64E-06	7.46E-07	1.76E-07	5.54E-09
56-55-3	Benz(a)anthracene	5.51E-06	3.68E-06	1.84E-06	3.77E-07	8.90E-08	2.80E-09
50-32-8	Benzo(a)pyrene	2.28E-06	1.52E-06	7.60E-07	1.56E-07	3.68E-08	1.16E-09
205-99-2	Benzo(b)fluoranthene	9.84E-06	6.56E-06	3.28E-06	6.74E-07	1.59E-07	5.00E-09
	Benzo(b,k)fluoranthene	-	-	-	-	-	-
191-24-2	Benzo(g,h,i)perylene	4.93E-06	3.29E-06	1.64E-06	3.37E-07	7.95E-08	2.50E-09
205-82-3	Benzo(k)fluoranthene	1.93E-06	1.29E-06	6.44E-07	1.32E-07	3.12E-08	9.82E-10
106-97-8	Butane	-	-	-	-	-	-
56-23-5	Carbon Tetrachloride	-	-	-	-	-	-
218-01-9	Chrysene	1.36E-05	9.04E-06	4.52E-06	9.28E-07	2.19E-07	6.89E-09
53-70-3	Dibenzo(a,h)anthracene	3.07E-06	2.05E-06	1.02E-06	2.10E-07	4.95E-08	1.56E-09
25321-22-6	Dichlorobenzene	-	-	-	-	-	-
74-84-0	Ethane	-	-	-	-	-	-
206-44-0	Fluoranthene	3.57E-05	2.38E-05	1.19E-05	2.45E-06	5.77E-07	1.81E-08
86-73-7	Fluorene	1.13E-04	7.57E-05	3.78E-05	7.77E-06	1.83E-06	5.76E-08
50-00-0	Formaldehyde	7.00E-04	4.66E-04	2.33E-04	4.79E-05	1.13E-05	3.55E-07
110-54-3	Hexane	-	-	-	-	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	3.67E-06	2.45E-06	1.22E-06	2.51E-07	5.92E-08	1.86E-09
109-66-0	Pentane	-	-	-	-	-	-
	Polycyclic Organic Matter	-	-	-	-	-	-
74-98-6	Propane	-	-	-	-	-	-
115-07-1	Propylene	2.47E-02	1.65E-02	8.25E-03	1.69E-03	3.99E-04	1.26E-05
129-00-0	Pyrene	3.29E-05	2.19E-05	1.10E-05	2.25E-06	5.31E-07	1.67E-08
79-01-6	Trichloroethene	-	-	-	-	-	-
75-01-4	Vinyl Chloride	-	-	-	-	-	-

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-10 (Continued)
Emergency Generators
Short-term and Annual Non-Criteria Pollutant Emission Rates (g/s)

		Short-term				Annual	
		PLM	2A	2B			
		Six 2000 kW emergency generators (diesel)	Four 2000 kW emergency generators (diesel)	Three 2000 kW emergency generators (diesel)	One 500 kW emergency generator (diesel)	Six 2,000 kW generators (diesel)	One 500 kW emergency generator (diesel)
No. of Generators exhausted through stack		6	4	3	1	6	1
Fuel		Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Average Utilization Factor / Hours Per Year (annual condition)		0.75	0.75	0.50	1.00	106	65
CAS No.	Pollutant	EGPLM	EG2A	EG2B	SMEG	EG	SMEG
1330-20-7	Xylenes	1.71E-03	1.14E-03	5.70E-04	1.17E-04	2.76E-05	8.69E-07
7440-38-2	Arsenic	-	-	-	-	-	-
7440-39-3	Barium	-	-	-	-	-	-
7440-41-7	Beryllium	-	-	-	-	-	-
7440-43-9	Cadmium	-	-	-	-	-	-
7440-47-3	Chromium	-	-	-	-	-	-
7440-48-4	Cobalt	-	-	-	-	-	-
7440-50-8	Copper	-	-	-	-	-	-
7439-92-1	Lead	-	-	-	-	-	-
7439-96-5	Manganese	-	-	-	-	-	-
7439-97-6	Mercury	-	-	-	-	-	-
7439-98-7	Molybdenum	-	-	-	-	-	-
7440-02-0	Nickel	-	-	-	-	-	-
7782-49-2	Selenium	-	-	-	-	-	-
7440-62-2	Vanadium	-	-	-	-	-	-
7440-66-6	Zinc	-	-	-	-	-	-
67-64-1	Acetone	-	-	-	-	-	-
71-43-2	Benzene	6.88E-03	4.59E-03	2.29E-03	4.71E-04	1.11E-04	3.49E-06
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-	-	-	-
67-66-3	Chloroform	-	-	-	-	-	-
106-46-7	1,4-Dichlorobenzene	-	-	-	-	-	-
75-27-4	Dichlorobromomethane	-	-	-	-	-	-
156-59-2	Dichloroethylene 1,2cis	-	-	-	-	-	-
75-09-2	Methylene Chloride (Dichloromethane)	-	-	-	-	-	-
100-41-4	Ethylbenzene	-	-	-	-	-	-
608-73-1	Hexachlorocyclohexane	-	-	-	-	-	-
108-10-1	Methyl isobutyl ketone	-	-	-	-	-	-
91-20-3	Naphthalene	1.15E-03	7.68E-04	3.84E-04	7.89E-05	1.86E-05	5.85E-07
85-01-8	Phenanthrene	3.62E-04	2.41E-04	1.21E-04	2.48E-05	5.84E-06	1.84E-07
127-18-4	Tetrachloroethene	-	-	-	-	-	-
108-88-3	Toluene	2.49E-03	1.66E-03	8.31E-04	1.71E-04	4.02E-05	1.27E-06
108-38-3	Xylene, m	-	-	-	-	-	-
95-47-6	Xylene, o	-	-	-	-	-	-
106-42-3	Xylene, p	-	-	-	-	-	-

Notes:

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.

MODELED RESULTS

WASTEWATER PROCESS AND CARBON ADDITION SOURCES

Tables 9-11 through 9-22 present the speciated non-criteria pollutant impacts under the Proposed Action with both methanol and ethanol addition. Tables 9-11 through 9-13 provide the short-term speciated impacts with methanol addition. Tables 9-14 through 9-16 provide the short-term speciated impacts under ethanol addition. Tables 9-17 through 9-19 provide the annual speciated impacts under methanol addition. Tables 9-20 through 9-22 provide the annual speciated impacts under ethanol addition.

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-11
Future With the Proposed Action
Maximum Short-Term Predicted Impacts from Process Sources for Methanol Addition
Area Sources ($\mu\text{g}/\text{m}^3$)

	AT4	AT1_3	AT5_6	FC1_2	FC3_4	FC5_6	FC7_8	CLTANK	ST1_12	PST1-4	PST5-6	
With Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	4447056	7223116	7179135	2046175	10032237	4628409	11681070	11078964	<u>7870832</u>	6947762	6769026	
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	4447056	7223116	7179135	2046175	10032237	4628409	11681070	11078964	<u>7870832</u>	6947762	6769026	
Cavity ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	1382373	4069928	7201740	1832750	4501003	651627	6004373	1780659	<u>2304553</u>	4733236	2854587	
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	4447056	7223116	7201740	2046175	10032237	4628409	11681070	11078964	<u>7870832</u>	6947762	6769026	
AREA (m^2)	3808.2	11424.6	7778.8	1739.4	10249.4	1739.4	7144.2	4561.09	2158.478	6479.45	3239.97	
CAS No.	Pollutant											
67-64-1	Acetone	6.00E-03	5.58E-01	4.55E-01	3.09E-01	9.76E-01	6.98E-01	1.29E+00	7.21E-01	<u>1.91E-01</u>	1.25E+01	1.21E+01
71-43-2	Benzene	2.66E-03	1.85E-01	1.48E-01	1.41E-02	3.33E-02	3.19E-02	5.41E-02	6.88E-02	<u>2.67E-02</u>	1.01E+00	9.87E-01
117-81-7	Bis(2-ethylhexyl)phthalate	6.86E-02	1.96E-01	1.85E-01	6.18E-02	1.72E-01	1.40E-01	1.72E-01	1.42E-01	<u>2.29E-02</u>	1.88E-01	1.83E-01
67-66-3	Chloroform	5.08E-01	3.72E+00	3.03E+00	2.78E-01	6.68E-01	6.29E-01	1.12E+00	1.02E+00	<u>1.24E-01</u>	1.80E+00	1.75E+00
106-46-7	1,4-Dichlorobenzene	1.04E+00	2.79E+00	2.29E+00	2.16E-01	5.65E-01	4.89E-01	8.58E-01	8.95E-01	<u>1.07E-01</u>	1.43E+00	1.39E+00
75-27-4	Dichlorobromomethane	5.87E-03	1.06E-01	8.90E-02	2.63E-02	6.05E-02	5.95E-02	8.58E-02	5.29E-02	<u>1.70E-02</u>	4.50E-01	4.39E-01
156-59-2	Dichloroethylene 1,2cis	4.92E-02	7.46E-01	6.47E-01	6.18E-02	1.22E-01	1.40E-01	1.72E-01	2.32E-01	<u>3.50E-02</u>	8.26E-01	8.04E-01
75-09-2	Methylene Chloride (Dichloromethane)	1.90E-01	1.73E+00	1.45E+00	1.85E-01	4.11E-01	4.19E-01	6.87E-01	6.23E-01	<u>7.58E-02</u>	1.20E+00	1.17E+00
100-41-4	Ethylbenzene	3.42E-03	1.08E-01	9.63E-02	6.56E-03	1.56E-02	1.48E-02	2.52E-02	3.91E-02	<u>1.66E-02</u>	5.25E-01	5.12E-01
608-73-1	Hexachlorocyclohexane	2.12E-05	4.81E-05	4.49E-05	1.71E-05	5.73E-05	3.86E-05	7.34E-05	4.66E-05	<u>7.08E-06</u>	5.24E-05	5.11E-05
108-10-1	Methyl isobutyl ketone	3.52E-02	3.62E-01	3.20E-01	9.26E-02	2.39E-01	2.10E-01	3.43E-01	1.88E-01	<u>4.26E-02</u>	7.88E-01	7.68E-01
91-20-3	Naphthalene	7.34E-04	1.75E-02	1.51E-02	5.89E-03	1.48E-02	1.33E-02	2.29E-02	1.07E-02	<u>9.05E-03</u>	2.63E-01	2.56E-01
85-01-8	Phenanthrene	9.05E-04	7.26E-03	6.77E-03	2.39E-03	7.44E-03	5.40E-03	9.97E-03	5.67E-03	<u>1.64E-03</u>	3.75E-02	3.66E-02
127-18-4	Tetrachloroethene	1.14E+00	8.35E+00	6.93E+00	2.47E-01	6.17E-01	5.59E-01	9.44E-01	2.04E+00	<u>1.33E-01</u>	2.14E+00	2.08E+00
108-88-3	Toluene	6.88E-02	2.31E+00	1.85E+00	1.24E-01	3.03E-01	2.79E-01	5.15E-01	7.32E-01	<u>1.85E-01</u>	5.44E+00	5.30E+00
108-38-3	Xylene, m	3.72E-02	5.43E-01	4.49E-01	2.59E-02	6.04E-02	5.87E-02	8.58E-02	1.57E-01	<u>2.95E-02</u>	7.51E-01	7.31E-01
95-47-6	Xylene, o	9.63E-04	4.78E-02	4.16E-02	3.61E-03	8.59E-03	8.16E-03	1.39E-02	1.84E-02	<u>2.09E-02</u>	6.76E-01	6.58E-01
106-42-3	Xylene, p	2.46E-03	1.01E-01	9.08E-02	6.20E-03	1.48E-02	1.40E-02	2.38E-02	3.79E-02	<u>2.36E-02</u>	7.51E-01	7.31E-01
67-56-1	Methanol	1.07E-03	1.95E+01	1.32E+01	1.02E+00	3.29E+00	2.30E+00	4.29E+00	2.48E+00	<u>1.91E-01</u>	1.50E-01	1.46E-01

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-12
Future With the Proposed Action
Maximum Short-Term Predicted Impacts from Process Sources for Methanol Addition
Point Sources ($\mu\text{g}/\text{m}^3$)

	CRB1	CRB2	CRB3	CRB4	CRB5	PICA1	PICA2	PICA3	CVOCs1	BVOCs1	BVOCs2	BVOCs4
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)	77.07	76.06	76.89	77.66	53.93	12797.75	13484.19	12606.74	567.21	58.82	57.75	56.23
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)	77.07	76.06	76.89	77.66	53.93	12797.75	13904.22	12606.74	220.02	58.82	57.75	56.23
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)	61.11	60.46	61.21	60.91	46.64	7892.18	1343.32	849.74	742.70	122.77	121.74	121.20
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)	77.07	76.06	76.89	77.66	53.93	12797.75	13904.22	12606.74	742.70	122.77	121.74	121.20
CAS No.	Pollutant											
67-64-1	Acetone											
71-43-2	Benzene											
117-81-7	Bis(2-ethylhexyl)phthalate											
67-66-3	Chloroform											
106-46-7	1,4-Dichlorobenzene											
75-27-4	Dichlorobromomethane											
156-59-2	Dichloroethylene 1,2cis											
75-09-2	Methylene Chloride (Dichloromethane)											
100-41-4	Ethylbenzene											
608-73-1	Hexachlorocyclohexane											
108-10-1	Methyl isobutyl ketone											
91-20-3	Naphthalene											
85-01-8	Phenanthrene											
127-18-4	Tetrachloroethene											
108-88-3	Toluene											
108-38-3	Xylene, m											
95-47-6	Xylene, o											
106-42-3	Xylene, p											
67-56-1	Methanol											

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-13

Future With the Proposed Action
 Maximum Short-Term Predicted Impacts from Process Sources for Methanol Addition
 Total Impacts ($\mu\text{g}/\text{m}^3$)

CAS No.	Pollutant	Total Impact ($\mu\text{g}/\text{m}^3$)	SGC ($\mu\text{g}/\text{m}^3$)	Percent of SGC (%)
67-64-1	Acetone	33.93	180000	0%
71-43-2	Benzene	6.69	1300	1%
117-81-7	Bis(2-ethylhexyl)phthalate	1.55	-	-
67-66-3	Chloroform	20.85	150	14%
106-46-7	1,4-Dichlorobenzene	16.19	-	-
75-27-4	Dichlorobromomethane	2.08	-	-
156-59-2	Dichloroethylene 1,2cis	6.58	-	-
75-09-2	Methylene Chloride (Dichloromethane)	11.58	14000	0%
100-41-4	Ethylbenzene	3.43	54000	0%
608-73-1	Hexachlorocyclohexane	0.00047	-	-
108-10-1	Methyl isobutyl ketone	4.76	31000	0%
91-20-3	Naphthalene	0.96	7900	0%
85-01-8	Phenanthrene	0.13	-	-
127-18-4	Tetrachloroethene	35.51	1000	4%
108-88-3	Toluene	40.50	37000	0%
108-38-3	Xylene, m	6.37	4300	0%
95-47-6	Xylene, o	4.25	4300	0%
106-42-3	Xylene, p	5.24	4300	0%
67-56-1	Methanol	46.65	33000	0.14%

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-14
Future With the Proposed Action
Maximum Short-Term Predicted Impacts from Process Sources for Ethanol Addition
Area Sources ($\mu\text{g}/\text{m}^3$)

	AT4	AT1_3	AT5_6	FC1_2	FC3_4	FC5_6	FC7_8	CLTANK	ST1_12	PST1-4	PST5-6	
With Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	4447056	7223116	7179135	2046175	10032237	4628409	11681070	11078964	<u>7870832</u>	6947762	6769026	
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	4447056	7223116	7179135	2046175	10032237	4628409	11681070	11078964	<u>7870832</u>	6947762	6769026	
Cavity ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	1382373	4069928	7201740	1832750	4501003	651627	6004373	1780659	<u>2304553</u>	4733236	2854587	
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	4447056	7223116	7201740	2046175	10032237	4628409	11681070	11078964	<u>7870832</u>	6947762	6769026	
AREA (m^2)	3808.2	11424.6	7778.8	1739.4	10249.4	1739.4	7144.2	4561.09	2158.478	6479.45	3239.97	
CAS No.	Pollutant											
67-64-1	Acetone	5.33E-03	5.08E-01	4.30E-01	2.78E-01	8.74E-01	6.29E-01	1.12E+00	5.83E-01	<u>1.85E-01</u>	1.25E+01	1.21E+01
71-43-2	Benzene	2.32E-03	1.46E-01	1.28E-01	1.18E-02	2.80E-02	2.68E-02	4.55E-02	5.79E-02	<u>2.60E-02</u>	1.01E+00	9.87E-01
117-81-7	Bis(2-ethylhexyl)phthalate	6.81E-02	1.44E-01	1.33E-01	6.18E-02	1.72E-01	1.40E-01	1.72E-01	1.42E-01	<u>2.28E-02</u>	1.88E-01	1.83E-01
67-66-3	Chloroform	5.05E-01	3.52E+00	2.88E+00	2.78E-01	6.17E-01	6.29E-01	1.03E+00	1.02E+00	<u>1.20E-01</u>	1.80E+00	1.75E+00
106-46-7	1,4-Dichlorobenzene	1.04E+00	2.69E+00	2.16E+00	2.16E-01	5.14E-01	4.89E-01	8.58E-01	8.95E-01	<u>1.04E-01</u>	1.43E+00	1.39E+00
75-27-4	Dichlorobromomethane	5.41E-03	9.40E-02	7.93E-02	2.40E-02	5.78E-02	5.43E-02	8.58E-02	4.83E-02	<u>1.63E-02</u>	4.50E-01	4.39E-01
156-59-2	Dichloroethylene 1,2cis	4.56E-02	6.77E-01	5.47E-01	6.18E-02	1.20E-01	1.40E-01	1.72E-01	2.14E-01	<u>3.37E-02</u>	8.26E-01	8.04E-01
75-09-2	Methylene Chloride (Dichloromethane)	1.86E-01	1.60E+00	1.35E+00	1.85E-01	4.11E-01	4.19E-01	6.87E-01	6.17E-01	<u>7.29E-02</u>	1.20E+00	1.17E+00
100-41-4	Ethylbenzene	3.12E-03	9.64E-02	8.39E-02	5.79E-03	1.38E-02	1.31E-02	2.22E-02	3.45E-02	<u>1.64E-02</u>	5.25E-01	5.12E-01
608-73-1	Hexachlorocyclohexane	2.09E-05	4.00E-05	3.71E-05	1.69E-05	5.67E-05	3.82E-05	7.26E-05	4.61E-05	<u>7.02E-06</u>	5.24E-05	5.10E-05
108-10-1	Methyl isobutyl ketone	3.28E-02	3.25E-01	2.19E-01	9.26E-02	2.37E-01	2.10E-01	3.43E-01	1.75E-01	<u>4.05E-02</u>	7.88E-01	7.68E-01
91-20-3	Naphthalene	6.81E-04	1.48E-02	1.27E-02	5.35E-03	1.34E-02	1.21E-02	2.08E-02	9.69E-03	<u>8.89E-03</u>	2.63E-01	2.56E-01
85-01-8	Phenanthrene	8.74E-04	5.44E-03	5.01E-03	2.30E-03	7.18E-03	5.21E-03	9.62E-03	5.47E-03	<u>1.62E-03</u>	3.75E-02	3.66E-02
127-18-4	Tetrachloroethene	1.08E+00	8.06E+00	6.62E+00	2.47E-01	6.17E-01	5.59E-01	9.44E-01	1.91E+00	<u>1.30E-01</u>	2.14E+00	2.08E+00
108-88-3	Toluene	6.82E-02	1.97E+00	1.64E+00	1.24E-01	2.98E-01	2.79E-01	4.29E-01	5.94E-01	<u>1.81E-01</u>	5.44E+00	5.30E+00
108-38-3	Xylene, m	3.46E-02	5.06E-01	3.96E-01	2.39E-02	5.68E-02	5.40E-02	8.58E-02	1.44E-01	<u>2.89E-02</u>	7.51E-01	7.31E-01
95-47-6	Xylene, o	8.78E-04	3.74E-02	3.40E-02	2.96E-03	7.05E-03	6.69E-03	1.14E-02	1.51E-02	<u>2.07E-02</u>	6.76E-01	6.58E-01
106-42-3	Xylene, p	2.23E-03	8.84E-02	7.71E-02	5.30E-03	1.26E-02	1.20E-02	2.04E-02	3.24E-02	<u>2.34E-02</u>	7.51E-01	7.31E-01
64-17-5	Ethanol	1.23E-04	7.01E+00	4.92E+00	1.54E-01	5.14E-01	3.49E-01	6.87E-01	4.13E-01	<u>3.63E-02</u>	2.57E-02	2.51E-02

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-15
Future With the Proposed Action
Maximum Short-Term Predicted Impacts from Process Sources for Ethanol Addition
Point Sources ($\mu\text{g}/\text{m}^3$)

	CRB1	CRB2	CRB3	CRB4	CRB5	PICA1	PICA2	PICA3	CVOCs1	BVOCs1	BVOCs2	BVOCs4
With Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)	77.07	76.06	76.89	77.66	53.93	12797.75	13484.19	12606.74	567.21	58.82	57.75	56.23
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)	77.07	76.06	76.89	77.66	53.93	12797.75	13904.22	12606.74	220.02	58.82	57.75	56.23
Cavity ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)	61.11	60.46	61.21	60.91	46.64	7892.18	1343.32	849.74	742.70	122.77	121.74	121.20
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)	77.07	76.06	76.89	77.66	53.93	12797.75	13904.22	12606.74	742.70	122.77	121.74	121.20
CAS No.	Pollutant											
67-64-1	Acetone											
71-43-2	Benzene											
117-81-7	Bis(2-ethylhexyl)phthalate											
67-66-3	Chloroform											
106-46-7	1,4-Dichlorobenzene											
75-27-4	Dichlorobromomethane											
156-59-2	Dichloroethylene 1,2cis											
75-09-2	Methylene Chloride (Dichloromethane)											
100-41-4	Ethylbenzene											
608-73-1	Hexachlorocyclohexane											
108-10-1	Methyl isobutyl ketone											
91-20-3	Naphthalene											
85-01-8	Phenanthrene											
127-18-4	Tetrachloroethene											
108-88-3	Toluene											
108-38-3	Xylene, m											
95-47-6	Xylene, o											
106-42-3	Xylene, p											
64-17-5	Ethanol											

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-16
Future With the Proposed Action
Maximum Short-Term Predicted Impacts from Process Sources for Ethanol Addition
Total Impacts ($\mu\text{g}/\text{m}^3$)

CAS No.	Pollutant	Total Impact ($\mu\text{g}/\text{m}^3$)	SGC ($\mu\text{g}/\text{m}^3$)	Percent of SGC (%)
67-64-1	Acetone	3.33E+01	180000	0%
71-43-2	Benzene	6.60E+00	1300	1%
117-81-7	Bis(2-ethylhexyl)phthalate	1.45E+00	-	-
67-66-3	Chloroform	2.03E+01	150	14%
106-46-7	1,4-Dichlorobenzene	1.59E+01	-	-
75-27-4	Dichlorobromomethane	2.04E+00	-	-
156-59-2	Dichloroethylene 1,2cis	6.39E+00	-	-
75-09-2	Methylene Chloride (Dichloromethane)	1.13E+01	14000	0%
100-41-4	Ethylbenzene	3.39E+00	54000	0%
608-73-1	Hexachlorocyclohexane	4.54E-04	-	-
108-10-1	Methyl isobutyl ketone	4.61E+00	31000	0%
91-20-3	Naphthalene	9.50E-01	7900	0%
85-01-8	Phenanthrene	1.29E-01	-	-
127-18-4	Tetrachloroethene	3.47E+01	1000	3%
108-88-3	Toluene	3.97E+01	37000	0%
108-38-3	Xylene, m	6.25E+00	4300	0%
95-47-6	Xylene, o	4.22E+00	4300	0%
106-42-3	Xylene, p	5.20E+00	4300	0%
64-17-5	Ethanol	1.41E+01	-	-

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-17
Future With the Proposed Action
Maximum Annual Predicted Impacts from Process Sources for Methanol Addition
Area Sources ($\mu\text{g}/\text{m}^3$)

	AT4	AT1_3	AT5_6	FC1_2	FC3_4	FC5_6	FC7_8	CLTANK	ST1_12	PST1-4	PST5-6	
With Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	170042	196874	190889	52573	265455	209224	606483	592768	<u>351592</u>	298396	194431	
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	170042	196874	190889	52573	265455	209224	606483	592768	<u>351592</u>	298396	194431	
Cavity ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	13021	54882	133635	52581	121668	9356	144496	20024	<u>72998</u>	79075	35241	
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	170042	196874	190889	52581	265455	209224	606483	592768	<u>351592</u>	298396	194431	
AREA (m^2)	170042	196874	190889	52573	265455	209224	606483	592768	269842	298396	194431	
CAS No.	Pollutant											
67-64-1	Acetone	1.61E-04	9.26E-03	7.68E-03	5.55E-03	1.90E-02	2.21E-02	4.90E-02	2.38E-02	<u>6.74E-03</u>	3.55E-01	2.31E-01
71-43-2	Benzene	5.99E-05	2.48E-03	2.01E-03	2.57E-04	5.99E-04	1.02E-03	1.97E-03	2.56E-03	<u>8.19E-04</u>	2.74E-02	1.79E-02
117-81-7	Bis(2-ethylhexyl)phthalate	2.11E-03	4.30E-03	3.97E-03	7.94E-04	4.48E-03	3.16E-03	8.91E-03	6.63E-03	<u>9.75E-04</u>	8.06E-03	5.25E-03
67-66-3	Chloroform	1.67E-02	5.84E-02	4.64E-02	6.35E-03	1.50E-02	2.53E-02	4.46E-02	4.79E-02	<u>4.69E-03</u>	5.48E-02	3.57E-02
106-46-7	1,4-Dichlorobenzene	3.52E-02	5.57E-02	4.47E-02	6.35E-03	1.50E-02	2.53E-02	4.46E-02	4.79E-02	<u>4.94E-03</u>	5.48E-02	3.57E-02
75-27-4	Dichlorobromomethane	1.78E-04	1.94E-03	1.59E-03	6.55E-04	1.56E-03	2.60E-03	4.46E-03	2.51E-03	<u>7.41E-04</u>	1.61E-02	1.05E-02
156-59-2	Dichloroethylene 1,2,cis	1.66E-03	1.48E-02	1.06E-02	1.59E-03	3.24E-03	6.31E-03	8.91E-03	1.24E-02	<u>1.58E-03</u>	3.06E-02	2.00E-02
75-09-2	Methylene Chloride (Dichloromethane)	7.10E-03	3.16E-02	2.66E-02	4.76E-03	1.09E-02	1.89E-02	3.57E-02	3.23E-02	<u>3.39E-03</u>	4.35E-02	2.84E-02
100-41-4	Ethylbenzene	8.62E-05	1.75E-03	1.42E-03	1.37E-04	3.22E-04	5.46E-04	1.05E-03	1.64E-03	<u>5.88E-04</u>	1.61E-02	1.05E-02
608-73-1	Hexachlorocyclohexane	6.48E-07	1.04E-06	9.56E-07	3.76E-07	1.29E-06	1.50E-06	3.25E-06	2.10E-06	<u>2.93E-07</u>	1.89E-06	1.23E-06
108-10-1	Methyl isobutyl ketone	1.20E-03	7.91E-03	5.77E-03	2.38E-03	6.31E-03	9.47E-03	1.78E-02	9.33E-03	<u>1.94E-03</u>	2.90E-02	1.89E-02
91-20-3	Naphthalene	2.31E-05	3.47E-04	2.92E-04	1.45E-04	3.59E-04	5.78E-04	1.13E-03	5.09E-04	<u>3.88E-04</u>	9.67E-03	6.30E-03
85-01-8	Phenanthrene	2.95E-05	1.59E-04	1.45E-04	5.51E-05	1.72E-04	2.19E-04	4.63E-04	2.62E-04	<u>7.04E-05</u>	1.61E-03	1.05E-03
127-18-4	Tetrachloroethene	3.70E-02	1.43E-01	1.12E-01	5.55E-03	1.50E-02	2.21E-02	4.46E-02	9.56E-02	<u>5.20E-03</u>	6.61E-02	4.31E-02
108-88-3	Toluene	2.06E-03	3.63E-02	2.92E-02	3.17E-03	6.43E-03	1.26E-02	2.23E-02	3.07E-02	<u>6.63E-03</u>	1.69E-01	1.10E-01
108-38-3	Xylene, m	9.08E-04	7.44E-03	5.16E-03	5.03E-04	1.18E-03	2.00E-03	3.86E-03	6.23E-03	<u>9.75E-04</u>	2.10E-02	1.37E-02
95-47-6	Xylene, o	3.01E-05	9.29E-04	7.83E-04	9.44E-05	2.21E-04	3.76E-04	7.22E-04	9.78E-04	<u>9.06E-04</u>	2.58E-02	1.68E-02
106-42-3	Xylene, p	5.78E-05	1.54E-03	1.26E-03	1.21E-04	2.82E-04	4.80E-04	9.23E-04	1.50E-03	<u>7.68E-04</u>	2.10E-02	1.37E-02
67-56-1	Methanol	3.99E-05	4.43E-01	2.95E-01	2.46E-02	8.29E-02	9.79E-02	2.09E-01	1.26E-01	<u>8.55E-03</u>	6.45E-03	4.20E-03

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-18
Future With the Proposed Action
Maximum Annual Predicted Impacts from Process Sources for Methanol Addition
Point Sources ($\mu\text{g}/\text{m}^3$)

	CRB1	CRB2	CRB3	CRB4	CRB5	PICA1	PICA2	PICA3	CVOCs1	BVOCs1	BVOCs2	BVOCs4
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)	2.83	2.87	2.79	2.81	2.40	210.49	172.98	201.47	21.59	2.88	2.95	3.06
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)	2.79	2.83	2.74	2.76	2.39	210.49	190.24	201.47	12.30	2.79	2.86	2.95
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)	0.94	0.94	0.98	0.97	0.92	30.24	7.52	8.93	60.98	21.86	21.93	19.43
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)	2.83	2.87	2.79	2.81	2.40	210.49	190.24	201.47	60.98	21.86	21.93	19.43
CAS No.	Pollutant											
67-64-1	Acetone											
71-43-2	Benzene											
117-81-7	Bis(2-ethylhexyl)phthalate											
67-66-3	Chloroform											
106-46-7	1,4-Dichlorobenzene											
75-27-4	Dichlorobromomethane											
156-59-2	Dichloroethylene 1,2cis											
75-09-2	Methylene Chloride (Dichloromethane)											
100-41-4	Ethylbenzene											
608-73-1	Hexachlorocyclohexane											
108-10-1	Methyl isobutyl ketone											
91-20-3	Naphthalene											
85-01-8	Phenanthrene											
127-18-4	Tetrachloroethene											
108-88-3	Toluene											
108-38-3	Xylene, m											
95-47-6	Xylene, o											
106-42-3	Xylene, p											
67-56-1	Methanol											

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-19
Future With the Proposed Action
Maximum Annual Predicted Impacts from Process Sources for Methanol Addition
Total Impacts ($\mu\text{g}/\text{m}^3$)

CAS No.	Pollutant	Total Impact ($\mu\text{g}/\text{m}^3$)	AGC ($\mu\text{g}/\text{m}^3$)	Percent of AGC (%)
67-64-1	Acetone	0.77	28000	0%
71-43-2	Benzene	0.10	0.13	76%
117-81-7	Bis(2-ethylhexyl)phthalate	0.049	0.42	12%
67-66-3	Chloroform ⁽¹⁾	0.43	0.043	999%
106-46-7	1,4-Dichlorobenzene ⁽¹⁾	0.43	0.09	482%
75-27-4	Dichlorobromomethane ⁽¹⁾	0.053	0.02	267%
156-59-2	Dichloroethylene 1,2cis	0.15	1900	0%
75-09-2	Methylene Chloride (Dichloromethane)	0.30	2.1	14%
100-41-4	Ethylbenzene	0.055	1000	0%
608-73-1	Hexachlorocyclohexane	0.00001	-	-
108-10-1	Methyl isobutyl ketone	0.13	3000	0%
91-20-3	Naphthalene	0.02	3	1%
85-01-8	Phenanthrene	0.0044	0.02	22%
127-18-4	Tetrachloroethene	0.71	1	71%
108-88-3	Toluene	0.70	400	0%
108-38-3	Xylene, m	0.095	100	0%
95-47-6	Xylene, o	0.090	100	0%
106-42-3	Xylene, p	0.073	100	0%
67-56-1	Methanol	1.30	4000	0.03%

Notes:

⁽¹⁾ These are the screening level impacts. The refined impacts are lower and are presented in Chapter 9, "Non-Criteria Pollutants". The maximum annual refined impacts for chloroform, 1,4-dichlorobenzene, and dichlorobromomethane are $0.163 \mu\text{g}/\text{m}^3$, $0.178 \mu\text{g}/\text{m}^3$, and $0.024 \mu\text{g}/\text{m}^3$, which are 379%, 198%, and 120% of their respective AGCs.

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-20
Future With the Proposed Action
Maximum Annual Predicted Impacts from Process Sources for Ethanol Addition
Area Sources ($\mu\text{g}/\text{m}^3$)

	AT4	AT1_3	AT5_6	FC1_2	FC3_4	FC5_6	FC7_8	CLTANK	ST1_12	PST1-4	PST5-6	
With Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	170042	196874	190889	52573	265455	209224	606483	592768	<u>351592</u>	298396	194431	
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	170042	196874	190889	52573	265455	209224	606483	592768	<u>351592</u>	298396	194431	
Cavity ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	13021	54882	133635	52581	121668	9356	144496	20024	<u>72998</u>	79075	35241	
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}/\text{m}^2$)	170042	196874	190889	52581	265455	209224	606483	592768	<u>351592</u>	298396	194431	
AREA (m^2)	3808.2	11424.6	7778.8	1739.4	10249.4	1739.4	7144.2	4561.09	2158.478	6479.45	3239.97	
CAS No.	Pollutant											
67-64-1	Acetone	1.44E-04	8.05E-03	6.93E-03	5.55E-03	1.50E-02	2.21E-02	4.46E-02	2.34E-02	<u>6.38E-03</u>	3.55E-01	2.31E-01
71-43-2	Benzene	5.24E-05	2.00E-03	1.68E-03	2.17E-04	5.07E-04	8.65E-04	1.67E-03	2.17E-03	<u>7.97E-04</u>	2.74E-02	1.79E-02
117-81-7	Bis(2-ethylhexyl)phthalate	2.09E-03	3.09E-03	2.81E-03	7.94E-04	4.48E-03	3.16E-03	8.91E-03	6.58E-03	<u>9.73E-04</u>	8.06E-03	5.25E-03
67-66-3	Chloroform	1.66E-02	5.46E-02	4.36E-02	5.55E-03	1.36E-02	2.21E-02	4.46E-02	4.77E-02	<u>4.52E-03</u>	5.48E-02	3.57E-02
106-46-7	1,4-Dichlorobenzene	3.52E-02	5.32E-02	4.14E-02	5.55E-03	1.50E-02	2.21E-02	4.46E-02	4.79E-02	<u>4.83E-03</u>	5.48E-02	3.57E-02
75-27-4	Dichlorobromomethane	1.64E-04	1.72E-03	1.42E-03	5.98E-04	1.43E-03	2.38E-03	4.46E-03	2.29E-03	<u>7.10E-04</u>	1.61E-02	1.05E-02
156-59-2	Dichloroethylene 1,2cis	1.54E-03	1.39E-02	1.06E-02	1.59E-03	3.20E-03	6.31E-03	8.91E-03	1.14E-02	<u>1.52E-03</u>	3.06E-02	2.00E-02
75-09-2	Methylene Chloride (Dichloromethane)	6.97E-03	3.07E-02	2.39E-02	3.97E-03	9.52E-03	1.58E-02	3.12E-02	2.52E-02	<u>3.25E-03</u>	4.35E-02	2.84E-02
100-41-4	Ethylbenzene	7.86E-05	1.50E-03	1.24E-03	1.21E-04	2.85E-04	4.83E-04	9.31E-04	1.45E-03	<u>5.79E-04</u>	1.61E-02	1.05E-02
608-73-1	Hexachlorocyclohexane	6.41E-07	8.60E-07	7.82E-07	3.72E-07	1.27E-06	1.48E-06	3.22E-06	2.07E-06	<u>2.90E-07</u>	1.88E-06	1.23E-06
108-10-1	Methyl isobutyl ketone	1.12E-03	7.83E-03	5.65E-03	2.38E-03	4.89E-03	9.47E-03	1.78E-02	8.69E-03	<u>1.84E-03</u>	2.90E-02	1.89E-02
91-20-3	Naphthalene	2.14E-05	2.91E-04	2.45E-04	1.32E-04	3.26E-04	5.25E-04	1.02E-03	4.62E-04	<u>3.81E-04</u>	9.67E-03	6.30E-03
85-01-8	Phenanthrene	2.85E-05	1.18E-04	1.06E-04	5.32E-05	1.67E-04	2.12E-04	4.45E-04	2.53E-04	<u>6.93E-05</u>	1.61E-03	1.05E-03
127-18-4	Tetrachloroethene	3.69E-02	1.36E-01	1.07E-01	5.55E-03	1.36E-02	2.21E-02	4.46E-02	9.55E-02	<u>5.07E-03</u>	6.61E-02	4.31E-02
108-88-3	Toluene	1.88E-03	3.06E-02	2.38E-02	2.38E-03	6.33E-03	9.47E-03	1.78E-02	3.04E-02	<u>6.47E-03</u>	1.69E-01	1.10E-01
108-38-3	Xylene, m	8.43E-04	6.47E-03	5.00E-03	4.63E-04	1.09E-03	1.84E-03	3.55E-03	5.73E-03	<u>9.54E-04</u>	2.10E-02	1.37E-02
95-47-6	Xylene, o	2.74E-05	7.34E-04	6.42E-04	7.78E-05	1.83E-04	3.10E-04	5.97E-04	8.09E-04	<u>9.00E-04</u>	2.58E-02	1.68E-02
106-42-3	Xylene, p	5.25E-05	1.27E-03	1.07E-03	1.03E-04	2.43E-04	4.11E-04	7.92E-04	1.29E-03	<u>7.59E-04</u>	2.10E-02	1.37E-02
64-17-5	Ethanol	4.79E-06	1.67E-01	1.13E-01	3.97E-03	1.36E-02	1.58E-02	3.57E-02	2.22E-02	<u>1.78E-03</u>	1.10E-03	7.16E-04

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-21
Future With the Proposed Action
Maximum Annual Predicted Impacts from Process Sources for Ethanol Addition
Point Sources ($\mu\text{g}/\text{m}^3$)

	CRB1	CRB2	CRB3	CRB4	CRB5	PICA1	PICA2	PICA3	CVOCs1	BVOCs1	BVOCs2	BVOCs4
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)	2.83	2.87	2.79	2.81	2.40	210.49	172.98	201.47	21.59	2.88	2.95	3.06
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)	2.79	2.83	2.74	2.76	2.39	210.49	190.24	201.47	12.30	2.79	2.86	2.95
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)	0.94	0.94	0.98	0.97	0.92	30.24	7.52	8.93	60.98	21.86	21.93	19.43
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)	2.83	2.87	2.79	2.81	2.40	210.49	190.24	201.47	60.98	21.86	21.93	19.43
CAS No.	Pollutant											
67-64-1	Acetone											
71-43-2	Benzene											
117-81-7	Bis(2-ethylhexyl)phthalate											
67-66-3	Chloroform											
106-46-7	1,4-Dichlorobenzene											
75-27-4	Dichlorobromomethane											
156-59-2	Dichloroethylene 1,2cis											
75-09-2	Methylene Chloride (Dichloromethane)											
100-41-4	Ethylbenzene											
608-73-1	Hexachlorocyclohexane											
108-10-1	Methyl isobutyl ketone											
91-20-3	Naphthalene											
85-01-8	Phenanthrene											
127-18-4	Tetrachloroethene											
108-88-3	Toluene											
108-38-3	Xylene, m											
95-47-6	Xylene, o											
106-42-3	Xylene, p											
64-17-5	Ethanol											

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-22
Future With the Proposed Action
Maximum Annual Predicted Impacts from Process Sources for Ethanol Addition
Total Impacts ($\mu\text{g}/\text{m}^3$)

CAS No.	Pollutant	Total Impact ($\mu\text{g}/\text{m}^3$)	AGC ($\mu\text{g}/\text{m}^3$)	Percent of AGC (%)
67-64-1	Acetone	7.60E-01	28000	0%
71-43-2	Benzene	9.74E-02	0.13	75%
117-81-7	Bis(2-ethylhexyl)phthalate	4.65E-02	0.42	11%
67-66-3	Chloroform ⁽¹⁾	4.17E-01	0.043	970%
106-46-7	1,4-Dichlorobenzene ⁽¹⁾	4.23E-01	0.09	471%
75-27-4	Dichlorobromomethane ⁽¹⁾	5.23E-02	0.02	262%
156-59-2	Dichloroethylene 1,2cis	1.52E-01	1900	0%
75-09-2	Methylene Chloride (Dichloromethane)	2.75E-01	2.1	13%
100-41-4	Ethylbenzene	5.44E-02	1000	0%
608-73-1	Hexachlorocyclohexane	1.43E-05	-	-
108-10-1	Methyl isobutyl ketone	1.29E-01	3000	0%
91-20-3	Naphthalene	2.40E-02	3	1%
85-01-8	Phenanthrene	4.29E-03	0.02	21%
127-18-4	Tetrachloroethene	6.91E-01	1	69%
108-88-3	Toluene	6.83E-01	400	0%
108-38-3	Xylene, m	9.22E-02	100	0%
95-47-6	Xylene, o	8.90E-02	100	0%
106-42-3	Xylene, p	7.22E-02	100	0%
64-17-5	Ethanol	3.74E-01	45000	0.00%

Notes:

⁽¹⁾ These are screening level impacts. Refined impacts for these pollutants were not run. It is expected that the refined impacts under ethanol addition will be lower than the refined impacts under methanol addition.

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Combustion Sources

Table 9-23 presents the short-term unitary combustion source impacts. Tables 9-24 through 9-26 present the annual unitary combustion source impacts.

	Main Bldg. Boilers 1 and 2 (100% Natural Gas)	Main Bldg. Boilers 3 and 4 (100% Natural Gas)	Dewatering Bldg. Boiler (100% No. 2 fuel oil)	Waste Gas Burner 1 (100%)	Waste Gas Burner 2 (100%)	Six 2000 kW gen. under PLM (diesel)	Four 2000 kW gen. under S2A (diesel)	Three 2000 kW gen. under S2B (diesel)	One 500 kW gen. (diesel)	Total Impacts ($\mu\text{g}/\text{m}^3$) ⁽¹⁾	SGC ($\mu\text{g}/\text{m}^3$)	Percent of SGC (%)	
With Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)	110.96	110.96	58.00	186.85	182.20	92.34	61.62	92.34	638.76				
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)	48.73	48.73	58.00	124.36	125.12	70.48	47.72	70.48	257.32				
Cavity ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)	72.18	72.18	119.72	86.92	82.92	168.83	138.17	168.83	355.83				
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)	110.96	110.96	119.72	186.85	182.20	168.83	138.17	168.83	638.76				
CAS No.	Pollutant												
75-35-4	1,1-Dichloroethene	-	-	-	6.79E-04	6.83E-04	-	-	-	-	1.42E-03	-	-
71-55-6	1,1,1-Trichloroethane	-	-	3.32E-03	1.53E-03	1.54E-03	-	-	-	-	6.57E-03	68000	0%
107-06-2	1,2-Dichloroethane	-	-	-	5.94E-04	5.97E-04	-	-	-	-	1.24E-03	-	-
95-50-1	1,2-Dichlorobenzene	-	-	-	1.02E-04	1.02E-04	-	-	-	-	2.12E-04	30000	0%
541-73-1	1,3-Dichlorobenzene	-	-	-	4.41E-05	4.44E-05	-	-	-	-	9.20E-05	30000	0%
91-57-6	2-Methylnaphthalene	1.67E-05	1.67E-05	-	-	-	-	-	-	-	4.13E-05	-	-
56-49-5	3-Methylchloranthrene	1.25E-06	1.25E-06	-	-	-	-	-	-	-	3.10E-06	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	1.11E-05	1.11E-05	-	-	-	-	-	-	-	2.75E-05	-	-
83-32-9	Acenaphthene	1.25E-06	1.25E-06	2.97E-04	-	-	4.60E-03	5.73E-03	7.01E-03	1.81E-03	9.12E-03	-	-
203-96-8	Acenaphthylene	1.25E-06	1.25E-06	3.56E-06	-	-	9.06E-03	1.13E-02	1.38E-02	3.58E-03	1.74E-02	-	-
75-07-0	Acetaldehyde	-	-	-	7.43E-03	7.47E-03	2.47E-02	3.09E-02	3.77E-02	9.77E-03	6.30E-02	4500	0%
107-02-8	Acrolein	**	**	**	**	**	**	**	**	**	**	**	**
120-12-7	Anthracene	1.67E-06	1.67E-06	1.72E-05	-	-	1.21E-03	1.51E-03	1.84E-03	4.77E-04	2.34E-03	-	-
56-55-3	Benz(a)anthracene	1.25E-06	1.25E-06	5.64E-05	-	-	6.11E-04	7.62E-04	9.31E-04	2.41E-04	1.23E-03	-	-
50-32-8	Benzo(a)pyrene	8.33E-07	8.33E-07	-	-	-	2.52E-04	3.15E-04	3.85E-04	9.96E-05	4.86E-04	-	-
205-99-2	Benzo(b)fluoranthene	1.25E-06	1.25E-06	-	-	-	1.09E-03	1.36E-03	1.66E-03	4.30E-04	2.09E-03	-	-
	Benzo(b,k)fluoranthene	-	-	2.08E-05	-	-	-	-	-	-	2.12E-05	-	-

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-23 (Continued)
Future With the Proposed Action
Maximum Short-term Predicted Impacts from Combustion Sources ($\mu\text{g}/\text{m}^3$)

		Main Bldg. Boilers 1 and 2 (100% Natural Gas)	Main Bldg. Boilers 3 and 4 (100% Natural Gas)	Dewatering Bldg. Boiler (100% No. 2 fuel oil)	Waste Gas Burner 1 (100%)	Waste Gas Burner 2 (100%)	Six 2000 kW gen. under PLM (diesel)	Four 2000 kW gen. under S2A (diesel)	Three 2000 kW gen. under S2B (diesel)	One 500 kW gen. (diesel)	Total Impacts ($\mu\text{g}/\text{m}^3$) ⁽¹⁾	SGC ($\mu\text{g}/\text{m}^3$)	Percent of SGC (%)
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		110.96	110.96	58.00	186.85	182.20	92.34	61.62	92.34	638.76			
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		48.73	48.73	58.00	124.36	125.12	70.48	47.72	70.48	257.32			
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)		72.18	72.18	119.72	86.92	82.92	168.83	138.17	168.83	355.83			
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)		110.96	110.96	119.72	186.85	182.20	168.83	138.17	168.83	638.76			
191-24-2	Benzo(g,h,i)perylene	8.33E-07	8.33E-07	3.18E-05	-	-	5.46E-04	6.81E-04	8.32E-04	2.16E-04	1.08E-03	-	-
205-82-3	Benzo(k)fluoranthene	1.25E-06	1.25E-06	-	-	-	2.14E-04	2.67E-04	3.26E-04	8.45E-05	4.14E-04	-	-
106-97-8	Butane	1.46E+00	1.46E+00	-	-	-	-	-	-	-	3.61E+00	-	-
56-23-5	Carbon Tetrachloride	-	-	-	1.84E-05	1.85E-05	-	-	-	-	3.84E-05	1900	0%
218-01-9	Chrysene	1.25E-06	1.25E-06	3.35E-05	-	-	1.50E-03	1.87E-03	2.29E-03	5.93E-04	2.92E-03	-	-
53-70-3	Dibenzo(a,h)anthracene	8.33E-07	8.33E-07	2.35E-05	-	-	3.40E-04	4.24E-04	5.18E-04	1.34E-04	6.78E-04	-	-
25321-22-6	Dichlorobenzene	8.33E-04	8.33E-04	-	-	-	-	-	-	-	2.06E-03	-	-
74-84-0	Ethane	2.15E+00	2.15E+00	-	-	-	-	-	-	-	5.33E+00	-	-
206-44-0	Fluoranthene	2.08E-06	2.08E-06	6.81E-05	-	-	3.96E-03	4.94E-03	6.03E-03	1.56E-03	7.67E-03	-	-
86-73-7	Fluorene	1.94E-06	1.94E-06	6.29E-05	-	-	1.26E-02	1.57E-02	1.92E-02	4.96E-03	2.42E-02	-	-
50-00-0	Formaldehyde	5.20E-02	5.20E-02	8.59E-01	3.51E-02	3.53E-02	7.75E-02	9.67E-02	1.18E-01	3.06E-02	1.22E+00	30	4%
110-54-3	Hexane	1.25E+00	1.25E+00	-	-	-	-	-	-	-	3.10E+00	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	1.25E-06	1.25E-06	3.01E-05	-	-	4.06E-04	5.07E-04	6.20E-04	1.60E-04	8.14E-04	-	-
109-66-0	Pentane	1.80E+00	1.80E+00	-	-	-	-	-	-	-	4.47E+00	-	-
	Polycyclic Organic Matter	-	-	4.64E-02	-	-	-	-	-	-	4.72E-02	-	-
74-98-6	Propane	1.11E+00	1.11E+00	-	-	-	-	-	-	-	2.75E+00	-	-
115-07-1	Propylene	-	-	-	-	-	2.74E+00	3.42E+00	4.18E+00	1.08E+00	5.26E+00	-	-
129-00-0	Pyrene	3.47E-06	3.47E-06	5.98E-05	-	-	3.64E-03	4.55E-03	5.55E-03	1.44E-03	7.06E-03	-	-
79-01-6	Trichloroethene	-	-	-	-	-	-	-	-	-	0.00E+00	54000	0%
75-01-4	Vinyl Chloride	-	-	-	7.51E-06	7.55E-06	-	-	-	-	1.57E-05	180000	0%
1330-20-7	Xylenes	-	-	-	3.69E-05	3.71E-05	1.90E-01	2.36E-01	2.89E-01	7.48E-02	3.64E-01	4300	0%
7440-38-2	Arsenic	1.39E-04	1.39E-04	7.88E-03	-	-	-	-	-	-	8.36E-03	-	-
7440-39-3	Barium	3.05E-03	3.05E-03	-	-	-	-	-	-	-	7.57E-03	-	-

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-23 (Continued)
Future With the Proposed Action
Maximum Short-term Predicted Impacts from Combustion Sources ($\mu\text{g}/\text{m}^3$)

		Main Bldg. Boilers 1 and 2 (100% Natural Gas)	Main Bldg. Boilers 3 and 4 (100% Natural Gas)	Dewatering Bldg. Boiler (100% No. 2 fuel oil)	Waste Gas Burner 1 (100%)	Waste Gas Burner 2 (100%)	Six 2000 kW gen. under PLM (diesel)	Four 2000 kW gen. under S2A (diesel)	Three 2000 kW gen. under S2B (diesel)	One 500 kW gen. (diesel)	Total Impacts ($\mu\text{g}/\text{m}^3$) ⁽¹⁾	SGC ($\mu\text{g}/\text{m}^3$)	Percent of SGC (%)
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		110.96	110.96	58.00	186.85	182.20	92.34	61.62	92.34	638.76			
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		48.73	48.73	58.00	124.36	125.12	70.48	47.72	70.48	257.32			
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)		72.18	72.18	119.72	86.92	82.92	168.83	138.17	168.83	355.83			
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)		110.96	110.96	119.72	186.85	182.20	168.83	138.17	168.83	638.76			
7440-41-7	Beryllium	8.33E-06	8.33E-06	5.91E-03	-	-	-	-	-	-	6.03E-03	1	1%
7440-43-9	Cadmium	7.63E-04	7.63E-04	5.91E-03	-	-	-	-	-	-	7.90E-03	-	-
7440-47-3	Chromium	9.71E-04	9.71E-04	5.91E-03	-	-	-	-	-	-	8.42E-03	-	-
7440-48-4	Cobalt	5.83E-05	5.83E-05	-	-	-	-	-	-	-	1.45E-04	-	-
7440-50-8	Copper	5.90E-04	5.90E-04	1.18E-02	-	-	-	-	-	-	1.35E-02	100	0%
7439-92-1	Lead	3.47E-04	3.47E-04	1.77E-02	-	-	-	-	-	-	1.89E-02	-	-
7439-96-5	Manganese	2.64E-04	2.64E-04	1.18E-02	-	-	-	-	-	-	1.27E-02	-	-
7439-97-6	Mercury	1.80E-04	1.80E-04	5.91E-03	-	-	-	-	-	-	6.46E-03	1.8	0%
7439-98-7	Molybdenum	7.63E-04	7.63E-04	-	-	-	-	-	-	-	1.89E-03	-	-
7440-02-0	Nickel	1.46E-03	1.46E-03	5.91E-03	-	-	-	-	-	-	9.62E-03	6	0%
7782-49-2	Selenium	1.67E-05	1.67E-05	2.96E-02	-	-	-	-	-	-	3.01E-02	-	-
7440-62-2	Vanadium	1.60E-03	1.60E-03	-	-	-	-	-	-	-	3.96E-03	-	-
7440-66-6	Zinc	2.01E-02	2.01E-02	7.88E-03	-	-	-	-	-	-	5.79E-02	-	-
67-64-1	Acetone	-	-	-	-	-	-	-	-	-	0.00E+00	180000	0%
71-43-2	Benzene	1.46E-03	1.46E-03	3.01E-03	1.11E-03	1.11E-03	7.62E-01	9.51E-01	1.16E+00	3.01E-01	1.47E+00	1300	0%
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-	-	-	-	-	-	-	0.00E+00	-	-
67-66-3	Chloroform	-	-	-	7.63E-04	7.67E-04	-	-	-	-	1.59E-03	150	0%
106-46-7	1,4-Dichlorobenzene	-	-	-	5.97E-04	6.00E-04	-	-	-	-	1.24E-03	-	-
75-27-4	Dichlorobromomethane	-	-	-	-	-	-	-	-	-	0.00E+00	-	-
156-59-2	Dichloroethylene 1,2cis	-	-	-	-	-	-	-	-	-	0.00E+00	-	-
75-09-2	Methylene Chloride (Dichloromethane)	-	-	-	1.32E-01	1.33E-01	-	-	-	-	2.75E-01	14000	0%
100-41-4	Ethylbenzene	-	-	8.95E-04	-	-	-	-	-	-	9.10E-04	54000	0%

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-23 (Continued)
Future With the Proposed Action
Maximum Short-term Predicted Impacts from Combustion Sources ($\mu\text{g}/\text{m}^3$)

		Main Bldg. Boilers 1 and 2 (100% Natural Gas)	Main Bldg. Boilers 3 and 4 (100% Natural Gas)	Dewatering Bldg. Boiler (100% No. 2 fuel oil)	Waste Gas Burner 1 (100%)	Waste Gas Burner 2 (100%)	Six 2000 kW gen. under PLM (diesel)	Four 2000 kW gen. under S2A (diesel)	Three 2000 kW gen. under S2B (diesel)	One 500 kW gen. (diesel)	Total Impacts ($\mu\text{g}/\text{m}^3$) ⁽¹⁾	SGC ($\mu\text{g}/\text{m}^3$)	Percent of SGC (%)
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		110.96	110.96	58.00	186.85	182.20	92.34	61.62	92.34	638.76			
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		48.73	48.73	58.00	124.36	125.12	70.48	47.72	70.48	257.32			
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)		72.18	72.18	119.72	86.92	82.92	168.83	138.17	168.83	355.83			
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)		110.96	110.96	119.72	186.85	182.20	168.83	138.17	168.83	638.76			
608-73-1	Hexachlorocyclohexane	-	-	-	-	-	-	-	-	-	0.00E+00	-	-
108-10-1	Methyl isobutyl ketone	-	-	-	-	-	-	-	-	-	0.00E+00	31000	0%
91-20-3	Naphthalene	4.23E-04	4.23E-04	1.59E-02	-	-	1.28E-01	1.59E-01	1.95E-01	5.04E-02	2.62E-01	7900	0%
85-01-8	Phenanthrene	1.18E-05	1.18E-05	1.48E-04	-	-	4.01E-02	5.00E-02	6.11E-02	1.58E-02	7.71E-02	-	-
127-18-4	Tetrachloroethene	-	-	-	1.00E-03	1.01E-03	-	-	-	-	2.09E-03	1000	0%
108-88-3	Toluene	2.36E-03	2.36E-03	8.73E-02	2.57E-02	2.58E-02	2.76E-01	3.44E-01	4.21E-01	1.09E-01	6.78E-01	37000	0%
108-38-3	Xylene, m	-	-	-	-	-	-	-	-	-	0.00E+00	4300	0%
95-47-6	Xylene, o	-	-	1.53E-03	-	-	-	-	-	-	1.56E-03	4300	0%
106-42-3	Xylene, p	-	-	-	-	-	-	-	-	-	0.00E+00	4300	0%

Notes:

⁽¹⁾ Total short-term impacts are the sum of the impacts from the main building boilers, dewatering building boiler, waste gas burners, the 500 kW emergency generator, and either the 2000 kW generators under PLM conditions, under maintenance scenario 2A, or under maintenance scenario 2B.

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-24

Future With the Proposed Action

Annual Predicted Impacts from Main Building Boilers ($\mu\text{g}/\text{m}^3$)

	Boiler 1 digester gas (shares flue)	Boiler 1 digester gas	Boiler 1 digester gas	Boiler 4 natural gas	Boiler 2 natural gas (shares flue)	Boiler 3 natural gas	Boiler 3 natural gas	Boiler 2 natural gas	Boiler 3 natural gas	Boiler 3 natural gas	
	MB1	MB2	MB3	MB4	MB5	MB6	MB7	MB8	MB9	MB10	
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)	1.47	2.39	0.39	1.06	0.72	1.06	0.56	0.56	0.74	0.41	
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)	1.43	2.26	0.38	1.01	0.69	1.01	0.55	0.55	0.72	0.34	
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)	2.04	2.93	0.46	1.20	0.89	1.20	0.68	0.68	0.90	0.44	
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)	2.04	2.93	0.46	1.20	0.89	1.20	0.68	0.68	0.90	0.44	
CAS No.	Pollutant										
75-35-4	1,1-Dichloroethene	3.74E-06	1.26E-06	5.04E-07	-	-	-	-	-	-	
71-55-6	1,1,1-Trichloroethane	4.95E-05	1.67E-05	6.67E-06	-	-	-	-	-	-	
107-06-2	1,2-Dichloroethane	2.85E-07	9.58E-08	3.83E-08	-	-	-	-	-	-	
95-50-1	1,2-Dichlorobenzene	2.12E-06	7.14E-07	2.86E-07	-	-	-	-	-	-	
541-73-1	1,3-Dichlorobenzene	2.12E-06	7.14E-07	2.86E-07	-	-	-	-	-	-	
91-57-6	2-Methylnaphthalene	-	-	-	2.34E-08	8.28E-08	1.11E-07	6.36E-08	3.18E-08	2.51E-08	3.69E-08
56-49-5	3-Methylchloranthrene	-	-	-	1.75E-09	6.21E-09	8.35E-09	4.77E-09	2.39E-09	1.88E-09	2.77E-09
57-97-6	7,12-Dimethylbenz(a)anthracene	-	-	-	1.56E-08	5.52E-08	7.43E-08	4.24E-08	2.12E-08	1.67E-08	2.46E-08
83-32-9	Acenaphthene	-	-	-	1.75E-09	6.21E-09	8.35E-09	4.77E-09	2.39E-09	1.88E-09	2.77E-09
203-96-8	Acenaphthylene	-	-	-	1.75E-09	6.21E-09	8.35E-09	4.77E-09	2.39E-09	1.88E-09	2.77E-09
75-07-0	Acetaldehyde	3.59E-04	1.21E-04	4.84E-05	-	-	-	-	-	-	
107-02-8	Acrolein	**	**	**	**	**	**	**	**	**	
120-12-7	Anthracene	-	-	-	2.34E-09	8.28E-09	1.11E-08	6.36E-09	3.18E-09	2.51E-09	3.69E-09
56-55-3	Benzo(a)anthracene	-	-	-	1.75E-09	6.21E-09	8.35E-09	4.77E-09	2.39E-09	1.88E-09	2.77E-09
50-32-8	Benzo(a)pyrene	-	-	-	1.17E-09	4.14E-09	5.57E-09	3.18E-09	1.59E-09	1.25E-09	1.84E-09
205-99-2	Benzo(b)fluoranthene	-	-	-	1.75E-09	6.21E-09	8.35E-09	4.77E-09	2.39E-09	1.88E-09	2.77E-09
	Benzo(b,k)fluoranthene	-	-	-	-	-	-	-	-	-	
191-24-2	Benzo(g,h,i)perylene	-	-	-	1.17E-09	4.14E-09	5.57E-09	3.18E-09	1.59E-09	1.25E-09	1.84E-09
205-82-3	Benzo(k)fluoranthene	-	-	-	1.75E-09	6.21E-09	8.35E-09	4.77E-09	2.39E-09	1.88E-09	2.77E-09
106-97-8	Butane	-	-	-	2.05E-03	7.25E-03	9.75E-03	5.57E-03	2.78E-03	2.19E-03	3.23E-03

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-24 (Continued)

Future With the Proposed Action

Annual Predicted Impacts from Main Building Boilers ($\mu\text{g}/\text{m}^3$)

		Boiler 1 digester gas (shares flue)	Boiler 1 digester gas	Boiler 1 digester gas	Boiler 4 natural gas	Boiler 2 natural gas (shares flue)	Boiler 3 natural gas	Boiler 3 natural gas	Boiler 2 natural gas	Boiler 3 natural gas	Boiler 3 natural gas
		MB1	MB2	MB3	MB4	MB5	MB6	MB7	MB8	MB9	MB10
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		1.47	2.39	0.39	1.06	0.72	1.06	0.56	0.56	0.74	0.41
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		1.43	2.26	0.38	1.01	0.69	1.01	0.55	0.55	0.72	0.34
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)		2.04	2.93	0.46	1.20	0.89	1.20	0.68	0.68	0.90	0.44
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)		2.04	2.93	0.46	1.20	0.89	1.20	0.68	0.68	0.90	0.44
56-23-5	Carbon Tetrachloride	7.82E-06	2.63E-06	1.05E-06	-	-	-	-	-	-	-
218-01-9	Chrysene	-	-	-	1.75E-09	6.21E-09	8.35E-09	4.77E-09	2.39E-09	1.88E-09	2.77E-09
53-70-3	Dibenzo(a,h)anthracene	-	-	-	1.17E-09	4.14E-09	5.57E-09	3.18E-09	1.59E-09	1.25E-09	1.84E-09
25321-22-6	Dicholrobenzene	-	-	-	1.17E-06	4.14E-06	5.57E-06	3.18E-06	1.59E-06	1.25E-06	1.84E-06
74-84-0	Ethane	-	-	-	3.02E-03	1.07E-02	1.44E-02	8.22E-03	4.11E-03	3.24E-03	4.77E-03
206-44-0	Fluoranthene	-	-	-	2.92E-09	1.04E-08	1.39E-08	7.95E-09	3.98E-09	3.14E-09	4.61E-09
86-73-7	Fluorene	-	-	-	2.73E-09	9.66E-09	1.30E-08	7.42E-09	3.71E-09	2.93E-09	4.30E-09
50-00-0	Formaldehyde	1.20E-02	4.04E-03	1.62E-03	7.31E-05	2.59E-04	3.48E-04	1.99E-04	9.94E-05	7.84E-05	1.15E-04
110-54-3	Hexane	-	-	-	1.75E-03	6.21E-03	8.35E-03	4.77E-03	2.39E-03	1.88E-03	2.77E-03
193-39-5	Indeno(1,2,3-cd)pyrene	-	-	-	1.75E-09	6.21E-09	8.35E-09	4.77E-09	2.39E-09	1.88E-09	2.77E-09
109-66-0	Pentane	-	-	-	2.53E-03	8.97E-03	1.21E-02	6.89E-03	3.45E-03	2.72E-03	4.00E-03
	Polycyclic Organic Matter	-	-	-	-	-	-	-	-	-	-
74-98-6	Propane	-	-	-	1.56E-03	5.52E-03	7.43E-03	4.24E-03	2.12E-03	1.67E-03	2.46E-03
115-07-1	Propylene	-	-	-	-	-	-	-	-	-	-
129-00-0	Pyrene	-	-	-	4.87E-09	1.73E-08	2.32E-08	1.33E-08	6.63E-09	5.23E-09	7.69E-09
79-01-6	Trichloroethene	7.66E-06	2.58E-06	1.03E-06	-	-	-	-	-	-	-
75-01-4	Vinyl Chloride	3.61E-07	1.22E-07	4.87E-08	-	-	-	-	-	-	-
1330-20-7	Xylenes	1.01E-04	3.39E-05	1.36E-05	-	-	-	-	-	-	-
7440-38-2	Arsenic	-	-	-	1.95E-07	6.90E-07	9.28E-07	5.30E-07	2.65E-07	2.09E-07	3.07E-07
7440-39-3	Barium	-	-	-	4.29E-06	1.52E-05	2.04E-05	1.17E-05	5.83E-06	4.60E-06	6.76E-06
7440-41-7	Beryllium	-	-	-	1.17E-08	4.14E-08	5.57E-08	3.18E-08	1.59E-08	1.25E-08	1.84E-08
7440-43-9	Cadmium	-	-	-	1.07E-06	3.80E-06	5.11E-06	2.92E-06	1.46E-06	1.15E-06	1.69E-06
7440-47-3	Chromium	-	-	-	1.36E-06	4.83E-06	6.50E-06	3.71E-06	1.86E-06	1.46E-06	2.15E-06

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-24 (Continued)

Future With the Proposed Action

Annual Predicted Impacts from Main Building Boilers ($\mu\text{g}/\text{m}^3$)

		Boiler 1 digester gas (shares flue)	Boiler 1 digester gas	Boiler 1 digester gas	Boiler 4 natural gas	Boiler 2 natural gas (shares flue)	Boiler 3 natural gas	Boiler 3 natural gas	Boiler 2 natural gas	Boiler 3 natural gas	Boiler 3 natural gas
		MB1	MB2	MB3	MB4	MB5	MB6	MB7	MB8	MB9	MB10
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		1.47	2.39	0.39	1.06	0.72	1.06	0.56	0.56	0.74	0.41
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		1.43	2.26	0.38	1.01	0.69	1.01	0.55	0.55	0.72	0.34
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)		2.04	2.93	0.46	1.20	0.89	1.20	0.68	0.68	0.90	0.44
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)		2.04	2.93	0.46	1.20	0.89	1.20	0.68	0.68	0.90	0.44
7440-48-4	Cobalt	-	-	-	8.19E-08	2.90E-07	3.90E-07	2.23E-07	1.11E-07	8.78E-08	1.29E-07
7440-50-8	Copper	-	-	-	8.29E-07	2.93E-06	3.95E-06	2.25E-06	1.13E-06	8.88E-07	1.31E-06
7439-92-1	Lead	-	-	-	4.87E-07	1.73E-06	2.32E-06	1.33E-06	6.63E-07	5.23E-07	7.69E-07
7439-96-5	Manganese	-	-	-	3.70E-07	1.31E-06	1.76E-06	1.01E-06	5.04E-07	3.97E-07	5.84E-07
7439-97-6	Mercury	-	-	-	2.53E-07	8.97E-07	1.21E-06	6.89E-07	3.45E-07	2.72E-07	4.00E-07
7439-98-7	Molybdenum	-	-	-	1.07E-06	3.80E-06	5.11E-06	2.92E-06	1.46E-06	1.15E-06	1.69E-06
7440-02-0	Nickel	-	-	-	2.05E-06	7.25E-06	9.75E-06	5.57E-06	2.78E-06	2.19E-06	3.23E-06
7782-49-2	Selenium	-	-	-	2.34E-08	8.28E-08	1.11E-07	6.36E-08	3.18E-08	2.51E-08	3.69E-08
7440-62-2	Vanadium	-	-	-	2.24E-06	7.94E-06	1.07E-05	6.10E-06	3.05E-06	2.40E-06	3.54E-06
7440-66-6	Zinc	-	-	-	2.83E-05	1.00E-04	1.35E-04	7.69E-05	3.84E-05	3.03E-05	4.46E-05
67-64-1	Acetone	-	-	-	-	-	-	-	-	-	-
71-43-2	Benzene	4.01E-04	1.35E-04	5.40E-05	2.05E-06	7.25E-06	9.75E-06	5.57E-06	2.78E-06	2.19E-06	3.23E-06
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-	-	-	-	-	-	-	-
67-66-3	Chloroform	2.06E-04	6.95E-05	2.78E-05	-	-	-	-	-	-	-
106-46-7	1,4-Dichlorobenzene	8.17E-06	2.75E-06	1.10E-06	-	-	-	-	-	-	-
75-27-4	Dichlorobromomethane	-	-	-	-	-	-	-	-	-	-
156-59-2	Dichloroethylene 1,2cis	-	-	-	-	-	-	-	-	-	-
75-09-2	Methylene Chloride (Dichloromethane)	2.26E-03	7.59E-04	3.04E-04	-	-	-	-	-	-	-
100-41-4	Ethylbenzene	-	-	-	-	-	-	-	-	-	-
608-73-1	Hexachlorocyclohexane	-	-	-	-	-	-	-	-	-	-
108-10-1	Methyl isobutyl ketone	-	-	-	-	-	-	-	-	-	-
91-20-3	Naphthalene	-	-	-	5.95E-07	2.10E-06	2.83E-06	1.62E-06	8.09E-07	6.38E-07	9.38E-07

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

		Table 9-24 (Continued)									
		Future With the Proposed Action									
		Annual Predicted Impacts from Main Building Boilers ($\mu\text{g}/\text{m}^3$)									
		Boiler 1 digester gas (shares flue)	Boiler 1 digester gas	Boiler 1 digester gas	Boiler 4 natural gas	Boiler 2 natural gas (shares flue)	Boiler 3 natural gas	Boiler 3 natural gas	Boiler 2 natural gas	Boiler 3 natural gas	Boiler 3 natural gas
		MB1	MB2	MB3	MB4	MB5	MB6	MB7	MB8	MB9	MB10
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		1.47	2.39	0.39	1.06	0.72	1.06	0.56	0.56	0.74	0.41
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		1.43	2.26	0.38	1.01	0.69	1.01	0.55	0.55	0.72	0.34
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)		2.04	2.93	0.46	1.20	0.89	1.20	0.68	0.68	0.90	0.44
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)		2.04	2.93	0.46	1.20	0.89	1.20	0.68	0.68	0.90	0.44
85-01-8	Phenanthrene	-	-	-	1.66E-08	5.87E-08	7.89E-08	4.51E-08	2.25E-08	1.78E-08	2.61E-08
127-18-4	Tetrachloroethene	2.52E-05	8.48E-06	3.39E-06	-	-	-	-	-	-	-
108-88-3	Toluene	5.17E-03	1.74E-03	6.96E-04	3.31E-06	1.17E-05	1.58E-05	9.02E-06	4.51E-06	3.55E-06	5.23E-06
108-38-3	Xylene, m	-	-	-	-	-	-	-	-	-	-
95-47-6	Xylene, o	-	-	-	-	-	-	-	-	-	-
106-42-3	Xylene, p	-	-	-	-	-	-	-	-	-	-
Notes:											
** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.											

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-25						
Future With the Proposed Action						
Annual Predicted Impacts from Dewatering Building Boilers, Waste Gas Burners, and Emergency Generators ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)						
		Dewatering Bldg. Boiler No. 2 fuel oil	Waste Gas Burner 1	Waste Gas Burner 2	Six 2,000 kW generators (diesel)	One 500 kW emergency generator (diesel)
		DB	FL1	FL2	EG	SMEG
With Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)		1.91	3.99	1.49	1.34	12.08
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)		1.77	2.24	1.17	1.33	17.64
Cavity ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)		8.54	1.58	0.41	2.63	40.15
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g}/\text{s}$)		8.54	3.99	1.49	2.63	40.15
CAS No.	Pollutant					
75-35-4	1,1-Dichloroethene	-	1.24E-05	2.46E-06	-	-
71-55-6	1,1,1-Trichloroethane	1.88E-05	2.79E-05	5.54E-06	-	-
107-06-2	1,2-Dichloroethane	-	1.08E-05	2.15E-06	-	-
95-50-1	1,2-Dichlorobenzene	-	1.86E-06	3.68E-07	-	-
541-73-1	1,3-Dichlorobenzene	-	8.05E-07	1.60E-07	-	-
91-57-6	2-Methylnaphthalene	-	-	-	-	-
56-49-5	3-Methylchloranthrene	-	-	-	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	-	-	-	-	-
83-32-9	Acenaphthene	1.68E-06	-	-	1.76E-06	8.46E-07
203-96-8	Acenaphthylene	2.02E-08	-	-	3.47E-06	1.67E-06
75-07-0	Acetaldehyde	-	1.36E-04	2.69E-05	9.46E-06	4.56E-06
107-02-8	Acrolein	**	**	**	**	**
120-12-7	Anthracene	9.73E-08	-	-	4.62E-07	2.22E-07
56-55-3	Benz(a)anthracene	3.20E-07	-	-	2.34E-07	1.12E-07
50-32-8	Benzo(a)pyrene	-	-	-	9.65E-08	4.65E-08
205-99-2	Benzo(b)fluoranthene	-	-	-	4.17E-07	2.01E-07
	Benzo(b,k)fluoranthene	1.18E-07	-	-	-	-
191-24-2	Benzo(g,h,i)perylene	1.80E-07	-	-	2.09E-07	1.01E-07
205-82-3	Benzo(k)fluoranthene	-	-	-	8.19E-08	3.94E-08
106-97-8	Butane	-	-	-	-	-
56-23-5	Carbon Tetrachloride	-	3.36E-07	6.67E-08	-	-
218-01-9	Chrysene	1.90E-07	-	-	5.75E-07	2.77E-07
53-70-3	Dibenzo(a,h)anthracene	1.33E-07	-	-	1.30E-07	6.25E-08
25321-22-6	Dichlorobenzene	-	-	-	-	-
74-84-0	Ethane	-	-	-	-	-
206-44-0	Fluoranthene	3.86E-07	-	-	1.51E-06	7.28E-07
86-73-7	Fluorene	3.57E-07	-	-	4.81E-06	2.31E-06
50-00-0	Formaldehyde	4.87E-03	6.40E-04	1.27E-04	2.96E-05	1.43E-05
110-54-3	Hexane	-	-	-	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	1.71E-07	-	-	1.55E-07	7.48E-08
109-66-0	Pentane	-	-	-	-	-
	Polycyclic Organic Matter	2.63E-04	-	-	-	-
74-98-6	Propane	-	-	-	-	-
115-07-1	Propylene	-	-	-	1.05E-03	5.04E-04
129-00-0	Pyrene	3.39E-07	-	-	1.39E-06	6.71E-07
79-01-6	Trichloroethene	-	-	-	-	-
75-01-4	Vinyl Chloride	-	1.37E-07	2.72E-08	-	-
1330-20-7	Xylenes	-	6.73E-07	1.33E-07	7.25E-05	3.49E-05

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-25 (Continued)						
Future With the Proposed Action						
Annual Predicted Impacts from Dewatering Building Boilers, Waste Gas Burners, and						
Emergency Generators ($\mu\text{g}/\text{m}^3$)						
		Dewatering Bldg. Boiler No. 2 fuel oil	Waste Gas Burner 1	Waste Gas Burner 2	Six 2,000 kW generators (diesel)	One 500 kW emergency generator (diesel)
		DB	FL1	FL2	EG	SMEG
With Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		1.91	3.99	1.49	1.34	12.08
Without Downwash ($\mu\text{g}/\text{m}^3/\text{g/s}$)		1.77	2.24	1.17	1.33	17.64
Cavity ($\mu\text{g}/\text{m}^3/\text{g/s}$)		8.54	1.58	0.41	2.63	40.15
Maximum Impact ($\mu\text{g}/\text{m}^3/\text{g/s}$)		8.54	3.99	1.49	2.63	40.15
7440-38-2	Arsenic	4.47E-05	-	-	-	-
7440-39-3	Barium	-	-	-	-	-
7440-41-7	Beryllium	3.35E-05	-	-	-	-
7440-43-9	Cadmium	3.35E-05	-	-	-	-
7440-47-3	Chromium	3.35E-05	-	-	-	-
7440-48-4	Cobalt	-	-	-	-	-
7440-50-8	Copper	6.70E-05	-	-	-	-
7439-92-1	Lead	1.01E-04	-	-	-	-
7439-96-5	Manganese	6.70E-05	-	-	-	-
7439-97-6	Mercury	3.35E-05	-	-	-	-
7439-98-7	Molybdenum	-	-	-	-	-
7440-02-0	Nickel	3.35E-05	-	-	-	-
7782-49-2	Selenium	1.68E-04	-	-	-	-
7440-62-2	Vanadium	-	-	-	-	-
7440-66-6	Zinc	4.47E-05	-	-	-	-
67-64-1	Acetone	-	-	-	-	-
71-43-2	Benzene	1.71E-05	2.02E-05	4.01E-06	2.91E-04	1.40E-04
117-81-7	Bis(2-ethylhexyl)phthalate	-	-	-	-	-
67-66-3	Chloroform	-	1.39E-05	2.76E-06	-	-
106-46-7	1,4-Dichlorobenzene	-	1.09E-05	2.16E-06	-	-
75-27-4	Dichlorobromomethane	-	-	-	-	-
156-59-2	Dichloroethylene 1,2cis	-	-	-	-	-
75-09-2	Methylene Chloride (Dichloromethane)	-	2.41E-03	4.77E-04	-	-
100-41-4	Ethylbenzene	5.07E-06	-	-	-	-
608-73-1	Hexachlorocyclohexane	-	-	-	-	-
108-10-1	Methyl isobutyl ketone	-	-	-	-	-
91-20-3	Naphthalene	9.02E-05	-	-	4.88E-05	2.35E-05
85-01-8	Phenanthrene	8.38E-07	-	-	1.53E-05	7.37E-06
127-18-4	Tetrachloroethene	-	1.83E-05	3.63E-06	-	-
108-88-3	Toluene	4.95E-04	4.69E-04	9.30E-05	1.06E-04	5.08E-05
108-38-3	Xylene, m	-	-	-	-	-
95-47-6	Xylene, o	8.70E-06	-	-	-	-
106-42-3	Xylene, p	-	-	-	-	-
Notes:						
** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.						

Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-26				
Future With the Proposed Action				
Total Annual Predicted Impacts from Combustion Sources ($\mu\text{g}/\text{m}^3$)				
CAS No.	Pollutant	Total Impacts ($\mu\text{g}/\text{m}^3$) ⁽¹⁾	AGC ($\mu\text{g}/\text{m}^3$)	Percent of AGC
75-35-4	1,1-Dichloroethene	2.04E-05	70	0%
71-55-6	1,1,1-Trichloroethane	1.25E-04	1000	0%
107-06-2	1,2-Dichloroethane	1.34E-05	0.038	0%
95-50-1	1,2-Dichlorobenzene	5.34E-06	360	0%
541-73-1	1,3-Dichlorobenzene	4.08E-06	360	0%
91-57-6	2-Methylnaphthalene	3.75E-07	-	-
56-49-5	3-Methylchloranthrene	2.81E-08	-	-
57-97-6	7,12-Dimethylbenz(a)anthracene	2.50E-07	-	-
83-32-9	Acenaphthene	4.32E-06	-	-
203-96-8	Acenaphthylene	5.18E-06	-	-
75-07-0	Acetaldehyde	7.05E-04	0.45	0%
107-02-8	Acrolein	**	0.02	**
120-12-7	Anthracene	8.19E-07	0.02	0%
56-55-3	Benz(a)anthracene	6.94E-07	0.02	0%
50-32-8	Benzo(a)pyrene	1.62E-07	0.02	0%
205-99-2	Benzo(b)fluoranthene	6.46E-07	-	-
	Benzo(b,k)fluoranthene	1.18E-07	-	-
191-24-2	Benzo(g,h,i)perylene	5.08E-07	-	-
205-82-3	Benzo(k)fluoranthene	1.49E-07	-	-
106-97-8	Butane	3.28E-02	45000	0%
56-23-5	Carbon Tetrachloride	1.19E-05	0.067	0%
218-01-9	Chrysene	1.07E-06	0.02	0%
53-70-3	Dibenzo(a,h)anthracene	3.44E-07	0.02	0%
25321-22-6	Dichlorobenzene	1.88E-05	-	-
74-84-0	Ethane	4.84E-02	-	-
206-44-0	Fluoranthene	2.68E-06	-	-
86-73-7	Fluorene	7.52E-06	-	-
50-00-0	Formaldehyde	2.45E-02	0.06	41%
110-54-3	Hexane	2.81E-02	200	0%
193-39-5	Indeno(1,2,3-cd)pyrene	4.29E-07	-	-
109-66-0	Pentane	4.06E-02	4200	0%
	Polycyclic Organic Matter	2.63E-04	-	-
74-98-6	Propane	2.50E-02	110000	0%
115-07-1	Propylene	1.55E-03	3000	0%
129-00-0	Pyrene	2.48E-06	0.02	0%
79-01-6	Trichloroethene	1.13E-05	0.5	0%
75-01-4	Vinyl Chloride	6.96E-07	0.11	0%
1330-20-7	Xylenes	2.56E-04	100	0%
7440-38-2	Arsenic	4.78E-05	0.00023	21%
7440-39-3	Barium	6.88E-05	1.2	0%
7440-41-7	Beryllium	3.37E-05	0.00042	8%
7440-43-9	Cadmium	5.07E-05	0.0005	10%
7440-47-3	Chromium	5.54E-05	1.2	0%
7440-48-4	Cobalt	1.31E-06	0.001	0%
7440-50-8	Copper	8.03E-05	0.02	0%
7439-92-1	Lead	1.08E-04	0.38	0%
7439-96-5	Manganese	7.30E-05	0.05	0%
7439-97-6	Mercury	3.76E-05	0.3	0%
7439-98-7	Molybdenum	1.72E-05	1.2	0%
7440-02-0	Nickel	6.63E-05	0.004	2%
7782-49-2	Selenium	1.68E-04	20	0%
7440-62-2	Vanadium	3.59E-05	0.2	0%
7440-66-6	Zinc	4.98E-04	50	0%
67-64-1	Acetone	0.00E+00	28000	0%
71-43-2	Benzene	1.10E-03	0.13	1%

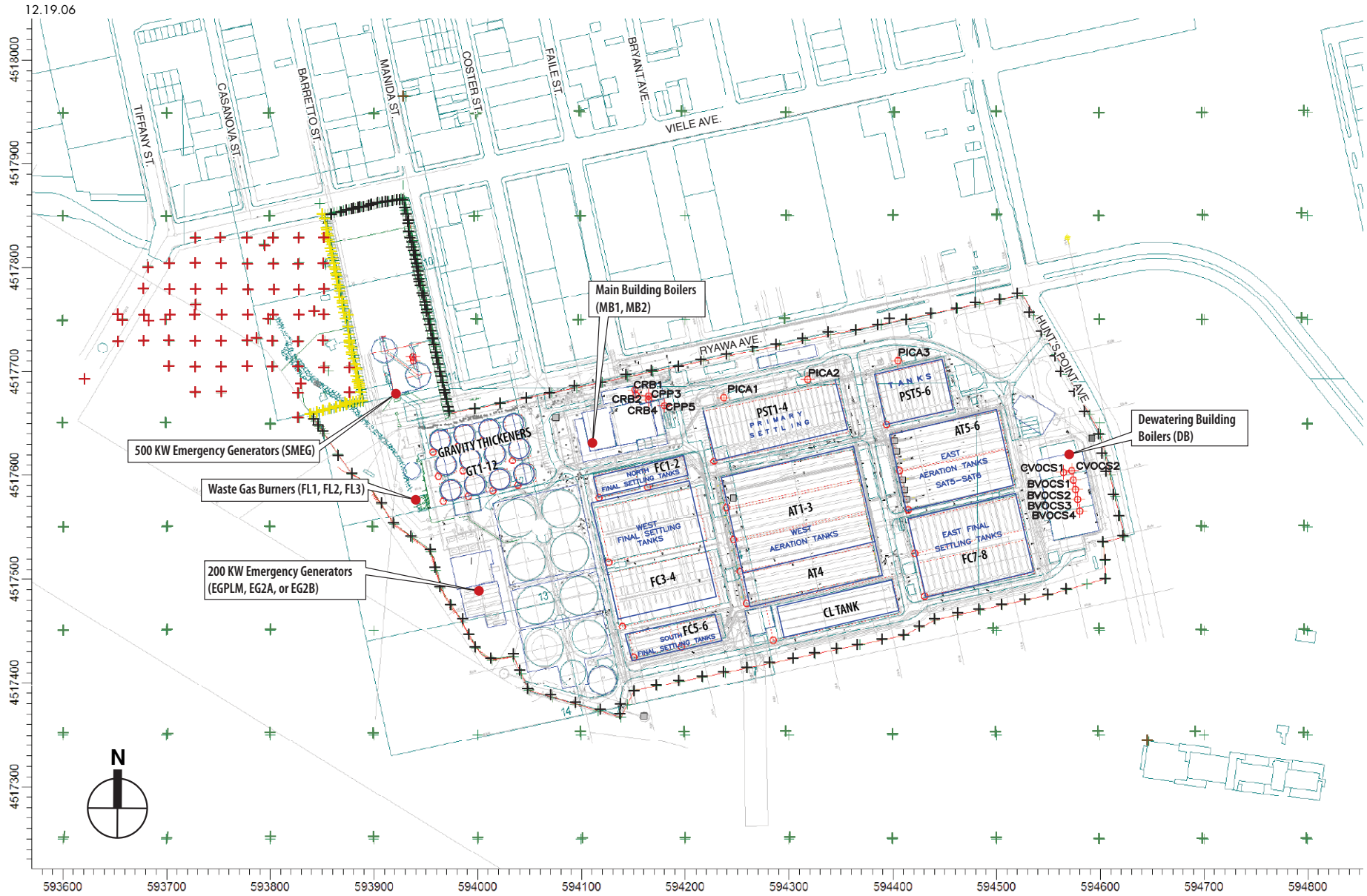
Hunts Point Air Quality Analysis for Non-Criteria Air Pollutants

Table 9-26 (Continued)				
Future With the Proposed Action				
Total Annual Predicted Impacts from Combustion Sources ($\mu\text{g}/\text{m}^3$)				
CAS No.	Pollutant	Total Impacts ($\mu\text{g}/\text{m}^3$)⁽¹⁾	AGC ($\mu\text{g}/\text{m}^3$)	Percent of AGC
117-81-7	Bis(2-ethylhexyl)phthalate	0.00E+00	0.42	0%
67-66-3	Chloroform	3.21E-04	0.043	1%
106-46-7	1,4-Dichlorobenzene	2.51E-05	0.09	0%
75-27-4	Dichlorobromomethane	0.00E+00	0.02	0%
156-59-2	Dichloroethylene 1,2cis	0.00E+00	1900	0%
75-09-2	Methylene Chloride (Dichloromethane)	6.20E-03	2.1	0%
100-41-4	Ethylbenzene	5.07E-06	1000	0%
608-73-1	Hexachlorocyclohexane	0.00E+00	-	-
108-10-1	Methyl isobutyl ketone	0.00E+00	3000	0%
91-20-3	Naphthalene	1.72E-04	3	0%
85-01-8	Phenanthrene	2.38E-05	0.02	0%
127-18-4	Tetrachloroethene	5.90E-05	1	0%
108-88-3	Toluene	8.87E-03	400	0%
108-38-3	Xylene, m	0.00E+00	100	0%
95-47-6	Xylene, o	8.70E-06	100	0%
106-42-3	Xylene, p	0.00E+00	100	0%

Notes:

⁽¹⁾ Total Impacts are the sum of the impacts from the main building boilers, the dewatering building boilers, the waste gas burners, and the emergency generators.

** In the case of acrolein, which is potentially emitted by the boilers, waste gas burners and emergency generators, currently EPA and the California Air Resources Board (CARB) are investigating an acrolein sampling method from such stationary combustion sources. Until such time that methods are developed and approved for combustion sources and are made available, acrolein impacts cannot be accurately quantified.



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|--|-----------------------|
| + Barretto Point Park and Tiffany Pier Receptors | + Grid Receptors |
| + Park Border Receptors | + Sensitive Receptors |
| + Plants' Fenceline Receptors | |