NPDES compliance summary report, fiscal year 2000

Massachusetts Water Resources Authority

Environmental Quality Department
Report ENQUAD 2001-04

NPDES COMPLIANCE SUMMARY REPORT
Fiscal Year 2000

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Executive Summary

This report presents and summarizes monitoring and compliance data collected and analyzed by the Massachusetts Water Resources Authority's (MWRA) Environmental Quality Department (ENQUAD) from July 1999 to June 2000. The Fiscal Year Summary Report, while not a regulatory requirement, provides a useful documentation of influent and effluent quality trends over the course of a fiscal year for the MWRA's Deer Island Treatment Plant (DITP) and Combined Sewer Overflow (CSO) facilities.

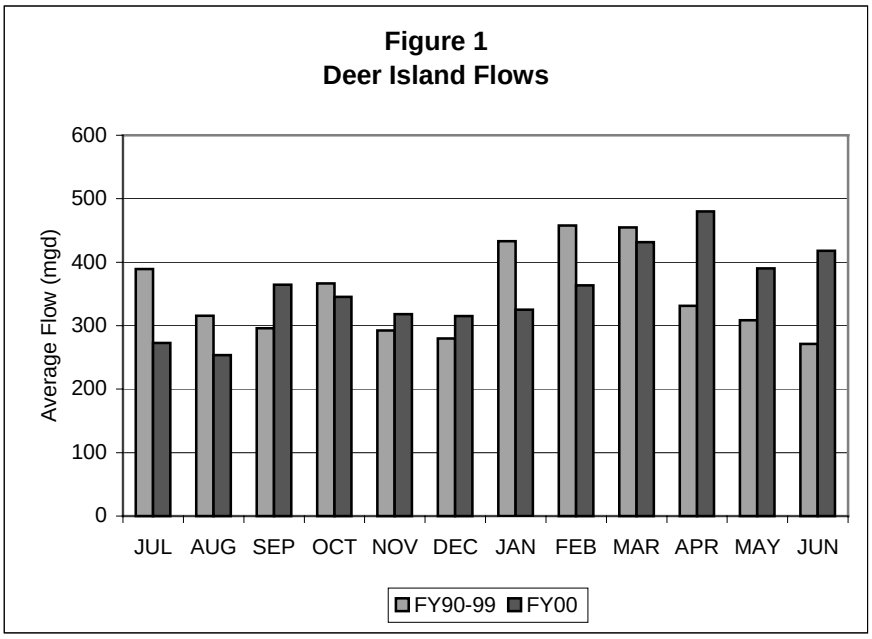
Deer Island Treatment Plant

MWRA's NPDES permit requires the Authority to monitor its wastewater treatment plant at Deer Island for specific parameters. The MWRA currently operates under court-ordered interim limits until a new permit is issued. The NPDES permit calls for secondary treatment of wastewater. Secondary treatment began at DITP in August 1997 with the start-up of the first battery of secondary treatment (Battery A). In March 1998, Battery B was brought on-line. Full implementation of secondary treatment at Deer Island calls for three batteries. DITP is scheduled to begin testing of the final battery, Battery C, in mid-FY01.

Along with the completion of Battery C, the next milestone for the Boston Harbor Project is the start up of the new 9.5-mile outfall tunnel that will carry treated wastewater from DITP to Massachusetts Bay. The outfall tunnel will open in FY01, and will be covered by the new NPDES permit.

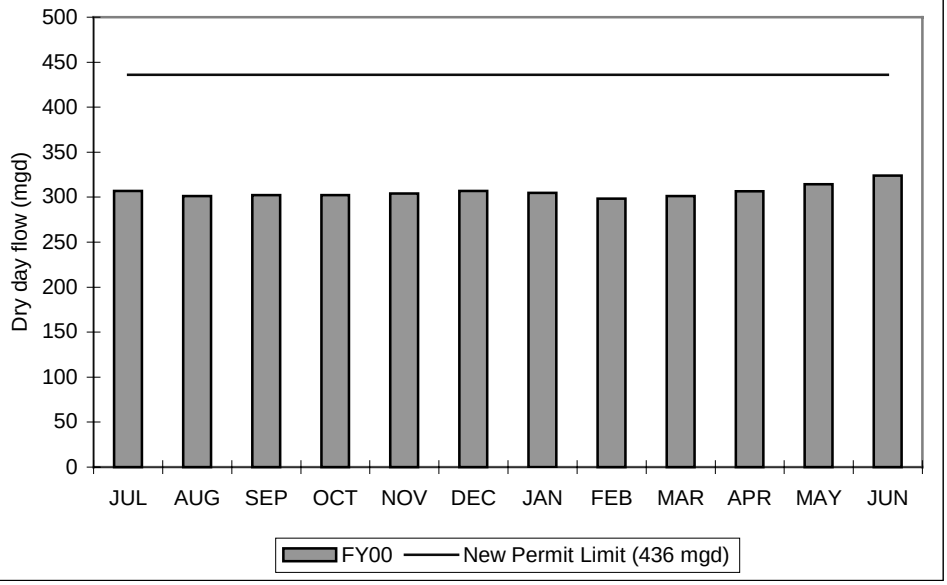
Figure 1 shows the Deer Island flow during each month of FY00, comparing the flow with the monthly averages of the previous nine years. The FY99 and FY00 data show flow treated at Deer Island, while the FY90-FY98 data shows the combined flows from DITP and the former Nut Island

Treatment Plant, now the headworks for South System influent to DITP.



Restrictions on dry day flow are expected to be a part of the new NPDES permit. This restriction acts to control new connections, ensuring that the collection system and the new treatment plant retain adequate capacity. Monthly dry day flows are calculated by averaging the flows on dry days over the previous year. A dry day is defined as a day with 0.09 inches of precipitation or less and no snow melt with the following caveats: the precipitation on the previous day is less than 0.3 inches, the precipitation two days prior is less than 1.0 inch, and the precipitation three days prior is less than 2.0 inches. A day with snowmelt is defined as a day when there is snow on the ground and the air temperature is above 32^{o}F. Figure 2 shows the dry day flow for Deer Island during each month of FY00. The solid line represents the proposed dry day flow limit of 436 mgd for the new NPDES permit. In FY00, there were no violations of the proposed dry day flow limit.

Figure 2
Deer Island Dry Day Flows



In FY00, the results of improvements at DITP became apparent. Since the new primary treatment plant came on-line on January 21, 1995, the removal rates for both TSS and BOD have improved significantly (see Figures 3 and 4). In FY96 and FY97, removal efficiencies compared favorably to theoretical removal efficiencies for primary treatment. In FY98, efficiencies continued to improve, especially for BOD, with a removal rate well above the theoretical range.[1] The start-up of Batteries A and B of secondary treatment contributed greatly to increases in removal efficiency. In FY99, the removal efficiencies for both BOD and TSS increased, even with only two batteries of secondary treatment on-line. The TSS removal rate approached 90% and the BOD rate exceeded 80%. These trends continued in FY00, as TSS removal rates exceeded the theoretical maximum for secondary treatment and BOD removal rates approached the theoretical maximum.

[1] Metcalf & Eddy, Inc. 1972. Wastewater Engineering: Collection, Treatment, Disposal. New York: McGraw-Hill Book Company. p. 446.

Figure 3
Deer Island TSS Removal Rates

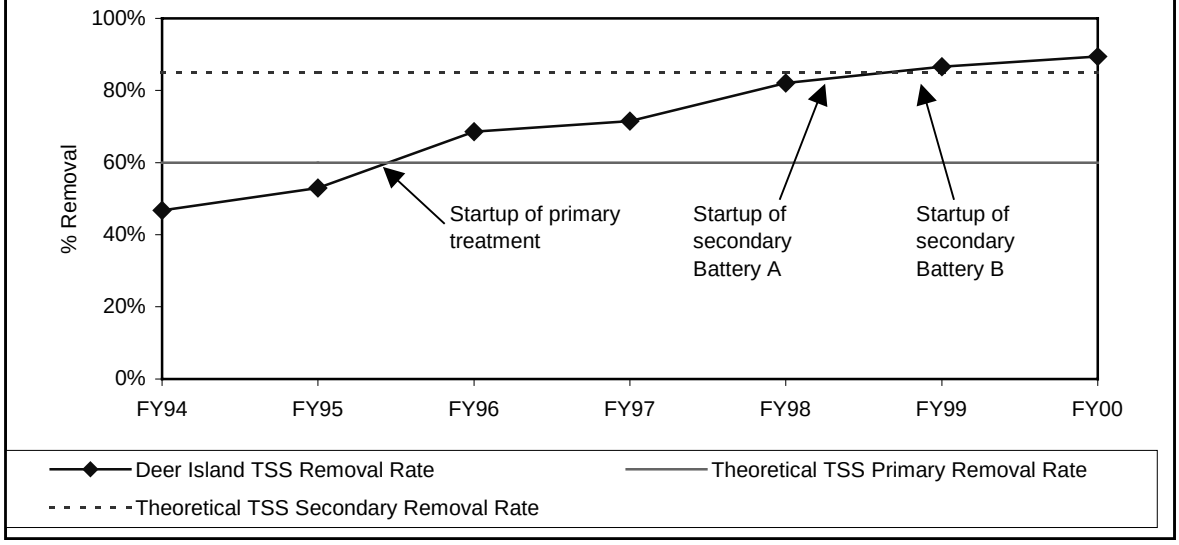
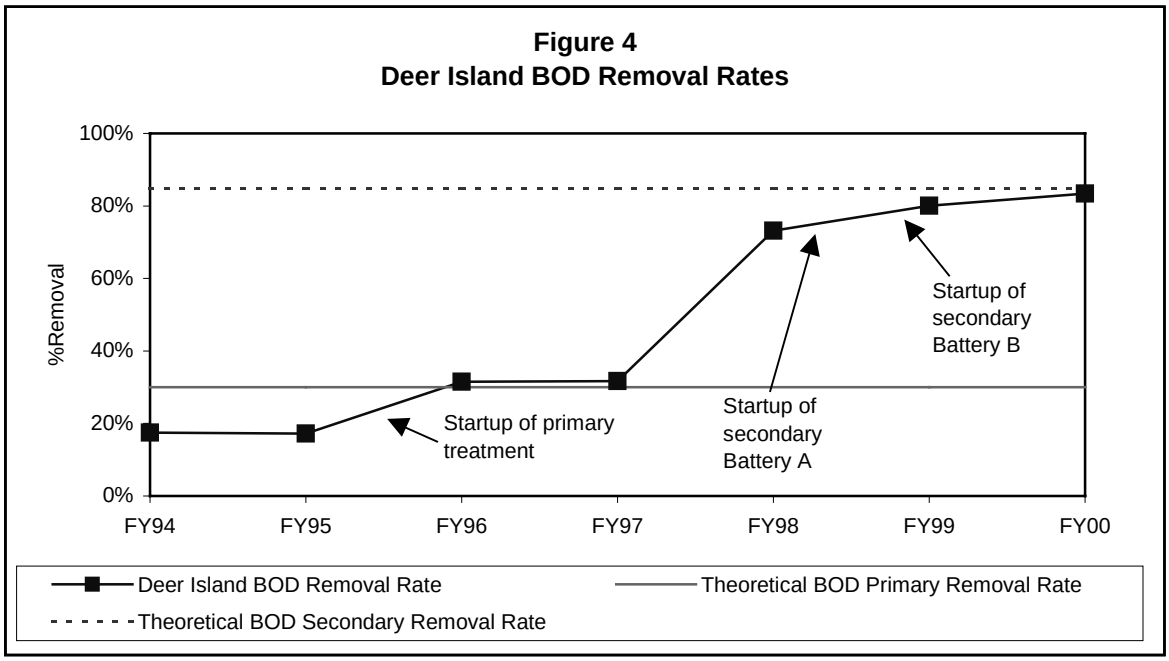


Figure 4
Deer Island BOD Removal Rates

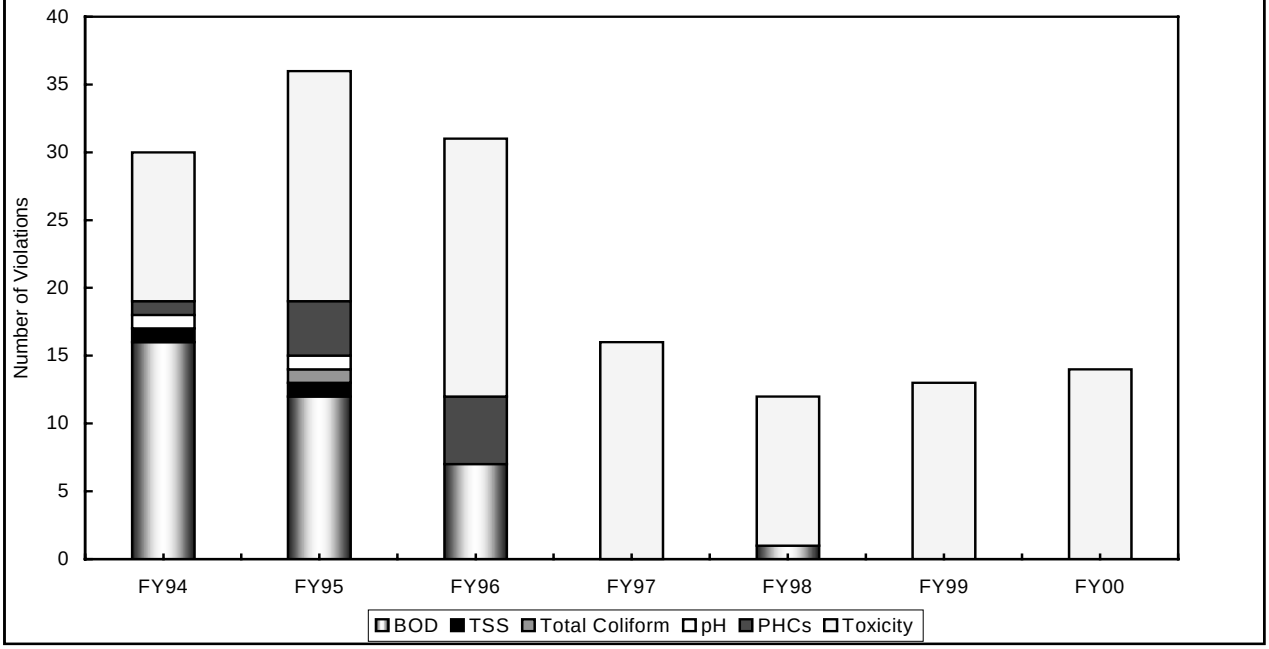


Annual numbers of NPDES violations have decreased dramatically due to improved treatment at DITP. Figure 5 compares the number of NPDES permit violations at Deer Island in FY00 to

previous years. No non-toxicity NPDES violations occurred in FY00, FY99, or FY97, but one in FY98, compared to 12 in FY96 and 19 in both FY95 and FY94. Fourteen toxicity violations occurred in FY00. Two involved the mysid shrimp acute test and the remainder involving the *Champia* chronic test, which the EPA has withdrawn in future permits due to the questionable reliability of the species. Some of the reductions in the number of violations can be attributed to a change in testing methods for petroleum hydrocarbons (PHC), but much of it has resulted from improved treatment.

Figure 5 does not include pH violations during FY00. On 164 occasions, the pH fell below the minimum regulatory limit of 6.5. However, these violations resulted from the use of approved treatment technologies. The secondary treatment system uses pure oxygen to promote bacterial growth. Carbon dioxide resulting from bacterial respiration dissolves into the effluent, lowering the pH. The new NPDES permit will account for the expected lowered pH by expanding the pH limits to 6.0-9.0. The artificially lowered pH has no measurable impact on water quality due to the buffering capacity of the receiving waters.

Figure 5
NPDES Violations at Deer Island



Deer Island also saw improvements in effluent metals loadings. These improvements are probably due to two sources: first, corrosion control activities and source reduction programs may have helped to lower metals in the incoming influent. Second, the new plant may be able to better capture metals in the treatment process. Given the expected dilution of the effluent, none of the metals exceeded the EPA's water quality standards.

Combined Sewer Overflow Facilities

MWRA monitors three Combined Sewer Overflow (CSO) facilities – Cottage Farm, Prison Point and Somerville Marginal – under the existing NPDES permit. In addition, MWRA monitors three other CSO facilities currently included in the Boston Water and Sewer Commission's (BWSC) NPDES permit at Constitution Beach, Fox Point, and Commercial Point. MWRA's new NPDES permit will require monitoring of these three additional facilities.

Figures 6 and 7 show the number of activations and the total volume treated, respectively, at the six CSO facilities since FY94. The correlation between rainfall and CSO activation can be seen in both figures. Note that although total rainfall is correlated to CSO activation, the intensity of the rainfall and frequency of storms will have an important effect. These storm characteristics influence the degree of ground saturation, affecting the volume treated at the CSO facilities during a storm.

Figure 6
CSO Facility Activations, FY94-FY00

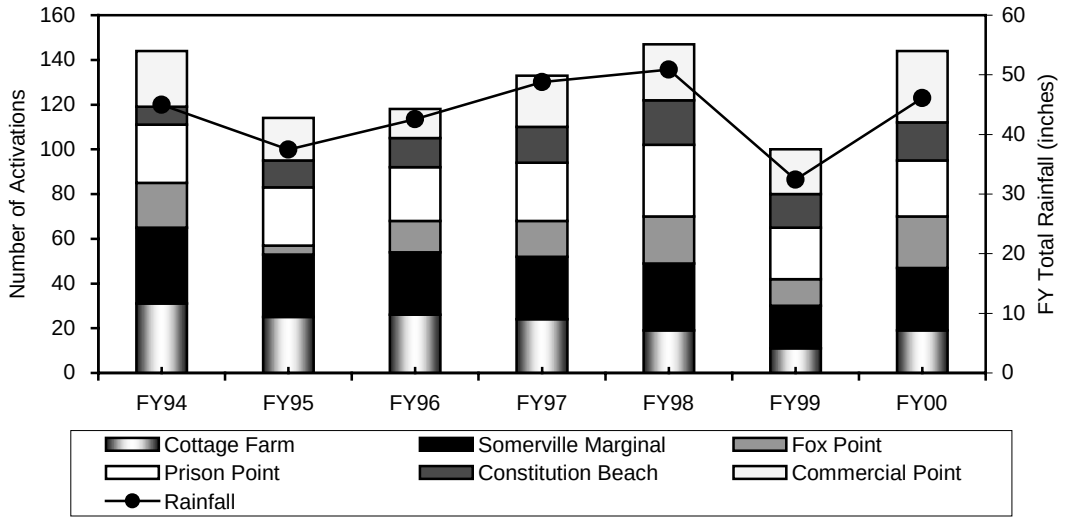
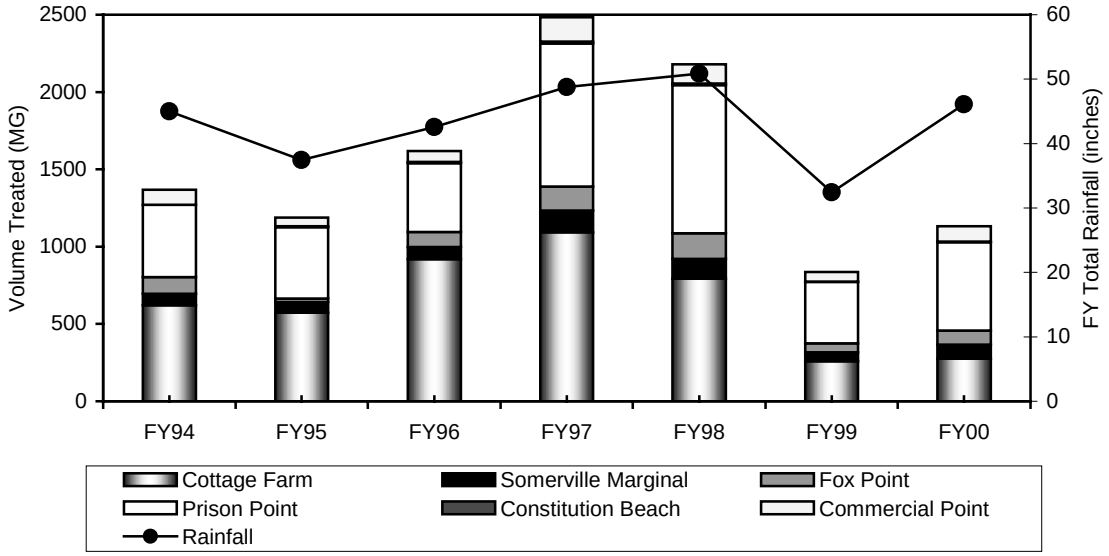


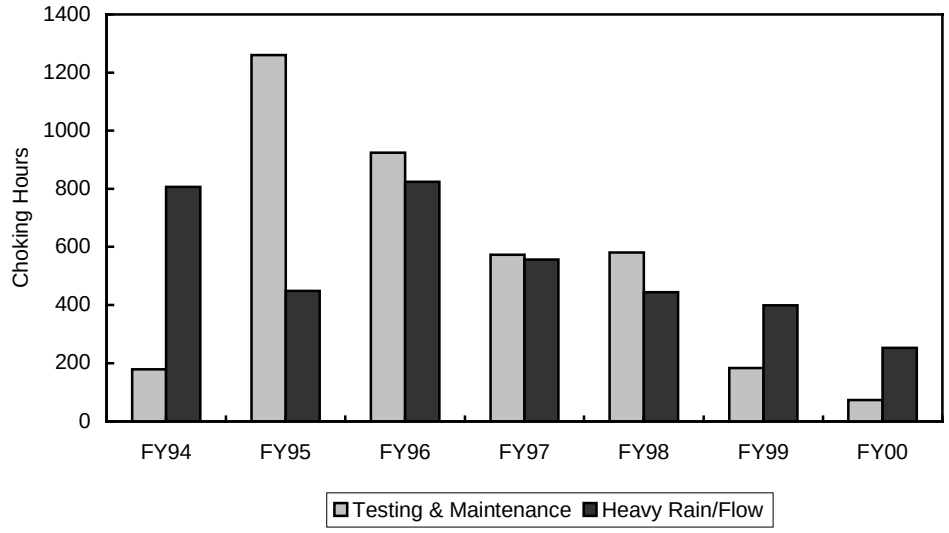
Figure 7
CSO Volume Treated, FY94-FY00



Collection and Transport System

The MWRA monitors the capacity of the wastewater collection and transport system. One of the system capacity parameters in the North System is choking, which occurs at the remote headworks. Choking is a reduction or stopping of flow to Deer Island, either when heavy flow exceeds the capacity of the treatment plant or when maintenance is performed at the plant.

Figure 8
Headworks Choking, FY94-FY00



As Figure 8 shows, the number of hours of choking decreased from FY99 to FY00, with the majority of the choking hours caused by heavy flows. MWRA performs maintenance- and testing-related choking at off-peak times so not to cause any backups in the system upstream.

MWRA also monitors the occurrence of Sanitary Sewer Overflows, or SSOs. These overflows occur in areas where the collection system becomes overloaded by heavy flows. In FY95, the MWRA Transport Department started to locate and visually monitor these SSOs in the North and South

Systems. Table 1 summarizes the SSOs observed by MWRA personnel in FY00.

Table 1 Sanitary Sewer Overflows, FY00

Location	Number of Overflows
North System	
Section 80 Arlington	0
Section B Cambridge	1
Section 43.5 Medford	0
Section 91B Medford (Manhole)	1
Section 91B Medford (Siphon)	1
Section 107 Medford	3
Section C Medford	2
Section 530 Newton	1
Section 113 Winchester	1
Alewife Brook Pump Station	1
South System	
Section 128 Braintree	0
Section 126 Weymouth (Manhole)	0
Section 126 Weymouth Smelt Brook	2

Future Outlook

The startup of the new primary treatment plant at Deer Island in FY95 was just the first of several changes and improvements in MWRA's facilities. In August 1997, DITP introduced the first of three batteries of secondary treatment. At the end of FY00 (June 2000), two batteries of secondary treatment are operational, with the third battery is scheduled to undergo water testing early in 2001. This third battery will probably be in full operation sometime in late FY01. On July 8, 1998, MWRA decommissioned the Nut Island Treatment Plant and opened the Inter-Island Tunnel to transport South System flows to DITP. The new outfall tunnel discharging into Massachusetts Bay will open in FY01. When that occurs, DITP will no longer discharge effluent into Boston Harbor.

A new NPDES permit will regulate effluent discharges from the new outfall tunnel. This comprehensive permit, the first of its kind, includes several new concepts. In addition to the usual effluent monitoring, an ambient monitoring plan will be put into place for the new outfall site, as well as a contingency plan to ensure that discharge does not adversely impact Massachusetts Bay. Other requirements include water conservation measures, pollution prevention plans, and best management practices to stop pollution before it reaches the treatment facility. A stepped-up industrial waste program will help industry meet local limits for pollutants. Intensified sampling at CSO facilities will better characterize the quality of CSO effluent. As MWRA completes its new facilities, the next challenge will be to implement these new programs and provide the Authority-wide coordination needed to meet these new NPDES reporting requirements.

I Introduction

This report presents and summarizes the National Pollutant Discharge Elimination System (NPDES) monitoring and compliance data compiled and analyzed by the Massachusetts Water Resources Authority (MWRA) Environmental Quality Department during the period of July 1999 to June 2000. MWRA's Deer Island Treatment Plant (DITP) and Combined Sewer Overflow (CSO) facilities serve large communities' needs for sewer systems while maintaining healthy water environments for recreation and wildlife.

The monitoring results for DITP are presented and discussed in Chapter II. Chapter III describes the results for the six CSO facilities. Chapter IV discusses sewer system capacity. Appendices A-G provide detailed monthly data for the Deer Island plants and for the six CSO facilities. Appendix H provides background information about MWRA's regulatory requirements, and Appendix I describes the MWRA sewer system and facilities. Appendix J defines the types of detection limits encountered in chemical analyses. Appendix K includes lists of pollutants of concern. Finally, Appendix L is a glossary of the terms and phrases used throughout this report.

II Deer Island Treatment Plant

This chapter presents and discusses monitoring information for the Deer Island Treatment Plant (DITP). The characteristics examined include flow, conventional parameters, nutrients, priority pollutants (metals, cyanide, pesticides/PCBs, and organic compounds), and whole effluent toxicity.

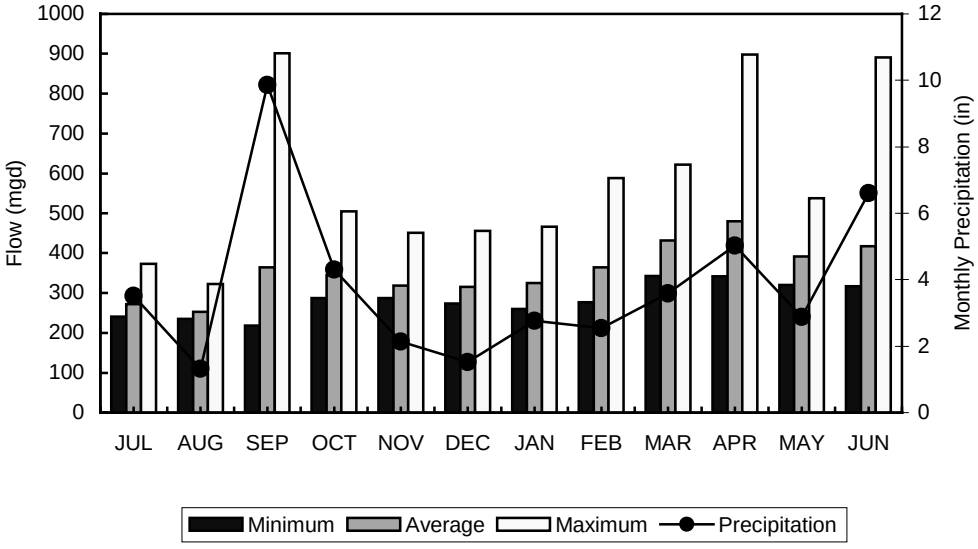
II.A Monitoring Results

II.A.1 Influent Characteristics

II.A.1.a Flow

The average flow to DITP in FY00 was 356 million gallons per day (mgd). Figure II.A.1 shows that the amount of flow to the plant is influenced by precipitation. This occurs because several of the larger communities in the North System have combined sewers.

Figure II.A.1
Deer Island Flow Compared to Precipitation, FY00



The impact of rainfall on flows can also be seen in Figure II.A.2, which tracks average flow and precipitation over the past 7 fiscal years. The completion of the Inter-Island Tunnel from Nut Island to Deer Island in early FY99 resulted in increased flow to DITP, as DITP treated South System sewage previously treated at the now defunct Nut Island Treatment Plant. Despite the increased rainfall in FY00 (46.1 versus 32.4 inches), average flows to DITP remained similar to flows in FY99 (356 mgd in FY00 versus 350 in FY99).

Figure II.A.2
Deer Island Average Flow
Compared to Precipitation FY94-FY00

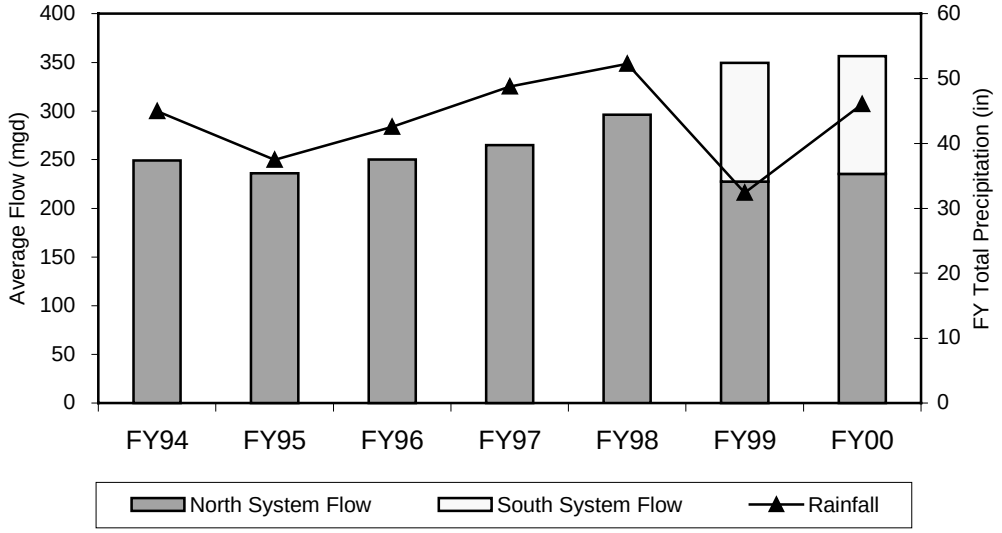
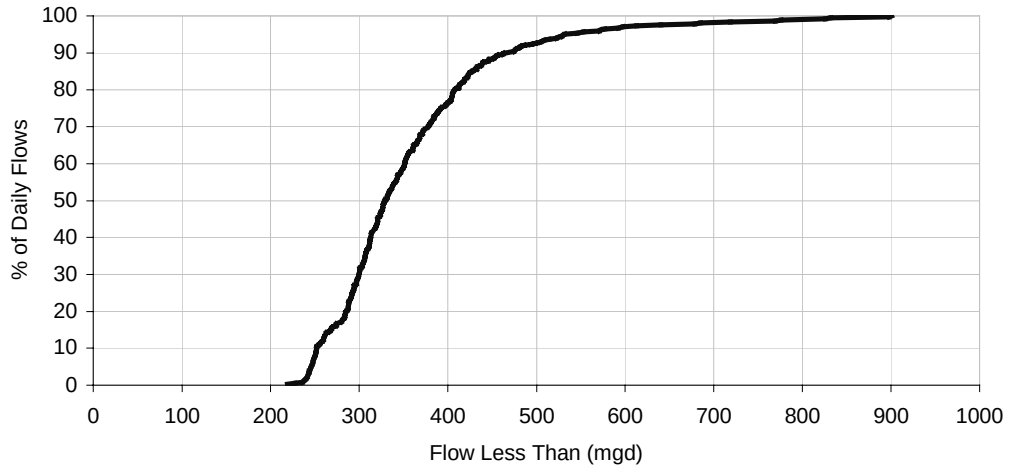


Figure II.A.3 provides a frequency distribution of DITP flow in FY00. Flow through the plant was less than 532 mgd 95% of the time.

Figure II.A.3
Frequency Distribution for Deer Island Flow, FY00



II.A.1.b Conventional Parameters and Nutrients

As Table II.A.1 indicates, Deer Island influent in FY00 can be classified as weak/medium.[1] A summary of Deer Island influent characteristics from FY94-FY00 is provided in Table II.A.2.

Table II.A.1 Classification of Deer Island Influent (mg/L), FY00

Parameter	Value	Weak	Medium	Strong
TSS	167	100	200	350
BOD	152	100	200	300
TKN	28	20	40	85
Ammonia	16	12	25	50
COD	372	250	500	1000

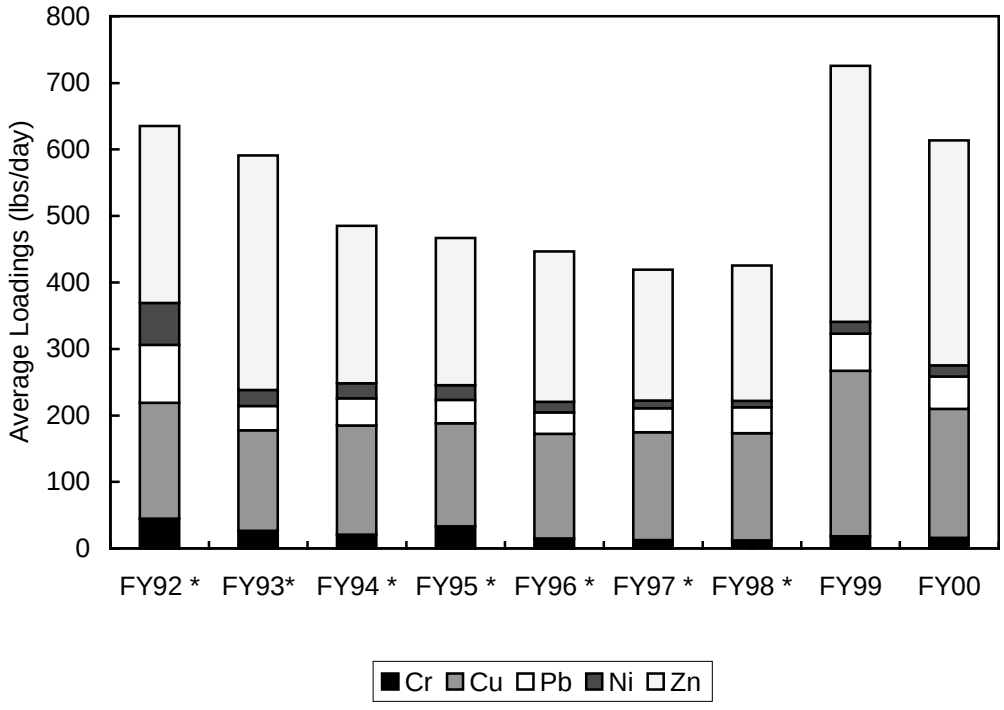
[1]Metcalf & Eddy, Inc. 1972. Wastewater Engineering: Collection, Treatment, Disposal. New York: McGraw-Hill Book Company, p. 231.

II.A.1.c Priority Pollutants

The results of a complete priority pollutant scan of Deer Island influent can be found in Table A-2 (concentrations) and Table A-3 (loadings) of Appendix A. For levels below detection limits, one half of the method detection limit for inorganics or one tenth of the quantitation limit for organics was substituted. Appendix K provides a detailed discussion of detection and quantitation limits.

Figure II.A.4 compares FY00 average influent loadings for several key metals to historical values. Before 1999, metals loadings in the North System decreased steadily, as MWRA made strides in toxic and corrosion control efforts involving both water supply and wastewater transport. MWRA samples for these pollutants a few times a month. Using the measured concentration and the flow on the day on which the sample was taken, daily loads can be calculated. Since the South System flow was transferred from Nut Island to Deer Island at the start of FY99, the data for the past two fiscal years includes the South System flow. This larger, combined flow explains the increase in loadings of metals from FY92-98 to FY99-00.

Figure II.A.4
Deer Island Average Influent Metals Loadings, FY92-FY00



* DITP and the North System only; the opening of the Inter-Island Tunnel and transfer of South Sytem flows to DITP occurred at the start of FY99.

Figure II.A.5 compares influent loadings of certain representative organic priority pollutants to the loadings in previous years (see Table A-3 in Appendix A for more details). The opening of the Inter-Island Tunnel in FY98 has an identical effect on organics loadings as it did on metals loadings; they increased greatly due to the added flow from the South System.

Table II.A.2 Deer Island Influent Characterization, FY94-FY00

PARAMETER	FY94 *	FY95 *	FY96 *	FY97 *	FY98 *	FY99	**FY00**
Flow (mgd)							
Minimum	171	167	147	167	159	233	**219**
Average	249	236	250	265	296	350	**356**
Maximum	528	565	526	649	917	824	**901**
Total Suspended Solids (TSS)							
Min Conc (mg/L)	93	102	56	50	32	43	**86**
Avg Conc (mg/L)	137	138	140	144	141	160	**167**
Max Conc (mg/L)	175	160	432	284	382	564	**379**
Average Loading (tons/d)	142	136	146	159	175	234	**248**
Biochemical Oxygen Demand (BOD)							
Min Conc (mg/L)	99	99	61	39	31	45	**58**
Avg Conc (mg/L)	149	140	143	136	145	151	**147**
Max Conc (mg/L)	175	173	246	311	302	506	**337**
Average Loading (tons/d)	155	138	149	151	179	220	**218**
Settleable Solids							
Min Conc (mL/L)	1.9	3.5	0.1	1.5	0.1	0.1	**0.7**
Avg Conc (mL/L)	3.9	5.6	7.0	6.9	6.3	5.9	**5.3**
Max Conc (mL/L)	5.6	7.3	18.0	17.0	20.0	34.2	**24.6**
Average Loading (tons/d)	4.0	5.5	7.3	7.7	7.8	8.6	**7.9**
Oil and Grease							
Min Conc (mg/L)	14	17	10	12	7	15	**11**
Avg Conc (mg/L)	36	31	34	29	30	37	**33**
Max Conc (mg/L)	64	37	67	136	108	107	**52**
Average Loading (tons/d)	37	31	35	33	36	54	**49**
Total Kjeldahl Nitrogen							
Min Conc (mg/L)	11.2	14.0	11.6	8.7	13.6	14.6	**13.2**
Avg Conc (mg/L)	21.9	21.9	26.3	24.2	26.4	29.2	**27.7**
Max Conc (mg/L)	29.3	29.1	56.3	48.1	37.7	45.6	**46.5**
Average Loading (tons/d)	22.7	21.5	27.4	26.8	32.6	42.7	**41.1**

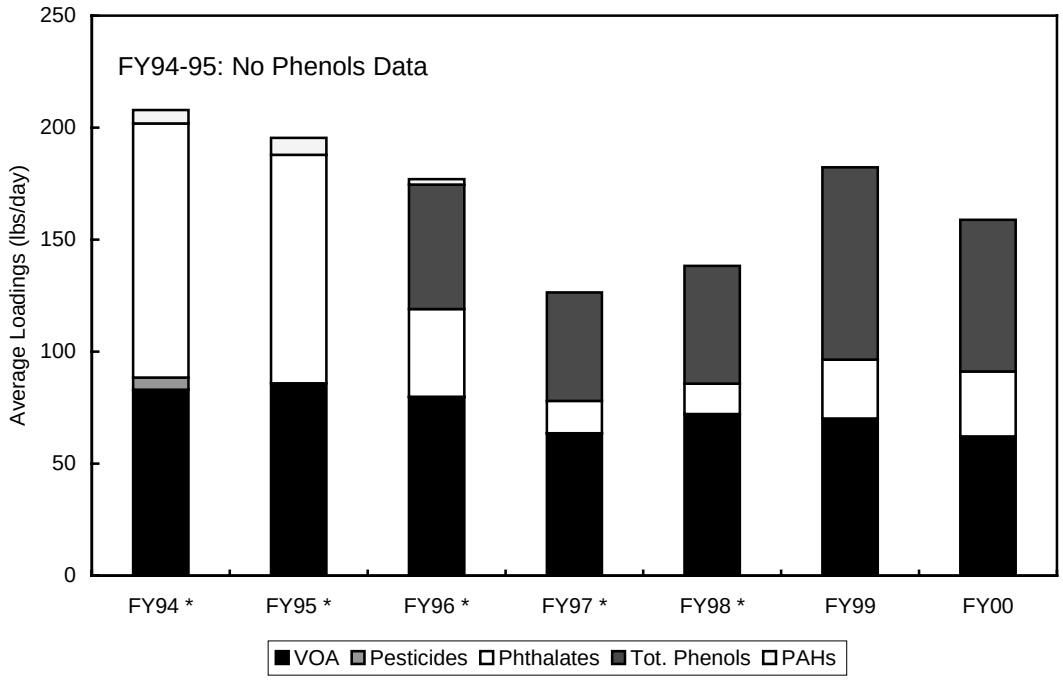
Table II.A.2 Deer Island Influent Characterization, FY94-FY00 [cont.]

PARAMETER	FY94 *	FY95 *	FY96 *	FY97 *	FY98 *	FY99	**FY00**
Ammonia-Nitrogen							
Min Conc (mg/L)	5.6	7.3	6.8	2.5	4.8	6.0	**6.1**
Avg Conc (mg/L)	12.3	13.7	15.0	13.3	14.5	16.6	**16.3**
Max Conc (mg/L)	17.9	18.0	24.0	18.6	23.1	30.8	**25.0**
Average Loading (tons/d)	12.8	13.5	15.6	14.6	17.8	24.2	**24.2**
Nitrates							
Min Conc (mg/L)	0.10	0.02	0.01	0.01	0.01	0.01	**0.00**
Avg Conc (mg/L)	0.80	0.15	0.14	0.22	0.36	0.06	**0.13**
Max Conc (mg/L)	2.70	0.59	1.42	2.31	1.95	1.21	**1.56**
Average Loading (tons/d)	0.83	0.15	0.15	0.24	0.44	0.09	**0.19**
Nitrites							
Min Conc (mg/L)	0.00	0.02	0.01	0.01	0.01	0.01	**0.01**
Avg Conc (mg/L)	0.10	0.06	0.07	0.09	0.08	0.05	**0.14**
Max Conc (mg/L)	0.20	0.19	1.66	0.35	0.46	0.45	**0.72**
Average Loading (tons/d)	0.10	0.06	0.07	0.10	0.10	0.07	**0.21**
Orthophosphorus							
Min Conc (mg/L)	0.40	1.00	0.29	0.13	0.49	0.50	**0.53**
Avg Conc (mg/L)	2.30	2.20	1.53	1.49	1.76	2.02	**1.93**
Max Conc (mg/L)	5.10	5.66	3.19	2.62	3.13	3.25	**3.32**
Average Loading (tons/d)	2.39	2.17	1.60	1.64	2.17	2.95	**2.87**
Total Phosphorus							
Min Conc (mg/L)	0.60	2.11	1.54	1.21	1.80	2.25	**2.10**
Avg Conc (mg/L)	4.00	3.63	3.42	3.19	3.70	4.22	**4.36**
Max Conc (mg/L)	8.30	4.79	4.85	5.00	5.29	7.78	**5.86**
Average Loading (tons/d)	4.15	3.57	3.57	3.53	4.57	6.16	**6.48**

* DITP and the North System only; the opening of the Inter-Island Tunnel and transfer of South Sytem flows to DITP occurred at the start of FY99.

Figure II.A.5 shows the annual average of the daily loads; however, it does not reflect how often the pollutant was detected during the year. For example, if in FY00, a pollutant was detected twice out of 35 tests, the pollutant's average daily loading for the year would be included in the chart below. If in FY99, that same pollutant was detected 34 out of 35 times, the average loading would be included in the chart below, without differentiating it from FY00. Moreover, the average loading of a pollutant may be artificially high, since when the pollutant is not detected, one tenth of the reporting limit is listed (see Appendix K). Therefore, when this concentration is converted to a loading, it is recorded as a non-zero value, even though the constituent may not have been present in the sample.

Figure II.A.5
Deer Island Average Influent Organics Loadings, FY94-FY00



* DITP and the North System only; the opening of the Inter-Island Tunnel and transfer of South Sytem flows to DITP occurred at the start of FY99.

II.A.2 Effluent Characteristics

II.A.2.a Conventional Parameters and Nutrients

Table II.A.3 compares DITP's removal efficiencies for TSS and BOD with theoretical removal efficiencies.[2] The removal efficiencies are determined from the average effluent and influent concentrations for TSS and BOD as reported in Table A-1 of Appendix A.

Table II.A.3 Deer Island Removal Efficiency, FY00

Parameter	DITP Removal Efficiency*	Theoretical Removal Efficiency	
		Primary Treatment	Secondary Treatment
TSS	89%	50-65%	85%
BOD	83%	25-40%	85%

*Removal efficiencies were determined using the average influent and effluent concentration values as reported in Table A-1, Appendix A. Note that only a portion of the total flow each month went through secondary treatment. See Table II.A.4 for more information.

Table II.A.4 shows how degree of secondary treatment can affect TSS and BOD removal efficiencies. The table lists TSS and BOD removal efficiencies and the percentage of flow that received secondary treatment on a monthly basis. The degree of secondary treatment is the average flow through secondary treatment (mgd) during the month divided by the average plant flow (mgd) for that month.

For the year, almost 89% of DITP flow went through secondary treatment and removal efficiencies for TSS were greater than 88%. For BOD, removal efficiency was almost 83%. Heavy rains and consequent high flows in September, March, April, and June account for the smaller amounts that were treated at secondary levels for those months.

[2]Metcalf & Eddy, Inc. 1972. Wastewater Engineering Collection, Treatment, Disposal. New York. McGraw-Hill Book Company, p. 446.

Table II.A.4

Removal Efficiencies vs. Degree of Secondary Treatment, FY00

	TSS Removal Efficiency	BOD Removal Efficiency	% of Flow Treated at Secondary Levels
July	93%	89%	98%
August	93%	89%	100%
September	90%	83%	86%
October	89%	85%	92%
November	91%	88%	100%
December	92%	84%	99%
January	91%	87%	96%
February	86%	83%	89%
March	78%	77%	84%
April	83%	69%	63%
May	89%	80%	82%
June	90%	81%	77%

Table II.A.5 summarizes the conventional parameters and nutrients in Deer Island effluent over the past seven years. The significant drop in several parameters that occurred between FY95 and FY96 is due to the improved removal efficiency of the primary treatment plant. The implementation of secondary treatment in FY98 can explain the drop in TSS and BOD concentrations since FY97. It can also explain the increase in TKNs, ammonia and nitrites over that same time periods.

Table II.A.5 Deer Island Effluent Characterization, FY94-FY00

PARAMETER	FY94 *	FY95 *	FY96 *	FY97 *	FY98 *	FY99	**FY00**
Flow (mgd)							
Minimum	171	167	147	167	159	237	**219**
Average	249	236	250	265	296	350	**356**
Maximum	528	565	526	649	917	757	**900**
Total Suspended Solids (TSS)							
Min Conc (mg/L)	65	52	17	16	4	3	**5**
Avg Conc (mg/L)	73	65	44	41	25	22	**18**
Max Conc (mg/L)	86	90	136	100	140	69	**62**
Average Loading (tons/d)	76	64	46	46	31	31	**26**
Biochemical Oxygen Demand (BOD)							
Min Conc (mg/L)	87	85	42	29	8	10	**7**
Avg Conc (mg/L)	123	116	98	93	39	30	**25**
Max Conc (mg/L)	142	138	147	191	216	99	**62**
Average Loading (tons/d)	128	114	102	103	48	44	**37**
Settleable Solids							
Min Conc (mL/L)	0.1	0.1	0.1	0.1	0.1	0.1	**0.0**
Avg Conc (mL/L)	0.5	0.4	0.2	0.2	0.2	0.2	**0.1**
Max Conc (mL/L)	0.9	0.7	2.0	1.6	7.0	3.0	**3.1**
Average Loading (tons/d)	0.5	0.4	0.2	0.2	0.2	0.3	**0.1**
Oil and Grease							
Min Conc (mg/L)	12	17	7	7	4	7	**7**
Avg Conc (mg/L)	25	25	24	23	11	10	**8**
Max Conc (mg/L)	36	30	42	47	30	28	**22**
Average Loading (tons/d)	26	25	25	26	13	15	**12**
Total Kjeldahl Nitrogen							
Min Conc (mg/L)	12.8	13.7	10.6	10.9	9.1	11.2	**8.2**
Avg Conc (mg/L)	21.7	23.0	22.5	21.9	20.4	23.4	**21.8**
Max Conc (mg/L)	32.8	28.6	32.5	27.6	32.4	34.3	**32.4**
Average Loading (tons/d)	22.5	22.6	23.4	24.3	25.2	34.2	**32.4**

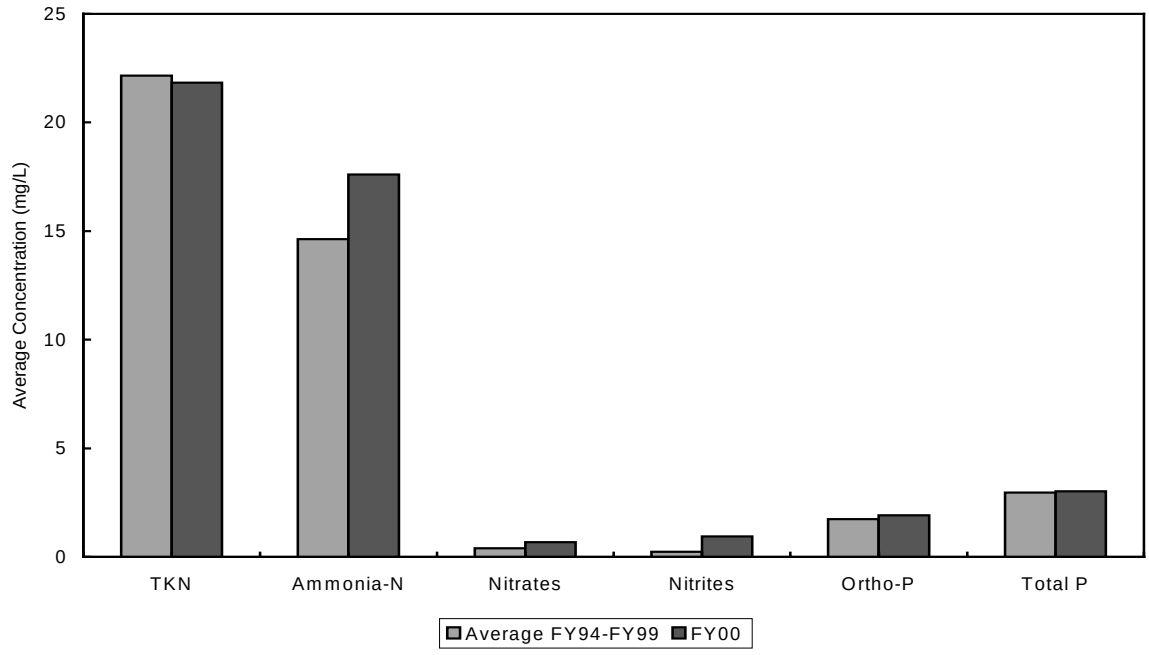
Table II.A.5 Deer Island Effluent Characterization, FY94-FY00 [cont.]

PARAMETER	FY94 *	FY95 *	FY96 *	FY97 *	FY98 *	FY99	**FY00**
Ammonia-Nitrogen							
Min Conc (mg/L)	6.08	7.28	5.55	4.43	3.48	5.42	**5.00**
Avg Conc (mg/L)	12.58	14.43	14.48	13.07	15.08	17.99	**17.60**
Max Conc (mg/L)	18.51	19.60	21.90	18.00	22.70	26.40	**25.20**
Average Loading (tons/d)	13.06	14.20	15.10	14.45	18.63	26.23	**26.16**
Nitrates							
Min Conc (mg/L)	0.13	0.03	0.01	0.01	0.01	0.01	**0.00**
Avg Conc (mg/L)	1.04	0.08	0.30	0.34	0.42	0.22	**0.69**
Max Conc (mg/L)	5.98	0.28	1.95	2.58	1.49	1.93	**2.96**
Average Loading (tons/d)	1.08	0.08	0.31	0.37	0.52	0.32	**1.03**
Nitrites							
Min Conc (mg/L)	0.01	0.02	0.01	0.01	0.01	0.01	**0.04**
Avg Conc (mg/L)	0.10	0.08	0.63	0.11	0.20	0.30	**0.95**
Max Conc (mg/L)	0.26	0.22	1.90	0.62	1.15	1.99	**3.06**
Average Loading (tons/d)	0.10	0.08	0.66	0.12	0.25	0.44	**1.41**
Orthophosphorus							
Min Conc (mg/L)	0.48	0.90	0.37	0.48	0.48	0.71	**0.57**
Avg Conc (mg/L)	2.15	2.22	1.71	1.68	1.71	1.97	**1.91**
Max Conc (mg/L)	4.09	3.39	3.01	2.71	3.18	3.19	**3.00**
Average Loading (tons/d)	2.23	2.18	1.78	1.85	2.11	2.87	**2.84**
Total Phosphorus							
Min Conc (mg/L)	1.19	2.11	1.43	1.12	1.17	1.50	**1.15**
Avg Conc (mg/L)	2.92	3.35	2.92	2.94	2.77	2.93	**3.03**
Max Conc (mg/L)	5.18	4.35	4.13	3.98	7.74	4.30	**7.04**
Average Loading (tons/d)	3.03	3.30	3.04	3.24	3.42	4.27	**4.50**

* DITP and the North System only; the opening of the Inter-Island Tunnel and transfer of South Sytem flows to DITP occurred at the start of FY9

A summary of nutrient concentrations in Deer Island effluent from FY94-FY00 is provided in Figure II.A.6. No major changes in nutrient concentrations have occurred over the past several years. The introduction of the new primary treatment plant in FY95 did not affect nutrient concentrations, as primary treatment has no effect on nutrients. DITP's secondary treatment plant uses bacteria to promote efficient and rapid breakdown of wastes. This technique results in changes in the proportions of nitrogen species; this explains the slight rise in effluent NH_3-N, NO_3, and NO_2 concentrations while total Kjeldahl nitrogen (TKN) concentrations have remained stable.

Figure II.A.6
Deer Island Effluent Nutrient Concentrations, FY94-FY00



II.A.2.b Priority Pollutants

Appendix A, Tables A-8 and A-9 provide a summary of priority pollutant concentrations and loadings in DITP effluent for FY00. Metals loadings over the past twelve years are summarized in Figure II.A.7, while Figure II.A.8 graphs organic pollutants from FY94-FY00. (See Section II.A.1.c for a discussion of influent organics loading data.) Two factors may explain the gradual decrease in loadings. First, fewer pollutants are found in the influent as users have either cooperated with the MWRA to reduce loading or become more aware of the consequences of dumping. Second, the decrease may also be attributed to better capture of the metals at the plant.

Figure II.A.7
Deer Island Average Effluent Metals Loadings, FY89-FY00

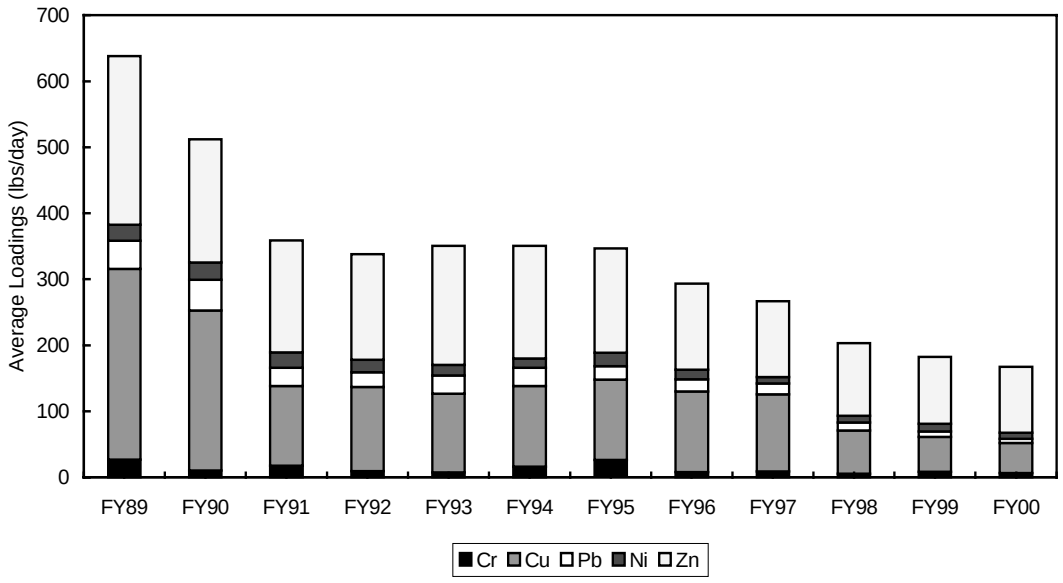
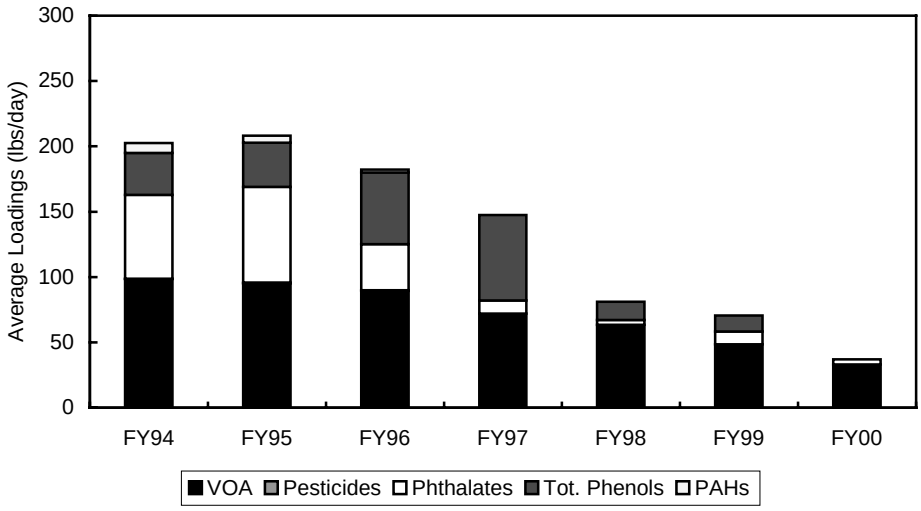


Figure II.A.8
Deer Island Average Effluent Organics Loadings, FY94-FY00



II.A.2.c Whole Effluent Toxicity

MWRA tests effluent toxicity every month at DITP. Effluent toxicity provides an overall view of the quality of the effluent, to ensure that the effluent does not adversely affect the environment. In 1989, the EPA found that the probable cause of most acute toxicity in DITP's wastestream was due to surfactants. Surfactants are most commonly used in household detergents to improve cleansing power. No acute toxicity could be attributed to metals or pesticides.

The permit requires MWRA to use three tests for effluent toxicity. A 96-hr acute static toxicity test using mysid shrimp *(Mysidopsis bahia)* measures the short term lethal effects caused by the effluent. A chronic survival and growth test using the sheepshead minnow *(Cyprinodon variegatus)* and a chronic reproduction test using a red alga *(Champia parvula)* both measure subtle toxic impacts over a longer period of time. The results of these tests can be found in Table II.A.6.

The LC50 (Lethal Concentration 50%) is the concentration of effluent in a sample that causes mortality to 50% of the test population during the duration of the test. The NOEC (No Observed Effect Concentration) is the concentration of effluent in a sample to which organisms are exposed in a life cycle or partial life cycle test that has no adverse effects. An NOEC limit of 20% means that 20% of the sample is effluent, and the remainder dilution water. Any acute NOEC below 20% or chronic NOEC below 10% would violate the NPDES limit.

Reductions in toxicity at DITP in FY99 reflect the benefits of secondary treatment. The acute results were in compliance 83% of the time and the *Cyprinodon* chronic tests were in compliance 100% of the time. The results of the *Champia* chronic tests were never in compliance. Due to questions regarding *Champia*'s reliability, Region I EPA has withdrawn this species as a monitoring tool in all permit renewals.

Table II.A.6
Deer Island Effluent, Results of Toxicity Testing, FY00

	Mysid Shrimp acute		Sheepshead Minnow chronic		Red Algae chronic
			Survival	Growth	
	LC50	NOEC	NOEC	NOEC	NOEC
Limits (%)	None	20	10	10	10
July	>100	50	60	60	**<0.2**
August	69	50	100	60	**0.16**
September	>100	50	60	60	**0.05**
October	>100	50	ND	ND	**0.05**
November	100	**5**	60	60	**0.05**
December	>100	**10**	60	10	**0.01**
January	92	50	100	10	**0.05**
February	46	20	100	60	**<0.05**
March	>100	50	100	60	**0.70**
April	88	50	100	100	**<0.05**
May	>100	100	100	100	**2**
June	66	20	100	100	**<0.05**
FY00 Average	88	42	85	62	0.3
# of Violations	N/A	2	0	0	12

Results in bold indicate a violation of the regulatory limits; ND indicates "No Data," or a test that returned an invalid result due to a failed control test.

II.B Discussion

II.B.1 Compliance with Regulatory Limits

MWRA currently operates under a court order providing interim discharge limits for the existing Deer Island Treatment Plant. Plant performance at Deer Island is compared to interim regulatory limits in Table II.B.1 and Figures II.B.1 through II.B.6. The only violations of the interim regulatory limits in FY00 were for toxicity testing (see Table II.A.6).

Table II.B.1 Deer Island Effluent Quality Compared to Interim Limits

Parameter	Interim Limits*	Range of Values Exceeding Limits	Number of Violations
Biochemical Oxygen Demand			
Monthly Avg (mg/L)	140	N/A	0
Daily Max (mg/L)	200	N/A	0
12-mo running removal rate (%)	27	N/A	0
Total Suspended Solids			
Monthly Avg (mg/L)	110	N/A	0
Daily Max (mg/L)	180	N/A	0
12-mo running removal rate (%)	38	N/A	0
Settleable Solids (mL/L)	2.8	N/A	0
Fecal Coliform (col/100 mL)	200	N/A	0
Total Coliform (col/100 mL)	1000	N/A	0
pH	6.5 - 8.5	N/A	0**
PHCs Effluent Dly. Max (mg/L)	15	N/A	0
Toxicity	@	@	14
	Total Number of Violations		14

* Except for removal rates, the effluent quality must be equal to or less than the limits. Removal rates must be equal to or greater than the limits.

** The minimum limit of 6.5 for pH was violated 164 times during FY00 due to the secondary treatment systems. As expected with the operation of the pure oxygen system, pH of the effluent was lowered as excess CO_2 (a result of biomass respiration) dissolved into the effluent. Since the violations were a direct result of the treatment process, they can be qualified. The new NPDES permit accounts for the expected lower pH by expanding the limits to 6.0-9.0. The lowered pH has no measureable impact on water quality because of the buffering capacity of the marine receiving waters.

@ See Table II.A.6

Table II.B.2 compares the number of NPDES violations in FY00 to previous years.

Table II.B.2 NPDES Violations at Deer Island, FY94-FY00

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
BOD	16	12	7	0	1	0	0
TSS	1	1	0	0	0	0	0
Settleable Solids	0	0	0	0	0	0	0
Fecal Coliform	0	0	0	0	0	0	0
Total Coliform	0	1	0	0	0	0	0
pH	1	1	0	0	0	0	0
PHCs	1	4	5	0	0	0	0
Toxicity	11	17	19	16	11	13	14
Non-Toxicity Violations	19	19	12	0	1	0	0
Total Violations	30	36	31	16	12	13	14

For biochemical oxygen demand (BOD) and total suspended solids (TSS), limits are placed on the daily maximum concentration, monthly average concentration and on removal rate.[3] The removal rate limit is for a 12-month running average of removal rates, rather than the average for an individual month. Figures II.B.1 and II.B.2 show that the monthly averages for BOD and TSS never exceeded the regulatory discharge limits (140 mg/L for BOD and 110 mg/L for TSS). Similarly, the 12-month running average removal rates for both TSS and BOD were always well above the regulatory minimum requirements.

[3]A removal rate for a constituent is defined as the influent concentration minus the effluent concentration, divided by the influent concentration.

Figure II.B.1
Deer Island Treatment Plant Effluent
BOD Trend Analysis, FY00

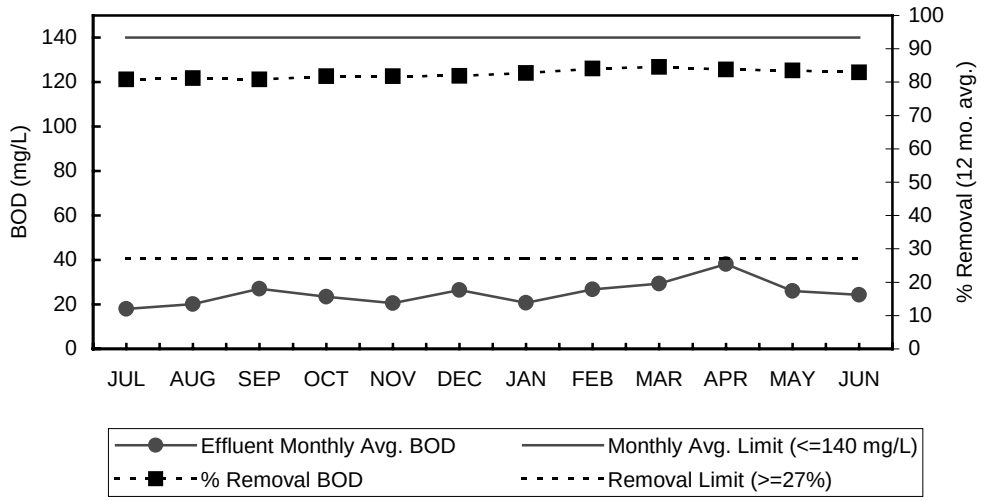
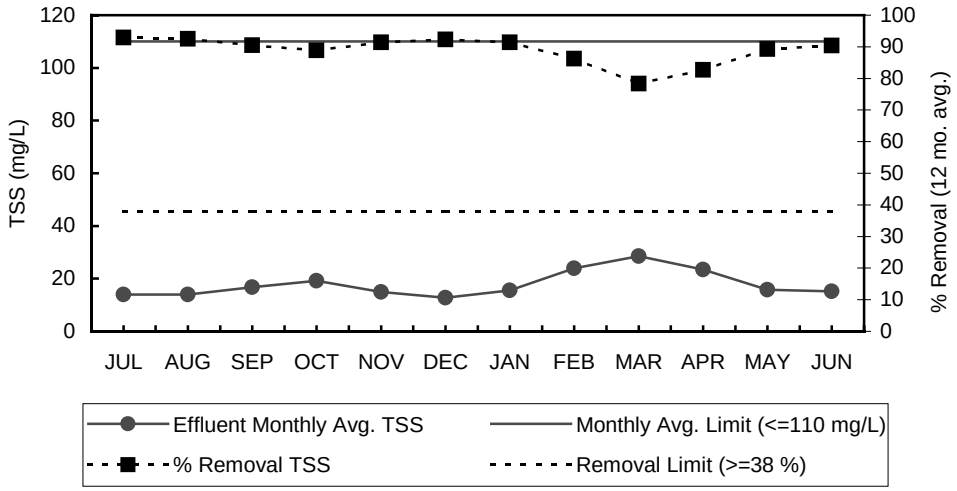
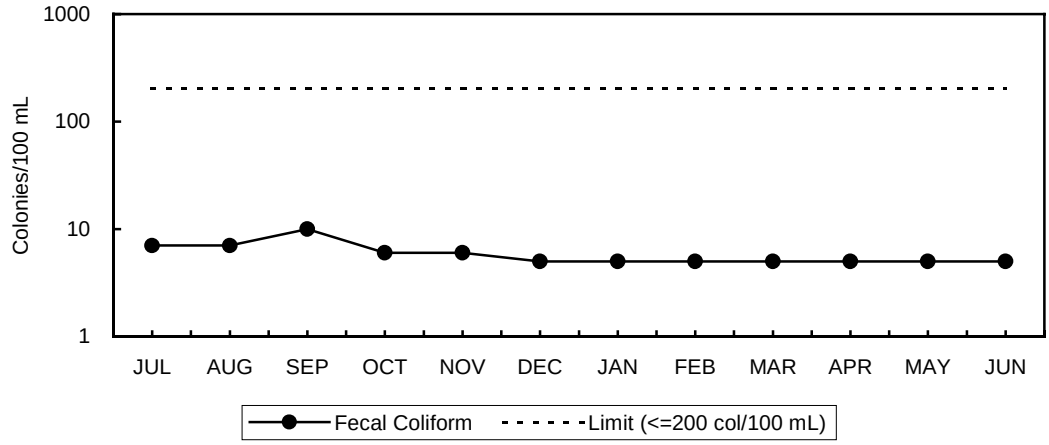


Figure II.B.2
Deer Island Treatment Plant Effluent
TSS Trend Analysis, FY00



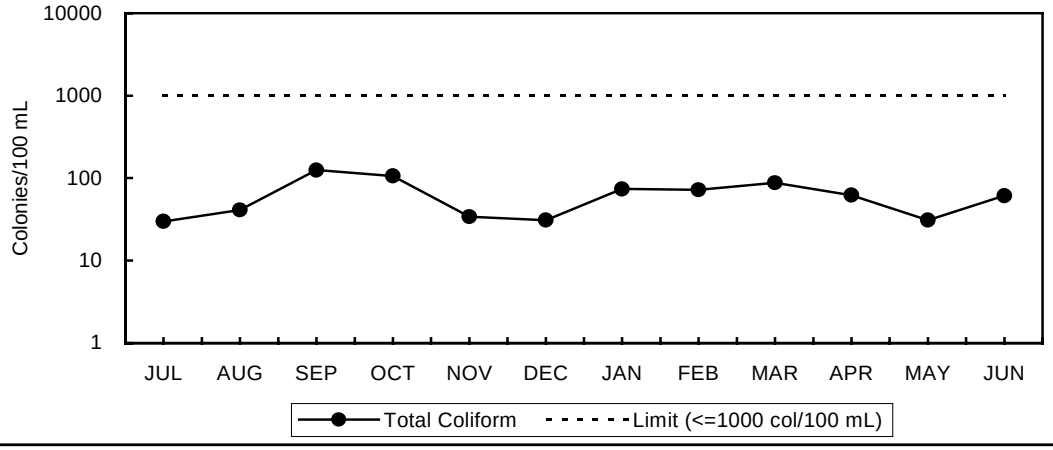
For fecal coliform, the monthly geometric mean of the count has a discharge limit of 200 colonies/100 mL. The results for Deer Island were well below this limit, with the monthly geometric mean never exceeding 10 colonies/100 mL.

Figure II.B.3
Deer Island Treatment Plant Effluent
Fecal Coliform Trend Analysis, FY00



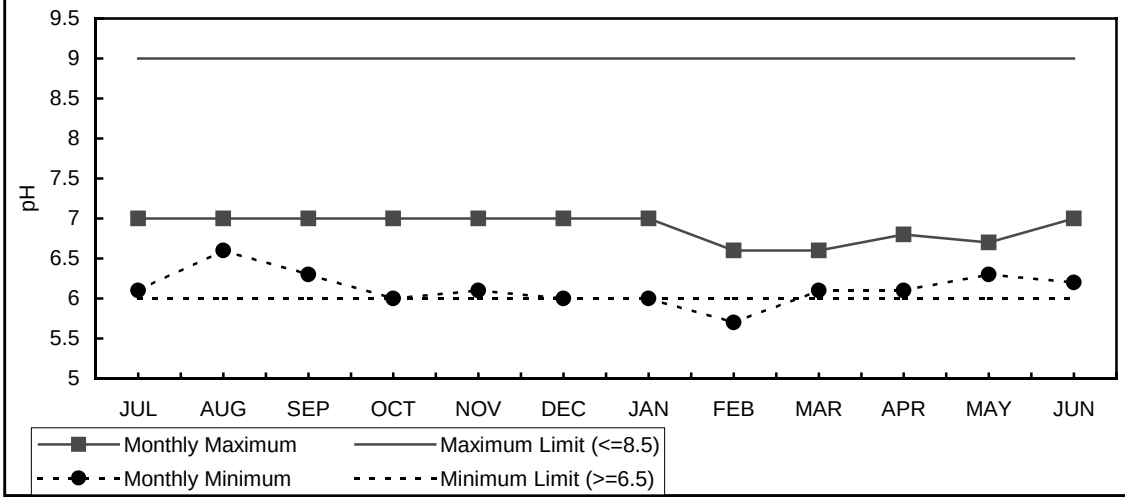
Likewise, total coliform counts were well below the limit of 1000 colonies/100 mL. The highest monthly geometric mean was 125 colonies/100 mL in September.

Figure II.B.4
Deer Island Treatment Plant Effluent
Total Coliform Trend Analysis, FY00



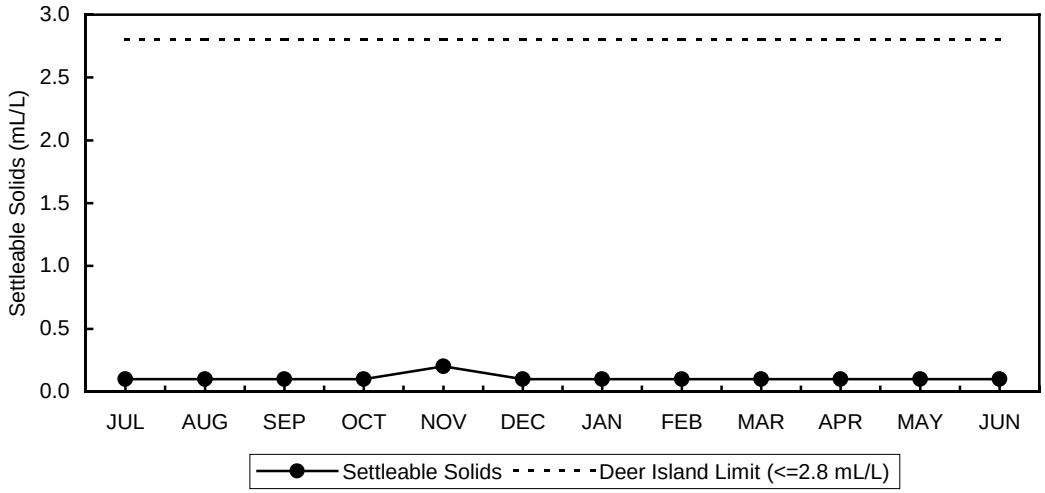
The limits for pH are based on the maximum and minimum values for each month, with pH required to fall between 6.5 and 8.5. In FY00, the pH of the effluent was always below the maximum of 8.5, but fell below the minimum value on 164 days. As explained in Table II.B.1, the pure oxygen secondary treatment system causes pH minimum violations, as excess carbon dioxide dissolves into the effluent and lowers the pH**.** The new NPDES permit makes allowances for the expected lower pH by expanding the limits to 6.0-9.0. The artificially lowered pH has no measurable impact on the quality of the receiving waters because of the buffering capacity of the receiving water.

Figure II.B.5
Deer Island Treatment Plant Effluent pH Trend Analysis, FY00



Deer Island Treatment Plant effluent concentrations were well below the maximum limit for settleable solids (2.8 mL/L), as Figure II.B.6 illustrates.

Figure II.B.6
Deer Island Treatment Plant Effluent
Settleable Solids Trend Analysis, FY00



II.B.2 Effluent Quality Compared to Water Quality Standards

Table II.B.3 compares concentrations of priority pollutants in DITP effluent to water quality criteria. The majority of priority pollutant parameters were below detection levels. Those that were detected had relatively low concentrations.

Table II.B.3 Comparison of Deer Island Treatment Plant Effluent with Water Quality Criteria, FY00

Parameter	Total Recoverable Max. Conc. (ug/L)	Total Dissolved Max. Conc. * (ug/L)	Total Recoverable Avg. Conc. (ug/L)	Total Dissolved Avg. Conc. * (ug/L)	Times Detected	Acute Criteria ** (ug/L)	Total Dissolved Max. Conc.: Acute Criteria	Chronic Criteria ** (ug/L)	Total Dissolved Avg. Conc.: Chronic Criteria
Arsenic	13.60	13.60	0.76	0.76	8 of 46	69.0	A	36.0	A
Copper	29.00	24.07	16.00	13.28	38 of 45	4.8	5:1	3.1	4:01
Lead	10.70	10.17	2.25	2.14	12 of 46	210.0	A	8.1	A
Mercury	0.23	0.19	0.04	0.03	44 of 46	1.8	A	0.94	A
Nickel	7.05	6.98	3.17	3.14	34 of 49	74.0	A	8.2	A
Silver	3.96	3.96 (C)	1.21	3.96 (C)	28 of 53	1.9	2:1	B	B
Zinc	62.60	59.20	35.40	33.49	45 of 45	90.0	1:1	81.0	A

A - Ratio lower than 1:1

B - No applicable criteria

C - No applicable conversion factor

* Calculated using the conversion factors in Appendix A of the Federal Register, December 10, 1998

** National Recommended Water Quality Criteria for Priority Toxic Pollutants, Federal Register, December 10, 1998

Given a theoretical minimum dilution of 10:1 (and an average dilution of 20:1 to 25:1), the metal concentrations that MWRA detected would not violate EPA's water quality criteria, as Table II.B.3 shows.

III Combined Sewer Overflow Facilities

MWRA monitors six Combined Sewer Overflow (CSO) facilities in the North System. The monitoring results vary significantly between facilities because of differences in the type and location.

Each of the CSO facilities chlorinates the combined wastewater (sewage and storm water) prior to discharge. Of the six CSO facilities, only the Cottage Farm and Prison Point facilities have pumping and tank storage capacity. Pumping and tank storage allows chlorinated wastewater to be held at these facilities up to their storage capacities prior to discharge. Any wastewater exceeding the storage capacity will overflow and is discharged to the river. The four other CSO facilities – Somerville Marginal, Constitution Beach, Fox Point and Commercial Point – are gravity CSO facilities, which means that combined wastewater arrives and leaves the CSO facility by gravity instead of pumping. The combined wastewater is disinfected and the chlorinated wastewater overflows to the receiving water as quickly as it arrives at the facility. A detailed description of the six CSO facilities can be found in Appendix I.

III.A Cottage Farm Combined Sewer Overflow Facility

III.A.1 Activations

Table III.A.1 and Figures III.A.1 and III.A.2 summarize activation data for the Cottage Farm CSO facility. From FY99 to FY00, releases from Cottage Farm increased from 259 to 440 million gallons. However, the rainfall in FY00 was considerably higher than in FY99. Comparing FY00 to FY94, a year with similar rainfall, shows that activations, days activated, and total volume treated have all decreased. MWRA's CSO optimization plan and improvements in in-line storage contributed to this improvement.

Table III.A.1 Cottage Farm CSO Activations Summary

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Number of Activations	31	25	26	24	19	11	**19**
Number of Days Activated	31	25	33	29	22	13	**24**
Total Volume Treated (MG)	621	574	918	1092	792	259	**440**
Maximum Flow (mgd)	123	100	94	199	114	47	**86**
Minimum Flow (mgd)	0.08	0.09	1.88	0.63	0.76	1.35	**0.56**
Average Flow (mgd)	20.03	22.96	27.83	37.66	36.01	19.92	**18.34**
Total Rainfall (in/year)	45.00	37.40	42.55	48.79	50.87	32.41	**46.08**

Average flow = Total volume treated divided by the number of days activated.

Figure III.A.1
Cottage Farm CSO Activations Compared to Precipitation, FY94-FY00

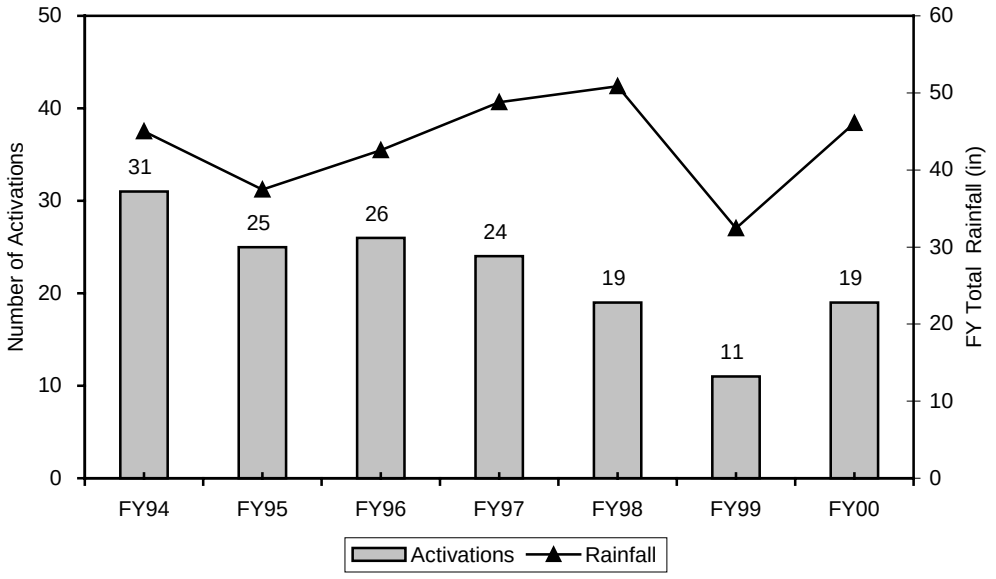


Figure III.A.2
Cottage Farm Total Volume Treated
Compared to Precipitation, FY94-FY00

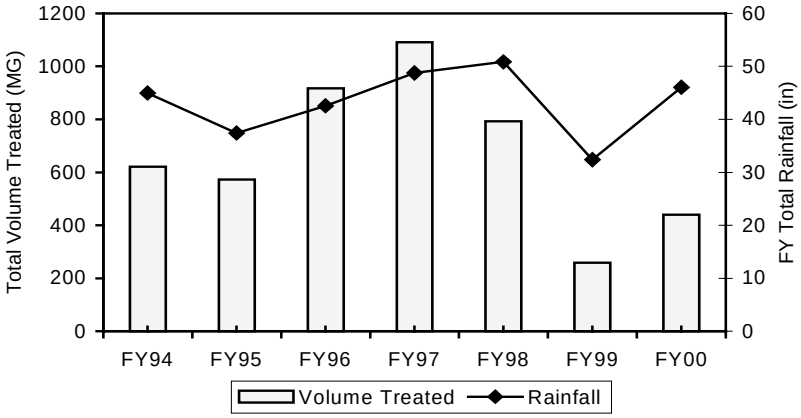
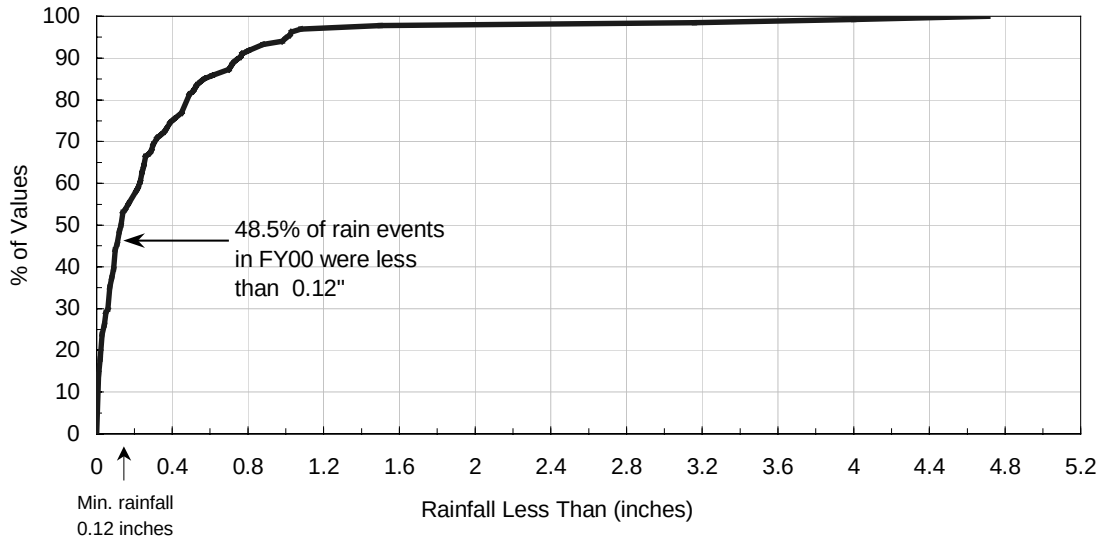


Figure III.A.3 shows the frequency distribution of rainfall in FY00, and highlights the minimum amount of rainfall (0.12 inches of rain) at which the Cottage Farm facility activated in FY00. The frequency distribution considers all rain events, which are defined as days with at least 0.01 inches of rainfall. According to the frequency distribution, activation of the Cottage Farm facility occurred during 51.5% of FY00 rain events.

Figure III.A.3
Frequency Distribution of Rainfall, Cottage Farm, FY00



III.A.2 Conventional Parameters

Tables B-1 and B-2 of Appendix B contain data on conventional parameters in Cottage Farm influent and effluent. Table III.A.2 summarizes this data. Occasionally, BOD and TSS effluent loadings measured higher than those of the influent did. This occurs because the Cottage Farm facility is not designed to remove such contaminants, and also because of the variable characteristics of combined sewage.

Table III.A.2
Cottage Farm CSO Influent and Effluent Characteristics, FY00

	Concentration (1)					
	Influent			Effluent		
Parameter	Min	Avg	Max	Min	Avg	Max
TSS	25	99	218	27	95	262
BOD	26	78	195	27	64	92
Fecal Coliform (col/100 mL)				<10	21	2300
pH (units)				6.0		7.0

(1) Concentration expressed in mg/L except for pH and fecal coliform.

III.A.3 Priority Pollutants

MWRA tested Cottage Farm effluent for priority pollutants at least once per month, assuming the CSO activated. The results of these tests are presented in Appendix B Tables B-3 and B-4. Metals were the most commonly detected priority pollutant, with copper, mercury, lead and zinc detected in all samples. Several other priority pollutants were detected in some samples.

Table III.A.3 summarizes average metals concentrations in Cottage Farm effluent in FY00.

Table III.A.3 Cottage Farm Metals, FY00

	Average Concentration (ug/L)	Times Detected
Cadmium	<1.0	0 of 6
Copper	52.43	6 of 6
Mercury	0.34	6 of 6
Nickel	5.82	5 of 6
Lead	30.71	6 of 6
Zinc	105.95	6 of 6

III.B Prison Point Combined Sewer Overflow Facility

III.B.1 Activations

Activation data for the Prison Point CSO facility are summarized in Table III.B.1 and Figures III.B.1 and III.B.2.

Unlike the Cottage Farm CSO facility, the Prison Point facility is not hydraulically connected to the Deer Island Treatment Plant, so increased pumping at Deer Island will not affect Prison Point activation.

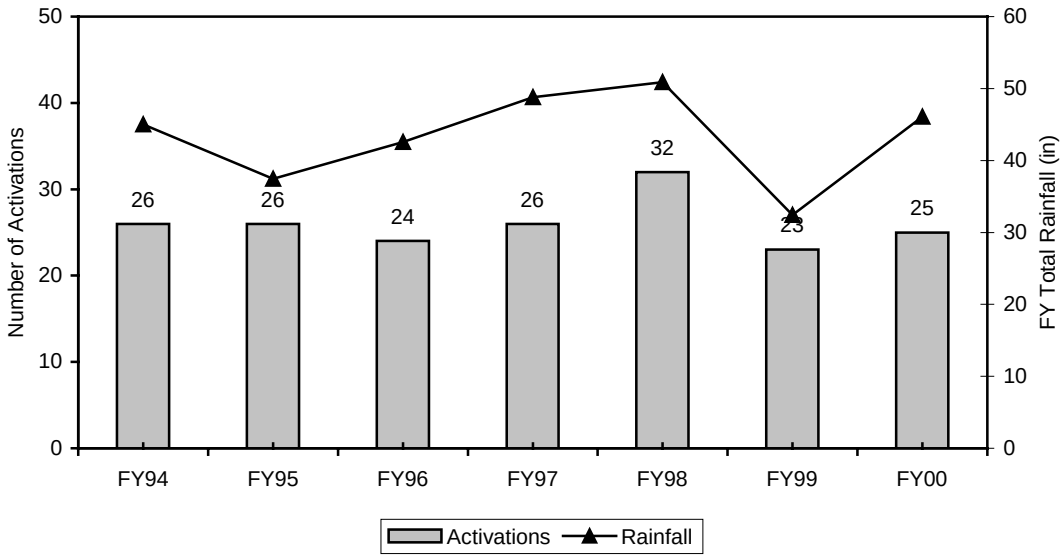
The volume treated at Prison Point in FY00 was considerably higher than FY99. In terms of rainfall, activations, and days activated, FY00 and FY97 are roughly comparable. However, the volume treated and the average flow in FY97 are both higher compared to FY00. A combination of a particularly intense storm in October 1996 with almost 8 inches of rain in two days, and MWRA improvements in the handling of combined sewage probably explain this difference.

Table III.B.1 Prison Point CSO Activations Summary

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Number of Activations	26	26	24	26	32	23	**25**
Number of Days Activated	26	26	29	30	34	23	**30**
Total Volume Treated (MG)	449	460	445	926	958	396	**740**
Maximum Flow (mgd)	80	127	63	228	143	51	**149**
Minimum Flow (mgd)	3.01	1.63	1.24	1.50	2.00	1.40	**2.50**
Average Flow (mgd)	17.27	17.69	15.34	30.86	28.18	17.22	**24.65**
Total Rainfall (in/year)	45.00	37.40	42.55	48.79	50.87	32.41	**46.08**

Average flow = Total volume treated divided by the number of days activated.

Figure III.B.1
Prison Point CSO Activations Compared to Precipitation, FY94-FY00



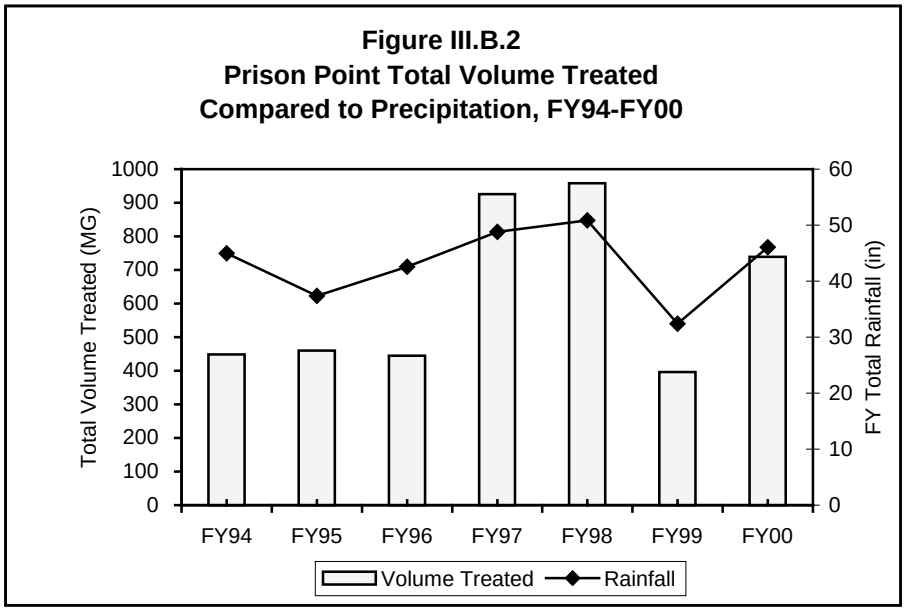
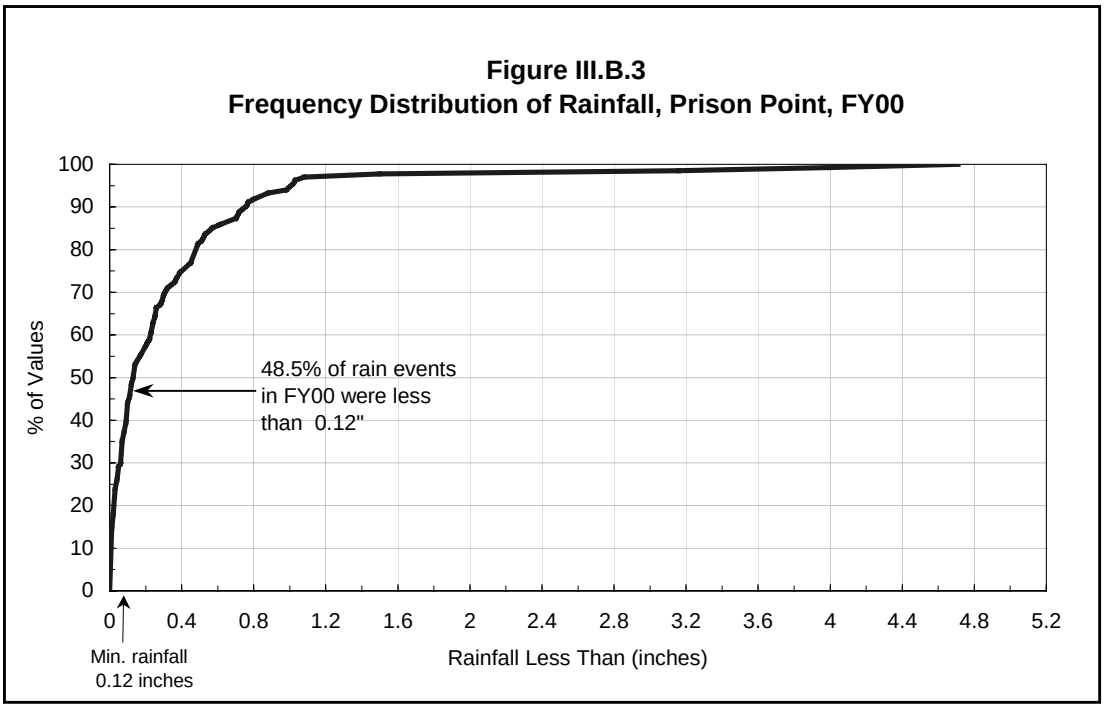


Figure III.B.3 shows the frequency distribution of rainfall in FY00, and highlights the minimum amount of rainfall (0.12 inches of rain) at which the Prison Point facility activated. According to the frequency distribution, activation of the Prison Point facility occurred during 51.5% of FY00 rain events.



III.B.2 Conventional Parameters

Conventional parameter data for Prison Point influent and effluent are provided in Appendix C Tables C-1 and C-2. Like the Cottage Farm facility, Prison Point is not designed to remove some contaminants.

There were no NPDES permit violations at Prison Point in FY00.

Table III.B.2

Prison Point CSO Influent and Effluent Characteristics, FY00

	Concentration (1)					
	Influent			Effluent		
Parameter	Min	Avg	Max	Min	Avg	Max
TSS	31	198	656	28	137	975
BOD	15	58	180	13	37	74
Fecal Coliform (col/100 mL)				<10	12	50
pH (units)				6.8		7.4

(1) Concentration expressed in mg/L except for pH and fecal coliform.

III.B.3 Priority Pollutants

The results of priority pollutant testing for Prison Point can be found in Tables C-3 and C-4 of Appendix C. As with Cottage Farm, metals were the most commonly detected priority pollutants, with copper, mercury, nickel, lead and zinc detected in all samples. Cadmium and several other priority pollutants were detected in some, but not all, samples.

Table III.B.3 summarizes average metals concentrations in Prison Point effluent in FY00.

Table III.B.3 Prison Point Metals, FY00

	Average Concentration (ug/L)	Times Detected
Cadmium	1.49	1 of 7
Copper	114.21	7 of 7
Mercury	0.67	7 of 7
Nickel	10.71	7 of 7
Lead	187.52	7 of 7
Zinc	323.86	7 of 7

III.C Somerville Marginal Combined Sewer Overflow Facility

III.C.1 Activations

Table III.C.1 and Figures III.C.1 and III.C.2 summarize activation information for the Somerville Marginal facility.

Recently, there has been increased attention to SSOs (sanitary sewer overflows). MWRA has intensified its monitoring efforts at areas known to overflow when there is a measurable rainfall event. (See Section IV for more information about SSOs.) As a result, MWRA has inspected its CSO facilities more frequently, even during lower intensity rainfall. In particular, the gravity CSO facilities of Somerville Marginal, Constitution Beach, Fox Point and Commercial Point, have been monitored more frequently. This improved monitoring of CSO facilities has captured short activations during low intensity rainfall that may not have been observed in previous years. As a result, the statistics presented below may not be strictly comparable to earlier years.

Table III.C.1 Somerville Marginal CSO Activations Summary

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Number of Activations	34	28	28	28	30	19	**28**
Number of Days Activated	34	28	30	29	31	19	**34**
Total Volume Treated (MG)	72	49	80	142	128	57.32	**113.8**
Maximum Flow (mgd)	11	14	9	64	22	10.29	**25.06**
Minimum Flow (mgd)	0.01	0.16	0.25	0.13	0.09	0.04	**0.01**
Average Flow (mgd)	2.12	1.75	2.67	4.90	4.12	3.02	**3.35**
Total Rainfall (in/year)	45.00	37.40	42.55	48.79	50.87	32.41	**46.08**

Average flow = Total volume treated divided by the number of days activated.

Figure III.C.1
Somerville Marginal CSO Activations Compared to Precipitation, FY94-FY00

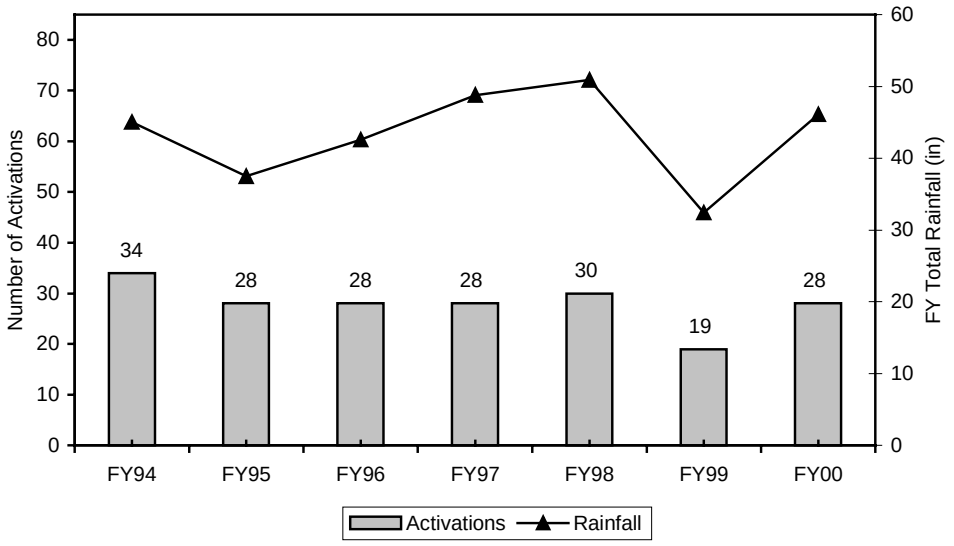


Figure III.C.2 shows the volume treated at the Somerville Marginal gravity CSO facility over the past eight years. Somerville Marginal flow measurements in previous years were underestimated because the measurements did not include flows when the flow meters were malfunctioning. Recent modifications to the in-line storage at the facility along with manual operation of the gates will result in a smaller number of activations in the future.

Figure III.C.2
Somerville Marginal Total Volume Treated Compared to Precipitation, FY94-FY00

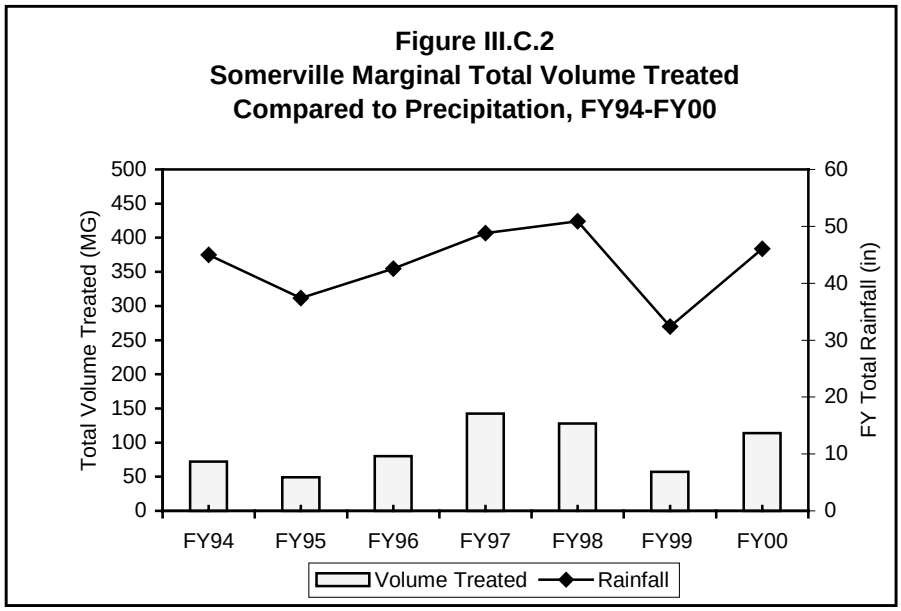
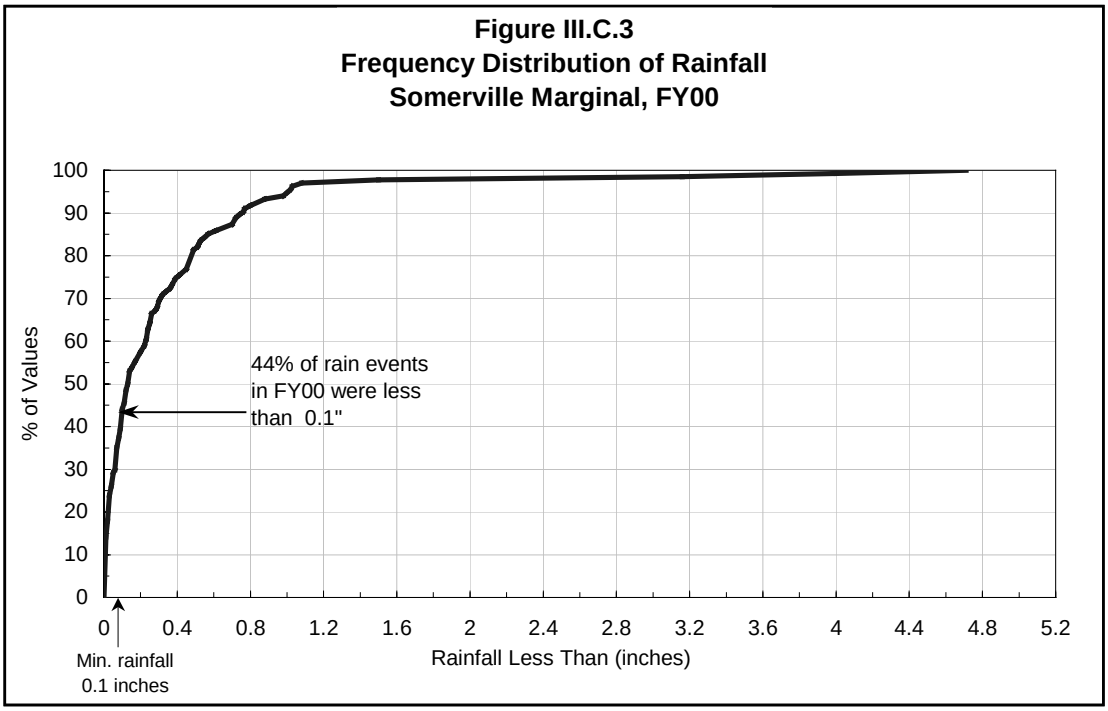


Figure III.C.3 shows the frequency distribution of rainfall in FY00 and highlights the minimum rainfall event (0.1 inches of rain) at which the Somerville Marginal facility activated. According to the frequency distribution, activation of the Somerville Marginal facility occurred during 56% of FY00 rain events.

Figure III.C.3
Frequency Distribution of Rainfall Somerville Marginal, FY00



III.C.2 Conventional Parameters

Somerville Marginal conventional parameter data are provided in Tables D-1 and D-2 of Appendix D, and are summarized in Table III.C.2. The Somerville Marginal treatment facility, like Cottage Farm and Prison Point, is not designed to remove some contaminants.

There were no violations of the NPDES permit at Somerville Marginal in FY00.

Table III.C.2

Somerville Marginal CSO Influent and Effluent Characteristics, FY00

	Concentration (1)					
	Influent			Effluent		
Parameter	Min	Avg	Max	Min	Avg	Max
TSS	17	88	240	16	105	252
BOD	<5	62	>232	4	42	116
Fecal Coliform (col/100 mL)				<10	24	80
pH (units)				6.5		7.5

(1) Concentration expressed in mg/L except for pH and fecal coliform.

III.C.3 Priority Pollutants

The results of Somerville Marginal priority pollutant testing can be found in Appendix D Tables D-3 and D-4. MWRA detected copper, mercury, lead, and zinc in all samples, while several other priority pollutants were detected in some, but not all, samples.

Table III.C.3 summarizes average metals concentrations in Somerville Marginal effluent in FY00.

Table III.C.3 Somerville Marginal Metals, FY00

	Average Concentration (ug/L)	Times Detected
Copper	49.59	6 of 6
Mercury	0.15	6 of 6
Nickel	8.80	6 of 6
Lead	101.15	6 of 6
Zinc	207.45	6 of 6

III.D Constitution Beach Combined Sewer Overflow Facility

III.D.1 Activations

Table III.D.1 and Figures III.D.1 and III.D.2 summarize activation data for the Constitution Beach facility.

The particularly low flows measured at the Constitution Beach facility in FY93-FY94 resulted from meter malfunctions. The amount of flow and the number of activations increased from FY94 to FY97, a direct result of increasing rainfall intensity, changes in in-line storage practices, and improved monitoring practices. Comparing years with similar rainfall, FY94 and FY00, FY00 shows more activations and a much higher treated volume. However, 68% of the flow came on a single day, June 6. Flows during the rest of FY00 were much smaller, with only 2 over 0.5 MG. This reduction in flows to Constitution Beach was largely due to a sewer separation project in East Boston.

Some flow data for Constitution Beach may be inaccurate because the flow meters are affected by tidal flow. However, since FY95, trends show that the volume treated corresponds with rainfall intensity.

Table III.D.1 Constitution Beach CSO Activations Summary

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Number of Activations	8	12	13	16	20	15	**17**
Number of Days Activated	8	12	13	17	21	15	**18**
Total Volume Treated (MG)	0.69	6.80	7.94	11.32	10.52	1.76	**9.95**
Maximum Flow (mgd)	0.20	1.30	1.20	2.35	3.24	0.36	**6.8**
Minimum Flow (mgd)	0.01	0.20	0.21	0.14	0.06	0.02	**0.01**
Average Flow (mgd)	0.09	0.57	0.61	0.67	0.50	0.12	**0.55**
Total Rainfall (in/year)	45.00	37.40	42.55	48.79	50.87	32.41	**46.08**

Average flow = Total volume treated divided by the number of days activated.

Figure III.D.1
Constitution Beach CSO Activations Compared to Precipitation, FY94-FY00

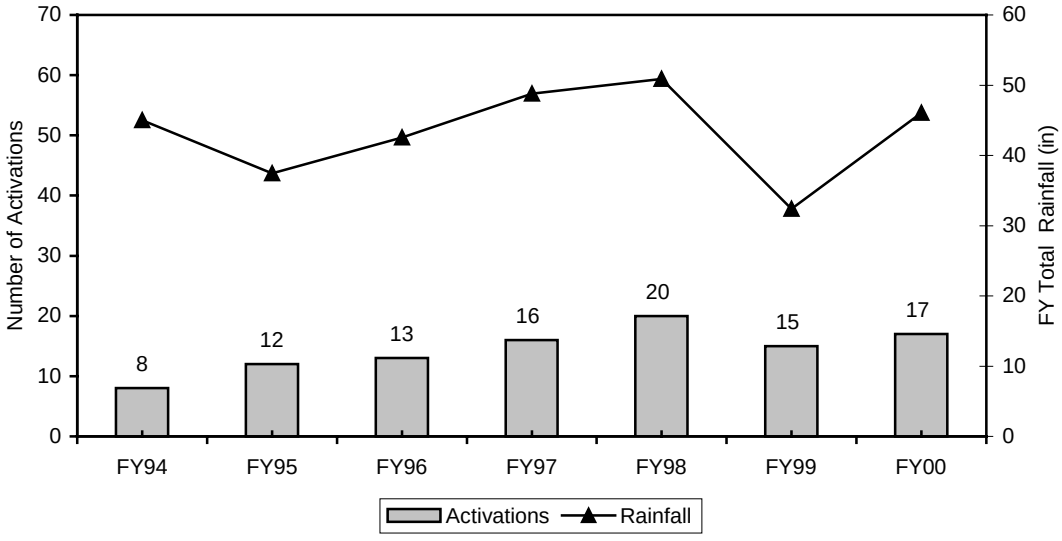


Figure III.D.2
Constitution Beach Total Volume Treated Compared to Precipitation, FY94-FY00

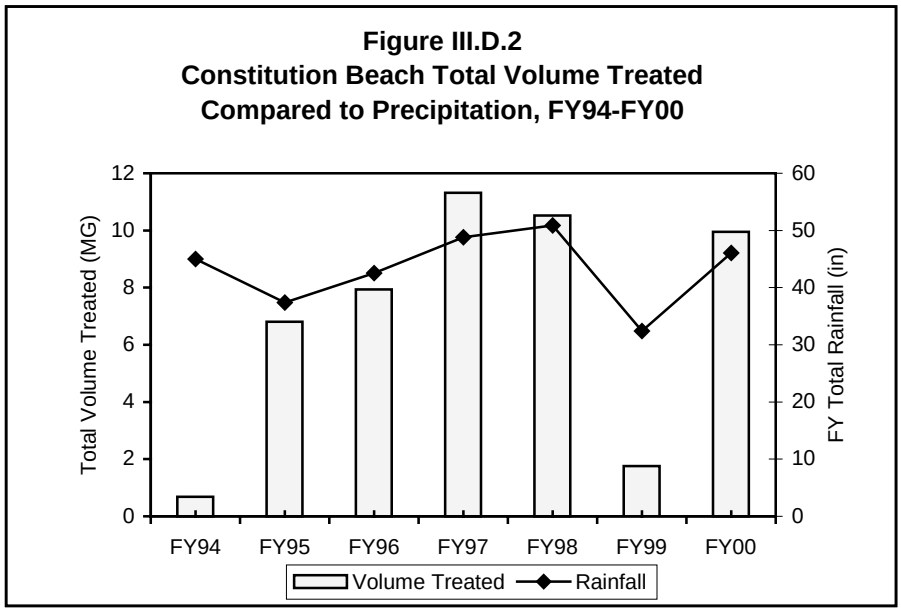
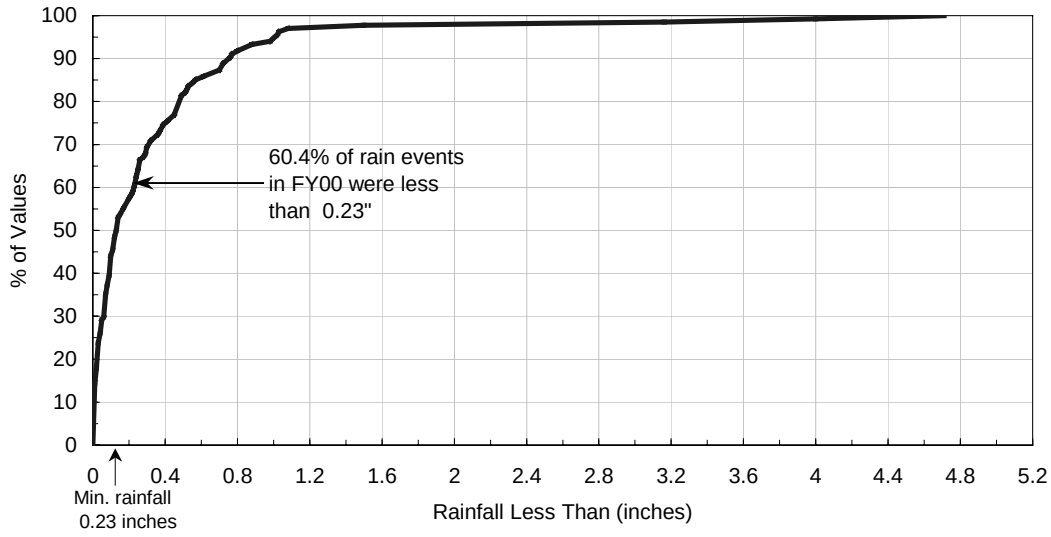


Figure III.D.3 shows the frequency distribution of rainfall in FY00, and highlights the minimum point (0.23 inches of rain) at which the Constitution Beach facility activated. According to the frequency distribution, activation of the Constitution Beach facility occurred during 29.6% of FY00 rain events.

Figure III.D.3
Frequency Distribution of Rainfall
Constitution Beach, FY00



III.D.2 Conventional Parameters

Conventional parameter data for the Constitution Beach facility are provided in Appendix E, Tables E-1 and E-2 and summarized in Table III.D.2. As with the other CSO facilities, concentrations fluctuated a good deal in both influent and effluent.

Table III.D.2

Constitution Beach CSO Influent and Effluent Characteristics, FY00

	Concentration (1)					
	Influent			Effluent		
Parameter	Min	Avg	Max	Min	Avg	Max
TSS	38	57	94	39	65	97
BOD	<10	22	<46	<8	18	<46
Fecal Coliform (col/100 mL)				<10	13	20
pH (units)				7.0		7.1

(1) Concentration expressed in mg/L except for pH and fecal coliform.

III.E Fox Point Combined Sewer Overflow Facility

III.E.1 Activations

Activation data for Fox Point are summarized in Table III.E.1 and Figures III.E.1 and III.E.2.

From FY94 to FY98, the volume treated at Fox Point increased, with the exception of FY95, when use of the facility decreased due to repair work requiring rerouting of flows. Activations almost doubled from FY99 to FY00; otherwise, FY00 was comparable to FY94, a year with similar rainfall, in most respects.

Table III.E.1 Fox Point CSO Activations Summary

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Number of Activations	20	4	12	16	21	12	**23**
Number of Days Activated	20	4	14	18	24	12	**25**
Total Volume Treated (MG)	76	24	97	154	166	59.3	**96.93**
Maximum Flow (mgd)	12	10	17	45	39	14.8	**24.66**
Minimum Flow (mgd)	0.40	1.50	1.09	0.26	0.17	0.31	**0.47**
Average Flow (mgd)	3.80	6.00	6.90	8.55	6.92	4.94	**3.88**
Total Rainfall (in/year)	45.00	37.40	42.55	48.79	50.87	32.41	**46.08**

Average flow = Total volume treated divided by the number of days activated.

Figure III.E.1
Fox Point CSO Activations Compared to Precipitation, FY94-FY00

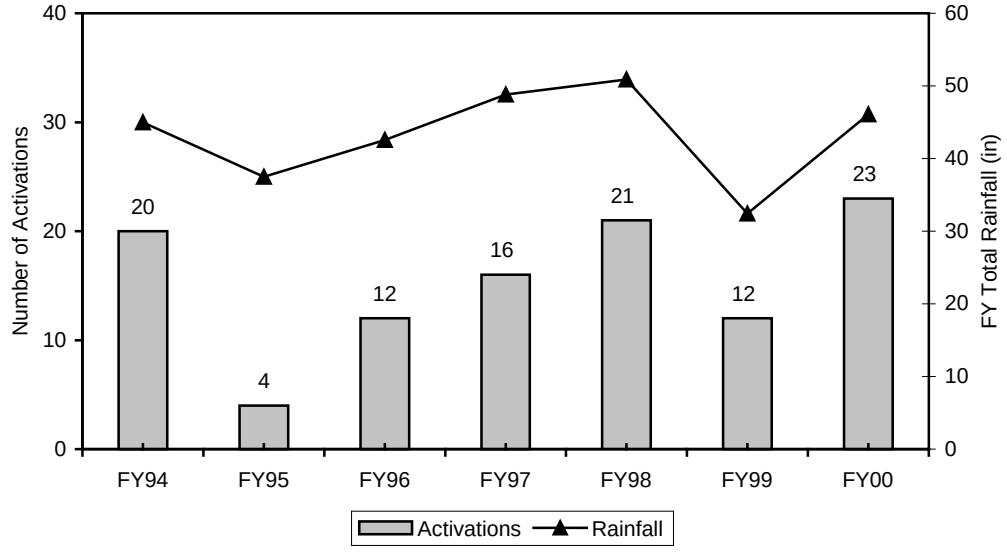


Figure III.E.2
Fox Point Total Volume Treated
Compared to Precipitation, FY94-FY00

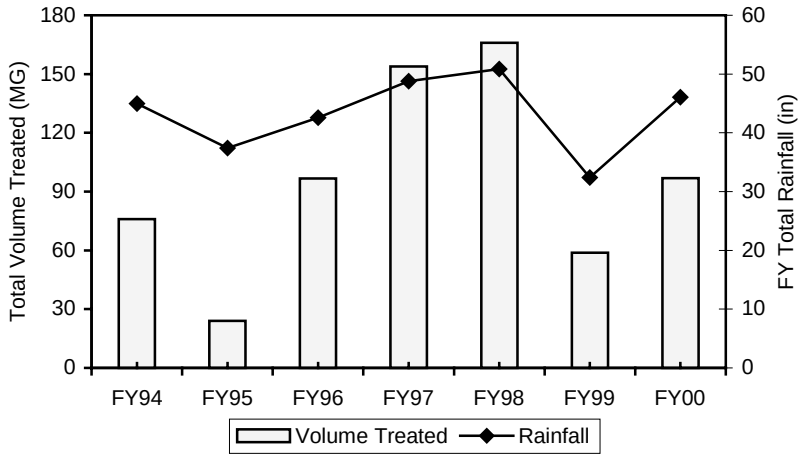
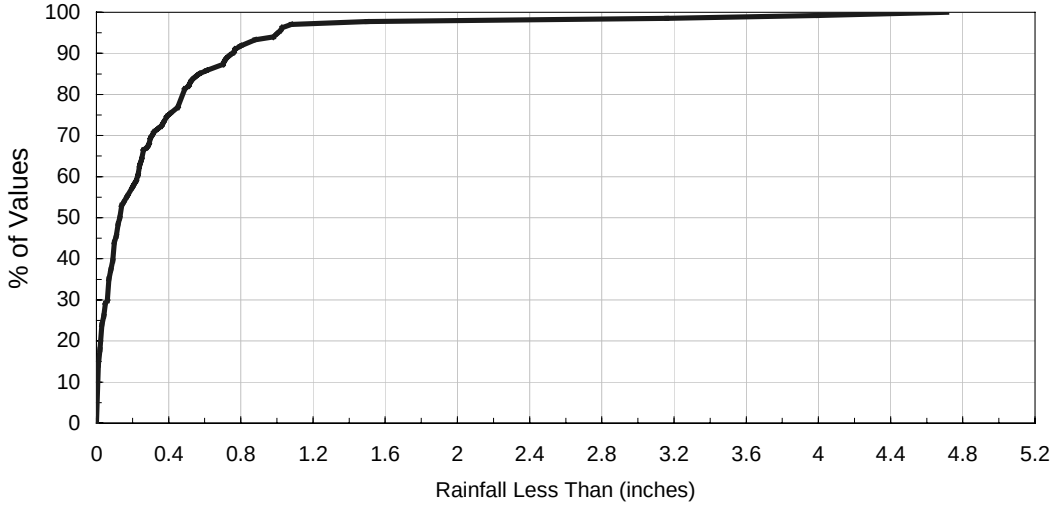


Figure III.E.3 shows the frequency distribution of rainfall in FY00 and highlights the minimum rainfall event (0.08 inches of rain) at which the Fox Point facility activated. According to the frequency distribution, activation of the Fox Point facility occurred during 62.7% of FY00 rain events.

Figure III.E.3
Frequency Distribution of Rainfall, Fox Point, FY00



III.E.2 Conventional Parameters

Conventional parameter data for the Fox Point CSO facility are provided in Appendix F, Tables F-1 and F-2 and are summarized in Table III.E.2. Again, a wide range of values was reported for both influent and effluent.

Table III.E.2

Fox Point CSO Influent and Effluent Characteristics, FY00

	Concentration (1)					
	Influent			Effluent		
Parameter	Min	Avg	Max	Min	Avg	Max
TSS	36	88	234	30	85	224
BOD	<8	38	>130	<5	38	150
Fecal Coliform (col/100 mL)				<10	37	120
pH (units)				6.8		8.8

(1) Concentration expressed in mg/L except for pH and fecal coliform.

III.F Commercial Point Combined Sewer Overflow Facility

III.F.1 Activations

Commercial Point activation data are summarized in Table III.F.1 and Figures III.F.1 and III.F.2.

FY00 data are generally comparable to FY94 data; the larger number of activations and slightly greater volume treated may be due to the MWRA's improved monitoring program.

Table III.F.1 Commercial Point CSO Activations Summary

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Number of Activations	25	19	13	23	25	20	**32**
Number of Days Activated	25	19	14	24	28	20	**36**
Total Volume Treated (MG)	93	56	70	158	125	62.78	**101.3**
Maximum Flow (mgd)	17	17	18	54	25	12.39	**30.42**
Minimum Flow (mgd)	0.21	0.15	0.06	0.19	0.14	0.1	**0.03**
Average Flow (mgd)	3.72	2.94	5.01	6.59	4.46	3.14	**2.81**
Total Rainfall (in/year)	45.00	37.47	42.55	48.79	50.87	32.41	**46.08**

Average flow = Total volume treated divided by the number of days activated.

Figure III.F.1
Commercial Point CSO Activations Compared to Precipitation, FY94-FY00

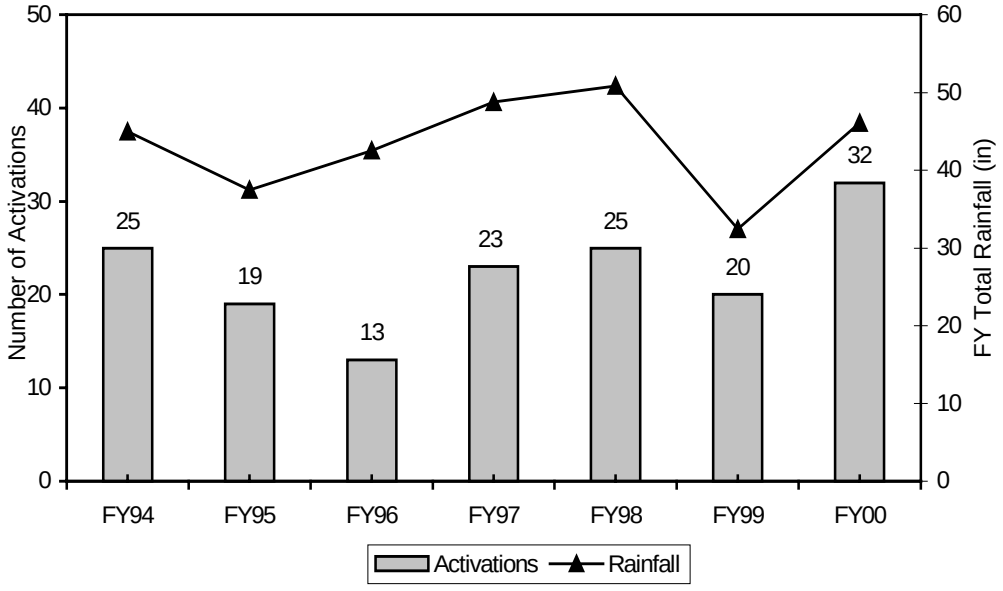


Figure III.F.2
Commercial Point Total Volume Treated
Compared to Precipitation, FY94-FY00

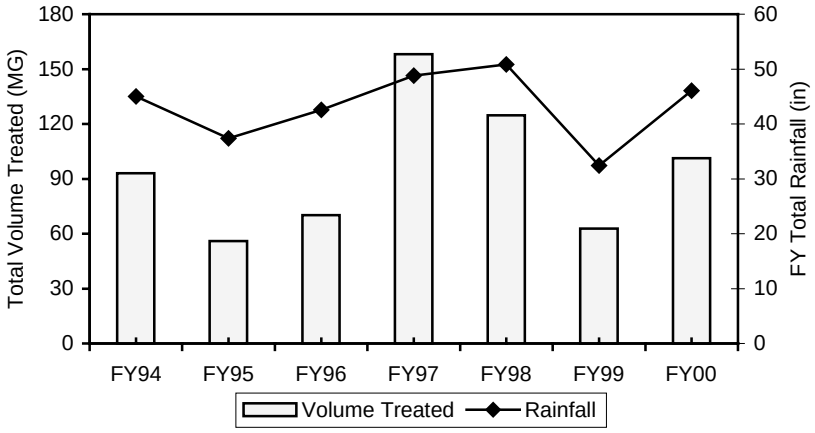


Figure III.F.3 shows the frequency distribution of rainfall in FY00 and highlights the minimum rainfall event (0.12 inches of rain) at which the Commercial Point facility activated. According to the frequency distribution, activation of the Commercial Point facility occurred during 51.5% of FY00 rain events.

III.F.2 Conventional Parameters

Commercial Point conventional parameter data are provided in Appendix G, Tables G-1 and G-2. Again, a wide range of values was reported for both influent and effluent.

Table III.F.2

Commercial Point CSO Influent and Effluent Characteristics, FY00

	Concentration (1)					
	Influent			Effluent		
Parameter	Min	Avg	Max	Min	Avg	Max
TSS	26	129	306	18	146	402
BOD	<10	23	57	9	25	55
Fecal Coliform (col/100 mL)				<5	17	80
pH (units)				6.7		8.7

(1) Concentration expressed in mg/L except for pH and fecal coliform.

IV Transport Systems

IV.A North System

IV.A.1 Headworks Choking

Figure IV.A.1 shows the number of hours of maintenance-related choking and rain-related choking at the remote headworks since FY94. Testing and maintenance hours have steadily declined as the new DITP facilities have been completed.

Figure IV.A.1
Choking, FY94-FY00

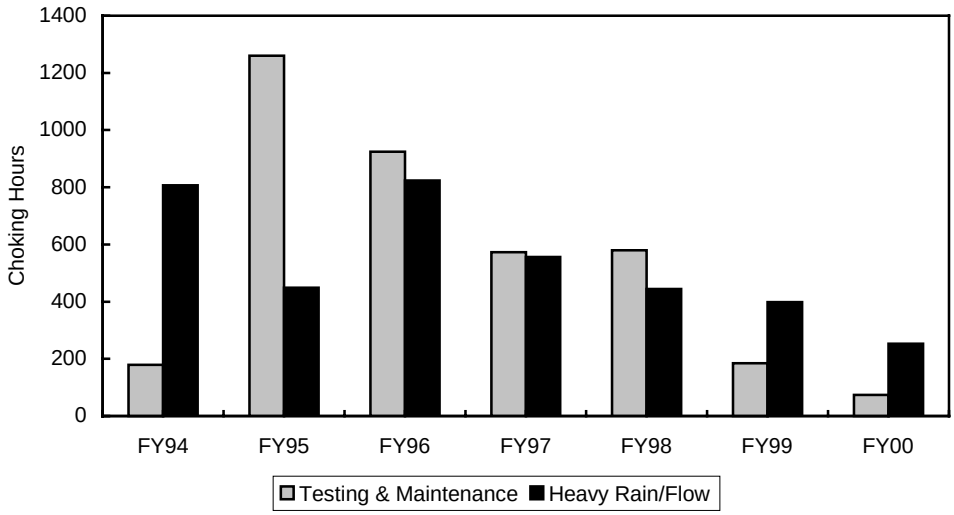
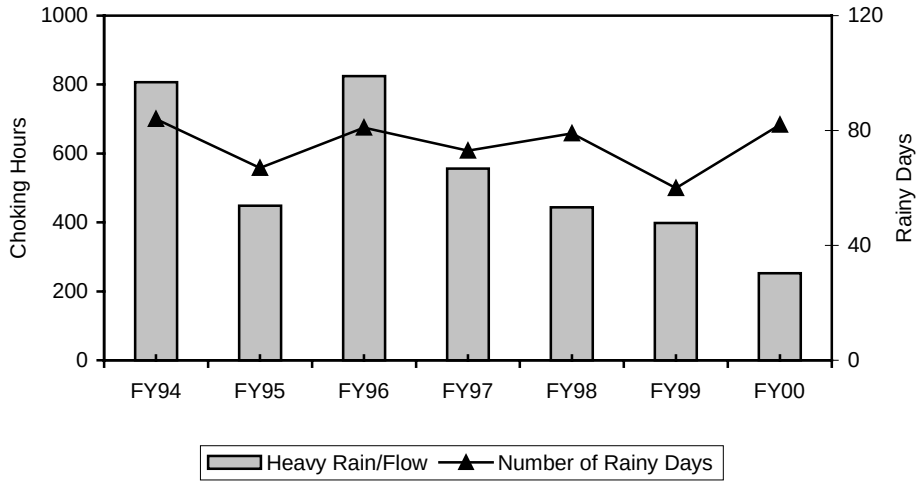


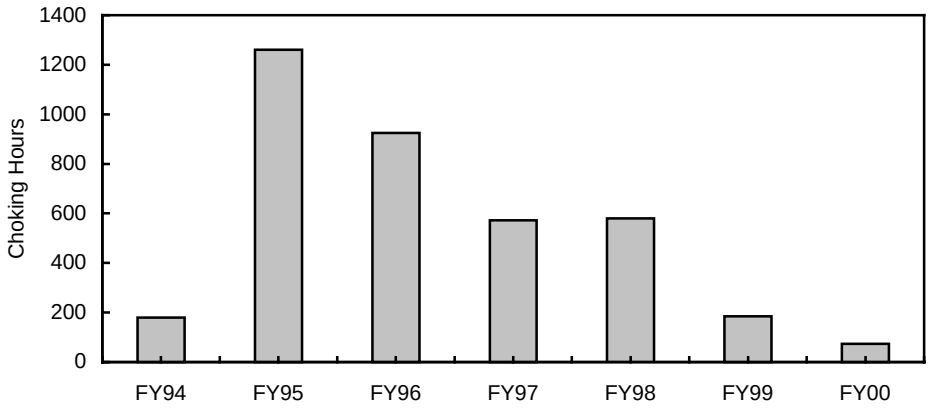
Figure IV.A.2 shows the influence of the number of rainy days in a year on the hours of rain-related choking. A rainy day is defined as a day with at least 0.1 inches of rainfall. As this figure shows, FY00 had more rainy days than FY99 but less rain-related choking hours.

Figure IV.A.2
Rain-Related Choking, FY94-FY00



Choking for maintenance purposes is plotted in Figure IV.A.3. Maintenance choking peaked in FY95 due to the maintenance and testing involved in bringing the new primary treatment plant on-line. The number of hours of maintenance-related choking continued to be fairly high from FY96 to FY98 because of maintenance and testing related to the startup of the new primary and secondary treatment plants. For example, in FY98, of the approximately 580 choking hours related to testing and maintenance, 442 hours were due to testing. Since there were no new systems to test in FY99, there was a significant decrease in the testing/maintenance choking hours from FY98 to FY99. Despite the planned opening of the new outfall tunnel in FY01, choking hours due to testing and maintenance were extremely low in FY00.

Figure IV.A.3
Testing/Maintenance Choking, FY94-FY00



IV.A.2 Sanitary Sewer Overflows

MWRA monitors sanitary sewer overflows, which occur when extreme rainfall overwhelms the transport system, both visually and with meters in both the North and South Systems. Table IV.A.1 lists the number of recorded overflows at several locations in the North System, comparing FY00 with the previous fiscal year. Note that the number of overflows refers to the number of events, rather than the number of days; one overflow can potentially last a number of days. There were 11 reported overflows in FY00 for the North System. This list includes only overflows at MWRA-owned overflow areas. There are also overflows for which the local municipalities are responsible. MWRA monitors these local overflows less frequently, and only when requested to do so by municipalities or notified of a problem by concerned citizens. A list of all the known overflow locations monitored by MWRA, including both MWRA and municipal overflows, is provided in Appendix I, Table I-4.

Note that SSOs (sanitary sewer overflows) differ from CSOs (combined sewer overflows) in that CSO relief points are pipes that were specifically designed to relieve the combined sewer system. When the system becomes overloaded, these pipes discharge combined sewage and storm water into a receiving body of water, such as the Charles River. SSOs, on the other hand, are weak points in separate the system, such as manholes, which will overflow during heavy rain events.

Table IV.A.1 Sanitary Sewer Overflows, North System, FY99 and FY00

Location	Number of Overflows	
	FY99	FY00
Section 80 Arlington	0	0
Section B Cambridge	0	1
Section 43.5 Medford	0	0
Section 91B Medford (Manhole)	0	1
Section 91B Medford (Siphon)	0	1
Section 107 Medford	0	3
Section C Medford	0	2
Section 530 Newton	0	1
Section 113 Winchester	0	1
Alewife Brook Pump Station	0	1

IV.B South System

IV.B.1 Sanitary Sewer Overflows

Table IV.B.1 lists the observed overflows in the South System. Note that the only overflows in FY00 in the South System occurred at Section 126 Weymouth Smelt Brook.

Table IV.B.1 Sanitary Sewer Overflows, South System, FY99 and FY00

Location	Number of Overflows	
	FY99	FY00
Section 128 Braintree	0	0
Section 126 Weymouth (Manhole)	0	0
Section 126 Weymouth Smelt Brook	3	2

APPENDICES

Appendix A

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
NORTH SYSTEM															
INFLUENT															
FLOW (mgd)															
AVERAGE	189.7	175.0	249.1	230.3	210.8	205.4	214.3	236.7	274.9	307.6	255.1	273.6		235.2	
MINIMUM	166.2	162.2	151.5	191.2	190.1	175.7	167.2	183.4	218.6	217.7	206.0	207.1	151.5		
MAXIMUM	270.7	235.5	655.3	359.4	313.5	321.1	336.7	398.3	425.8	576.9	356.1	611.5			655.3
TEMP (deg F)															
AVERAGE	72.6	74.0	70.7	67.4	66.7	64.3	59.8	58.7	59.4	62.0	62.8	67.2		65.5	
MINIMUM	67.8	70.7	64.8	64.2	59.7	60.6	56.7	51.4	54.5	54.9	58.3	60.3	51.4		
MAXIMUM	77.0	78.8	75.6	71.0	69.4	66.9	65.8	61.9	63.7	64.8	68.2	70.3			78.8
pH (units)															
AVERAGE	6.7	6.9	6.8	6.7	6.7	6.7	6.5	6.4	6.6	6.5	6.6	6.6		6.6	
MINIMUM	5.9	6.2	6.6	6.2	6.2	6.3	6.0	5.8	6.2	6.2	6.0	6.3	5.8		
MAXIMUM	7.2	7.3	6.9	7.0	7.1	7.0	6.9	6.7	7.0	6.8	6.9	6.9			7.3
CONVENTIONAL PARAMETERS (mg/L)															
TOTAL SOLIDS															
AVERAGE	1571	1750	1778	1357	1241	1248	1335	1213	1308	1170	1306	1302		1382	
MINIMUM	956	1250	972	788	944	976	776	936	960	812	904	892	776		
MAXIMUM	2320	1750	3250	2210	1760	2000	2420	2310	1910	1640	1670	2170			3250
VOLATILE SOLIDS															
AVERAGE	455	500	508	351	337	380	372	343	327	317	371	356		385	
MINIMUM	280	340	276	108	264	1070	192	240	208	228	244	196	108		
MAXIMUM	648	800	920	500	488	248	760	484	584	464	496	600			920
SETTLEABLE SOLIDS (mL/L)															
AVERAGE	5.8	6.8	4.7	6.6	6.0	6.2	5.3	5.7	4.7	4.5	5.1	5.8		5.6	
MINIMUM	1.2	3.0	1.0	2.5	2.5	2.0	2.0	3.0	1	0.8	2	0.5	0.5		
MAXIMUM	11.0	10.0	8.0	10.0	10.0	14.0	9.0	14.0	10	7.5	13	48			48.0
TVSS															
AVERAGE	172	166	150	170	162	166	185	187	138	137	150	159		162	
MINIMUM	100	110	108	114	96	120	92	104	86	68	100	80	68		
MAXIMUM	336	246	226	327	246	258	350	298	242	210	210	234			350

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000, cont.

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
NORTH SYSTEM INFLUENT															
TSS															
AVERAGE	201	194	176	196	188	188	210	209	155	157	175	187		186	
MINIMUM	110	126	124	128	114	126	106	122	100	82	110	107	82		
MAXIMUM	420	290	268	353	276	288	380	318	292	249	248	276			420
BOD															
AVERAGE	166	189	160	171	178	178	182	181	150	137	151	140		165	
MINIMUM	100	134	102	118	132	119	97	119	104	67	102	73	67		
MAXIMUM	213	263	243	244	252	237	407	290	326	189	184	177			407
CBOD															
AVERAGE	143	149	119	130	132	137	123	125	105	105	104	95.5		122	
MINIMUM	82	108	65	85	92	84	74	83	76.2	41.4	75.2	57	41		
MAXIMUM	255	199	155	172	178	200	201	185	178	169	138	130			255
COD															
AVERAGE	461	448	384	394	423	445	436	403	318	319	386	358		398	
MINIMUM	357	335	201	254	288	345	214	257	233	155	284	186	155		
MAXIMUM	815	649	604	685	678	592	672	547	457	445	778	633			815
FOG															
AVERAGE	38.8	34.3	29.8	36.0	34.4	42.8	32.0	42.8	29.3	25.8	23.5	19.6		32.4	
MINIMUM	35.0	18.0	13.0	11.0	20.0	29.0	8.8	39.0	18.0	8.8	7.0	9.8	7.0		
MAXIMUM	44.0	42.0	47.0	50.0	49.0	61.0	50.0	52.0	41.0	36.0	44.0	31.0			61.0
CHLORIDE															
AVERAGE	595	680	716	531	452.0	458	530	444	516	446	494	478		528	
MINIMUM	209	447	351	209	309.0	280	264	304	365	283	298	303	209		
MAXIMUM	893	919	1300	956	752.0	708	1520	993	761	687	686	841			1520

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000, cont.

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
NORTH SYSTEM INFLUENT															
NUTRIENTS (mg/L)															
AMMONIA															
AVERAGE	19.4	20.7	16.4	15.3	17.0	16.6	14.0	14.8	13.3	12.6	13.8	12.4		15.5	
MINIMUM	18.5	19.8	14.0	11.0	12.3	14.8	11.6	13.1	12.1	7.3	10.9	6.0	6.0		
MAXIMUM	20.3	22.3	20.3	19.1	19.2	18.3	15.9	17.2	16.3	16.3	16.9	15.5			22.3
NITRITES															
AVERAGE	0.01	0.01	0.16	0.22	0.08	0.01	0.01	0.24	0.34	0.26	0.09	0.13		0.13	
MINIMUM	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01		
MAXIMUM	0.02	0.01	0.77	0.49	0.30	0.01	0.02	0.54	0.75	0.53	0.18	0.19			0.77
NITRATES															
AVERAGE	0.01	0.01	0.01	0.08	0.06	0.01	0.01	0.19	0.25	0.35	0.10	0.48		0.13	
MINIMUM	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00		
MAXIMUM	0.01	0.01	0.01	0.17	0.10	0.01	0.01	0.44	0.63	1.28	0.34	1.66			1.66
ORTHOPHOSPHATE															
AVERAGE	2.74	2.77	2.14	1.75	2.16	2.11	1.51	1.70	1.17	1.48	1.66	1.46		1.89	
MINIMUM	2.62	2.66	1.40	0.93	1.30	1.82	1.24	1.24	0.99	0.83	1.10	0.51	0.51		
MAXIMUM	2.86	2.84	2.99	2.33	2.85	2.31	1.74	2.05	1.42	1.96	2.33	2.03			2.99
TKN															
AVERAGE	34.4	33.0	28.6	29.7	30.0	26.5	26.9	30.1	23.5	23.4	25.7	23.1		27.9	
MINIMUM	26.7	31.5	22.7	23.1	25.6	20.5	21.4	24.8	20.0	17.1	22.7	13.5	13.5		
MAXIMUM	49.4	35.7	34.2	35.9	34.1	30.8	29.7	35.2	26.4	27.3	29.9	27.9			49.4
TOTAL PHOSPHORUS															
AVERAGE	4.79	4.62	4.48	4.28	4.37	4.43	4.03	4.25	3.50	4.18	4.73	3.62		4.27	
MINIMUM	4.64	3.79	3.86	3.16	3.82	3.86	3.39	3.68	3.24	3.63	3.68	2.14	2.14		
MAXIMUM	4.96	5.17	4.79	5.00	5.09	5.18	4.63	4.68	3.86	4.78	6.51	4.72			6.51
TPH (IR)															
AVERAGE	3.60	2.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		3.00	
MINIMUM	3.40	1.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.70		
MAXIMUM	3.90	3.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			3.90

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
SOUTH SYSTEM															
INFLUENT															
FLOW (mgd)															
AVERAGE	83.0	78.2	115.2	114.9	107.5	109.4	110.8	127.1	157	172	136	144		121.2	
MINIMUM	75.0	73.6	67.2	96.7	97.9	98.4	93.6	94.2	124	124	114	110	67.2		
MAXIMUM	102.0	86.8	245.6	145.7	137.5	134.5	129.4	190.0	196	321	182	279			321.3
TEMP (deg F)															
AVERAGE	71.8	72.3	70.1	66.7	64.5	61.3	57.8	56.7	59	62	62	65		64.1	
MINIMUM	66.2	68.7	66.6	63.1	61.9	57.7	50.2	49.5	53	57	59	54	49.5		
MAXIMUM	77	77	74.3	71.2	67.6	64.8	63.9	60.6	63	71	65	73			77.0
pH (units)															
AVERAGE	6.7	6.9	6.8	6.7	6.6	6.6	6.4	6.3	6.4	6.4	6.4	6.5		6.6	
MINIMUM	6.0	6.6	6.4	6.3	6.1	6.2	5.9	6.0	6.1	6.1	6.2	6.0	5.9		
MAXIMUM	7.1	7.1	6.9	7.0	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8			7.1
CONVENTIONAL PARAMETERS (mg/L)															
TOTAL SOLIDS															
AVERAGE	1446	1452	1283	1019	1066	949	956	928	866	812	874	944		1050	
MINIMUM	1160	1190	684	760	888	520	664	768	732	636	680	688	520		
MAXIMUM	2000	1970	1780	1230	1290	1220	1540	1340	1140	1030	1060	1390			2000
VOLATILE SOLIDS															
AVERAGE	431	439	390	255	295	274	245	236	81	83	231	224		265	
MINIMUM	272	276	156	168	188	200	136	156	54	46	180	88	46		
MAXIMUM	680	808	572	396	496	384	352	380	141	126	328	340			808
SETTLEABLE SOLIDS (mL/L)															
AVERAGE	6.3	6.1	7.0	5.5	4.0	4.9	4.8	3.6	3.4	3.9	3.8	4		4.8	
MINIMUM	3.0	4.0	3.0	1.4	2.5	3.0	3.0	0.8	0.3	0.8	2.5	1	0.3		
MAXIMUM	16.0	13.0	18.0	43.0	6.0	8.0	14.0	6.0	6.0	7.0	5.5	8			43.0
TVSS															
AVERAGE	160	147	146	106	118	109	106	92	81	83	83	87		110	
MINIMUM	72	98	88	76	90	76	74	60	54	46	68	38	38		
MAXIMUM	252	220	220	161	172	142	200	136	141	126	128	132			252

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000, cont.

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
SOUTH SYSTEM INFLUENT															
TSS															
AVERAGE	190	174	175	125	144	126	122	108	93	95	95	103		129	
MINIMUM	88	120	112	85	108	84	84	70	60	64	78	46	46		
MAXIMUM	300	248	270	185	228	160	217	160	166	146	144	148			300
BOD															
AVERAGE	183	193	159	117	142	128	123	113	93	97	94	100		129	
MINIMUM	104	124	79	90	108	99	95	70	63	41	71	41	40.6		
MAXIMUM	228	289	273	149	198	208	202	192	195	192	114	150			289
CBOD															
AVERAGE	157	149	124	87	103	94	94	86	67	69	68	70		97	
MINIMUM	116	110	55	58	77	54	66	49	43	30	42	44	30		
MAXIMUM	201	194	204	112	158	126	121	149	90	120	84	101			204
COD															
AVERAGE	488	461	413	301	348	337	316	287	224	227	238	240		323	
MINIMUM	351	384	178	227	279	290	244	185	154	135	190	106	106		
MAXIMUM	632	749	655	365	477	415	414	434	334	300	311	307			749
FOG															
AVERAGE	42.5	43.7	33.6	35.5	32.4	35.8	35.3	34.2	27.0	32.8	29.5	30		34.3	
MINIMUM	29.0	32.0	15.0	28.0	18.0	26.0	30.0	24.0	19.0	21.0	20.0	13	13.0		
MAXIMUM	56.0	58.0	46.0	46.0	59.0	47.0	48.0	42.0	40.0	72.0	44.0	65			72.0
CHLORIDE															
AVERAGE	534	550	475	390	383	358	383	357	334	313	334	357		397	
MINIMUM	366	408	241	253	296	270	251	290	262	235	274	251	235		
MAXIMUM	749	700	645	495	527	485	1080	558	395	408	425	573			1080

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000, cont.

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
SOUTH SYSTEM INFLUENT															
NUTRIENTS (mg/L)															
AMMONIA															
AVERAGE	27.2	28.1	25.9	17.3	16.4	19.3	16.2	17.8	12.2	11.0	11.4	11.3		17.8	
MINIMUM	24.8	25.5	17.2	15.6	14.1	15.9	14.4	12.6	9.9	5.9	7.8	6.2	5.9		
MAXIMUM	29.3	30.2	30.1	19.2	18.7	23.8	20.0	23.1	15.4	14.6	13.2	13.9			30.2
NITRITES															
AVERAGE	0.01	0.01	0.01	0.11	0.01	0.01	0.15	0.37	0.20	0.45	0.18	0.32		0.15	
MINIMUM	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.13	0.01	0.12	0.00		
MAXIMUM	0.02	0.01	0.02	0.37	0.01	0.01	0.29	1.07	0.44	0.95	0.37	0.48			1.07
NITRATES															
AVERAGE	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.04	0.06	0.67	0.46	0.71		0.17	
MINIMUM	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.22	0.01	0.28	0.00		
MAXIMUM	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.09	0.23	1.47	1.36	1.36			1.47
ORTHOPHOSPHATE															
AVERAGE	3.71	3.62	3.25	1.92	1.79	2.20	1.97	2.00	1.03	1.14	1.22	1.32		2.10	
MINIMUM	3.51	3.21	2.05	1.38	1.49	1.76	1.78	1.33	0.71	0.55	0.78	0.56	0.55		
MAXIMUM	3.88	3.81	3.95	2.82	2.08	2.75	2.26	2.49	1.53	1.62	1.55	1.77			3.95
TKN															
AVERAGE	39.1	42.1	43.1	29.1	26.7	31.4	27.1	30.1	20.0	19.2	22.5	20.6		29.3	
MINIMUM	38.1	36.4	27.5	25.2	25.9	24.0	25.0	21.2	15.8	14.2	16.5	12.6	12.6		
MAXIMUM	40.8	45.6	53.7	34.8	27.5	36.1	31.7	36.8	26.2	21.7	26.6	24.8			53.7
TOTAL PHOSPHORUS															
AVERAGE	6.24	5.85	6.06	4.35	3.83	4.57	4.66	4.59	3.00	3.72	4.12	3.21		4.52	
MINIMUM	4.70	3.68	4.90	3.60	3.39	3.69	4.24	3.63	2.52	3.31	3.74	2.02	2.02		
MAXIMUM	7.00	7.21	6.90	5.30	4.28	5.62	5.34	5.32	3.91	4.43	4.83	3.85			7.21
TPH (IR)															
AVERAGE	5.60	2.40												4.00	
MINIMUM	3.80	1.80											1.80		
MAXIMUM	8.50	2.90													8.50

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	AVG
FLOW-WEIGHTED INFLUENT													
CONVENTIONAL PARAMETERS (mg/L)													
TOTAL SOLIDS													
AVERAGE	1533	1312	1621	1244	1182	1144	923	1113	1148	1042	1156	1178	1216
VOLATILE SOLIDS													
AVERAGE	189	180	226	189	188	185	182	192	170	179	201	206	191
SETTLEABLE SOLIDS (mL/L)													
AVERAGE	6.0	6.6	5.4	6.2	5.3	5.7	5.1	5.0	4.2	4.3	4.6	5.2	5.3
TVSS													
AVERAGE	168	160	149	149	147	146	158	154	117	118	127	134	144
TSS													
AVERAGE	198	188	176	172	173	166	180	174	132	135	147	158	167
BOD													
AVERAGE	171	190	160	153	166	161	162	157	129	123	131	126	152
CBOD													
AVERAGE	147	149	121	116	122	122	113	111	91	92	92	87	114
COD													
AVERAGE	469	452	393	363	398	407	395	362	284	286	335	317	372
FOG													
AVERAGE	39.9	37.2	31.0	35.8	33.7	40.4	33.1	39.8	28	28	26	23	33.0
CHLORIDE													
AVERAGE	576	640	640	484	429	423	480	414	450	398	438	436	484
AMMONIA													
AVERAGE	21.77	22.99	19.40	15.97	16.80	17.54	14.75	15.85	12.90	12.03	12.97	12	16.25
NITRITES													
AVERAGE	0.01	0.01	0.11	0.18	0.06	0.01	0.06	0.29	0.29	0.33	0.12	0.19	0.14
NITRATES													
AVERAGE	0.01	0.01	0.01	0.06	0.04	0.01	0.01	0.14	0.18	0.46	0.22	0.41	0.13
ORTHOPHOSPHATE													
AVERAGE	3.04	3.03	2.49	1.81	2.04	2.14	1.67	1.80	1.12	1.36	1.51	1.15	1.93
TKN													
AVERAGE	35.83	35.81	33.19	29.50	28.89	28.16	26.97	30.08	22.23	21.89	24.59	19	28.05
TOTAL PHOSPHORUS													
AVERAGE	5.23	5.00	4.98	4.30	4.19	4.48	4.24	4.37	3.32	4.01	4.52	3.70	4.36
TPH (IR)													
AVERAGE	4.21	2.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.30

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000, cont.

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
EFFLUENT															
FLOW (mgd)															
AVERAGE	272.6	253.4	364.3	345.2	318.3	315.0	325.1	363.6	431.6	479.8	390.5	417.8		356.4	
MINIMUM	244.0	235.7	219.0	288.2	288.6	277.2	260.7	279.9	342.8	341.5	321.0	318.1	219.0		
MAXIMUM	373.0	317.8	900.4	504.1	428.2	425.6	454.7	570.7	597.8	897.8	498.4	826.2			900.4
TEMP (deg F)															
AVERAGE	72.3	74.0	72.4	67.6	62.2	55.8	50.7	50.8	56.2	58.0	61.4	65.3		62.2	
MINIMUM	70.0	72.1	69.8	65.0	56.1	47.5	39.7	45.5	52.0	54.0	57.7	59.4	39.7		
MAXIMUM	74.1	76.3	75.6	71.2	66.2	61.2	61.0	57.2	58.1	59.9	64.8	68.9			76.3
pH (units)															
AVERAGE	6.5	6.7	6.7	6.5	6.4	6.3	6.3	6.2	6.4	6.3	6.5	6.6		6.5	
MINIMUM	6.1	6.6	6.3	6.0	6.1	6.0	6.0	5.7	6.1	6.1	6.3	6.2	5.7		
MAXIMUM	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.6	6.6	6.8	6.7	7.0			7.0
CONVENTIONAL PARAMETERS (mg/L)															
TOTAL SOLIDS															
AVERAGE	1314	1443	1411	1031	1020	985	1091	1060	986	903	953	960		1096	
MINIMUM	756	1110	816	580	786	616	616	792	736	608	736	756	580		
MAXIMUM	1880	1940	1820	1480	1450	1420	2350	1910	1210	1200	1190	1540			2350
VOLATILE SOLIDS															
AVERAGE	248	314	292	180	168	155	150	159	23.8	157	159	162		181	
MINIMUM	132	140	172	92	74	72	32	72	16	100	100	40	16		
MAXIMUM	392	744	560	344	384	216	320	260	36.7	232	260	260			744
SETTLEABLE SOLIDS (mL/L)															
AVERAGE	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.1	
MINIMUM	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0		
MAXIMUM	0.2	0.5	0.2	1.0	3.1	0.2	0.1	0.1	0.5	0.2	0.1	0.2			3.1
TVSS															
AVERAGE	11.9	12.6	14.0	16.9	12.4	11.4	13.2	20.1	23.8	19.2	13.3	12.8		15.1	
MINIMUM	2.0	8.0	6.0	5.0	6.8	4.0	6.0	14.0	16.0	12.5	6.7	5.0	2.0		
MAXIMUM	32.3	22.5	46.5	34.0	27.5	40.5	24.0	35.3	36.7	26.0	21.0	34.0			46.5
TSS															
AVERAGE	14.0	14.0	16.8	19.2	14.9	12.7	15.5	23.9	28.6	23.4	15.8	15.2		17.8	
MINIMUM	7.0	6.0	7.0	5.5	7.0	6.0	7.0	16.7	18.0	14.5	8.0	5.0	5.0		
MAXIMUM	45.0	26.5	62.0	37.5	32.5	45.5	30.0	48.7	46.7	34.0	25.0	47.0			62.0

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000, cont.

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
EFFLUENT															
BOD															
AVERAGE	18.0	20.1	27.0	23.4	20.6	26.5	20.8	26.8	29.3	38.2	26.0	24.4		25.1	
MINIMUM	6.7	10.6	8.7	7.1	9.1	12.5	8.9	16.1	18.8	27.9	11.9	13.0	6.7		
MAXIMUM	36.8	31.4	61.8	44.0	34.5	46.4	37.8	58.5	57.0	57.6	43.9	43.2			61.8
CBOD							37.8								
AVERAGE	10.9	10.9	16.5	13.3	11.1	9.6	13.0	19.2	20.9	25.0	16.0	15.1		15.1	
MINIMUM	5.5	5.8	6.9	7.7	6.1	7.0	12.7	10.9	14.9	16.0	7.0	7.0	5.5		
MAXIMUM	26.0	20.6	48.7	30.8	27.8	20.6	29.0	37.4	38.5	43.0	28.0	31.4			48.7
COD							28.5								
AVERAGE	87.0	95.0	98.0	97.0	78.0	78.0	87.0	100.0	100.0	101.0	83.0	79.0		90.3	
MINIMUM	70.0	71.0	67.0	64.0	56.0	61.0	59.0	77.0	85.0	83.0	68.0	61.0	56.0		
MAXIMUM	118.0	139.0	188.0	151.0	128.0	102.0	126.0	143.0	145.0	134.0	109.0	132.0			188.0
TOC															
AVERAGE	21.1	24.9	20.5	22.6	16.7	23.6	27.2	25.2	25.2	24.3	22.0	22.8		23.0	
MINIMUM	17.8	20.0	18.1	19.6	13.7	19.3	25.4	20.7	23.0	20.4	19.3	17.3	13.7		
MAXIMUM	28.2	30.6	25.3	24.2	19.0	25.4	30.2	27.7	28.9	31.4	24.6	29.5			31.4
FOG															
AVERAGE	7.0	10.0	7.1	9.6	8.5	7.0	7.0	9.2	7.6	9.4	7.2	7.0		8.1	
MINIMUM	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		
MAXIMUM	7.0	22.0	7.4	22.0	19.0	7.0	7.0	18.0	9.0	15.0	7.9	7.0			22.0
CHLORIDE															
AVERAGE	587.0	634.0	629.0	461.0	451.0	459.0	495.0	478.0	433.0	395.0	415.0	406.0		486.9	
MINIMUM	349.0	464.0	346.0	215.0	323.0	302.0	255.0	366.0	328.0	246.0	308.0	271.0	215.0		
MAXIMUM	838.0	860.0	828.0	644.0	678.0	685.0	1250.0	961.0	531.0	523.0	531.0	689.0			1250.0
TCOLIFORM (col/100ml)															
GEO MEAN	30	41	125	106	34	31	74	72	88	62	31	61		56	
MINIMUM	5	7	5	5	5	5	8	20	7	9	8	10	5		
MAXIMUM	5604	4188	566705	7274	884	18044	203	328	1996	1160	212	1547			566705
FCOLIFORM (col/100ml)															
GEO MEAN	7	7	10	6	6	5	5	5	5	5	5	5		6	
MINIMUM	5	5	5	5	5	5	5	5	5	3	5	5	3		
MAXIMUM	305	33	26169	17	171	8	6	12	14	8	7	10			26169

Table A-1 Deer Island Treatment Plant Operations Summary, Fiscal Year 2000, cont.

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	MIN	AVG	MAX
EFFLUENT															
NUTRIENTS (mg/L)															
AMMONIA															
AVERAGE	22.3	23.8	18.7	16.8	18.7	19.0	15.7	20.1	17.3	13.4	14.4	10.6		17.6	
MINIMUM	21.5	22.7	14.8	14.9	12.3	16.3	9.6	17.6	15.1	7.4	12.0	5.0	5.0		
MAXIMUM	23.4	25.2	24.6	20.1	22.4	21.5	20.8	23.3	18.8	17.2	17.3	15.2			25.2
NITRITES															
AVERAGE	0.8	0.7	1.9	1.0	0.5	1.0	1.3	0.5	0.3	1.6	1.1	0.6		1.0	
MINIMUM	0.8	0.1	1.3	0.1	0.1	0.8	0.4	0.1	0.0	1.2	0.8	0.4	0.04		
MAXIMUM	0.9	1.3	3.1	1.4	1.1	1.3	2.3	1.8	1.0	2.7	1.3	0.9			3.1
NITRATES															
AVERAGE	0.6	0.4	0.5	0.4	0.3	0.2	0.4	0.6	0.2	0.7	1.6	2.5		0.7	
MINIMUM	0.6	0.0	0.1	0.1	0.0	0.0	0.1	0.6	0.0	0.2	1.0	1.7	0.01		
MAXIMUM	0.7	0.7	0.7	0.6	0.7	0.8	0.6	0.7	0.4	1.6	2.4	3.0			3.0
ORTHOPHOSPHATE															
AVERAGE	2.7	2.8	2.3	1.9	2.1	2.0	1.6	2.0	1.4	1.5	1.5	1.2		1.9	
MINIMUM	2.6	2.7	1.6	1.2	1.2	1.9	1.2	1.3	1.1	0.9	1.2	0.6	0.6		
MAXIMUM	2.8	3.0	3.0	2.5	2.9	2.2	1.9	2.6	1.5	2.1	1.9	1.7			3.0
TKN															
AVERAGE	25.7	27.6	22.7	23.5	22.7	21.7	19.3	25.7	20.2	18.8	19.0	15.0		21.8	
MINIMUM	24.5	26.3	17.6	20.9	17.6	20.5	13.7	20.7	18.1	15.0	16.9	8.2	8.2		
MAXIMUM	27.0	28.8	29.8	25.8	28.5	24.7	25.0	32.4	21.7	21.3	21.6	20.1			32.4
TOTAL PHOSPHORUS															
AVERAGE	3.9	4.8	3.2	3.1	3.0	2.7	2.6	3.2	2.6	2.9	2.8	1.8		3.0	
MINIMUM	3.8	3.5	2.5	2.6	2.2	2.5	2.1	2.6	2.3	2.2	2.0	1.2	1.2		
MAXIMUM	4.0	7.0	4.1	3.7	3.6	3.1	3.0	4.1	2.9	3.9	4.2	2.4			7.0
TPH (IR)															
AVERAGE	1.1	1.3	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND		1.0	
MINIMUM	1.0	0.7	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5		
MAXIMUM	1.8	2.9	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND			2.9

Notes:

ND = No Data

Concentration expressed in mg/L unless otherwise noted.

Data are reduced from Deer Island Treatment Plant Monthly Operation Logs. All chemical analyses were conducted by Deer Island Central Laboratory.

Yearly averages in this table are computed from the monthly averages.

The coliform number for a given day is the geometric mean of the three grab samples taken on that day.

Table A-2 Deer Island Influent Characterization (North & South Systems), Fiscal Year 2000

Metals (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
ANTIMONY	6.05	6.52	6.14	7.31	7.50	5.00	7.10	5.00	7.50	6.58	7.50	9.10	6.67	10	0 of 84
ARSENIC	**0.97**	**0.88**	**1.44**	**1.20**	**1.23**	**0.80**	**1.31**	**1.12**	**0.50**	**0.83**	**0.69**	**1.06**	1.04	2.44	41 of 84
BERYLLIUM	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0 of 84
BORON	**355.00**	**382.00**	**274.00**	**271.00**	**305.00**	**249.00**	**201.00**	**250.00**	**186.00**	**222.00**	**318.00**	**294.00**	279.00	437	69 of 84
CADMIUM	1.00	1.00	1.00	**1.20**	1.00	1.00	1.00	1.00	1.00	1.00	**0.47**	**0.32**	0.97	1.79	9 of 86
CHROMIUM	**5.49**	**5.58**	**5.51**	**7.47**	**3.38**	**5.41**	**8.34**	**5.42**	**5.92**	**5.94**	**3.55**	**3.06**	5.71	10.7	72 of 88
COPPER	**100.00**	**79.10**	**73.50**	**68.60**	**60.20**	**55.20**	**87.20**	**61.40**	**55.00**	**52.40**	**59.00**	**43.40**	69.10	133	84 of 84
HEXAVALENT CHROMIUM	5.50	5.50	5.50	5.50	5.50	5.50	5.50	2.50	2.50	2.50	2.50	2.50	3.99	5.5	0 of 64
IRON	**2390.00**	**1910.00**	**2500.00**	**2010.00**	**1630.00**	**1690.00**	**2770.00**	**1680.00**	**1650.00**	**1960.00**	**1750.00**	**1570.00**	2040.00	3740	84 of 84
LEAD	**24.40**	**15.80**	**37.30**	**13.30**	**9.37**	**14.60**	**20.30**	**6.16**	**12.80**	**8.87**	**6.61**	**6.74**	17.30	57.4	87 of 87
MERCURY	**0.43**	**0.32**	**0.34**	**0.34**	**0.13**	**0.17**	**0.39**	**0.19**	**0.31**	**0.24**	**0.15**	**0.08**	0.29	0.912	84 of 84
MOLYBDENUM	**8.61**	**10.70**	**9.79**	**9.53**	**8.68**	**9.66**	**11.20**	**5.12**	**6.93**	**6.79**	**3.83**	**4.17**	8.58	19.7	66 of 90
NICKEL	**8.48**	**6.44**	**6.30**	**6.61**	**7.95**	**7.89**	**6.68**	**5.13**	**2.75**	**4.08**	**3.48**	**5.28**	6.10	14.9	72 of 84
SELENIUM	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0 of 84
SILVER	**5.19**	**6.02**	**3.36**	**3.18**	**4.10**	**4.78**	**3.93**	**2.71**	**3.18**	**2.74**	**0.97**	**1.02**	3.69	10.2	75 of 88
THALLIUM	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.5	0 of 84
ZINC	**166.00**	**129.00**	**142.00**	**112.00**	**95.10**	**97.90**	**156.00**	**113.00**	**93.00**	**97.90**	**102.00**	**75.10**	120.00	242	84 of 84

Cyanide and Phenols (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CYANIDE	**6.15**	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.08	8.42	1 of 66
TOTAL PHENOLS	**38.40**	**37.80**	**18.90**	**24.20**	**30.70**	**28.80**	**24.20**	**30.10**	**19.20**	**9.85**	**28.50**	**5.70**	23.20	52.80	56 of 62

Oil and Grease, Petroleum Hydrocarbons, and Surfactants (mg/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
PETROLEUM HYDROCARBON	**2.65**	**2.92**	**1.15**	**0.65**	**0.69**	**1.46**	**1.65**	**0.59**	**0.49**	**0.35**	**1.30**	**0.49**	1.38	11.00	64 of 64
TOTAL PETROLEUM HYDROCARBON	**4.23**	**2.40**	~	~	~	~	~	~	~	~	~	~	3.33	4.95	12 of 12
FATS OIL AND GREASE	**40.60**	**37.40**	**35.60**	**34.20**	**35.40**	**40.60**	**31.90**	**40.40**	**28.20**	**26.60**	**17.60**	**26.50**	32.40	58.00	133 of 134
MBAS	**5.88**	**4.25**	**2.73**	**6.58**	**5.26**	**4.74**	**3.31**	**5.65**	**3.95**	**3.71**	**3.89**	**3.06**	4.20	7.56	64 of 64

Table A-2 Deer Island Influent Characterization (North & South Systems), Fiscal Year 2000, cont.

Organochlorine Pesticides and PCBs (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
4,4'-DDD	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
4,4'-DDE	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
4,4'-DDT	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ALDRIN	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ALPHA-BHC	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ALPHA-CHLORDANE	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	**0.005**	0.002	0.002	0.003	0.010	1 of 62
AROCLOR-1016	0.057	0.062	0.059	0.076	0.062	0.053	0.055	0.052	0.055	0.055	0.053	0.053	0.057	0.100	0 of 62
AROCLOR-1221	0.104	0.123	0.117	0.152	0.124	0.105	0.110	0.104	0.110	0.109	0.106	0.106	0.113	0.200	0 of 62
AROCLOR-1232	0.057	0.062	0.059	0.076	0.062	0.053	0.055	0.052	0.055	0.055	0.053	0.053	0.057	0.100	0 of 62
AROCLOR-1242	0.057	0.062	0.059	0.076	0.062	0.053	0.055	0.052	0.055	0.055	0.053	0.053	0.057	0.100	0 of 62
AROCLOR-1248	0.057	0.062	0.059	0.076	0.062	0.053	0.055	0.052	0.055	0.055	0.053	0.053	0.057	0.100	0 of 62
AROCLOR-1254	0.057	0.062	0.059	0.076	0.062	0.053	0.055	0.052	0.055	0.055	0.053	0.053	0.057	0.100	0 of 62
AROCLOR-1260	0.057	0.062	0.059	0.076	0.062	0.053	0.055	0.052	0.055	0.055	0.053	0.053	0.057	0.100	0 of 62
BETA-BHC	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
CHLORDANE (TECHNICAL)	0.057	0.062	0.059	0.051	0.062	0.053	0.055	0.052	0.055	0.055	0.053	0.053	0.056	0.066	0 of 62
DELTA-BHC	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
DIELDRIN	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ENDOSULFAN I	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ENDOSULFAN II	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ENDOSULFAN SULFATE	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ENDRIN	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ENDRIN ALDEHYDE	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
ENDRIN KETONE	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
GAMMA-BHC (LINDANE)	0.002	**0.008**	0.002	0.003	0.002	0.002	**0.005**	0.002	0.002	0.002	0.002	0.002	0.003	0.018	2 of 62
GAMMA-CHLORDANE	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	**0.005**	0.002	0.002	0.003	0.011	1 of 62
HEPTACHLOR	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
HEPTACHLOR EPOXIDE	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 62
METHOXYCHLOR	0.023	0.025	0.024	**0.062**	0.025	0.021	0.022	0.021	0.022	0.022	0.021	0.021	0.025	0.103	1 of 62
TOXAPHENE	0.057	0.062	0.059	0.051	0.062	0.053	0.055	0.052	0.055	0.055	0.053	0.053	0.056	0.066	0 of 62

Table A-2 Deer Island Influent Characterization (North & South Systems), Fiscal Year 2000, cont.

Semivolatile Organics (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
1,2,4-TRICHLOROBENZENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
1,2-DICHLOROBENZENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
1,2-DIPHENYLHYDRAZINE (AS AZOB)	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
1,3-DICHLOROBENZENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
1,4-DICHLOROBENZENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2,2'-OXYBIS(1-CHLOROPROPANE)	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2,4,5-TRICHLOROPHENOL	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2,4,6-TRICHLOROPHENOL	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2,4-DICHLOROPHENOL	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	**3.10**	1.12	2.53	1.05	1.57	6.87	1 of 62
2,4-DIMETHYLPHENOL	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2,4-DINITROPHENOL	2.21	2.22	4.60	2.91	2.54	2.10	2.30	2.53	2.16	2.24	5.06	2.11	2.73	11.30	0 of 62
2,4-DINITROTOLUENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2,6-DINITROTOLUENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2-CHLORONAPHTHALENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2-CHLOROPHENOL	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2-METHYL-4,6-DINITROPHENOL	11.10	11.10	23.00	14.50	12.70	10.50	11.50	12.70	10.80	11.20	25.30	10.50	13.60	56.50	0 of 62
2-METHYLNAPHTHALENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2-METHYLPHENOL	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2-NITROANILINE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
2-NITROPHENOL	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
3,3'-DICHLOROBENZIDINE	2.21	2.22	4.60	2.91	2.54	2.10	2.43	2.53	2.16	2.24	5.06	2.11	2.74	11.30	0 of 62
3-NITROANILINE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
4-BROMOPHENYL PHENYL ETHER	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
4-CHLORO-3-METHYLPHENOL	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
4-CHLOROANILINE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
4-CHLOROPHENYL PHENYL ETHER	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
4-METHYLPHENOL (INCLUDES 3-MET)	**18.70**	**18.60**	2.30	**12.30**	**8.09**	**13.80**	**22.30**	**41.80**	**18.10**	**12.30**	2.53	**5.60**	14.70	48.70	46 of 62
4-NITROANILINE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
4-NITROPHENOL	2.21	2.22	4.60	2.91	2.54	2.10	2.30	2.53	2.16	2.24	5.06	2.11	2.73	11.30	0 of 62
ACENAPHTHENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
ACENAPHTHYLENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
ANILINE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
ANTHRACENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
BENZIDINE	5.06	5.55	11.50	7.27	6.36	5.25	**13.50**	6.33	5.41	5.61	12.60	5.27	7.54	28.30	1 of 62
BENZO(A)ANTHRACENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62

Table A-2 Deer Island Influent Characterization (North & South Systems), Fiscal Year 2000, cont.

Semivolatile Organics (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
BENZO(A)PYRENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
BENZO(B)FLUORANTHENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
BENZO(GHI)PERYLENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
BENZO(K)FLUORANTHENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
BENZOIC ACID	**12.20**	2.22	4.60	2.91	2.54	**10.70**	2.30	**43.30**	**51.10**	2.24	5.06	**12.50**	13.30	110.00	15 of 62
BENZYL ALCOHOL	**4.17**	**10.20**	2.30	**3.35**	**2.22**	**5.89**	**8.32**	**10.40**	**4.40**	**5.34**	2.53	**3.60**	5.28	14.80	33 of 62
BIS(2-CHLOROETHOXY)METHANE	1.11	1.11	**5.43**	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.81	6.47	1 of 62
BIS(2-CHLOROETHYL)ETHER	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
BIS(2-ETHYLHEXYL)PHTHALATE	**5.02**	**8.16**	**4.77**	**2.30**	1.27	**6.61**	**7.57**	**8.23**	**7.22**	**8.90**	2.53	**2.93**	5.88	11.80	35 of 62
BUTYL BENZYL PHTHALATE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	**2.22**	1.08	1.12	2.53	1.05	1.44	5.65	1 of 62
CHRYSENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
DIBENZO(A,H)ANTHRACENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
DIBENZOFURAN	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
DIETHYL PHTHALATE	**2.69**	**1.54**	2.30	1.45	1.27	**1.89**	**4.19**	**6.33**	1.08	**2.68**	2.53	**3.42**	2.65	9.21	17 of 62
DIMETHYL PHTHALATE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
DI-N-BUTYLPHTHALATE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
DI-N-OCTYLPHTHALATE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
FLUORANTHENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
FLUORENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
HEXACHLOROBENZENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
HEXACHLOROBUTADIENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
HEXACHLOROCYCLOPENTADIENE	5.06	5.55	11.50	7.27	6.36	5.25	5.75	6.33	5.41	5.61	12.60	5.27	6.78	28.30	0 of 62
HEXACHLOROETHANE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
INDENO(1,2,3-CD)PYRENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
ISOPHORONE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
NAPHTHALENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
NITROBENZENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
N-NITROSODIMETHYLAMINE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.51	7.28	0 of 62
N-NITROSODI-N-PROPYLAMINE	**3.20**	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	1 of 62
N-NITROSODIPHENYLAMINE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62
PENTACHLOROPHENOL	3.32	3.33	6.89	4.36	3.82	3.15	3.45	3.80	3.25	3.37	7.60	3.16	4.09	16.90	0 of 62
PHENANTHRENE	0.11	**0.44**	**0.70**	0.15	0.13	0.11	**0.54**	0.13	0.11	0.11	0.25	0.11	0.27	1.11	3 of 62
PHENOL	**3.24**	**3.00**	4.60	2.91	2.54	2.10	2.30	**5.51**	2.16	2.24	5.06	2.11	3.09	11.30	4 of 62
PYRENE	1.11	1.11	2.30	1.45	1.27	1.05	1.15	1.27	1.08	1.12	2.53	1.05	1.36	5.65	0 of 62

Table A-2 Deer Island Influent Characterization (North & South Systems), Fiscal Year 2000, cont.

Volatile Organics (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
1,1,1-TRICHLOROETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00	0 of 64
1,1,2,2-TETRACHLOROETHANE	0.50	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0 of 64
1,1,2-TRICHLOROETHANE	0.50	0.79	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.86	0 of 64
1,1-DICHLOROETHANE	0.50	0.79	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.86	0 of 64
1,1-DICHLOROETHENE	0.50	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0 of 64
1,2-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.64	2.50	0 of 64
1,2-DICHLOROETHANE	0.50	0.79	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.86	0 of 64
1,2-DICHLOROPROPANE	0.50	1.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.59	1.80	0 of 64
1,3-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.64	2.50	0 of 64
1,4-DICHLOROBENZENE	**0.98**	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.67	2.50	2 of 64
2-BUTANONE	**9.01**	5.00	**7.73**	**6.61**	**3.32**	**6.34**	**3.79**	**3.53**	**5.16**	**6.02**	**2.74**	**3.90**	5.13	13.80	37 of 64
2-CHLOROETHYL VINYL ETHER	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.81	5.00	0 of 64
2-HEXANONE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.81	5.00	0 of 64
4-METHYL-2-PENTANONE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.81	5.00	0 of 64
ACETONE	**232.00**	**42.80**	**121.00**	**150.00**	**176.00**	**143.00**	**132.00**	**156.00**	**120.00**	**116.00**	**135.00**	**85.40**	129.00	299.00	61 of 64
ACROLEIN	**1.31**	12.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.35	12.00	1 of 64
ACRYLONITRILE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.81	5.00	0 of 64
BENZENE	0.50	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0 of 64
BROMODICHLOROMETHANE	**1.00**	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.54	1.98	1 of 64
BROMOFORM	0.50	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0 of 64
BROMOMETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00	0 of 64
CARBON DISULFIDE	**6.03**	2.50	0.50	**1.83**	**2.42**	**1.70**	0.50	0.50	**5.21**	0.50	0.50	0.50	1.78	14.70	10 of 64
CARBON TETRACHLORIDE	0.50	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0 of 64
CHLOROBENZENE	0.50	1.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.59	1.80	0 of 64
CHLOROETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00	0 of 64
CHLOROFORM	**12.70**	**2.91**	**4.04**	**4.77**	**2.68**	**5.04**	**3.23**	**7.01**	**4.02**	**5.28**	**7.13**	**3.92**	5.15	15.10	42 of 64
CHLOROMETHANE	**2.15**	5.00	**0.83**	0.50	0.50	**1.00**	0.50	0.50	0.50	0.50	0.50	0.50	0.99	5.43	3 of 64
CIS-1,2-DICHLOROETHENE	**1.03**	ND	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.54	2.08	1 of 58
CIS-1,3-DICHLOROPROPENE	0.50	0.79	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.86	0 of 64
DIBROMOCHLOROMETHANE	0.50	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0 of 64
ETHYLBENZENE	0.50	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0 of 64
M,P-XYLENE	0.50	0.55	**0.89**	0.50	0.50	0.65	0.50	0.84	0.50	0.66	0.50	0.50	0.59	1.07	1 of 64
METHYLENE CHLORIDE	**4.22**	2.35	**6.43**	**8.64**	**8.71**	**12.80**	**5.64**	**1.33**	**5.18**	0.50	0.50	**2.04**	**4.56**	23.50	29 of 64
O-XYLENE	0.50	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0 of 64

Table A-2 Deer Island Influent Characterization (North & South Systems), Fiscal Year 2000, cont.

Volatile Organics (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
STYRENE	0.50	0.55	0.50	0.50	0.50	**0.79**	**1.57**	**6.83**	**1.38**	7.63	2.24	2.71	2.40	16.50	12 of 64
TETRACHLOROETHENE	**1.94**	0.79	0.50	**6.38**	0.50	**1.85**	**2.13**	**2.85**	**5.22**	10.70	0.50	0.50	2.90	33.30	15 of 64
TOLUENE	**6.14**	**3.05**	**4.04**	**1.61**	0.50	**2.97**	**3.07**	**0.84**	**2.11**	1.11	1.35	1.47	2.26	7.81	27 of 64
TRANS-1,2-DICHLOROETHENE	0.50	0.79	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.86	0 of 64
TRANS-1,3-DICHLOROPROPENE	0.50	0.79	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.86	0 of 64
TRICHLOROETHENE	**1.01**	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.54	2.02	1 of 64
TRICHLOROFLUOROMETHANE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.64	2.50	0 of 64
VINYL ACETATE	0.50	12.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.29	12.00	0 of 64
VINYL CHLORIDE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00	0 of 64

Notes:
ND = No Data
~ No samples taken
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table A-3 Deer Island Influent Loadings (North & South Systems), Fiscal Year 2000

Metals (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
ANTIMONY	14.00	13.80	21.80	20.60	19.70	14.10	20.80	11.80	22.90	22.00	25.10	34.20	18.70	48.10
ARSENIC	**2.23**	**1.86**	**5.13**	**3.39**	**3.22**	**2.25**	**3.83**	**2.64**	**1.53**	**2.77**	**2.32**	**3.97**	2.92	13.20
BERYLLIUM	0.58	0.53	0.89	0.70	0.66	0.70	0.73	0.59	0.76	0.84	0.84	0.94	0.70	1.88
BORON	**821.00**	**809.00**	**973.00**	**763.00**	**799.00**	**700.00**	**591.00**	**590.00**	**568.00**	**743.00**	**1060.00**	**1100.00**	783.00	1180.00
CADMIUM	2.31	2.12	3.56	**3.39**	2.62	2.81	2.93	2.36	3.05	3.34	**1.58**	**1.21**	2.71	7.52
CHROMIUM	**12.70**	**11.80**	**19.60**	**21.00**	**8.88**	**15.20**	**24.50**	**12.80**	**18.10**	**19.90**	**11.90**	**11.50**	16.00	42.20
COPPER	**232.00**	**168.00**	**261.00**	**193.00**	**158.00**	**155.00**	**256.00**	**145.00**	**168.00**	**175.00**	**197.00**	**163.00**	194.00	489.00
HEXAVALENT CHROMIUM	12.00	11.70	15.90	13.80	15.50	16.60	14.50	6.05	7.41	8.06	9.43	11.20	11.60	19.50
IRON	**5530.00**	**4060.00**	**8900.00**	**5650.00**	**4290.00**	**4760.00**	**8120.00**	**3980.00**	**5050.00**	**6540.00**	**5860.00**	**5910.00**	5720.00	20900.00
LEAD	**56.60**	**33.60**	**133.00**	**37.30**	**24.60**	**41.20**	**59.50**	**14.60**	**39.00**	**29.70**	**22.10**	**25.30**	48.60	395.00
MERCURY	**0.99**	**0.68**	**1.21**	**0.97**	**0.35**	**0.48**	**1.15**	**0.46**	**0.94**	**0.81**	**0.51**	**0.30**	0.81	2.76
MOLYBDENUM	**19.90**	**22.70**	**34.80**	**26.80**	**22.80**	**27.20**	**32.80**	**12.10**	**21.10**	**22.70**	**12.80**	**15.70**	24.10	57.10
NICKEL	**19.60**	**13.60**	**22.40**	**18.60**	**20.90**	**22.20**	**19.60**	**12.10**	**8.37**	**13.60**	**11.60**	**19.80**	17.10	53.80
SELENIUM	1.04	0.95	1.60	1.27	1.18	1.27	1.32	1.06	1.37	1.50	1.50	1.69	1.26	3.38
SILVER	**12.00**	**12.80**	**12.00**	**8.96**	**10.70**	**13.40**	**11.50**	**6.39**	**9.71**	**9.18**	**3.25**	**3.83**	10.40	21.00
THALLIUM	1.16	1.06	1.78	1.41	1.31	1.41	1.47	1.18	1.52	1.67	1.67	1.88	1.40	3.76
ZINC	**384.00**	**274.00**	**506.00**	**316.00**	**250.00**	**275.00**	**457.00**	**266.00**	**284.00**	**327.00**	**341.00**	**282.00**	338.00	1070.00

Cyanide and Phenols (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
CYANIDE	**13.40**	10.70	14.40	12.50	14.10	15.10	13.20	12.10	14.80	16.10	18.90	22.40	14.80	32.40
TOTAL PHENOLS	**83.30**	**81.60**	**80.20**	**60.10**	**80.50**	**81.00**	**60.90**	**71.10**	**58.50**	**32.90**	**95.30**	**21.40**	67.70	160.00

Oil and Grease, Petroleum Hydrocarbons, and Surfactants (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
PETROLEUM HYDROCARBON	**5790**	**6230**	**3310**	**1640**	**1960**	**4410**	**4410**	**1420**	**1440**	**1140**	**4900**	**2180**	4020	28400
TOTAL PETROLEUM HYDROCARBON	**9250**	**5110**	~	~	~	~	~	~	~	~	~	~	7180	10700
FATS OIL AND GREASE	**93000**	**78900**	**96300**	**96400**	**93600**	**115000**	**91200**	**136000**	**92100**	**96000**	**63000**	**103000**	96300	230000
MBAS	**13600**	**9180**	**11600**	**16200**	**13800**	**13300**	**9720**	**13400**	**12000**	**12400**	**13000**	**11500**	12200	17300

Table A-3 Deer Island Influent Loadings (North & South Systems), Fiscal Year 2000, cont.

Organochlorine Pesticides and PCBs (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
4,4'-DDD	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
4,4'-DDE	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
4,4'-DDT	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ALDRIN	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ALPHA-BHC	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ALPHA-CHLORDANE	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	**0.016**	0.007	0.008	0.007	0.033
AROCLOR-1016	0.122	0.133	0.249	0.189	0.163	0.148	0.162	0.123	0.167	0.183	0.176	0.199	0.166	0.446
AROCLOR-1221	0.225	0.265	0.499	0.378	0.325	0.296	0.323	0.246	0.334	0.365	0.354	0.398	0.330	0.893
AROCLOR-1232	0.122	0.133	0.249	0.189	0.163	0.148	0.162	0.123	0.167	0.183	0.176	0.199	0.166	0.446
AROCLOR-1242	0.122	0.133	0.249	0.189	0.163	0.148	0.162	0.123	0.167	0.183	0.176	0.199	0.166	0.446
AROCLOR-1248	0.122	0.133	0.249	0.189	0.163	0.148	0.162	0.123	0.167	0.183	0.176	0.199	0.166	0.446
AROCLOR-1254	0.122	0.133	0.249	0.189	0.163	0.148	0.162	0.123	0.167	0.183	0.176	0.199	0.166	0.446
AROCLOR-1260	0.122	0.133	0.249	0.189	0.163	0.148	0.162	0.123	0.167	0.183	0.176	0.199	0.166	0.446
BETA-BHC	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
CHLORDANE (TECHNICAL)	0.122	0.133	0.249	0.128	0.163	0.148	0.162	0.123	0.167	0.183	0.176	0.199	0.162	0.446
DELTA-BHC	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
DIELDRIN	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ENDOSULFAN I	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ENDOSULFAN II	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ENDOSULFAN SULFATE	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ENDRIN	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ENDRIN ALDEHYDE	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
ENDRIN KETONE	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
GAMMA-BHC (LINDANE)	0.005	**0.017**	0.010	0.008	0.007	0.006	**0.013**	0.005	0.007	0.007	0.007	0.008	0.008	0.042
GAMMA-CHLORDANE	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	**0.017**	0.007	0.008	0.008	0.036
HEPTACHLOR	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
HEPTACHLOR EPOXIDE	0.005	0.005	0.010	0.008	0.007	0.006	0.006	0.005	0.007	0.007	0.007	0.008	0.007	0.018
METHOXYCHLOR	0.049	0.053	0.100	**0.154**	0.065	0.059	0.065	0.049	0.067	0.073	0.071	0.080	0.071	0.255
TOXAPHENE	0.122	0.133	0.249	0.128	0.163	0.148	0.162	0.123	0.167	0.183	0.176	0.199	0.162	0.446

Table A-3 Deer Island Influent Loadings (North & South Systems), Fiscal Year 2000, cont.

Semivolatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,2,4-TRICHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
1,2-DICHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
1,2-DIPHENYLHYDRAZINE (AS AZOB)	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
1,3-DICHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
1,4-DICHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2,2'-OXYBIS(1-CHLOROPROPANE)	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2,4,5-TRICHLOROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2,4,6-TRICHLOROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2,4-DICHLOROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	**9.44**	3.75	8.45	3.96	4.57	21.70
2,4-DIMETHYLPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2,4-DINITROPHENOL	4.80	4.79	19.60	7.24	6.67	5.90	6.74	5.99	6.60	7.50	16.90	7.92	7.94	28.10
2,4-DINITROTOLUENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2,6-DINITROTOLUENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2-CHLORONAPHTHALENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2-CHLOROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2-METHYL-4,6-DINITROPHENOL	24.10	24.00	97.70	36.20	33.40	29.50	33.70	29.90	33.00	37.50	84.50	39.60	39.70	140.00
2-METHYLNAPHTHALENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2-METHYLPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2-NITROANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
2-NITROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
3,3'-DICHLOROBENZIDINE	4.80	4.79	19.60	7.24	6.67	5.90	7.13	5.99	6.60	7.50	16.90	7.92	7.98	28.10
3-NITROANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
4-BROMOPHENYL PHENYL ETHER	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
4-CHLORO-3-METHYLPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
4-CHLOROANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
4-CHLOROPHENYL PHENYL ETHER	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
4-METHYLPHENOL (INCLUDES 3-MET)	**40.60**	**40.20**	**9.77**	**30.50**	**21.20**	**38.70**	**65.40**	**98.80**	**55.30**	**41.10**	8.45	**21.00**	42.70	117.00
4-NITROANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
4-NITROPHENOL	4.80	4.79	19.60	7.24	6.67	5.90	6.74	5.99	6.60	7.50	16.90	7.92	7.94	28.10
ACENAPHTHENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
ACENAPHTHYLENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
ANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
ANTHRACENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
BENZIDINE	11.00	12.00	48.90	18.10	16.70	14.80	**39.70**	15.00	16.50	18.80	42.30	19.80	22.00	89.80
BENZO(A)ANTHRACENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00

Table A-3 Deer Island Influent Loadings (North & South Systems), Fiscal Year 2000, cont.

Semivolatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
BENZO(A)PYRENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
BENZO(B)FLUORANTHENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
BENZO(GHI)PERYLENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
BENZO(K)FLUORANTHENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
BENZOIC ACID	**26.50**	4.79	19.60	7.24	6.67	**30.10**	6.74	**102.00**	**156.00**	7.50	16.90	**47.10**	38.70	328.00
BENZYL ALCOHOL	**9.04**	**22.10**	9.77	**8.34**	**5.81**	**16.60**	**24.40**	**24.60**	**13.40**	**17.90**	8.45	**13.50**	15.40	51.80
BIS(2-CHLOROETHOXY)METHANE	2.41	2.40	**23.10**	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	5.26	48.70
BIS(2-CHLOROETHYL)ETHER	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
BIS(2-ETHYLHEXYL)PHTHALATE	**10.90**	**17.60**	**20.30**	**5.72**	**3.34**	**18.60**	**22.20**	**19.50**	**22.00**	**29.80**	8.45	**11.00**	17.10	40.30
BUTYL BENZYL PHTHALATE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	**5.26**	3.30	3.75	8.45	3.96	4.19	14.00
CHRYSENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
DIBENZO(A,H)ANTHRACENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
DIBENZOFURAN	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
DIETHYL PHTHALATE	**5.84**	**3.32**	9.77	3.62	3.34	**5.32**	**12.30**	**15.00**	3.30	**8.97**	8.45	**12.80**	7.72	21.60
DIMETHYL PHTHALATE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
DI-N-BUTYLPHTHALATE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
DI-N-OCTYLPHTHALATE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
FLUORANTHENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
FLUORENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
HEXACHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
HEXACHLOROBUTADIENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
HEXACHLOROCYCLOPENTADIENE	11.00	12.00	48.90	18.10	16.70	14.80	16.90	15.00	16.50	18.80	42.30	19.80	19.80	70.20
HEXACHLOROETHANE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
INDENO(1,2,3-CD)PYRENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
ISOPHORONE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
NAPHTHALENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
NITROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
N-NITROSODIMETHYLAMINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
N-NITROSODI-N-PROPYLAMINE	**6.92**	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	4.41	15.80
N-NITROSODIPHENYLAMINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00
PENTACHLOROPHENOL	7.19	7.19	29.30	10.90	10.00	8.85	10.10	8.98	9.90	11.30	25.40	11.90	11.90	42.00
PHENANTHRENE	0.24	**0.94**	**2.96**	0.36	0.33	0.30	**1.59**	0.30	0.33	0.38	0.85	0.40	0.78	6.81
PHENOL	**7.03**	**6.48**	19.60	7.24	6.67	5.90	6.74	**13.00**	6.60	7.50	16.90	7.92	9.00	28.10
PYRENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.75	8.45	3.96	3.97	14.00

Table A-3 Deer Island Influent Loadings (North & South Systems), Fiscal Year 2000, cont.

Volatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,1,1-TRICHLOROETHANE	1.09	2.13	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.56	3.24
1,1,2,2-TETRACHLOROETHANE	1.09	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.47	3.24
1,1,2-TRICHLOROETHANE	1.09	1.68	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.51	3.24
1,1-DICHLOROETHANE	1.09	1.68	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.51	3.24
1,1-DICHLOROETHENE	1.09	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.47	3.24
1,2-DICHLOROBENZENE	1.09	5.33	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.86	5.56
1,2-DICHLOROETHANE	1.09	1.68	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.51	3.24
1,2-DICHLOROPROPANE	1.09	3.84	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.72	4.00
1,3-DICHLOROBENZENE	1.09	5.33	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.86	5.56
1,4-DICHLOROBENZENE	**2.14**	5.33	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.95	5.56
2-BUTANONE	**19.70**	10.70	**22.30**	**16.60**	**9.38**	**19.10**	**10.00**	**8.53**	**15.30**	**19.40**	**10.30**	**17.50**	14.90	37.70
2-CHLOROETHYL VINYL ETHER	1.09	10.70	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	2.36	11.10
2-HEXANONE	1.09	10.70	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	2.36	11.10
4-METHYL-2-PENTANONE	1.09	10.70	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	2.36	11.10
ACETONE	**507.00**	**91.10**	**348.00**	**376.00**	**496.00**	**433.00**	**348.00**	**377.00**	**356.00**	**374.00**	**511.00**	**383.00**	377.00	805.00
ACROLEIN	**2.87**	25.60	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	3.92	26.70
ACRYLONITRILE	1.09	10.70	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	2.36	11.10
BENZENE	1.09	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.47	3.24
BROMODICHLOROMETHANE	**2.18**	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.57	4.36
BROMOFORM	1.09	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.47	3.24
BROMOMETHANE	1.09	2.13	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.56	3.24
CARBON DISULFIDE	**13.20**	5.33	1.44	**4.58**	**6.83**	**5.12**	1.32	1.21	**15.50**	1.61	1.89	2.24	5.18	43.40
CARBON TETRACHLORIDE	1.09	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.47	3.24
CHLOROBENZENE	1.09	3.84	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.72	4.00
CHLOROETHANE	1.09	2.13	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.56	3.24
CHLOROFORM	**27.80**	**6.20**	**11.70**	**12.00**	**7.57**	**15.20**	**8.55**	**17.00**	**11.90**	**17.00**	**26.90**	**17.60**	15.00	33.20
CHLOROMETHANE	**4.70**	10.70	**2.41**	1.25	1.41	**3.02**	1.32	1.21	1.48	1.61	1.89	2.24	2.90	11.90
CIS-1,2-DICHLOROETHENE	**2.24**	ND	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.62	4.55
CIS-1,3-DICHLOROPROPENE	1.09	1.68	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.51	3.24
DIBROMOCHLOROMETHANE	1.09	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.47	3.24
ETHYLBENZENE	1.09	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.47	3.24
M,P-XYLENE	1.09	1.17	**2.56**	1.25	1.41	1.97	1.32	2.02	1.48	2.11	1.89	2.24	1.70	3.41
METHYLENE CHLORIDE	**9.22**	5.00	**18.60**	**21.70**	**24.60**	**38.50**	**14.90**	**3.23**	**15.30**	1.61	1.89	**9.15**	13.30	65.50
O-XYLENE	1.09	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.47	3.24
STYRENE	1.09	1.17	1.44	1.25	1.41	**2.39**	**4.15**	**16.50**	**4.09**	**24.60**	**8.44**	**12.20**	6.99	49.50
TETRACHLOROETHENE	**4.23**	1.68	1.44	**16.00**	1.41	**5.58**	**5.64**	**6.90**	**15.50**	**34.50**	1.89	2.24	8.45	100.00
TOLUENE	**13.40**	**6.49**	**11.70**	**4.03**	1.41	**8.95**	**8.10**	**2.04**	**6.26**	**3.59**	**5.10**	**6.59**	6.59	17.20
TRANS-1,2-DICHLOROETHENE	1.09	1.68	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.51	3.24
TRANS-1,3-DICHLOROPROPENE	1.09	1.68	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.51	3.24

Table A-3 Deer Island Influent Loadings (North & South Systems), Fiscal Year 2000, cont.

Volatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
TRICHLOROETHENE	**2.20**	1.17	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.57	4.43
TRICHLOROFLUOROMETHANE	1.09	5.33	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.86	5.56
VINYL ACETATE	1.09	25.60	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	3.75	26.7
VINYL CHLORIDE	1.09	2.13	1.44	1.25	1.41	1.51	1.32	1.21	1.48	1.61	1.89	2.24	1.56	3.24

Notes:
~ No samples taken
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Times Detected
0 of 84
41 of 84
0 of 84
69 of 84
9 of 86
72 of 88
84 of 84
0 of 64
84 of 84
87 of 87
84 of 84
66 of 90
72 of 84
0 of 84
75 of 88
0 of 84
84 of 84

Times Detected
1 of 66
56 of 62

Times Detected
64 of 64
12 of 12
133 of 134
64 of 64

Times Detected
0 of 62
0 of 62
0 of 62
0 of 62
0 of 62
1 of 62
0 of 62
0 of 62
0 of 62
0 of 62
0 of 62
0 of 62
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0 of 62
2 of 62
1 of 62
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0 of 62
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0 of 62

Times Detected
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46 of 62
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1 of 62
0 of 62

Times Detected
0 of 62
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15 of 62
33 of 62
1 of 62
0 of 62
35 of 62
1 of 62
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0 of 62
0 of 62
17 of 62
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3 of 62
4 of 62
0 of 62

Times Detected
0 of 64
0 of 64
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0 of 64
2 of 64
37 of 64
0 of 64
0 of 64
0 of 64
61 of 64
1 of 64
0 of 64
0 of 64
1 of 64
0 of 64
0 of 64
10 of 64
0 of 64
0 of 64
0 of 64
42 of 64
3 of 64
1 of 58
0 of 64
0 of 64
0 of 64
1 of 64
29 of 64
0 of 64
12 of 64
15 of 64
27 of 64
0 of 64
0 of 64

Times Detected
1 of 64
0 of 64
0 of 64
0 of 64

Table A-4 Deer Island Influent Characterization (North System), Fiscal Year 2000

Metals (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
ANTIMONY	5.64	6.40	6.29	7.50	7.50	5.00	6.99	5.00	7.50	6.58	7.50	9.55	6.86	10.00
ARSENIC	**1.12**	**0.96**	**1.61**	**1.61**	**1.32**	**0.94**	**1.64**	**1.38**	**0.56**	**0.99**	**1.14**	**1.90**	1.33	2.65
BERYLLIUM	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
BORON	**331.00**	**364.00**	**284.00**	**268.00**	**302.00**	**231.00**	**163.00**	**248.00**	**198.00**	**218.00**	**322.00**	**287.00**	275.00	426.00
CADMIUM	1.00	1.00	1.00	**1.26**	1.00	1.00	1.00	1.00	1.00	1.00	**0.77**	**0.43**	0.96	2.18
CHROMIUM	**5.76**	**5.53**	**6.29**	**9.29**	**3.57**	**6.37**	**9.63**	**6.13**	**6.28**	**6.60**	**6.45**	**4.84**	6.46	13.10
COPPER	**88.60**	**71.60**	**62.90**	**74.50**	**60.90**	**55.70**	**92.30**	**55.80**	**55.80**	**53.20**	**102.00**	**50.50**	68.00	140.00
HEXAVALENT CHROMIUM	5.50	5.50	5.50	5.50	5.50	5.50	5.50	2.50	2.50	2.50	2.50	2.50	4.09	5.50
IRON	**2190.00**	**1770.00**	**2320.00**	**2080.00**	**1500.00**	**1780.00**	**3150.00**	**1590.00**	**1770.00**	**2220.00**	**3130.00**	**2040.00**	2120.00	4950.00
LEAD	**27.70**	**17.30**	**39.90**	**14.40**	**14.90**	**19.00**	**25.20**	**5.61**	**16.80**	**10.10**	**12.90**	**23.10**	21.20	71.20
MERCURY	**0.42**	**0.27**	**0.34**	**0.37**	**0.48**	**0.20**	**0.45**	**0.15**	**0.37**	**0.23**	**0.32**	**0.13**	0.31	1.32
MOLYBDENUM	**9.78**	**13.30**	**10.90**	**12.60**	**14.10**	**13.40**	**12.80**	**4.91**	**9.52**	**8.65**	**6.95**	**5.48**	10.50	23.90
NICKEL	**8.97**	**7.23**	**6.17**	**7.65**	**8.28**	**11.30**	**7.48**	**5.82**	**2.54**	**4.81**	**6.98**	**5.49**	6.85	21.80
SELENIUM	0.45	0.45	0.70	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.49	2.25
SILVER	**4.14**	**6.28**	**3.12**	**3.66**	**4.47**	**4.82**	**4.50**	**2.79**	**3.90**	**2.96**	**2.72**	**1.23**	3.67	11.60
THALLIUM	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
ZINC	**151.00**	**116.00**	**131.00**	**118.00**	**92.90**	**101.00**	**167.00**	**104.00**	**95.30**	**99.10**	**166.00**	**108.00**	121.00	249.00

Cyanide and Phenols (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
CYANIDE	**6.66**	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.11	10.00
TOTAL PHENOLS	**24.80**	**33.70**	**15.30**	**20.90**	**22.20**	**27.00**	**20.50**	**27.10**	**18.30**	**6.47**	**42.40**	**5.06**	20.90	54.30

Oil and Grease, Petroleum Hydrocarbons, and Surfactants (mg/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
PETROLEUM HYDROCARBON	**2.42**	**2.63**	**0.64**	**0.51**	**0.71**	**1.37**	**0.75**	**0.55**	**0.49**	**0.34**	**1.96**	**0.23**	1.39	17.00
TOTAL PETROLEUM HYDROCARBON	**3.63**	**2.38**	~	~	~	~	~	~	~	~	~	~	3.20	3.90
FATS OIL AND GREASE	**39.80**	**34.70**	**28.10**	**33.40**	**34.50**	**42.90**	**30.20**	**43.90**	**29.10**	**23.80**	**21.40**	**27.80**	31.70	65.00
MBAS	**5.83**	**3.94**	**2.46**	**6.76**	**5.07**	**4.54**	**3.35**	**5.97**	**4.03**	**4.14**	**3.56**	**3.24**	4.19	7.79

Table A-4 Deer Island Influent Characterization (North System), Fiscal Year 2000, con

Organochlorine Pesticides and PCBs (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
4,4'-DDD	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
4,4'-DDE	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
4,4'-DDT	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ALDRIN	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ALPHA-BHC	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ALPHA-CHLORDANE	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
AROCLOR-1016	0.057	0.053	0.059	0.089	0.061	0.053	0.055	0.052	0.052	0.056	0.057	0.054	0.057	0.125
AROCLOR-1221	0.114	0.105	0.117	0.177	0.122	0.106	0.110	0.104	0.103	0.112	0.114	0.107	0.114	0.250
AROCLOR-1232	0.057	0.053	0.059	0.089	0.061	0.053	0.055	0.052	0.052	0.056	0.057	0.054	0.057	0.125
AROCLOR-1242	0.057	0.053	0.059	0.089	0.061	0.053	0.055	0.052	0.052	0.056	0.057	0.054	0.057	0.125
AROCLOR-1248	0.057	0.053	0.059	0.089	0.061	0.053	0.055	0.052	0.052	0.056	0.057	0.054	0.057	0.125
AROCLOR-1254	0.057	0.053	0.059	0.089	0.061	0.053	0.055	0.052	0.052	0.056	0.057	0.054	0.057	0.125
AROCLOR-1260	0.057	0.053	0.059	0.089	0.061	0.053	0.055	0.052	0.052	0.056	0.057	0.054	0.057	0.125
BETA-BHC	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
CHLORDANE (TECHNICAL)	0.057	0.053	0.059	0.051	0.061	0.053	0.055	0.052	0.052	0.056	0.057	0.054	0.055	0.071
DELTA-BHC	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
DIELDRIN	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ENDOSULFAN I	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ENDOSULFAN II	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ENDOSULFAN SULFATE	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ENDRIN	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ENDRIN ALDEHYDE	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
ENDRIN KETONE	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
GAMMA-BHC (LINDANE)	0.002	**0.010**	0.002	0.004	0.002	0.002	**0.006**	0.002	0.002	0.002	0.002	0.002	0.003	0.023
GAMMA-CHLORDANE	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
HEPTACHLOR	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
HEPTACHLOR EPOXIDE	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005
METHOXYCHLOR	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.022	0.023	0.022	0.023	0.050
TOXAPHENE	0.057	0.053	0.059	0.051	0.061	0.053	0.055	0.052	0.052	0.056	0.057	0.054	0.055	0.071

Table A-4 Deer Island Influent Characterization (North System), Fiscal Year 2000, con

Semivolatile Organics (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,2,4-TRICHLOROBENZENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
1,2-DICHLOROBENZENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
1,2-DIPHENYLHYDRAZINE (AS AZOB)	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
1,3-DICHLOROBENZENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
1,4-DICHLOROBENZENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2,2'-OXYBIS(1-CHLOROPROPANE)	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2,4,5-TRICHLOROPHENOL	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2,4,6-TRICHLOROPHENOL	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2,4-DICHLOROPHENOL	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	**4.21**	1.16	2.18	1.19	1.66	10.40
2,4-DIMETHYLPHENOL	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2,4-DINITROPHENOL	2.25	2.14	4.48	3.34	2.55	2.11	2.34	2.78	2.04	2.32	4.36	2.39	2.78	11.50
2,4-DINITROTOLUENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2,6-DINITROTOLUENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2-CHLORONAPHTHALENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2-CHLOROPHENOL	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2-METHYL-4,6-DINITROPHENOL	11.20	10.70	22.40	16.70	12.70	10.50	11.70	13.90	10.20	11.60	21.80	11.90	13.90	57.50
2-METHYLNAPHTHALENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2-METHYLPHENOL	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2-NITROANILINE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
2-NITROPHENOL	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
3,3'-DICHLOROBENZIDINE	2.25	2.14	4.48	3.34	2.55	2.11	2.34	2.78	2.04	2.32	4.36	2.39	2.78	11.50
3-NITROANILINE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
4-BROMOPHENYL PHENYL ETHER	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
4-CHLORO-3-METHYLPHENOL	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
4-CHLOROANILINE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
4-CHLOROPHENYL PHENYL ETHER	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
4-METHYLPHENOL (INCLUDES 3-MET)	**16.30**	**19.40**	2.24	**14.20**	**5.61**	**15.10**	**23.10**	**41.70**	**24.50**	**17.70**	**8.60**	**2.64**	14.40	51.10
4-NITROANILINE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
4-NITROPHENOL	2.25	2.14	4.48	3.34	2.55	2.11	2.34	2.78	2.04	2.32	4.36	2.39	2.78	11.50
ACENAPHTHENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
ACENAPHTHYLENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
ANILINE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
ANTHRACENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
BENZIDINE	5.62	5.35	11.20	8.35	6.37	5.27	**17.10**	6.95	5.10	5.81	10.90	5.96	7.95	29.90
BENZO(A)ANTHRACENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75

Table A-4 Deer Island Influent Characterization (North System), Fiscal Year 2000, con

Semivolatile Organics (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
BENZO(A)PYRENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
BENZO(B)FLUORANTHENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
BENZO(GHI)PERYLENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
BENZO(K)FLUORANTHENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
BENZOIC ACID	**16.80**	2.14	4.48	3.34	2.55	**15.30**	2.34	**49.80**	**79.50**	2.32	**10.30**	**7.31**	15.50	172.00
BENZYL ALCOHOL	**3.02**	**10.60**	2.24	1.67	1.27	**7.58**	**8.85**	**8.71**	**3.58**	**6.80**	2.18	**2.51**	4.76	15.20
BIS(2-CHLOROETHOXY)METHANE	1.12	1.07	**6.66**	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.97	8.44
BIS(2-CHLOROETHYL)ETHER	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
BIS(2-ETHYLHEXYL)PHTHALATE	**5.71**	**8.60**	**5.73**	1.67	1.27	**8.54**	**9.49**	**8.74**	**8.71**	**9.74**	**10.90**	**7.00**	7.28	18.30
BUTYL BENZYL PHTHALATE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	**2.84**	1.02	1.16	2.18	1.19	1.49	5.75
CHRYSENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
DIBENZO(A,H)ANTHRACENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
DIBENZOFURAN	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
DIETHYL PHTHALATE	**2.63**	1.07	2.24	1.67	1.27	**2.34**	**3.92**	**5.81**	1.02	**2.81**	2.18	**2.39**	2.46	8.90
DIMETHYL PHTHALATE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
DI-N-BUTYLPHTHALATE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
DI-N-OCTYLPHTHALATE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
FLUORANTHENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
FLUORENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
HEXACHLOROBENZENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
HEXACHLOROBUTADIENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
HEXACHLOROCYCLOPENTADIENE	5.62	5.35	11.20	8.35	6.37	5.27	5.85	6.95	5.10	5.81	10.90	5.96	6.95	28.80
HEXACHLOROETHANE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
INDENO(1,2,3-CD)PYRENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
ISOPHORONE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
NAPHTHALENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
NITROBENZENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
N-NITROSODIMETHYLAMINE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.59	10.00
N-NITROSODI-N-PROPYLAMINE	**4.15**	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
N-NITROSODIPHENYLAMINE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75
PENTACHLOROPHENOL	3.37	3.21	6.71	5.01	3.82	3.16	3.51	4.17	3.06	3.49	6.54	3.58	4.17	17.20
PHENANTHRENE	0.11	**0.58**	**0.88**	0.17	0.13	0.11	**0.74**	0.14	0.10	0.12	0.22	0.12	0.31	1.45
PHENOL	2.25	2.14	4.48	3.34	2.55	2.11	2.34	2.78	2.04	2.32	4.36	2.39	2.78	11.50
PYRENE	1.12	1.07	2.24	1.67	1.27	1.05	1.17	1.39	1.02	1.16	2.18	1.19	1.39	5.75

Table A-4 Deer Island Influent Characterization (North System), Fiscal Year 2000, con

Volatile Organics (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,1,1-TRICHLOROETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00
1,1,2,2-TETRACHLOROETHANE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1,1,2-TRICHLOROETHANE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
1,1-DICHLOROETHANE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
1,1-DICHLOROETHENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1,2-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
1,2-DICHLOROETHANE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
1,2-DICHLOROPROPANE	0.50	1.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.58	1.80
1,3-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
1,4-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
2-BUTANONE	**9.25**	5.00	**13.60**	**3.80**	0.50	**6.02**	0.50	0.50	**2.90**	**1.37**	0.50	**1.46**	3.80	20.70
2-CHLOROETHYL VINYL ETHER	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.79	5.00
2-HEXANONE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.79	5.00
4-METHYL-2-PENTANONE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.79	5.00
ACETONE	**228.00**	**32.50**	**114.00**	**127.00**	**143.00**	**127.00**	**122.00**	**136.00**	**124.00**	**114.00**	**135.00**	**67.40**	120.00	276.00
ACROLEIN	**1.68**	12.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.31	12.00
ACRYLONITRILE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.79	5.00
BENZENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BROMODICHLOROMETHANE	**1.22**	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.55	2.67
BROMOFORM	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BROMOMETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00
CARBON DISULFIDE	**5.23**	2.50	0.50	**2.53**	**2.44**	**2.24**	0.50	0.50	**7.93**	0.50	0.50	0.50	1.96	22.80
CARBON TETRACHLORIDE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
CHLOROBENZENE	0.50	1.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.58	1.80
CHLOROETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00
CHLOROFORM	**14.30**	**3.85**	**2.16**	**6.25**	**4.20**	**5.74**	**4.22**	**7.76**	**5.18**	**7.28**	**8.55**	**5.02**	6.03	18.70
CHLOROMETHANE	**2.89**	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.95	7.70
CIS-1,2-DICHLOROETHENE	**1.26**	ND	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.55	2.78
CIS-1,3-DICHLOROPROPENE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
DIBROMOCHLOROMETHANE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
ETHYLBENZENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
M,P-XYLENE	0.50	0.50	0.50	0.50	0.50	0.64	0.50	0.84	0.50	0.65	0.50	0.50	0.55	1.00
METHYLENE CHLORIDE	**3.93**	2.50	**20.10**	**6.26**	**9.44**	**8.55**	**6.62**	0.50	**6.90**	0.50	0.50	**1.97**	5.81	37.80
O-XYLENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50

Table A-4 Deer Island Influent Characterization (North System), Fiscal Year 2000, con

Volatile Organics (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
STYRENE	0.50	0.50	0.50	0.50	0.50	0.50	**2.15**	0.50	0.50	0.50	0.50	0.50	0.62	5.64
TETRACHLOROETHENE	**1.34**	0.77	0.50	9.49	0.50	**2.47**	**1.25**	**3.22**	0.50	**1.57**	0.50	0.50	1.52	15.20
TOLUENE	**6.25**	**2.40**	**2.19**	**1.64**	0.50	**3.54**	**3.62**	0.50	**1.98**	**1.46**	0.50	0.50	1.95	8.78
TRANS-1,2-DICHLOROETHENE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
TRANS-1,3-DICHLOROPROPENE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
TRICHLOROETHENE	**1.24**	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.55	2.70
TRICHLOROFLUOROMETHANE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
VINYL ACETATE	0.50	12.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.24	12.00
VINYL CHLORIDE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00

Notes:
~ No samples taken
ND = No Data
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Times Detected
0 of 47
31 of 49
0 of 47
38 of 47
9 of 50
44 of 50
48 of 48
0 of 35
47 of 47
49 of 49
47 of 47
50 of 54
45 of 48
0 of 48
43 of 51
0 of 48
47 of 47

Times Detected
1 of 36
27 of 33

Times Detected
35 of 35
6 of 6
73 of 74
34 of 34

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Times Detected
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Times Detected
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27 of 35
1 of 35
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17 of 35
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Times Detected
1 of 35
8 of 35
13 of 35
0 of 35
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1 of 35
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0 of 35

Table A-5 Deer Island Influent Loadings (North System), Fiscal Year2000

Metals (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
ANTIMONY	9.14	9.35	15.3	13.7	12.7	9.2	14.1	7.82	14.4	14.10	16.20	31.40	13.40	51.00
ARSENIC	**1.82**	**1.40**	**3.91**	**2.93**	**2.24**	**1.72**	**3.31**	**2.16**	**1.09**	**2.12**	**2.46**	**6.24**	2.58	12.80
BERYLLIUM	0.41	0.37	0.61	0.46	0.42	0.46	0.51	0.39	0.48	0.53	0.54	0.82	0.49	1.37
BORON	**536.00**	**532.00**	**691.00**	**490.00**	**510.00**	**425.00**	**330.00**	**387.00**	**381.00**	**466.00**	**693.00**	**945.00**	536.00	1290.00
CADMIUM	1.62	1.46	2.43	**2.30**	1.69	1.84	2.02	1.56	1.93	2.14	**1.65**	**1.41**	1.87	5.47
CHROMIUM	**9.33**	**8.08**	**15.30**	**17.00**	**6.05**	**11.70**	**19.50**	**9.58**	**12.10**	**14.10**	**13.90**	**15.90**	12.60	31.90
COPPER	**144.00**	**105.00**	**153.00**	**136.00**	**103.00**	**102.00**	**187.00**	**87.20**	**107.00**	**114.00**	**220.00**	**166.00**	132.00	316.00
HEXAVALENT CHROMIUM	8.31	8.08	13.40	9.02	10.20	11.40	9.45	4.03	4.70	5.13	6.03	7.18	8.05	17.60
IRON	**3540.00**	**2590.00**	**5640.00**	**3790.00**	**2540.00**	**3280.00**	**6370.00**	**2490.00**	**3400.00**	**4750.00**	**6750.00**	**6720.00**	4140.00	15100.00
LEAD	**44.80**	**25.30**	**96.90**	**26.40**	**25.20**	**35.00**	**51.00**	**8.77**	**32.40**	**21.50**	**27.70**	**75.90**	41.40	347.00
MERCURY	**0.68**	**0.39**	**0.83**	**0.67**	**0.81**	**0.37**	**0.90**	**0.23**	**0.71**	**0.49**	**0.70**	**0.44**	0.61	2.37
MOLYBDENUM	**15.80**	**19.40**	**26.40**	**22.90**	**23.90**	**24.70**	**25.90**	**7.68**	**18.30**	**18.50**	**15.00**	**18.00**	20.40	46.40
NICKEL	**14.50**	**10.60**	**15.00**	**14.00**	**14.00**	**20.70**	**15.20**	**9.10**	**4.89**	**10.30**	**15.00**	**18.10**	13.30	47.90
SELENIUM	0.73	0.66	1.71	0.82	0.76	0.83	0.91	0.70	0.87	0.96	0.97	1.48	0.96	4.62
SILVER	**6.71**	**9.19**	**7.59**	**6.69**	**7.57**	**8.87**	**9.11**	**4.37**	**7.51**	**6.32**	**5.86**	**4.04**	7.16	16.40
THALLIUM	0.81	0.73	1.22	0.91	0.85	0.92	1.01	0.78	0.96	1.07	1.08	1.65	0.97	2.73
ZINC	**245.00**	**170.00**	**318.00**	**215.00**	**157.00**	**186.00**	**338.00**	**162.00**	**183.00**	**212.00**	**357.00**	**355.00**	236.00	776.00

Cyanide and Phenols (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
CYANIDE	**10.10**	7.35	12.10	8.20	9.30	10.30	8.59	8.05	9.40	10.30	12.10	14.40	10.10	20.70
TOTAL PHENOLS	**37.00**	**50.50**	**46.10**	**34.20**	**37.60**	**49.60**	**33.40**	**42.30**	**35.20**	**13.80**	**91.40**	**12.10**	40.40	119.00

Oil and Grease, Petroleum Hydrocarbons, and Surfactants (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
PETROLEUM HYDROCARBON	**3650**	**3870**	**1560**	**839**	**1320**	**2830**	**1310**	**892**	**921**	**694**	**4730**	**666**	2740	28100
TOTAL PETROLEUM HYDROCARBON	**5490**	**3500**	~	~	~	~	~	~	~	~	~	~	4500	5910
FATS OIL AND GREASE	**63800**	**50200**	**60200**	**62000**	**60500**	**81600**	**58100**	**98300**	**60300**	**54000**	**48200**	**69500**	62900	173000
MBAS	**9530**	**5910**	**7410**	**11000**	**8580**	**8350**	**6780**	**9320**	**7770**	**8830**	**7670**	**7730**	8130	12600

Table A-5 Deer Island Influent Loadings (North System), Fiscal Year 2000, cont.

Organochlorine Pesticides and PCBs (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
4,4'-DDD	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
4,4'-DDE	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
4,4'-DDT	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ALDRIN	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ALPHA-BHC	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ALPHA-CHLORDANE	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
AROCLOR-1016	0.085	0.079	0.176	0.145	0.103	0.098	0.111	0.081	0.099	0.120	0.122	0.128	0.111	0.325
AROCLOR-1221	0.169	0.158	0.352	0.290	0.206	0.195	0.222	0.163	0.199	0.239	0.245	0.256	0.221	0.651
AROCLOR-1232	0.085	0.079	0.176	0.145	0.103	0.098	0.111	0.081	0.099	0.120	0.122	0.128	0.111	0.325
AROCLOR-1242	0.085	0.079	0.176	0.145	0.103	0.098	0.111	0.081	0.099	0.120	0.122	0.128	0.111	0.325
AROCLOR-1248	0.085	0.079	0.176	0.145	0.103	0.098	0.111	0.081	0.099	0.120	0.122	0.128	0.111	0.325
AROCLOR-1254	0.085	0.079	0.176	0.145	0.103	0.098	0.111	0.081	0.099	0.120	0.122	0.128	0.111	0.325
AROCLOR-1260	0.085	0.079	0.176	0.145	0.103	0.098	0.111	0.081	0.099	0.120	0.122	0.128	0.111	0.325
BETA-BHC	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
CHLORDANE (TECHNICAL)	0.085	0.079	0.176	0.084	0.103	0.098	0.111	0.081	0.099	0.120	0.122	0.128	0.107	0.325
DELTA-BHC	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
DIELDRIN	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ENDOSULFAN I	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ENDOSULFAN II	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ENDOSULFAN SULFATE	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ENDRIN	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ENDRIN ALDEHYDE	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
ENDRIN KETONE	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
GAMMA-BHC (LINDANE)	0.003	**0.015**	0.007	0.006	0.004	0.004	**0.011**	0.003	0.004	0.005	0.005	0.005	0.006	0.039
GAMMA-CHLORDANE	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
HEPTACHLOR	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
HEPTACHLOR EPOXIDE	0.003	0.003	0.007	0.006	0.004	0.004	0.004	0.003	0.004	0.005	0.005	0.005	0.004	0.013
METHOXYCHLOR	0.034	0.032	0.071	0.058	0.041	0.039	0.044	0.033	0.040	0.048	0.049	0.051	0.044	0.130
TOXAPHENE	0.085	0.079	0.176	0.084	0.103	0.098	0.111	0.081	0.099	0.120	0.122	0.128	0.107	0.325

Table A-5 Deer Island Influent Loadings (North System), Fiscal Year 1999, cont.

Semivolatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,2,4-TRICHLOROBENZENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
1,2-DICHLOROBENZENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
1,2-DIPHENYLHYDRAZINE (AS AZOB)	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
1,3-DICHLOROBENZENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
1,4-DICHLOROBENZENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2,2'-OXYBIS(1-CHLOROPROPANE)	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2,4,5-TRICHLOROPHENOL	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2,4,6-TRICHLOROPHENOL	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2,4-DICHLOROPHENOL	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	**8.11**	2.48	4.69	3.93	3.36	20.50
2,4-DIMETHYLPHENOL	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2,4-DINITROPHENOL	3.35	3.20	13.50	5.48	4.31	3.88	4.74	4.35	3.93	4.96	9.39	7.85	5.64	19.50
2,4-DINITROTOLUENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2,6-DINITROTOLUENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2-CHLORONAPHTHALENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2-CHLOROPHENOL	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2-METHYL-4,6-DINITROPHENOL	16.70	16.00	67.50	27.40	21.50	19.40	23.70	21.70	19.60	24.80	46.90	39.30	28.20	97.50
2-METHYLNAPHTHALENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2-METHYLPHENOL	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2-NITROANILINE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
2-NITROPHENOL	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
3,3'-DICHLOROBENZIDINE	3.35	3.20	13.50	5.48	4.31	3.88	4.74	4.35	3.93	4.96	9.39	7.85	5.64	19.50
3-NITROANILINE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
4-BROMOPHENYL PHENYL ETHER	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
4-CHLORO-3-METHYLPHENOL	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
4-CHLOROANILINE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
4-CHLOROPHENYL PHENYL ETHER	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
4-METHYLPHENOL (INCLUDES 3-MET)	**24.30**	**29.10**	6.75	**23.20**	**9.49**	**27.70**	**46.70**	**65.20**	**47.20**	**37.80**	**18.50**	**8.68**	29.20	82.20
4-NITROANILINE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
4-NITROPHENOL	3.35	3.20	13.50	5.48	4.31	3.88	4.74	4.35	3.93	4.96	9.39	7.85	5.64	19.50
ACENAPHTHENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
ACENAPHTHYLENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
ANILINE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
ANTHRACENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
BENZIDINE	8.37	8.02	33.80	13.70	10.80	9.69	**34.70**	10.90	9.82	12.40	23.50	19.60	16.10	84.00
BENZO(A)ANTHRACENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75

Table A-5 Deer Island Influent Loadings (North System), Fiscal Year 1999, cont.

Semivolatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
BENZO(A)PYRENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
BENZO(B)FLUORANTHENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
BENZO(GHI)PERYLENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
BENZO(K)FLUORANTHENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
BENZOIC ACID	**25.00**	3.20	13.50	5.48	4.31	**28.10**	4.74	**77.80**	**153.00**	4.96	**22.10**	**24.10**	31.50	326.00
BENZYL ALCOHOL	**4.50**	**15.90**	6.75	2.74	2.15	**13.90**	**17.90**	**13.60**	**6.89**	**14.50**	4.69	**8.27**	9.66	40.20
BIS(2-CHLOROETHOXY)METHANE	1.67	1.60	20.10	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	4.00	46.20
BIS(2-CHLOROETHYL)ETHER	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
BIS(2-ETHYLHEXYL)PHTHALATE	**8.50**	**12.90**	**17.20**	2.74	2.15	**15.70**	**19.20**	**13.70**	**16.80**	**20.80**	**23.60**	**23.00**	14.80	50.00
BUTYL BENZYL PHTHALATE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	**4.44**	1.96	2.48	4.69	3.93	3.02	9.75
CHRYSENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
DIBENZO(A,H)ANTHRACENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
DIBENZOFURAN	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
DIETHYL PHTHALATE	**3.92**	1.60	6.75	2.74	2.15	**4.31**	**7.93**	**9.09**	1.96	**5.99**	4.69	**7.86**	4.99	13.70
DIMETHYL PHTHALATE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
DI-N-BUTYLPHTHALATE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
DI-N-OCTYLPHTHALATE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
FLUORANTHENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
FLUORENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
HEXACHLOROBENZENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
HEXACHLOROBUTADIENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
HEXACHLOROCYCLOPENTADIENE	8.37	8.02	33.80	13.70	10.80	9.69	11.80	10.90	9.82	12.40	23.50	19.60	14.10	48.80
HEXACHLOROETHANE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
INDENO(1,2,3-CD)PYRENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
ISOPHORONE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
NAPHTHALENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
NITROBENZENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
N-NITROSODIMETHYLAMINE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
N-NITROSODI-N-PROPYLAMINE	**6.19**	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	3.22	15.00
N-NITROSODIPHENYLAMINE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75
PENTACHLOROPHENOL	5.02	4.81	20.20	8.21	6.46	5.81	7.11	6.52	5.89	7.45	14.10	11.80	8.47	29.20
PHENANTHRENE	0.17	**0.86**	**2.65**	0.27	0.22	0.19	**1.49**	0.22	0.20	0.25	0.47	0.39	0.63	6.56
PHENOL	3.35	3.20	13.50	5.48	4.31	3.88	4.74	4.35	3.93	4.96	9.39	7.85	5.64	19.50
PYRENE	1.67	1.60	6.75	2.74	2.15	1.94	2.37	2.17	1.96	2.48	4.69	3.93	2.82	9.75

Table A-5 Deer Island Influent Loadings (North System), Fiscal Year 1999, cont.

Volatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,1,1-TRICHLOROETHANE	0.76	1.47	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.05	2.07
1,1,2,2-TETRACHLOROETHANE	0.76	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	0.99	2.07
1,1,2-TRICHLOROETHANE	0.76	1.13	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.02	2.07
1,1-DICHLOROETHANE	0.76	1.13	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.02	2.07
1,1-DICHLOROETHENE	0.76	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	0.99	2.07
1,2-DICHLOROBENZENE	0.76	3.67	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.24	3.88
1,2-DICHLOROETHANE	0.76	1.13	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.02	2.07
1,2-DICHLOROPROPANE	0.76	2.65	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.15	2.79
1,3-DICHLOROBENZENE	0.76	3.67	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.24	3.88
1,4-DICHLOROBENZENE	0.76	3.67	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.24	3.88
2-BUTANONE	**14.00**	7.35	**33.10**	**6.24**	0.93	**12.40**	0.86	0.81	**5.45**	**2.81**	1.21	**4.20**	7.48	66.10
2-CHLOROETHYL VINYL ETHER	0.76	7.35	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.55	7.76
2-HEXANONE	0.76	7.35	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.55	7.76
4-METHYL-2-PENTANONE	0.76	7.35	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.55	7.76
ACETONE	**345.00**	**47.70**	**277.00**	**208.00**	**266.00**	**263.00**	**209.00**	**218.00**	**233.00**	**234.00**	**326.00**	**194.00**	236.00	418.00
ACROLEIN	**2.53**	17.60	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	2.59	18.60
ACRYLONITRILE	0.76	7.35	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.55	7.76
BENZENE	0.76	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	0.99	2.07
BROMODICHLOROMETHANE	**1.84**	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.08	4.01
BROMOFORM	0.76	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	0.99	2.07
BROMOMETHANE	0.76	1.47	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.05	2.07
CARBON DISULFIDE	**7.90**	3.67	1.21	**4.15**	**4.54**	**4.64**	0.86	0.81	**14.90**	1.03	1.21	1.44	3.86	42.90
CARBON TETRACHLORIDE	0.76	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	0.99	2.07
CHLOROBENZENE	0.76	2.65	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.15	2.79
CHLOROETHANE	0.76	1.47	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.05	2.07
CHLOROFORM	**21.60**	**5.65**	**5.26**	**10.30**	**7.81**	**11.90**	**7.25**	**12.50**	**9.74**	**15.00**	**20.60**	**14.40**	11.90	28.10
CHLOROMETHANE	**4.37**	7.35	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.86	11.60
CIS-1,2-DICHLOROETHENE	**1.91**	ND	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.12	4.21
CIS-1,3-DICHLOROPROPENE	0.76	1.13	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.02	2.07
DIBROMOCHLOROMETHANE	0.76	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	0.99	2.07
ETHYLBENZENE	0.76	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	0.99	2.07
M,P-XYLENE	0.76	0.74	1.21	0.82	0.93	1.33	0.86	1.35	0.94	1.34	1.21	1.44	1.08	2.07
METHYLENE CHLORIDE	**5.93**	3.67	**48.80**	**10.30**	**17.60**	**17.70**	**11.40**	0.81	**13.00**	1.03	1.21	**5.67**	11.40	121.00
O-XYLENE	0.76	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	0.99	2.07
STYRENE	0.76	0.74	1.21	0.82	0.93	1.03	**3.69**	0.81	0.94	1.03	1.21	1.44	1.23	9.32
TETRACHLOROETHENE	**2.02**	1.13	1.21	**15.60**	0.93	**5.11**	**2.15**	**5.18**	0.94	**3.23**	1.21	1.44	2.99	25.50
TOLUENE	**9.44**	**3.52**	**5.32**	**2.69**	0.93	**7.31**	**6.22**	0.81	**3.72**	**3.00**	1.21	1.44	3.83	15.90
TRANS-1,2-DICHLOROETHENE	0.76	1.13	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.02	2.07

Table A-5 Deer Island Influent Loadings (North System), Fiscal Year 1999, cont.

Volatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
TRANS-1,3-DICHLOROPROPENE	0.76	1.13	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.02	2.07
TRICHLOROETHENE	**1.87**	0.74	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.08	4.09
TRICHLOROFLUOROMETHANE	0.76	3.67	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.24	3.88
VINYL ACETATE	0.76	17.60	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	2.43	18.60
VINYL CHLORIDE	0.76	1.47	1.21	0.82	0.93	1.03	0.86	0.81	0.94	1.03	1.21	1.44	1.05	2.07

Notes:
~ No samples taken
ND = No Data
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Times Detected
0 of 47
31 of 49
0 of 47
38 of 47
9 of 50
44 of 50
48 of 48
0 of 35
47 of 47
49 of 49
47 of 47
50 of 54
45 of 48
0 of 48
43 of 51
0 of 48
47 of 47

Times Detected
1 of 36
27 of 33

Times Detected
35 of 35
6 of 6
73 of 74
34 of 34

Times Detected
0 of 33
0 of 33
0 of 33
0 of 33
0 of 33
0 of 33
0 of 33
0 of 33
0 of 33
0 of 33
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2 of 33
0 of 33
0 of 33
0 of 33
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0 of 33

Times Detected
0 of 34
0 of 34
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26 of 34
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0 of 34
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0 of 34
1 of 34
0 of 34

Times Detected
0 of 34
0 of 34
0 of 34
0 of 34
12 of 34
16 of 34
1 of 34
0 of 34
24 of 34
1 of 34
0 of 34
0 of 34
0 of 34
8 of 34
0 of 34
0 of 34
0 of 34
0 of 34
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0 of 34
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1 of 34
0 of 34
0 of 34
3 of 34
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0 of 34

Times Detected
0 of 35
0 of 35
0 of 35
0 of 35
0 of 35
0 of 35
0 of 35
0 of 35
0 of 35
0 of 35
12 of 35
0 of 35
0 of 35
0 of 35
33 of 35
1 of 35
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1 of 35
0 of 35
0 of 35
7 of 35
0 of 35
0 of 35
0 of 35
27 of 35
1 of 35
1 of 32
0 of 35
0 of 35
0 of 35
0 of 35
17 of 35
0 of 35
1 of 35
8 of 35
13 of 35
0 of 35

Times Detected
0 of 35
1 of 35
0 of 35
0 of 35
0 of 35

Table A-6 Deer Island Influent Characterization (South System), Fiscal Year 2000

Metals (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
ANTIMONY	7.02	6.80	6.27	7.04	7.50	5.00	7.35	5.00	7.50	6.57	7.50	9.14	6.85	10.00	0 of 44
ARSENIC	**0.60**	**0.71**	**0.58**	**0.72**	**1.03**	**0.54**	**0.57**	**0.60**	0.40	**0.54**	**1.10**	**0.72**	0.65	1.92	17 of 45
BERYLLIUM	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0 of 44
BORON	**410.00**	**421.00**	**271.00**	**283.00**	**297.00**	**283.00**	**287.00**	**254.00**	**167.00**	**229.00**	**325.00**	**239.00**	292.00	474.00	38 of 44
CADMIUM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**0.39**	**0.30**	0.92	1.00	6 of 46
CHROMIUM	**4.85**	**5.69**	**4.72**	**4.38**	**3.86**	**3.61**	**5.47**	**4.02**	**5.30**	**4.77**	**2.26**	**2.39**	4.44	8.78	36 of 47
COPPER	**128.00**	**95.80**	**96.10**	**63.30**	**66.80**	**54.10**	**75.90**	**72.30**	**53.70**	**50.90**	**50.50**	**42.70**	73.50	150.00	44 of 44
HEXAVALENT CHROMIUM	5.50	5.50	5.50	5.50	5.50	5.50	5.50	2.50	2.50	2.50	2.50	2.50	3.97	5.50	0 of 33
IRON	**2870.00**	**2230.00**	**2810.00**	**1750.00**	**1950.00**	**1520.00**	**1930.00**	**1850.00**	**1470.00**	**1480.00**	**1300.00**	**1310.00**	1940.00	4100.00	44 of 44
LEAD	**16.90**	**12.60**	**19.00**	**7.70**	**9.05**	**6.30**	**9.32**	**7.23**	**5.89**	**6.76**	**11.50**	**5.19**	10.30	28.20	47 of 47
MERCURY	**0.44**	**0.44**	**0.38**	**0.23**	**0.27**	**0.12**	**0.27**	**0.28**	**0.20**	**0.26**	**0.14**	**0.07**	0.27	0.82	44 of 44
MOLYBDENUM	**5.87**	**4.95**	**6.44**	**3.59**	2.50	2.50	**7.58**	**5.53**	2.50	**3.50**	**4.92**	**2.40**	4.45	20.90	24 of 45
NICKEL	**7.35**	**4.69**	**5.83**	**4.81**	**6.23**	1.50	**4.89**	**3.78**	**3.10**	**2.78**	**5.67**	**4.48**	4.62	8.76	36 of 45
SELENIUM	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0 of 45
SILVER	**7.66**	**5.43**	**4.72**	**2.65**	**3.52**	**4.69**	**2.68**	**2.53**	**1.95**	**2.36**	**1.02**	**0.57**	3.50	9.25	42 of 47
THALLIUM	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0 of 45
ZINC	**200.00**	**158.00**	**161.00**	**105.00**	**116.00**	**91.70**	**131.00**	**130.00**	**89.20**	**95.80**	**83.10**	**72.70**	123.00	242.00	44 of 44

Cyanide and Phenols (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CYANIDE	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	0 of 34
TOTAL PHENOLS	**68.40**	**47.10**	**27.60**	**27.20**	**26.70**	**32.30**	**33.90**	**35.90**	**20.80**	**15.80**	**65.50**	**6.80**	31.80	108.00	32 of 33

Oil and Grease, Petroleum Hydrocarbons, and Surfactants (mg/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
PETROLEUM HYDROCARBON	**3.16**	**3.57**	**1.82**	**0.82**	**0.63**	**1.67**	**2.35**	**0.66**	**0.48**	**0.38**	**0.15**	**0.94**	1.35	6.70	33 of 33
TOTAL PETROLEUM HYDROCARBON	**5.57**	**2.44**	~	~	~	~	~	~	~	~	~	~	4.02	8.50	6 of 6
FATS OIL AND GREASE	**42.40**	**43.60**	**37.70**	**35.30**	**32.80**	**35.90**	**35.20**	**34.00**	**26.50**	**31.20**	**28.80**	**24.20**	33.00	72.00	69 of 69
MBAS	**6.01**	**4.95**	**3.40**	**5.19**	**5.07**	**5.12**	**3.23**	**5.03**	**3.81**	**2.95**	**3.07**	**2.74**	4.09	7.05	34 of 34

Table A-6 Deer Island Influent Characterization (South System), Fiscal Year 2000, cont.

Organochlorine Pesticides and PCBs (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
4,4'-DDD	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
4,4'-DDE	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
4,4'-DDT	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ALDRIN	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ALPHA-BHC	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ALPHA-CHLORDANE	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	**0.009**	0.002	0.002	0.003	0.022	1 of 33
AROCLOR-1016	0.056	0.082	0.059	0.053	0.057	0.052	0.056	0.052	0.060	0.052	0.052	0.052	0.056	0.093	0 of 33
AROCLOR-1221	0.082	0.163	0.118	0.106	0.113	0.104	0.112	0.104	0.120	0.104	0.103	0.103	0.111	0.185	0 of 33
AROCLOR-1232	0.056	0.082	0.059	0.053	0.057	0.052	0.056	0.052	0.060	0.052	0.052	0.052	0.056	0.093	0 of 33
AROCLOR-1242	0.056	0.082	0.059	0.053	0.057	0.052	0.056	0.052	0.060	0.052	0.052	0.052	0.056	0.093	0 of 33
AROCLOR-1248	0.056	0.082	0.059	0.053	0.057	0.052	0.056	0.052	0.060	0.052	0.052	0.052	0.056	0.093	0 of 33
AROCLOR-1254	0.056	0.082	0.059	0.053	0.057	0.052	0.056	0.052	0.060	0.052	0.052	0.052	0.056	0.093	0 of 33
AROCLOR-1260	0.056	0.082	0.059	0.053	0.057	0.052	0.056	0.052	0.060	0.052	0.052	0.052	0.056	0.093	0 of 33
BETA-BHC	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
CHLORDANE (TECHNICAL)	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.052	0.052	0.052	0.056	0.093	0 of 33
DELTA-BHC	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
DIELDRIN	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ENDOSULFAN I	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ENDOSULFAN II	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ENDOSULFAN SULFATE	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ENDRIN	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ENDRIN ALDEHYDE	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
ENDRIN KETONE	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
GAMMA-BHC (LINDANE)	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
GAMMA-CHLORDANE	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	**0.010**	0.002	0.002	0.003	0.025	1 of 33
HEPTACHLOR	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
HEPTACHLOR EPOXIDE	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0 of 33
METHOXYCHLOR	0.022	0.033	0.024	**0.081**	0.023	0.021	0.022	0.021	0.024	0.021	0.021	0.021	0.027	0.206	1 of 33
TOXAPHENE	0.056	0.082	0.059	0.053	0.057	0.052	0.056	0.052	0.060	0.052	0.052	0.052	0.056	0.093	0 of 33

Table A-6 Deer Island Influent Characterization (South System), Fiscal Year 2000, cont.

Semivolatile Organics (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
1,2,4-TRICHLOROBENZENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
1,2-DICHLOROBENZENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
1,2-DIPHENYLHYDRAZINE (AS AZOB)	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
1,3-DICHLOROBENZENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
1,4-DICHLOROBENZENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2,2'-OXYBIS(1-CHLOROPROPANE)	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2,4,5-TRICHLOROPHENOL	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2,4,6-TRICHLOROPHENOL	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2,4-DICHLOROPHENOL	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2,4-DIMETHYLPHENOL	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2,4-DINITROPHENOL	2.14	2.40	4.89	2.12	2.23	2.08	2.21	2.05	2.38	2.10	2.17	2.13	2.49	10.90	0 of 33
2,4-DINITROTOLUENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2,6-DINITROTOLUENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2-CHLORONAPHTHALENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2-CHLOROPHENOL	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2-METHYL-4,6-DINITROPHENOL	10.90	12.00	24.40	10.60	11.10	10.40	11.00	10.20	11.90	10.50	10.80	10.70	12.50	54.30	0 of 33
2-METHYLNAPHTHALENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2-METHYLPHENOL	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2-NITROANILINE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
2-NITROPHENOL	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
3,3'-DICHLOROBENZIDINE	2.14	2.40	4.89	2.12	2.23	2.08	2.63	2.05	2.38	2.10	2.17	2.13	2.53	10.90	0 of 33
3-NITROANILINE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
4-BROMOPHENYL PHENYL ETHER	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
4-CHLORO-3-METHYLPHENOL	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
4-CHLOROANILINE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
4-CHLOROPHENYL PHENYL ETHER	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
4-METHYLPHENOL (INCLUDES 3-MET)	**24.10**	**16.80**	2.44	**5.99**	**13.20**	**11.30**	**20.60**	**41.90**	**7.16**	**2.77**	1.08	**8.31**	11.80	55.00	22 of 33
4-NITROANILINE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
4-NITROPHENOL	2.14	2.40	4.89	2.12	2.23	2.08	2.21	2.05	2.38	2.10	2.17	2.13	2.49	10.90	0 of 33
ACENAPHTHENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
ACENAPHTHYLENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
ANILINE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
ANTHRACENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
BENZIDINE	3.83	6.01	12.20	5.30	5.57	5.21	5.52	5.12	5.94	5.25	5.42	5.34	6.13	27.20	0 of 33
BENZO(A)ANTHRACENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33

Table A-6 Deer Island Influent Characterization (South System), Fiscal Year 2000, cont.

Semivolatile Organics (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
BENZO(A)PYRENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
BENZO(B)FLUORANTHENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
BENZO(GHI)PERYLENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
BENZO(K)FLUORANTHENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
BENZOIC ACID	2.14	2.40	4.89	2.12	2.23	2.08	2.21	**30.70**	2.38	2.10	2.17	**13.00**	5.54	54.10	4 of 33
BENZYL ALCOHOL	**6.70**	**9.32**	2.44	**4.68**	**3.76**	**2.68**	**7.12**	**13.80**	**5.82**	**2.77**	**3.66**	**3.30**	5.19	15.50	18 of 33
BIS(2-CHLOROETHOXY)METHANE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
BIS(2-CHLOROETHYL)ETHER	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
BIS(2-ETHYLHEXYL)PHTHALATE	**3.50**	**7.14**	2.44	**2.67**	1.11	**2.95**	**3.28**	**7.24**	**4.67**	**7.43**	1.08	1.07	3.79	13.20	13 of 33
BUTYL BENZYL PHTHALATE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
CHRYSENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
DIBENZO(A,H)ANTHRACENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
DIBENZOFURAN	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
DIETHYL PHTHALATE	**2.83**	**2.60**	2.44	1.06	1.11	1.04	**4.81**	**7.33**	1.19	**2.46**	1.08	**3.23**	2.56	9.80	9 of 33
DIMETHYL PHTHALATE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
DI-N-BUTYLPHTHALATE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
DI-N-OCTYLPHTHALATE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
FLUORANTHENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
FLUORENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
HEXACHLOROBENZENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
HEXACHLOROBUTADIENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
HEXACHLOROCYCLOPENTADIENE	3.83	6.01	12.20	5.30	5.57	5.21	5.52	5.12	5.94	5.25	5.42	5.34	6.13	27.20	0 of 33
HEXACHLOROETHANE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
INDENO(1,2,3-CD)PYRENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
ISOPHORONE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
NAPHTHALENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
NITROBENZENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
N-NITROSODIMETHYLAMINE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
N-NITROSODI-N-PROPYLAMINE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
N-NITROSODIPHENYLAMINE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33
PENTACHLOROPHENOL	3.19	3.60	7.33	3.18	3.34	3.12	3.31	3.07	3.56	3.15	3.25	3.20	3.73	16.30	0 of 33
PHENANTHRENE	0.10	0.12	0.24	0.11	0.11	0.10	0.11	0.10	0.12	0.11	0.11	0.11	0.12	0.54	0 of 33
PHENOL	**5.43**	**4.96**	4.89	2.12	2.23	2.08	2.21	**10.80**	2.38	2.10	2.17	2.13	3.51	17.60	4 of 33
PYRENE	1.09	1.20	2.44	1.06	1.11	1.04	1.10	1.02	1.19	1.05	1.08	1.07	1.25	5.43	0 of 33

Table A-6 Deer Island Influent Characterization (South System), Fiscal Year 2000, cont.

Volatile Organics (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
1,1,1-TRICHLOROETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00	0 of 33
1,1,2,2-TETRACHLOROETHANE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
1,1,2-TRICHLOROETHANE	0.50	0.83	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	1.00	0 of 33
1,1-DICHLOROETHANE	0.50	0.83	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	1.00	0 of 33
1,1-DICHLOROETHENE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
1,2-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.62	2.50	0 of 33
1,2-DICHLOROETHANE	0.50	0.83	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	1.00	0 of 33
1,2-DICHLOROPROPANE	0.50	1.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.58	1.80	0 of 33
1,3-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.62	2.50	0 of 33
1,4-DICHLOROBENZENE	**2.05**	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.72	3.02	2 of 33
2-BUTANONE	**8.46**	5.00	**6.80**	**7.84**	**9.15**	**7.04**	**9.90**	**9.55**	**9.09**	**14.20**	**7.63**	**8.23**	8.82	31.00	26 of 33
2-CHLOROETHYL VINYL ETHER	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00	0 of 33
2-HEXANONE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00	0 of 33
4-METHYL-2-PENTANONE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00	0 of 33
ACETONE	**240.00**	**65.60**	**160.00**	**157.00**	**253.00**	**179.00**	**150.00**	**196.00**	**113.00**	**120.00**	**149.00**	**117.00**	151.00	431.00	32 of 33
ACROLEIN	0.50	12.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.21	12.00	0 of 33
ACRYLONITRILE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00	0 of 33
BENZENE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
BROMODICHLOROMETHANE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
BROMOFORM	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
BROMOMETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00	0 of 33
CARBON DISULFIDE	**7.81**	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.08	12.70	3 of 33
CARBON TETRACHLORIDE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
CHLOROBENZENE	0.50	1.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.58	1.80	0 of 33
CHLOROETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00	0 of 33
CHLOROFORM	**9.29**	0.83	**5.46**	**2.59**	0.50	**3.52**	**1.40**	**5.52**	**2.01**	**1.76**	**5.64**	**1.97**	3.12	12.10	18 of 33
CHLOROMETHANE	0.50	5.00	**1.65**	0.50	0.50	**2.10**	0.50	0.50	0.50	0.50	0.50	0.50	0.98	5.73	2 of 33
CIS-1,2-DICHLOROETHENE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 31
CIS-1,3-DICHLOROPROPENE	0.50	0.83	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	1.00	0 of 33
DIBROMOCHLOROMETHANE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
ETHYLBENZENE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
M,P-XYLENE	0.50	0.67	**1.83**	0.50	0.50	0.68	0.50	0.84	0.50	0.66	0.50	0.50	0.64	2.62	1 of 33
METHYLENE CHLORIDE	**4.87**	2.01	**6.79**	**9.81**	**7.36**	**22.00**	**3.82**	**3.00**	**2.18**	0.50	0.50	**2.16**	5.15	53.70	15 of 33
O-XYLENE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33

Table A-6 Deer Island Influent Characterization (South System), Fiscal Year 2000, cont.

Volatile Organics (ug/L)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
STYRENE	0.50	0.67	0.50	0.50	0.50	**1.43**	0.50	**19.40**	**2.91**	**20.20**	**6.04**	**6.65**	5.73	43.80	11 of 33
TETRACHLOROETHENE	**3.28**	0.83	0.50	0.50	0.50	0.50	**3.77**	**2.13**	**13.40**	**26.70**	0.50	0.50	5.26	83.60	7 of 33
TOLUENE	**5.90**	**4.49**	**5.34**	**2.31**	0.50	**1.73**	**2.04**	**1.53**	**2.34**	0.50	**3.22**	**3.20**	2.60	14.70	15 of 33
TRANS-1,2-DICHLOROETHENE	0.50	0.83	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	1.00	0 of 33
TRANS-1,3-DICHLOROPROPENE	0.50	0.83	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	1.00	0 of 33
TRICHLOROETHENE	0.50	0.67	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	1.00	0 of 33
TRICHLOROFLUOROMETHANE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.62	2.50	0 of 33
VINYL ACETATE	0.50	12.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.21	12.00	0 of 33
VINYL CHLORIDE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00	0 of 33

Notes:
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table A-7 Deer Island Influent Loadings (South System), Fiscal Year 2000

Metals (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
ANTIMONY	4.87	4.47	6.58	6.70	7.02	4.86	6.67	4.00	8.43	7.95	8.86	12.50	6.39	18.00
ARSENIC	**0.41**	**0.47**	**0.61**	**0.68**	**0.96**	**0.53**	**0.52**	**0.48**	0.45	**0.65**	**1.30**	**0.99**	0.61	2.10
BERYLLIUM	0.17	0.16	0.26	0.24	0.23	0.24	0.23	0.20	0.28	0.30	0.30	0.34	0.23	0.51
BORON	**284.00**	**277.00**	**285.00**	**269.00**	**278.00**	**275.00**	**261.00**	**203.00**	**188.00**	**277.00**	**384.00**	**328.00**	272.00	431.00
CADMIUM	0.69	0.66	1.05	0.95	0.94	0.97	0.91	0.80	1.12	1.21	**0.46**	**0.41**	0.86	2.05
CHROMIUM	**3.36**	**3.74**	**4.95**	**4.17**	**3.61**	**3.51**	**4.96**	**3.22**	**5.95**	**5.77**	**2.67**	**3.28**	4.14	10.30
COPPER	**88.80**	**63.00**	**101.00**	**60.30**	**62.50**	**52.70**	**68.90**	**57.90**	**60.40**	**61.50**	**59.60**	**58.60**	68.50	174.00
HEXAVALENT CHROMIUM	3.71	3.64	4.61	4.95	5.06	5.21	5.09	2.02	2.71	2.92	2.96	4.03	3.88	5.83
IRON	**1990.00**	**1460.00**	**2950.00**	**1660.00**	**1830.00**	**1480.00**	**1750.00**	**1480.00**	**1650.00**	**1790.00**	**1530.00**	**1800.00**	1810.00	5820.00
LEAD	**11.70**	**8.31**	**20.00**	**7.33**	**8.46**	**6.13**	**8.46**	**5.79**	**6.62**	**8.17**	**13.60**	**7.12**	9.65	48.80
MERCURY	**0.30**	**0.29**	**0.40**	**0.22**	**0.26**	**0.11**	**0.25**	**0.22**	**0.23**	**0.32**	**0.16**	**0.10**	0.26	0.99
MOLYBDENUM	**4.07**	**3.25**	**6.76**	**3.41**	2.34	2.43	**6.88**	**4.42**	2.81	**4.23**	**5.81**	**3.29**	4.15	16.40
NICKEL	**5.10**	**3.08**	**6.11**	**4.58**	**5.82**	1.46	**4.44**	**3.03**	**3.48**	**3.36**	**6.70**	**6.15**	4.31	13.20
SELENIUM	0.31	0.30	0.47	0.43	0.42	0.44	0.41	0.36	0.51	0.54	0.53	0.62	0.42	0.92
SILVER	**5.31**	**3.56**	**4.95**	**2.52**	**3.30**	**4.56**	**2.43**	**2.03**	**2.20**	**2.85**	**1.21**	**0.78**	3.26	6.90
THALLIUM	0.35	0.33	0.53	0.48	0.47	0.49	0.45	0.40	0.56	0.61	0.59	0.69	0.47	1.02
ZINC	**139.00**	**104.00**	**169.00**	**100.00**	**108.00**	**89.20**	**119.00**	**104.00**	**100.00**	**116.00**	**98.10**	**99.80**	115.00	293.00

Cyanide and Phenols (lbs/day)

	Jul	Aug	Sep	Oct	Nov		Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
CYANIDE	3.37	3.31	4.19	4.50	4.60	4.74	4.63	4.04	5.42	5.85	5.92	8.06	4.88	11.70
TOTAL PHENOLS	**46.30**	**31.10**	**34.10**	**23.60**	**25.00**	**31.40**	**30.70**	**28.80**	**23.30**	**19.10**	**77.30**	**9.34**	31.20	123.00

Oil and Grease, Petroleum Hydrocarbons, and Surfactants (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
PETROLEUM HYDROCARBON	**2130**	**2370**	**1520**	**738**	**575**	**1580**	**2170**	**532**	**523**	**446**	**1720**	**1520**	1320	5910
TOTAL PETROLEUM HYDROCARBON	**3760**	**1610**	~	~	~	~	~	~	~	~	~	~	2690	5600
FATS OIL AND GREASE	**29100**	**28700**	**30200**	**34100**	**29000**	**33300**	**33100**	**36500**	**31800**	**42000**	**35100**	**33600**	33100	74400
MBAS	**4100**	**3270**	**4210**	**4550**	**4740**	**4980**	**2940**	**4030**	**4280**	**3560**	**3630**	**3760**	3970	5670

Table A-7 Deer Island Influent Loadings (South System), Fiscal Year 2000, cont.

Organochlorine Pesticides and PCBs (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
4,4'-DDD	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
4,4'-DDE	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
4,4'-DDT	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ALDRIN	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ALPHA-BHC	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ALPHA-CHLORDANE	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	**0.011**	0.002	0.003	0.003	0.027
AROCLOR-1016	0.038	0.054	0.073	0.046	0.053	0.051	0.051	0.042	0.068	0.063	0.061	0.071	0.055	0.120
AROCLOR-1221	0.055	0.108	0.146	0.092	0.106	0.101	0.101	0.084	0.135	0.126	0.122	0.141	0.109	0.242
AROCLOR-1232	0.038	0.054	0.073	0.046	0.053	0.051	0.051	0.042	0.068	0.063	0.061	0.071	0.055	0.120
AROCLOR-1242	0.038	0.054	0.073	0.046	0.053	0.051	0.051	0.042	0.068	0.063	0.061	0.071	0.055	0.120
AROCLOR-1248	0.038	0.054	0.073	0.046	0.053	0.051	0.051	0.042	0.068	0.063	0.061	0.071	0.055	0.120
AROCLOR-1254	0.038	0.054	0.073	0.046	0.053	0.051	0.051	0.042	0.068	0.063	0.061	0.071	0.055	0.120
AROCLOR-1260	0.038	0.054	0.073	0.046	0.053	0.051	0.051	0.042	0.068	0.063	0.061	0.071	0.055	0.120
BETA-BHC	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
CHLORDANE (TECHNICAL)	0.038	0.054	0.073	0.046	0.053	0.051	0.051	0.042	0.068	0.063	0.061	0.071	0.055	0.120
DELTA-BHC	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
DIELDRIN	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ENDOSULFAN I	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ENDOSULFAN II	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ENDOSULFAN SULFATE	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ENDRIN	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ENDRIN ALDEHYDE	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
ENDRIN KETONE	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
GAMMA-BHC (LINDANE)	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
GAMMA-CHLORDANE	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	**0.012**	0.002	0.003	0.003	0.031
HEPTACHLOR	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
HEPTACHLOR EPOXIDE	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.003	0.002	0.005
METHOXYCHLOR	0.015	0.022	0.029	**0.071**	0.021	0.020	0.020	0.017	0.027	0.025	0.024	0.028	0.027	0.174
TOXAPHENE	0.038	0.054	0.073	0.046	0.053	0.051	0.051	0.042	0.068	0.063	0.061	0.071	0.055	0.120

Table A-7 Deer Island Influent Loadings (South System), Fiscal Year 2000, cont.

Semivolatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,2,4-TRICHLOROBENZENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
1,2-DICHLOROBENZENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
1,2-DIPHENYLHYDRAZINE (AS AZOB)	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
1,3-DICHLOROBENZENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
1,4-DICHLOROBENZENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2,2'-OXYBIS(1-CHLOROPROPANE)	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2,4,5-TRICHLOROPHENOL	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2,4,6-TRICHLOROPHENOL	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2,4-DICHLOROPHENOL	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2,4-DIMETHYLPHENOL	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2,4-DINITROPHENOL	1.45	1.59	6.06	1.84	2.08	2.03	2.00	1.64	2.67	2.54	2.56	2.93	2.44	8.56
2,4-DINITROTOLUENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2,6-DINITROTOLUENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2-CHLORONAPHTHALENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2-CHLOROPHENOL	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2-METHYL-4,6-DINITROPHENOL	7.36	7.93	30.30	9.22	10.40	10.10	10.00	8.19	13.40	12.70	12.80	14.70	12.20	42.60
2-METHYLNAPHTHALENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2-METHYLPHENOL	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2-NITROANILINE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
2-NITROPHENOL	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
3,3'-DICHLOROBENZIDINE	1.45	1.59	6.06	1.84	2.08	2.03	2.39	1.64	2.67	2.54	2.56	2.93	2.48	8.56
3-NITROANILINE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
4-BROMOPHENYL PHENYL ETHER	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
4-CHLORO-3-METHYLPHENOL	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
4-CHLOROANILINE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
4-CHLOROPHENYL PHENYL ETHER	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
4-METHYLPHENOL (INCLUDES 3-MET)	**16.30**	**11.10**	3.03	**5.21**	**12.30**	**11.00**	**18.70**	**33.60**	**8.04**	**3.35**	1.28	**11.40**	11.50	45.00
4-NITROANILINE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
4-NITROPHENOL	1.45	1.59	6.06	1.84	2.08	2.03	2.00	1.64	2.67	2.54	2.56	2.93	2.44	8.56
ACENAPHTHENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
ACENAPHTHYLENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
ANILINE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
ANTHRACENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
BENZIDINE	2.59	3.97	15.10	4.61	5.21	5.07	5.01	4.10	6.68	6.35	6.41	7.33	6.01	21.40
BENZO(A)ANTHRACENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26

Table A-7 Deer Island Influent Loadings (South System), Fiscal Year 2000, cont.

Semivolatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
BENZO(A)PYRENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
BENZO(B)FLUORANTHENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
BENZO(GHI)PERYLENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
BENZO(K)FLUORANTHENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
BENZOIC ACID	1.45	1.59	6.06	1.84	2.08	2.03	2.00	**24.60**	2.67	2.54	2.56	**17.80**	5.43	44.20
BENZYL ALCOHOL	**4.54**	**6.15**	3.03	**4.07**	**3.51**	**2.61**	**6.47**	**11.00**	**6.54**	**3.35**	**4.32**	**4.53**	5.09	16.70
BIS(2-CHLOROETHOXY)METHANE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
BIS(2-CHLOROETHYL)ETHER	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
BIS(2-ETHYLHEXYL)PHTHALATE	**2.37**	**4.71**	3.03	**2.32**	1.04	**2.87**	**2.98**	**5.80**	**5.25**	**8.98**	1.28	1.47	3.71	16.20
BUTYL BENZYL PHTHALATE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
CHRYSENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
DIBENZO(A,H)ANTHRACENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
DIBENZOFURAN	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
DIETHYL PHTHALATE	**1.91**	**1.71**	3.03	0.92	1.04	1.01	**4.36**	**5.87**	1.34	**2.98**	1.28	**4.43**	2.51	8.01
DIMETHYL PHTHALATE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
DI-N-BUTYLPHTHALATE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
DI-N-OCTYLPHTHALATE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
FLUORANTHENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
FLUORENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
HEXACHLOROBENZENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
HEXACHLOROBUTADIENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
HEXACHLOROCYCLOPENTADIENE	2.59	3.97	15.10	4.61	5.21	5.07	5.01	4.10	6.68	6.35	6.41	7.33	6.01	21.40
HEXACHLOROETHANE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
INDENO(1,2,3-CD)PYRENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
ISOPHORONE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
NAPHTHALENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
NITROBENZENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
N-NITROSODIMETHYLAMINE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
N-NITROSODI-N-PROPYLAMINE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
N-NITROSODIPHENYLAMINE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26
PENTACHLOROPHENOL	2.16	2.38	9.08	2.77	3.12	3.04	3.01	2.46	4.01	3.81	3.84	4.40	3.66	12.80
PHENANTHRENE	0.07	0.08	0.30	0.09	0.10	0.10	0.10	0.08	0.13	0.13	0.13	0.15	0.12	0.43
PHENOL	**3.68**	**3.28**	6.06	1.84	2.08	2.03	2.00	**8.68**	2.67	2.54	2.56	2.93	3.44	14.10
PYRENE	0.74	0.79	3.03	0.92	1.04	1.01	1.00	0.82	1.34	1.27	1.28	1.47	1.22	4.26

Table A-7 Deer Island Influent Loadings (South System), Fiscal Year 2000, cont.

Volatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,1,1-TRICHLOROETHANE	0.34	0.66	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.52	1.17
1,1,2,2-TETRACHLOROETHANE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
1,1,2-TRICHLOROETHANE	0.34	0.55	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.51	1.17
1,1-DICHLOROETHANE	0.34	0.55	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.51	1.17
1,1-DICHLOROETHENE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
1,2-DICHLOROBENZENE	0.34	1.65	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.61	1.68
1,2-DICHLOROETHANE	0.34	0.55	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.51	1.17
1,2-DICHLOROPROPANE	0.34	1.19	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.57	1.21
1,3-DICHLOROBENZENE	0.34	1.65	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.61	1.68
1,4-DICHLOROBENZENE	**1.38**	1.65	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.70	2.09
2-BUTANONE	**5.71**	3.31	**5.70**	**7.05**	**8.43**	**6.67**	**9.16**	**7.72**	**9.86**	**16.60**	**9.04**	**13.30**	8.62	31.30
2-CHLOROETHYL VINYL ETHER	0.34	3.31	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.76	3.36
2-HEXANONE	0.34	3.31	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.76	3.36
4-METHYL-2-PENTANONE	0.34	3.31	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.76	3.36
ACETONE	**162.00**	**43.40**	**134.00**	**141.00**	**233.00**	**170.00**	**138.00**	**158.00**	**123.00**	**140.00**	**176.00**	**189.00**	148.00	397.00
ACROLEIN	0.34	7.94	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	1.18	8.06
ACRYLONITRILE	0.34	3.31	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.76	3.36
BENZENE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
BROMODICHLOROMETHANE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
BROMOFORM	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
BROMOMETHANE	0.34	0.66	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.52	1.17
CARBON DISULFIDE	**5.27**	1.65	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	1.06	8.56
CARBON TETRACHLORIDE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
CHLOROBENZENE	0.34	1.19	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.57	1.21
CHLOROETHANE	0.34	0.66	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.52	1.17
CHLOROFORM	**6.27**	0.55	**4.58**	**2.33**	0.46	**3.34**	**1.30**	**4.46**	**2.17**	**2.06**	**6.68**	**3.18**	3.04	8.14
CHLOROMETHANE	0.34	3.31	**1.38**	0.45	0.46	**1.99**	0.46	0.40	0.54	0.59	0.59	0.81	0.96	4.97
CIS-1,2-DICHLOROETHENE	0.34	0.65	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.51	1.17
CIS-1,3-DICHLOROPROPENE	0.34	0.55	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.51	1.17
DIBROMOCHLOROMETHANE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
ETHYLBENZENE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
M,P-XYLENE	0.34	0.44	**1.53**	0.45	0.46	0.64	0.46	0.68	0.54	0.77	0.59	0.81	0.62	2.25
METHYLENE CHLORIDE	**3.29**	1.33	**5.69**	**8.82**	**6.77**	**20.80**	**3.53**	**2.42**	**2.37**	0.59	0.59	**3.48**	5.03	54.10
O-XYLENE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
STYRENE	0.34	0.44	0.42	0.45	0.46	**1.36**	0.46	**15.70**	**3.15**	**23.60**	**7.15**	**10.70**	5.60	48.50
TETRACHLOROETHENE	**2.21**	0.55	0.42	0.45	0.46	0.47	**3.49**	**1.73**	**14.50**	**31.30**	0.59	0.81	5.14	92.60
TOLUENE	**3.98**	**2.97**	**4.47**	**2.08**	0.46	**1.64**	**1.88**	**1.24**	**2.54**	0.59	**3.81**	**5.16**	2.54	13.50
TRANS-1,2-DICHLOROETHENE	0.34	0.55	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.51	1.17

Table A-7 Deer Island Influent Loadings (South System), Fiscal Year 2000, cont.

Volatile Organics (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
TRANS-1,3-DICHLOROPROPENE	0.34	0.55	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.51	1.17
TRICHLOROETHENE	0.34	0.44	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.50	1.17
TRICHLOROFLUOROMETHANE	0.34	1.65	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.61	1.68
VINYL ACETATE	0.34	7.94	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	1.18	8.06
VINYL CHLORIDE	0.34	0.66	0.42	0.45	0.46	0.47	0.46	0.40	0.54	0.59	0.59	0.81	0.52	1.17

Notes:
~ No samples taken
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Times Detected
0 of 44
17 of 45
0 of 44
38 of 44
6 of 46
36 of 47
44 of 44
0 of 33
44 of 44
47 of 47
44 of 44
24 of 45
36 of 45
0 of 45
42 of 47
0 of 45
44 of 44

Times Detected
0 of 34
32 of 33

Times Detected
33 of 33
6 of 6
69 of 69
34 of 34

Times Detected
0 of 33
0 of 33
0 of 33
0 of 33
0 of 33
1 of 33
0 of 33
0 of 33
0 of 33
0 of 33
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Times Detected
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Times Detected
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9 of 33
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Times Detected
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18 of 33
2 of 33
0 of 31
0 of 33
0 of 33
0 of 33
1 of 33
15 of 33
0 of 33
11 of 33
7 of 33
15 of 33
0 of 33

Times Detected
0 of 33
0 of 33
0 of 33
0 of 33
0 of 33

Table A-8 Deer Island Effluent Characterization, Fiscal Year 2000

Metals (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
ANTIMONY	5.64	6.81	6.08	7.50	7.50	5.00	7.50	6.65	7.50	6.58	7.50	9.53	7.08	10.00
ARSENIC	**0.40**	**0.61**	**0.56**	**0.59**	**4.94**	0.40	0.40	0.40	0.40	**0.59**	0.40	0.40	0.76	13.60
BERYLLIUM	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
BORON	**370.00**	**368.00**	**362.00**	**263.00**	**281.00**	**235.00**	**203.00**	**360.00**	**237.00**	**215.00**	**340.00**	**247.00**	293.00	407.00
CADMIUM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**0.56**	**0.15**	**0.13**	**0.23**	**0.16**	0.69	1.00
CHROMIUM	**2.00**	**2.47**	**2.00**	**2.93**	**2.00**	**4.49**	**3.72**	**1.71**	**1.59**	**2.05**	**1.70**	**2.13**	2.38	7.79
COPPER	**10.10**	**10.10**	**10.60**	**15.00**	**18.20**	**13.50**	**17.20**	**21.70**	**19.60**	**21.20**	**17.30**	**21.70**	16.00	29.00
HEXAVALENT CHROMIUM	5.50	5.50	5.50	5.50	5.50	5.50	5.50	2.50	2.50	2.50	2.50	2.50	4.11	5.50
IRON	**347.00**	**339.00**	**288.00**	**422.00**	**518.00**	**299.00**	**465.00**	**511.00**	**552.00**	**546.00**	**455.00**	**704.00**	452.00	1010.00
LEAD	1.20	**1.79**	1.20	**2.19**	**2.41**	**2.33**	**2.95**	1.20	1.20	**1.91**	**1.78**	**5.75**	2.25	10.70
MERCURY	**0.02**	**0.02**	**0.03**	**0.03**	**0.03**	**0.02**	**0.04**	**0.03**	**0.05**	**0.04**	**0.03**	**0.04**	0.04	0.23
MOLYBDENUM	**6.36**	**6.55**	**7.03**	**6.65**	**6.97**	**7.36**	**10.40**	**5.30**	**5.50**	**4.69**	**7.05**	**4.63**	6.42	12.60
NICKEL	**4.72**	**2.64**	**2.50**	**2.49**	**3.90**	**4.50**	**4.44**	**2.81**	**3.28**	**2.01**	**3.09**	**3.40**	3.17	7.05
SELENIUM	0.45	0.51	1.58	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.58	2.25
SILVER	**2.07**	**1.59**	**1.00**	**1.49**	**1.38**	**1.96**	**1.00**	**0.94**	**0.98**	**0.84**	**0.59**	**0.52**	1.21	3.96
THALLIUM	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
ZINC	**24.10**	**27.70**	**35.10**	**27.50**	**28.40**	**32.90**	**43.30**	**36.80**	**40.50**	**44.40**	**34.70**	**51.90**	35.40	62.60

Cyanide and Phenols (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
CYANIDE	5.00	5.00	5.00	**9.92**	5.00	5.00	**21.10**	5.00	**9.12**	**15.70**	**9.14**	**6.66**	8.39	32.80
TOTAL PHENOLS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Oil and Grease, Petroleum Hydrocarbons, and Surfactants (mg/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
PETROLEUM HYDROCARBON	**0.285**	**0.553**	**0.306**	**0.491**	**0.478**	**0.267**	**0.194**	**0.304**	**0.116**	**176.000**	**299.000**	**116.000**	285.000	2300.000
TOTAL PETROLEUM HYDROCARBON	**0.362**	**0.757**	**0.307**	~	~	~	~	~	~	~	~	~	463.000	2900.000
FATS OIL AND GREASE	0.700	**6.420**	**7.010**	**6.300**	**3.990**	0.700	0.700	**5.590**	**4.490**	**5.130**	**1.950**	0.700	3.800	32.000
MBAS	**0.470**	**0.536**	**0.439**	**0.739**	**0.385**	**0.505**	**0.493**	**0.418**	**0.495**	**0.669**	**0.824**	**1.060**	0.616	1.300

Table A-8 Deer Island Effluent Characterization, Fiscal Year 2000, cont.

Organochlorine Pesticides and PCBs (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
4,4'-DDD	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
4,4'-DDE	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
4,4'-DDT	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ALDRIN	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ALPHA-BHC	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ALPHA-CHLORDANE	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
AROCLOR-1016	0.058	0.057	0.052	0.061	0.057	0.052	0.051	0.052	0.053	0.052	0.056	0.053	0.054	0.082
AROCLOR-1221	0.116	0.113	0.116	0.122	0.114	0.103	0.103	0.104	0.106	0.112	0.113	0.107	0.110	0.164
AROCLOR-1232	0.058	0.057	0.052	0.061	0.057	0.052	0.051	0.052	0.053	0.052	0.056	0.053	0.054	0.082
AROCLOR-1242	0.058	0.057	0.052	0.061	0.057	0.052	0.051	0.052	0.053	0.052	0.056	0.053	0.054	0.082
AROCLOR-1248	0.058	0.057	0.052	0.061	0.057	0.052	0.051	0.052	0.053	0.052	0.056	0.053	0.054	0.082
AROCLOR-1254	0.058	0.057	0.052	0.061	0.057	0.052	0.051	0.052	0.053	0.052	0.056	0.053	0.054	0.082
AROCLOR-1260	0.058	0.057	0.052	0.061	0.057	0.052	0.051	0.052	0.053	0.052	0.056	0.053	0.054	0.082
BETA-BHC	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
CHLORDANE (TECHNICAL)	0.058	0.057	0.052	0.061	0.057	0.052	0.051	0.052	0.053	0.052	0.056	0.053	0.054	0.082
DELTA-BHC	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
DIELDRIN	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ENDOSULFAN I	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ENDOSULFAN II	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ENDOSULFAN SULFATE	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ENDRIN	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ENDRIN ALDEHYDE	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
ENDRIN KETONE	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
GAMMA-BHC (LINDANE)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
GAMMA-CHLORDANE	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
HEPTACHLOR	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
HEPTACHLOR EPOXIDE	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
METHOXYCHLOR	0.023	0.023	0.021	0.024	0.023	0.021	0.021	0.021	0.021	0.021	0.023	0.021	0.022	0.033
TOXAPHENE	0.058	0.057	0.052	0.061	0.057	0.052	0.051	0.052	0.053	0.052	0.056	0.053	0.054	0.082

Table A-8 Deer Island Effluent Characterization, Fiscal Year 2000, cont.

Semivolatile Organics (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,2,4-TRICHLOROBENZENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
1,2-DICHLOROBENZENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
1,2-DIPHENYLHYDRAZINE (AS AZOB)	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.79	1.16	1.03	1.31	3.48
1,3-DICHLOROBENZENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
1,4-DICHLOROBENZENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2,2'-OXYBIS(1-CHLOROPROPANE)	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2,4,5-TRICHLOROPHENOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2,4,6-TRICHLOROPHENOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2,4-DICHLOROPHENOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2,4-DIMETHYLPHENOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2,4-DINITROPHENOL	3.14	2.32	4.48	2.41	3.82	2.06	2.04	2.07	2.03	2.10	2.31	2.06	2.47	6.96
2,4-DINITROTOLUENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2,6-DINITROTOLUENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2-CHLORONAPHTHALENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2-CHLOROPHENOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2-METHYL-4,6-DINITROPHENOL	15.50	11.60	22.40	12.10	19.10	10.30	10.20	10.30	10.20	10.50	11.60	10.30	12.30	34.80
2-METHYLNAPHTHALENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2-METHYLPHENOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2-NITROANILINE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
2-NITROPHENOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
3,3'-DICHLOROBENZIDINE	3.14	2.32	4.48	2.41	3.82	2.06	2.04	2.07	2.03	2.10	2.31	2.06	2.47	6.96
3-NITROANILINE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
4-BROMOPHENYL PHENYL ETHER	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	0.72	1.16	1.03	1.20	3.48
4-CHLORO-3-METHYLPHENOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
4-CHLOROANILINE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
4-CHLOROPHENYL PHENYL ETHER	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
4-METHYLPHENOL (INCLUDES 3-MET)	1.55	**2.82**	2.24	1.21	1.91	1.03	**5.47**	1.03	1.02	**5.16**	1.16	**5.08**	2.63	9.50
4-NITROANILINE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
4-NITROPHENOL	3.14	2.32	4.48	2.41	3.82	2.06	2.04	2.07	2.03	2.10	2.31	2.06	2.47	6.96
ACENAPHTHENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
ACENAPHTHYLENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
ANILINE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
ANTHRACENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
BENZIDINE	7.73	5.80	11.20	6.03	9.56	5.15	5.11	5.17	5.08	5.25	5.78	5.14	6.16	17.40
BENZO(A)ANTHRACENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48

Table A-8 Deer Island Effluent Characterization, Fiscal Year 2000, cont.

Semivolatile Organics (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
BENZO(A)PYRENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
BENZO(B)FLUORANTHENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
BENZO(GHI)PERYLENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
BENZO(K)FLUORANTHENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
BENZOIC ACID	3.14	2.32	4.48	2.41	3.82	2.06	2.04	2.07	2.03	2.10	2.31	2.06	2.47	6.96
BENZYL ALCOHOL	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	**3.06**	1.03	1.42	6.70
BIS(2-CHLOROETHOXY)METHANE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
BIS(2-CHLOROETHYL)ETHER	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
BIS(2-ETHYLHEXYL)PHTHALATE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
BUTYL BENZYL PHTHALATE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
CHRYSENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
DIBENZO(A,H)ANTHRACENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
DIBENZOFURAN	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
DIETHYL PHTHALATE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	**2.65**	1.03	1.38	5.50
DIMETHYL PHTHALATE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
DI-N-BUTYLPHTHALATE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
DI-N-OCTYLPHTHALATE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
FLUORANTHENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
FLUORENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
HEXACHLOROBENZENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
HEXACHLOROBUTADIENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
HEXACHLOROCYCLOPENTADIENE	7.73	5.80	11.20	6.03	9.56	5.15	5.11	5.17	5.08	5.25	5.78	5.14	6.16	17.40
HEXACHLOROETHANE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
INDENO(1,2,3-CD)PYRENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
ISOPHORONE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
NAPHTHALENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
NITROBENZENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
N-NITROSODIMETHYLAMINE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
N-NITROSODI-N-PROPYLAMINE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
N-NITROSODIPHENYLAMINE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48
PENTACHLOROPHENOL	4.66	3.48	6.72	3.62	5.72	3.09	3.07	3.10	3.05	3.15	3.47	3.08	3.70	10.40
PHENANTHRENE	0.14	0.12	0.22	0.12	0.19	0.10	0.10	0.10	0.10	0.11	0.12	0.10	0.12	0.35
PHENOL	3.14	2.32	4.48	2.41	3.82	2.06	2.04	2.07	2.03	2.10	2.31	2.06	2.47	6.96
PYRENE	1.55	1.16	2.24	1.21	1.91	1.03	1.02	1.03	1.02	1.05	1.16	1.03	1.23	3.48

Table A-8 Deer Island Effluent Characterization, Fiscal Year 2000, cont.

Volatile Organics (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
1,1,1-TRICHLOROETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00
1,1,2,2-TETRACHLOROETHANE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1,1,2-TRICHLOROETHANE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
1,1-DICHLOROETHANE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
1,1-DICHLOROETHENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1,2-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
1,2-DICHLOROETHANE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
1,2-DICHLOROPROPANE	0.50	1.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.58	1.80
1,3-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
1,4-DICHLOROBENZENE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
2-BUTANONE	0.50	5.00	0.50	0.50	**3.70**	0.50	0.50	0.50	**1.57**	0.50	0.50	0.50	1.14	10.50
2-CHLOROETHYL VINYL ETHER	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00
2-HEXANONE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00
4-METHYL-2-PENTANONE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00
ACETONE	**5.15**	5.00	**35.20**	**30.90**	**58.70**	**8.67**	**11.40**	**13.10**	**27.80**	**32.40**	**49.50**	**49.80**	29.70	137.00
ACROLEIN	0.50	12.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.23	12.00
ACRYLONITRILE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00
BENZENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BROMODICHLOROMETHANE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BROMOFORM	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BROMOMETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00
CARBON DISULFIDE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
CARBON TETRACHLORIDE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
CHLOROBENZENE	0.50	1.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.58	1.80
CHLOROETHANE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00
CHLOROFORM	**5.21**	0.77	**3.54**	**4.55**	**2.15**	**5.63**	**2.27**	**8.07**	**6.67**	**6.47**	**8.43**	**6.76**	5.26	11.30
CHLOROMETHANE	0.50	5.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.78	5.00
CIS-1,2-DICHLOROETHENE	0.50	ND	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
CIS-1,3-DICHLOROPROPENE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
DIBROMOCHLOROMETHANE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
ETHYLBENZENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
M,P-XYLENE	0.50	0.50	0.50	0.50	0.50	0.65	0.50	0.66	0.50	0.50	0.50	0.50	0.53	1.00
METHYLENE CHLORIDE	**2.93**	2.50	**5.81**	**7.38**	**2.26**	**6.52**	0.50	**5.58**	**4.95**	0.50	0.50	**2.67**	3.48	12.10
O-XYLENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50

Table A-8 Deer Island Effluent Characterization, Fiscal Year 2000, cont.

Volatile Organics (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum
STYRENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
TETRACHLOROETHENE	**1.58**	0.77	0.50	**5.08**	0.50	**1.18**	**1.97**	**3.34**	**10.30**	**1.92**	0.50	0.50	2.30	17.30
TOLUENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
TRANS-1,2-DICHLOROETHENE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
TRANS-1,3-DICHLOROPROPENE	0.50	0.77	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.52	0.80
TRICHLOROETHENE	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
TRICHLOROFLUOROMETHANE	0.50	2.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.63	2.50
VINYL ACETATE	0.50	12.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.23	12.00
VINYL CHLORIDE	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	1.00

Notes:
~ No samples taken
ND = No Data
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Times Detected
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8 of 46
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39 of 45
18 of 51
27 of 54
38 of 45
0 of 34
45 of 45
12 of 46
44 of 46
49 of 53
34 of 49
0 of 45
28 of 53
0 of 45
45 of 45

Times Detected
8 of 35
0 of 34

Times Detected
58 of 78
4 of 14
20 of 77
35 of 35

Times Detected
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Times Detected
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Table A-9 Deer Island Effluent Loadings, Fiscal Year 2000

Metals (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
ANTIMONY	12.40	14.40	16.40	20.90	19.70	14.10	24.10	15.70	22.90	22.00	24.90	45.80	20.00	68.90	0 of 45
ARSENIC	**0.88**	**1.30**	**1.50**	**1.65**	**13.00**	1.12	1.29	0.95	1.22	**1.98**	1.33	1.92	2.15	35.70	8 of 46
BERYLLIUM	0.55	0.53	0.67	0.70	0.66	0.70	0.80	0.59	0.76	0.84	0.83	1.20	0.71	1.72	0 of 45
BORON	**812.00**	**781.00**	**974.00**	**735.00**	**737.00**	**661.00**	**651.00**	**852.00**	**722.00**	**718.00**	**1130.00**	**1190.00**	829.00	1900.00	39 of 45
CADMIUM	2.20	2.12	2.69	2.79	2.62	2.81	3.22	**1.31**	**0.45**	**0.43**	**0.75**	**0.78**	1.95	3.78	18 of 51
CHROMIUM	**4.40**	**5.24**	**5.39**	**8.18**	**5.24**	**12.60**	**12.00**	**4.03**	**4.85**	**6.86**	**5.63**	**10.20**	6.73	20.10	27 of 54
COPPER	**22.30**	**21.50**	**28.50**	**41.90**	**47.70**	**38.00**	**55.20**	**51.30**	**59.90**	**70.90**	**57.50**	**104.00**	45.20	200.00	38 of 45
HEXAVALENT CHROMIUM	12.00	11.70	21.20	15.50	15.20	16.60	14.50	6.05	7.41	8.32	8.95	11.20	12.30	28.10	0 of 34
IRON	**763.00**	**719.00**	**776.00**	**1180.00**	**1360.00**	**840.00**	**1500.00**	**1210.00**	**1690.00**	**1820.00**	**1510.00**	**3380.00**	1280.00	6960.00	45 of 45
LEAD	2.64	**3.79**	3.23	**6.12**	**6.31**	**6.55**	**9.49**	2.84	3.66	**6.40**	**5.90**	**27.60**	6.37	73.80	12 of 46
MERCURY	**0.05**	**0.04**	**0.07**	**0.07**	**0.08**	**0.05**	**0.13**	**0.08**	**0.15**	**0.14**	**0.09**	**0.20**	0.10	0.75	44 of 46
MOLYBDENUM	**14.00**	**13.90**	**18.90**	**18.50**	**18.30**	**20.70**	**33.40**	**12.50**	**16.80**	**15.70**	**23.40**	**22.30**	18.10	37.70	49 of 53
NICKEL	**10.40**	**5.59**	**6.73**	**6.96**	**10.20**	**12.70**	**14.30**	**6.64**	**10.00**	**6.73**	**10.20**	**16.40**	8.96	23.40	34 of 49
SELENIUM	0.99	1.08	4.25	1.26	1.18	1.27	1.45	1.06	1.37	1.50	1.49	2.16	1.63	7.21	0 of 45
SILVER	**4.56**	**3.37**	**2.69**	**4.15**	**3.62**	**5.50**	**3.22**	**2.22**	**2.98**	**2.82**	**1.97**	**2.50**	3.41	8.58	28 of 53
THALLIUM	1.10	1.06	1.35	1.40	1.31	1.41	1.61	1.18	1.53	1.67	1.66	2.40	1.41	3.45	0 of 45
ZINC	**53.00**	**58.70**	**94.50**	**76.70**	**74.60**	**92.40**	**139.00**	**87.00**	**124.00**	**148.00**	**115.00**	**249.00**	100.00	432.00	45 of 45

Cyanide and Phenols (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CYANIDE	10.90	10.70	19.30	**27.90**	13.80	15.10	**55.80**	12.10	**27.00**	**52.20**	**32.70**	**29.90**	25.00	84.90	8 of 35
TOTAL PHENOLS	2.17	2.16	2.62	2.55	2.62	2.81	3.22	2.36	3.05	3.34	3.31	4.80	2.92	6.89	0 of 34

Oil and Grease, Petroleum Hydrocarbons, and Surfactants (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
PETROLEUM HYDROCARBON	**651**	**1160**	**1040**	**1480**	**1260**	**742**	**554**	**976**	**379**	**657**	**1020**	**451**	852	4640	58 of 78
TOTAL PETROLEUM HYDROCARBON	**827**	**1590**	**1120**	~	~	~	~	~	~	~	~	~	1160	5850	4 of 14
FATS OIL AND GREASE	**1600**	**13500**	**22400**	**18400**	**10400**	**1990**	**2050**	**18800**	**14700**	**19200**	**6670**	2720	11400	85700	20 of 77
MBAS	**1090**	**1160**	**1150**	**1900**	**1010**	**1420**	**1580**	**988**	**1510**	**2230**	**2730**	**5070**	1790	8960	35 of 35

Table A-9 Deer Island Effluent Loadings, Fiscal Year 2000, cont.

Organochlorine Pesticides and PCBs (lbs/day)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
4,4'-DDD	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
4,4'-DDE	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
4,4'-DDT	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ALDRIN	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ALPHA-BHC	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ALPHA-CHLORDANE	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
AROCLOR-1016	0.125	0.122	0.136	0.156	0.150	0.145	0.165	0.123	0.162	0.173	0.187	0.256	0.159	0.371	0 of 34
AROCLOR-1221	0.251	0.245	0.303	0.311	0.300	0.290	0.330	0.246	0.324	0.374	0.373	0.512	0.322	0.745	0 of 34
AROCLOR-1232	0.125	0.122	0.136	0.156	0.150	0.145	0.165	0.123	0.162	0.173	0.187	0.256	0.159	0.371	0 of 34
AROCLOR-1242	0.125	0.122	0.136	0.156	0.150	0.145	0.165	0.123	0.162	0.173	0.187	0.256	0.159	0.371	0 of 34
AROCLOR-1248	0.125	0.122	0.136	0.156	0.150	0.145	0.165	0.123	0.162	0.173	0.187	0.256	0.159	0.371	0 of 34
AROCLOR-1254	0.125	0.122	0.136	0.156	0.150	0.145	0.165	0.123	0.162	0.173	0.187	0.256	0.159	0.371	0 of 34
AROCLOR-1260	0.125	0.122	0.136	0.156	0.150	0.145	0.165	0.123	0.162	0.173	0.187	0.256	0.159	0.371	0 of 34
BETA-BHC	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
CHLORDANE (TECHNICAL)	0.125	0.122	0.136	0.156	0.150	0.145	0.165	0.123	0.162	0.173	0.187	0.256	0.159	0.371	0 of 34
DELTA-BHC	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
DIELDRIN	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ENDOSULFAN I	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ENDOSULFAN II	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ENDOSULFAN SULFATE	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ENDRIN	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ENDRIN ALDEHYDE	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
ENDRIN KETONE	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
GAMMA-BHC (LINDANE)	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
GAMMA-CHLORDANE	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
HEPTACHLOR	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
HEPTACHLOR EPOXIDE	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.005	0.006	0.007	0.007	0.010	0.006	0.015	0 of 34
METHOXYCHLOR	0.050	0.049	0.054	0.062	0.060	0.058	0.066	0.049	0.065	0.069	0.075	0.102	0.064	0.148	0 of 34
TOXAPHENE	0.125	0.122	0.136	0.156	0.150	0.145	0.165	0.123	0.162	0.173	0.187	0.256	0.159	0.371	0 of 34

Table A-9 Deer Island Effluent Loadings, Fiscal Year 2000, cont.

Semivolatile Organics (lbs/day)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
1,2,4-TRICHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
1,2-DICHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
1,2-DIPHENYLHYDRAZINE (AS AZOB)	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	5.98	3.83	4.94	3.82	11.10	0 of 34
1,3-DICHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
1,4-DICHLOROBENZENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2,2'-OXYBIS(1-CHLOROPROPANE)	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2,4,5-TRICHLOROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2,4,6-TRICHLOROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2,4-DICHLOROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	9.44	3.51	3.83	4.94	3.60	9.23	0 of 34
2,4-DIMETHYLPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2,4-DINITROPHENOL	4.80	4.79	19.60	7.24	6.67	5.90	6.74	5.99	6.60	7.02	7.67	9.88	7.20	18.50	0 of 34
2,4-DINITROTOLUENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2,6-DINITROTOLUENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2-CHLORONAPHTHALENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2-CHLOROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2-METHYL-4,6-DINITROPHENOL	24.1	24.00	97.7	36.2	33.4	29.5	33.7	29.9	33.00	35.10	38.30	49.40	36.00	92.30	0 of 34
2-METHYLNAPHTHALENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2-METHYLPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2-NITROANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
2-NITROPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
3,3'-DICHLOROBENZIDINE	4.80	4.79	19.60	7.24	6.67	5.90	7.13	5.99	6.60	7.02	7.67	9.88	7.20	18.50	0 of 34
3-NITROANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
4-BROMOPHENYL PHENYL ETHER	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	2.40	3.83	4.94	3.50	9.23	0 of 34
4-CHLORO-3-METHYLPHENOL	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
4-CHLOROANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
4-CHLOROPHENYL PHENYL ETHER	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
4-METHYLPHENOL (INCLUDES 3-MET)	40.60	**40.20**	9.77	30.50	21.20	38.70	**65.40**	98.80	55.30	**17.20**	3.83	**24.40**	7.69	65.50	5 of 34
4-NITROANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
4-NITROPHENOL	4.80	4.79	19.60	7.24	6.67	5.90	6.74	5.99	6.60	7.02	7.67	9.88	7.20	18.50	0 of 34
ACENAPHTHENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
ACENAPHTHYLENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
ANILINE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
ANTHRACENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34
BENZIDINE	11.00	12.00	48.90	18.10	16.70	14.80	39.70	15.00	16.50	17.50	19.20	24.70	18.00	46.20	0 of 34
BENZO(A)ANTHRACENE	2.41	2.40	9.77	3.62	3.34	2.95	3.37	2.99	3.30	3.51	3.83	4.94	3.60	9.23	0 of 34

Table A-9 Deer Island Effluent Loadings, Fiscal Year 2000, cont.

Semivolatile Organics (lbs/day)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
BENZO(A)PYRENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
BENZO(B)FLUORANTHENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
BENZO(GHI)PERYLENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
BENZO(K)FLUORANTHENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
BENZOIC ACID	6.80	5.01	11.70	6.15	10.00	5.79	6.57	4.89	6.20	7.02	7.67	9.88	7.20	18.50	0 of 34
BENZYL ALCOHOL	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	**10.10**	4.94	4.15	22.40	1 of 34
BIS(2-CHLOROETHOXY)METHANE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
BIS(2-CHLOROETHYL)ETHER	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
BIS(2-ETHYLHEXYL)PHTHALATE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
BUTYL BENZYL PHTHALATE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
CHRYSENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
DIBENZO(A,H)ANTHRACENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
DIBENZOFURAN	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
DIETHYL PHTHALATE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	**8.79**	4.94	4.04	18.40	1 of 34
DIMETHYL PHTHALATE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
DI-N-BUTYLPHTHALATE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
DI-N-OCTYLPHTHALATE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
FLUORANTHENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
FLUORENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
HEXACHLOROBENZENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
HEXACHLOROBUTADIENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
HEXACHLOROCYCLOPENTADIENE	16.70	12.50	29.30	15.40	25.10	14.50	16.40	12.20	15.50	17.50	19.20	24.70	18.00	46.20	0 of 34
HEXACHLOROETHANE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
INDENO(1,2,3-CD)PYRENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
ISOPHORONE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
NAPHTHALENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
NITROBENZENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
N-NITROSODIMETHYLAMINE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
N-NITROSODI-N-PROPYLAMINE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
N-NITROSODIPHENYLAMINE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34
PENTACHLOROPHENOL	10.10	7.52	17.60	9.22	15.00	8.69	9.86	7.33	9.31	10.50	11.50	14.80	10.80	27.60	0 of 34
PHENANTHRENE	0.30	0.25	0.59	0.31	0.50	0.29	0.33	0.24	0.31	0.35	0.38	0.49	0.36	0.92	0 of 34
PHENOL	6.80	5.01	11.70	6.15	10.00	5.79	6.57	4.89	6.20	7.02	7.67	9.88	7.20	18.50	0 of 34
PYRENE	3.36	2.51	5.86	3.07	5.01	2.90	3.29	2.44	3.10	3.51	3.83	4.94	3.60	9.23	0 of 34

Table A-9 Deer Island Effluent Loadings, Fiscal Year 2000, cont.

Volatile Organics (lbs/day)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
1,1,1-TRICHLOROETHANE	1.09	2.13	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.59	3.24	0 of 34
1,1,2,2-TETRACHLOROETHANE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
1,1,2-TRICHLOROETHANE	1.09	1.63	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.54	3.24	0 of 34
1,1-DICHLOROETHANE	1.09	1.63	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.54	3.24	0 of 34
1,1-DICHLOROETHENE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
1,2-DICHLOROBENZENE	1.09	5.33	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.87	5.57	0 of 34
1,2-DICHLOROETHANE	1.09	1.63	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.54	3.24	0 of 34
1,2-DICHLOROPROPANE	1.09	3.84	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.74	4.01	0 of 34
1,3-DICHLOROBENZENE	1.09	5.33	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.87	5.57	0 of 34
1,4-DICHLOROBENZENE	1.09	5.33	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.87	5.57	0 of 34
2-BUTANONE	1.09	10.70	1.93	1.40	**10.20**	1.51	1.32	1.21	**4.67**	1.66	1.79	2.24	3.40	27.90	2 of 34
2-CHLOROETHYL VINYL ETHER	1.09	10.70	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	2.34	11.10	0 of 34
2-HEXANONE	1.09	10.70	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	2.34	11.10	0 of 34
4-METHYL-2-PENTANONE	1.09	10.70	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	2.34	11.10	0 of 34
ACETONE	**11.20**	10.70	**136.00**	**86.70**	**163.00**	**26.20**	**30.00**	**31.70**	**82.40**	**108.00**	**177.00**	**224.00**	88.60	364.00	30 of 34
ACROLEIN	1.09	25.60	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	3.66	26.70	0 of 34
ACRYLONITRILE	1.09	10.70	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	2.34	11.10	0 of 34
BENZENE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
BROMODICHLOROMETHANE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
BROMOFORM	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
BROMOMETHANE	1.09	2.13	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.59	3.24	0 of 34
CARBON DISULFIDE	1.09	5.33	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.87	5.57	0 of 34
CARBON TETRACHLORIDE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
CHLOROBENZENE	1.09	3.84	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.74	4.01	0 of 34
CHLOROETHANE	1.09	2.13	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.59	3.24	0 of 34
CHLOROFORM	**11.40**	1.63	**13.60**	**12.80**	**5.96**	**17.00**	**6.00**	**19.50**	**19.80**	**21.50**	**30.20**	**30.30**	15.70	35.60	26 of 34
CHLOROMETHANE	1.09	10.70	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	2.34	11.10	0 of 34
CIS-1,2-DICHLOROETHENE	1.09	ND	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.53	3.24	0 of 31
CIS-1,3-DICHLOROPROPENE	1.09	1.63	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.54	3.24	0 of 34
DIBROMOCHLOROMETHANE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
ETHYLBENZENE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
M,P-XYLENE	1.09	1.07	1.93	1.40	1.38	1.98	1.32	1.60	1.48	1.66	1.79	2.24	1.57	3.24	0 of 34
METHYLENE CHLORIDE	**6.39**	5.33	**22.40**	**20.70**	**6.26**	**19.70**	1.32	**13.50**	**14.70**	1.66	1.79	**12.00**	10.40	40.50	16 of 34
O-XYLENE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
STYRENE	1.09	1.07	1.93	1.4	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
TETRACHLOROETHENE	**3.44**	1.63	1.93	**14.30**	1.38	**3.57**	**5.21**	**8.07**	**30.50**	**6.40**	1.79	2.24	6.85	51.30	9 of 34
TOLUENE	1.09	1.07	1.93	1.4	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
TRANS-1,2-DICHLOROETHENE	1.09	1.63	1.93	1.4	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.54	3.24	0 of 34

Table A-9 Deer Island Effluent Loadings, Fiscal Year 2000, cont.

Volatile Organics (lbs/day)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
TRANS-1,3-DICHLOROPROPENE	1.09	1.63	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.54	3.24	0 of 34
TRICHLOROETHENE	1.09	1.07	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.49	3.24	0 of 34
TRICHLOROFLUOROMETHANE	1.09	5.33	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.87	5.57	0 of 34
VINYL ACETATE	1.09	25.6	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	3.66	26.7	0 of 34
VINYL CHLORIDE	1.09	2.13	1.93	1.40	1.38	1.51	1.32	1.21	1.48	1.66	1.79	2.24	1.59	3.24	0 of 34

Notes:
~ No samples taken
ND = No Data
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table A-10 Deer Island Influent Characterization (DEC), Fiscal Year 2000

North & South Systems

Metals (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CADMIUM	**0.55**	**0.37**	**0.37**	**0.37**	**0.35**	**0.48**	**0.38**	**0.44**	**0.34**	**0.38**	~	~	0.41	0.92	68 of 68
CHROMIUM	**5.94**	**4.22**	**4.47**	**4.29**	**2.78**	**4.00**	**3.42**	**3.53**	**3.39**	**4.51**	~	~	4.25	7.20	70 of 70
COPPER	**93.30**	**75.70**	**71.60**	**72.30**	**58.80**	**59.50**	**62.30**	**52.60**	**46.30**	**51.50**	~	~	62.50	108.00	72 of 72
LEAD	**31.00**	**15.70**	**19.60**	**7.94**	**10.10**	**10.50**	**7.55**	**5.64**	**10.40**	**9.54**	~	~	13.20	84.50	68 of 68
MERCURY	**0.37**	**0.38**	**0.34**	**0.16**	**0.21**	**0.21**	**0.20**	**0.17**	**0.22**	**0.24**	~	~	0.25	0.69	69 of 69
MOLYBDENUM	**9.60**	**14.50**	**9.85**	**4.77**	**7.82**	**5.66**	**3.30**	**3.10**	**4.39**	**4.34**	~	~	6.55	21.80	63 of 66
NICKEL	**6.81**	**3.85**	**4.34**	**3.76**	**3.80**	**5.23**	**5.01**	**4.64**	**3.93**	**3.78**	~	~	4.54	10.10	68 of 68
SILVER	**1.48**	**1.68**	**3.24**	**2.00**	**2.56**	**3.50**	**1.28**	**1.79**	**1.76**	**1.22**	~	~	1.85	4.43	72 of 72
ZINC	**151.00**	**119.00**	**125.00**	**110.00**	**94.80**	**104.00**	**103.00**	**95.70**	**91.80**	**94.20**	~	~	107.00	181.00	70 of 70

Organochlorine Pesticides and PCBs (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Detected
4,4'-DDD	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
4,4'-DDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
4,4'-DDT	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ALDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ALPHA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ALPHA-CHLORDANE	~	~	~	~	~	~	0.002	0.002	0.002	**0.005**	~	0.002	0.003	0.017	1 of 28
AROCLOR-1016	~	~	~	~	~	~	0.054	0.053	0.053	0.052	~	0.052	0.053	0.055	0 of 28
AROCLOR-1221	~	~	~	~	~	~	0.107	0.106	0.106	0.104	~	0.105	0.105	0.109	0 of 28
AROCLOR-1232	~	~	~	~	~	~	0.054	0.053	0.053	0.052	~	0.052	0.053	0.055	0 of 28
AROCLOR-1242	~	~	~	~	~	~	0.054	0.053	0.053	0.052	~	0.052	0.053	0.055	0 of 28
AROCLOR-1248	~	~	~	~	~	~	0.054	0.053	0.053	0.052	~	0.052	0.053	0.055	0 of 28
AROCLOR-1254	~	~	~	~	~	~	0.054	0.053	0.053	0.052	~	0.052	0.053	0.055	0 of 28
AROCLOR-1260	~	~	~	~	~	~	0.054	0.053	0.053	0.052	~	0.052	0.053	0.055	0 of 28
BETA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
CHLORDANE (TECHNICAL)	~	~	~	~	~	~	0.054	0.053	0.053	0.052	~	0.052	0.053	0.055	0 of 28
DELTA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
DIELDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ENDOSULFAN I	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ENDOSULFAN II	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ENDOSULFAN SULFATE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ENDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ENDRIN ALDEHYDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
ENDRIN KETONE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
GAMMA-BHC (LINDANE)	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
GAMMA-CHLORDANE	~	~	~	~	~	~	0.002	0.002	0.002	**0.006**	~	0.002	0.003	0.019	1 of 28
HEPTACHLOR	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
HEPTACHLOR EPOXIDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
HEXACHLOROBENZNE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 28
METHOXYCHLOR	~	~	~	~	~	~	0.021	0.021	0.021	0.021	~	0.021	0.021	0.022	0 of 28
TOXAPHENE	~	~	~	~	~	~	0.054	0.053	0.053	0.052	~	0.052	0.053	0.055	0 of 28

Table A-10 Deer Island Influent Characterization (DEC), Fiscal Year 2000, cont.

North System

Metals (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CADMIUM	**0.51**	**0.33**	**0.35**	**0.35**	**0.35**	**0.56**	**0.43**	**0.48**	**0.50**	**0.41**	~	~	0.43	1.19	36 of 36
CHROMIUM	**6.29**	**3.91**	**4.77**	**4.61**	**3.08**	**4.58**	**3.88**	**4.09**	**3.18**	**5.94**	~	~	4.72	7.98	37 of 37
COPPER	**88.10**	**65.90**	**68.20**	**60.70**	**59.70**	**58.40**	**63.10**	**54.10**	**52.70**	**57.30**	~	~	62.50	103.00	38 of 38
LEAD	**38.00**	**17.00**	**23.20**	**6.88**	**13.20**	**12.30**	**8.67**	**5.93**	**9.65**	**11.30**	~	~	15.50	107.00	36 of 36
MERCURY	**0.40**	**0.41**	**0.37**	**0.13**	**0.40**	**0.20**	**0.19**	**0.18**	**0.30**	**0.27**	~	~	0.29	1.12	36 of 36
MOLYBDENUM	**11.50**	**17.10**	**12.70**	**5.55**	**11.00**	**7.22**	**3.66**	**3.95**	**4.31**	**5.87**	~	~	8.22	22.90	34 of 35
NICKEL	**7.19**	**3.68**	**4.34**	**4.12**	**3.82**	**5.56**	**5.82**	**5.21**	**3.84**	**3.80**	~	~	4.70	12.70	36 of 36
SILVER	**1.38**	**1.56**	**3.41**	**2.07**	**3.57**	**3.53**	**1.43**	**2.15**	**1.45**	**1.47**	~	~	2.02	6.21	38 of 38
ZINC	**144.00**	**105.00**	**120.00**	**103.00**	**90.20**	**100.00**	**105.00**	**97.60**	**99.40**	**101.00**	~	~	106.00	177.00	37 of 37

Organochlorine Pesticides and PCBs (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
4,4'-DDD	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
4,4'-DDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
4,4'-DDT	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ALDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ALPHA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ALPHA-CHLORDANE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
AROCLOR-1016	~	~	~	~	~	~	0.055	0.053	0.053	0.052	0.051	0.052	0.053	0.056	0 of 16
AROCLOR-1221	~	~	~	~	~	~	0.109	0.107	0.106	0.104	0.102	0.105	0.105	0.112	0 of 16
AROCLOR-1232	~	~	~	~	~	~	0.055	0.053	0.053	0.052	0.051	0.052	0.053	0.056	0 of 16
AROCLOR-1242	~	~	~	~	~	~	0.055	0.053	0.053	0.052	0.051	0.052	0.053	0.056	0 of 16
AROCLOR-1248	~	~	~	~	~	~	0.055	0.053	0.053	0.052	0.051	0.052	0.053	0.056	0 of 16
AROCLOR-1254	~	~	~	~	~	~	0.055	0.053	0.053	0.052	0.051	0.052	0.053	0.056	0 of 16
AROCLOR-1260	~	~	~	~	~	~	0.055	0.053	0.053	0.052	0.051	0.052	0.053	0.056	0 of 16
BETA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
CHLORDANE (TECHNICAL)	~	~	~	~	~	~	0.055	0.053	0.053	0.052	0.051	0.052	0.053	0.056	0 of 16
DELTA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
DIELDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ENDOSULFAN I	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ENDOSULFAN II	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ENDOSULFAN SULFATE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ENDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ENDRIN ALDEHYDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
ENDRIN KETONE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
GAMMA-BHC (LINDANE)	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
GAMMA-CHLORDANE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
HEPTACHLOR	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
HEPTACHLOR EPOXIDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
HEXACHLOROBENZNE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0 of 16
METHOXYCHLOR	~	~	~	~	~	~	0.022	0.021	0.021	0.021	0.020	0.021	0.021	0.023	0 of 16
TOXAPHENE	~	~	~	~	~	~	0.055	0.053	0.053	0.052	0.051	0.052	0.053	0.056	0 of 16

Table A-10 Deer Island Influent Characterization (DEC), Fiscal Year 2000, cont.

South System

Metals (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CADMIUM	**0.66**	**0.44**	**0.41**	**0.39**	**0.37**	**0.33**	**0.28**	**0.36**	**0.30**	**0.33**	~	~	0.38	0.85	34 of 34
CHROMIUM	**5.06**	**4.91**	**3.82**	**3.68**	**2.99**	**2.92**	**2.53**	**2.55**	**2.90**	**2.09**	~	~	3.14	6.50	35 of 35
COPPER	**106.00**	**97.60**	**78.80**	**94.50**	**63.20**	**61.40**	**60.90**	**50.10**	**44.50**	**41.70**	~	~	62.60	131.00	36 of 36
LEAD	**13.40**	**12.90**	**11.70**	**9.97**	**8.44**	**7.19**	**5.43**	**5.13**	**5.77**	**6.48**	~	~	8.16	20.20	34 of 34
MERCURY	**0.28**	**0.31**	**0.28**	**0.21**	**0.29**	**0.22**	**0.22**	**0.16**	**0.15**	**0.18**	~	~	0.22	0.48	35 of 35
MOLYBDENUM	**4.74**	**8.81**	**3.72**	**3.26**	**2.58**	**2.77**	**2.63**	**1.57**	**0.98**	**1.74**	~	~	2.97	19.40	30 of 33
NICKEL	**5.86**	**4.25**	**4.34**	**3.08**	**3.97**	**4.60**	**3.45**	**3.63**	**3.17**	**3.73**	~	~	4.06	9.79	34 of 34
SILVER	**1.73**	**1.94**	**2.88**	**1.87**	**2.25**	**3.44**	**1.00**	**1.15**	**1.19**	**0.80**	~	~	1.62	5.57	36 of 36
ZINC	**167.00**	**150.00**	**135.00**	**124.00**	**111.00**	**111.00**	**101.00**	**92.40**	**85.40**	**82.80**	~	~	109.00	214.00	35 of 35

Organochlorine Pesticides and PCBs (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
4,4'-DDD	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
4,4'-DDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
4,4'-DDT	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ALDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ALPHA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ALPHA-CHLORDANE	~	~	~	~	~	~	0.002	0.002	0.002	**0.011**	~	0.002	0.005	0.043	1 of 15
AROCLOR-1016	~	~	~	~	~	~	0.052	0.053	0.051	0.053	~	0.052	0.052	0.055	0 of 15
AROCLOR-1221	~	~	~	~	~	~	0.103	0.106	0.103	0.105	~	0.104	0.104	0.110	0 of 15
AROCLOR-1232	~	~	~	~	~	~	0.052	0.053	0.051	0.053	~	0.052	0.052	0.055	0 of 15
AROCLOR-1242	~	~	~	~	~	~	0.052	0.053	0.051	0.053	~	0.052	0.052	0.055	0 of 15
AROCLOR-1248	~	~	~	~	~	~	0.052	0.053	0.051	0.053	~	0.052	0.052	0.055	0 of 15
AROCLOR-1254	~	~	~	~	~	~	0.052	0.053	0.051	0.053	~	0.052	0.052	0.055	0 of 15
AROCLOR-1260	~	~	~	~	~	~	0.052	0.053	0.051	0.053	~	0.052	0.052	0.055	0 of 15
BETA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
CHLORDANE (TECHNICAL)	~	~	~	~	~	~	0.052	0.053	0.051	0.053	~	0.052	0.052	0.055	0 of 15
DELTA-BHC	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
DIELDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ENDOSULFAN I	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ENDOSULFAN II	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ENDOSULFAN SULFATE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ENDRIN	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ENDRIN ALDEHYDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
ENDRIN KETONE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
GAMMA-BHC (LINDANE)	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
GAMMA-CHLORDANE	~	~	~	~	~	~	0.002	0.002	0.002	**0.012**	~	0.002	0.005	0.047	1 of 15
HEPTACHLOR	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
HEPTACHLOR EPOXIDE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
HEXACHLOROBENZNE	~	~	~	~	~	~	0.002	0.002	0.002	0.002	~	0.002	0.002	0.002	0 of 15
METHOXYCHLOR	~	~	~	~	~	~	0.021	0.021	0.020	0.021	~	0.021	0.021	0.022	0 of 15
TOXAPHENE	~	~	~	~	~	~	0.052	0.053	0.051	0.053	~	0.052	0.052	0.055	0 of 15

Notes:
DEC is the Detailed Effluent Characterization project in LIMS, which includes new testing methods that are not EPA approved.
~ No samples taken
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.

Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table A-11 Deer Island Influent Loadings (DEC), Fiscal Year 2000

North & South Systems

Metals (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CADMIUM	**1.36**	**0.78**	**0.93**	**0.90**	**0.91**	**1.28**	**1.00**	**1.22**	**1.27**	**1.98**	~	~	1.19	2.64	68 of 68
CHROMIUM	**14.60**	**9.02**	**11.30**	**10.60**	**7.30**	**10.70**	**9.03**	**9.74**	**12.80**	**23.60**	~	~	12.60	41.20	70 of 70
COPPER	**230.00**	**162.00**	**182.00**	**178.00**	**154.00**	**159.00**	**165.00**	**145.00**	**175.00**	**230.00**	~	~	184.00	341.00	72 of 72
LEAD	**76.40**	**33.60**	**49.70**	**19.50**	**26.60**	**28.10**	**20.00**	**15.60**	**39.30**	**49.90**	~	~	39.00	246.00	68 of 68
MERCURY	**0.90**	**0.80**	**0.87**	**0.39**	**0.56**	**0.55**	**0.53**	**0.47**	**0.85**	**1.13**	~	~	0.74	2.54	69 of 69
MOLYBDENUM	**23.70**	**31.10**	**25.00**	**11.70**	**20.50**	**15.20**	**8.73**	**8.54**	**16.60**	**22.70**	~	~	19.30	44.20	63 of 66
NICKEL	**16.80**	**8.23**	**11.00**	**9.27**	**9.97**	**14.00**	**13.20**	**12.80**	**14.90**	**19.80**	~	~	13.40	24.10	68 of 68
SILVER	**3.65**	**3.59**	**8.23**	**4.93**	**6.71**	**9.37**	**3.39**	**4.94**	**6.67**	**6.40**	~	~	5.46	12.30	72 of 72
ZINC	**372.00**	**254.00**	**316.00**	**271.00**	**249.00**	**278.00**	**274.00**	**264.00**	**348.00**	**420.00**	~	~	315.00	580.00	70 of 70

Organochlorine Pesticides and PCBs (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
4,4'-DDD	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
4,4'-DDE	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
4,4'-DDT	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ALDRIN	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ALPHA-BHC	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ALPHA-CHLORDANE	~	~	~	~	~	~	0.006	0.006	0.008	**0.021**	~	0.008	0.011	0.058	1 of 28
AROCLOR-1016	~	~	~	~	~	~	0.149	0.147	0.200	0.210	~	0.197	0.181	0.369	0 of 28
AROCLOR-1221	~	~	~	~	~	~	0.297	0.294	0.401	0.420	~	0.394	0.362	0.737	0 of 28
AROCLOR-1232	~	~	~	~	~	~	0.149	0.147	0.200	0.210	~	0.197	0.181	0.369	0 of 28
AROCLOR-1242	~	~	~	~	~	~	0.149	0.147	0.200	0.210	~	0.197	0.181	0.369	0 of 28
AROCLOR-1248	~	~	~	~	~	~	0.149	0.147	0.200	0.210	~	0.197	0.181	0.369	0 of 28
AROCLOR-1254	~	~	~	~	~	~	0.149	0.147	0.200	0.210	~	0.197	0.181	0.369	0 of 28
AROCLOR-1260	~	~	~	~	~	~	0.149	0.147	0.200	0.210	~	0.197	0.181	0.369	0 of 28
BETA-BHC	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
CHLORDANE (TECHNICAL)	~	~	~	~	~	~	0.149	0.147	0.200	0.210	~	0.197	0.181	0.369	0 of 28
DELTA-BHC	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
DIELDRIN	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ENDOSULFAN I	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ENDOSULFAN II	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ENDOSULFAN SULFATE	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ENDRIN	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ENDRIN ALDEHYDE	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
ENDRIN KETONE	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
GAMMA-BHC (LINDANE)	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
GAMMA-CHLORDANE	~	~	~	~	~	~	0.006	0.006	0.008	**0.023**	~	0.008	0.011	0.063	1 of 28
HEPTACHLOR	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
HEPTACHLOR EPOXIDE	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
HEXACHLOROBENZNE	~	~	~	~	~	~	0.006	0.006	0.008	0.008	~	0.008	0.007	0.015	0 of 28
METHOXYCHLOR	~	~	~	~	~	~	0.060	0.059	0.080	0.084	~	0.079	0.072	0.147	0 of 28
TOXAPHENE	~	~	~	~	~	~	0.149	0.147	0.200	0.210	~	0.197	0.181	0.369	0 of 28

Table A-11 Deer Island Influent Loadings (DEC), Fiscal Year 2000, cont.

North System

Metals (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CADMIUM	**0.892**	**0.488**	**0.608**	**0.573**	**0.579**	**0.969**	**0.745**	**0.856**	**1.210**	**1.34**	~	~	0.84	2.32	36 of 36
CHROMIUM	**11.100**	**5.770**	**8.270**	**7.470**	**5.130**	**7.970**	**6.720**	**7.230**	**7.700**	**19.60**	~	~	9.17	34.90	37 of 37
COPPER	**155.000**	**97.100**	**118.000**	**98.300**	**99.300**	**102.000**	**109.000**	**95.600**	**128.000**	**161.00**	~	~	121.00	266.00	38 of 38
LEAD	**66.900**	**25.100**	**40.300**	**11.100**	**21.900**	**21.400**	**15.000**	**10.500**	**23.400**	**37.40**	~	~	30.10	231.00	36 of 36
MERCURY	**0.702**	**0.598**	**0.647**	**0.217**	**0.664**	**0.346**	**0.326**	**0.312**	**0.735**	**0.81**	~	~	0.57	2.22	36 of 36
MOLYBDENUM	**20.300**	**25.200**	**22.000**	**8.990**	**18.300**	**12.600**	**6.340**	**6.980**	**10.500**	**19.30**	~	~	16.00	34.10	34 of 35
NICKEL	**12.700**	**5.420**	**7.520**	**6.670**	**6.360**	**9.680**	**10.100**	**9.210**	**9.310**	**12.50**	~	~	9.14	18.90	36 of 36
SILVER	**2.430**	**2.300**	**5.920**	**3.350**	**5.930**	**6.150**	**2.480**	**3.810**	**3.520**	**4.85**	~	~	3.92	9.97	38 of 38
ZINC	**254.000**	**155.000**	**208.000**	**167.000**	**150.000**	**175.000**	**181.000**	**173.000**	**241.000**	**284.00**	~	~	206.00	383.00	37 of 37

Organochlorine Pesticides and PCBs (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
4,4'-DDD	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
4,4'-DDE	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
4,4'-DDT	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ALDRIN	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ALPHA-BHC	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ALPHA-CHLORDANE	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
AROCLOR-1016	~	~	~	~	~	~	0.099	0.094	0.128	0.133	0.105	0.125	0.116	0.232	0 of 16
AROCLOR-1221	~	~	~	~	~	~	0.198	0.188	0.257	0.265	0.210	0.250	0.232	0.466	0 of 16
AROCLOR-1232	~	~	~	~	~	~	0.099	0.094	0.128	0.133	0.105	0.125	0.116	0.232	0 of 16
AROCLOR-1242	~	~	~	~	~	~	0.099	0.094	0.128	0.133	0.105	0.125	0.116	0.232	0 of 16
AROCLOR-1248	~	~	~	~	~	~	0.099	0.094	0.128	0.133	0.105	0.125	0.116	0.232	0 of 16
AROCLOR-1254	~	~	~	~	~	~	0.099	0.094	0.128	0.133	0.105	0.125	0.116	0.232	0 of 16
AROCLOR-1260	~	~	~	~	~	~	0.099	0.094	0.128	0.133	0.105	0.125	0.116	0.232	0 of 16
BETA-BHC	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
CHLORDANE (TECHNICAL)	~	~	~	~	~	~	0.099	0.094	0.128	0.133	0.105	0.125	0.116	0.232	0 of 16
DELTA-BHC	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
DIELDRIN	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ENDOSULFAN I	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ENDOSULFAN II	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ENDOSULFAN SULFATE	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ENDRIN	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ENDRIN ALDEHYDE	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
ENDRIN KETONE	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
GAMMA-BHC (LINDANE)	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
GAMMA-CHLORDANE	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
HEPTACHLOR	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
HEPTACHLOR EPOXIDE	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
HEXACHLOROBENZNE	~	~	~	~	~	~	0.004	0.004	0.005	0.005	0.004	0.005	0.005	0.009	0 of 16
METHOXYCHLOR	~	~	~	~	~	~	0.040	0.038	0.051	0.053	0.042	0.050	0.046	0.093	0 of 16
TOXAPHENE	~	~	~	~	~	~	0.099	0.094	0.128	0.133	0.105	0.125	0.116	0.232	0 of 16

Table A-11 Deer Island Influent Loadings (DEC), Fiscal Year 2000, cont.

South System

Metals (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CADMIUM	**0.466**	**0.293**	**0.326**	**0.325**	**0.352**	**0.312**	**0.255**	**0.359**	**0.365**	**0.64**	~	~	0.38	0.80	34 of 34
CHROMIUM	**3.560**	**3.250**	**3.070**	**3.100**	**2.820**	**2.740**	**2.300**	**2.520**	**3.570**	**4.05**	~	~	3.15	6.28	35 of 35
COPPER	**74.900**	**64.600**	**63.200**	**79.600**	**59.600**	**57.600**	**55.500**	**49.500**	**54.600**	**68.60**	~	~	63.10	96.30	36 of 36
LEAD	**9.470**	**8.500**	**9.360**	**8.400**	**7.960**	**6.740**	**4.950**	**5.080**	**7.090**	**12.60**	~	~	8.19	21.80	34 of 34
MERCURY	**0.199**	**0.203**	**0.223**	**0.176**	**0.269**	**0.207**	**0.200**	**0.159**	**0.178**	**0.32**	~	~	0.22	0.60	35 of 35
MOLYBDENUM	**3.340**	**5.830**	**2.980**	**2.750**	**2.440**	**2.590**	**2.390**	**1.550**	**1.210**	**3.37**	~	~	2.98	12.10	30 of 33
NICKEL	**4.130**	**2.810**	**3.480**	**2.590**	**3.750**	**4.320**	**3.150**	**3.590**	**3.900**	**7.23**	~	~	4.08	11.00	34 of 34
SILVER	**1.220**	**1.290**	**2.310**	**1.580**	**2.120**	**3.230**	**0.912**	**1.130**	**1.470**	**1.55**	~	~	1.62	5.44	36 of 36
ZINC	**118.000**	**99.300**	**108.000**	**104.000**	**105.000**	**104.000**	**92.300**	**91.400**	**105.000**	**136.00**	~	~	109.00	201.00	35 of 35

Organochlorine Pesticides and PCBs (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
4,4'-DDD	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
4,4'-DDE	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
4,4'-DDT	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ALDRIN	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ALPHA-BHC	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ALPHA-CHLORDANE	~	~	~	~	~	~	0.002	0.002	0.003	**0.016**	~	0.003	0.006	0.054	1 of 15
AROCLOR-1016	~	~	~	~	~	~	0.050	0.053	0.063	0.078	~	0.079	0.066	0.136	0 of 15
AROCLOR-1221	~	~	~	~	~	~	0.099	0.105	0.126	0.155	~	0.157	0.132	0.271	0 of 15
AROCLOR-1232	~	~	~	~	~	~	0.050	0.053	0.063	0.078	~	0.079	0.066	0.136	0 of 15
AROCLOR-1242	~	~	~	~	~	~	0.050	0.053	0.063	0.078	~	0.079	0.066	0.136	0 of 15
AROCLOR-1248	~	~	~	~	~	~	0.050	0.053	0.063	0.078	~	0.079	0.066	0.136	0 of 15
AROCLOR-1254	~	~	~	~	~	~	0.050	0.053	0.063	0.078	~	0.079	0.066	0.136	0 of 15
AROCLOR-1260	~	~	~	~	~	~	0.050	0.053	0.063	0.078	~	0.079	0.066	0.136	0 of 15
BETA-BHC	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
CHLORDANE (TECHNICAL)	~	~	~	~	~	~	0.050	0.053	0.063	0.078	~	0.079	0.066	0.136	0 of 15
DELTA-BHC	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
DIELDRIN	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ENDOSULFAN I	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ENDOSULFAN II	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ENDOSULFAN SULFATE	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ENDRIN	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ENDRIN ALDEHYDE	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
ENDRIN KETONE	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
GAMMA-BHC (LINDANE)	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
GAMMA-CHLORDANE	~	~	~	~	~	~	0.002	0.002	0.003	**0.017**	~	0.003	0.006	0.059	1 of 15
HEPTACHLOR	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
HEPTACHLOR EPOXIDE	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
HEXACHLOROBENZNE	~	~	~	~	~	~	0.002	0.002	0.003	0.003	~	0.003	0.003	0.005	0 of 15
METHOXYCHLOR	~	~	~	~	~	~	0.020	0.021	0.025	0.031	~	0.031	0.026	0.055	0 of 15
TOXAPHENE	~	~	~	~	~	~	0.050	0.053	0.063	0.078	~	0.079	0.066	0.136	0 of 15

Notes:
DEC is the Detailed Effluent Characterization project in LIMS, which includes new testing methods that are not EPA approved.
~ No samples taken
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.

Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table A-12 Deer Island Effluent Characterization (DEC), Fiscal Year 2000

Metals (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CADMIUM	**0.08**	**0.05**	**0.04**	**0.10**	**0.08**	**0.04**	**0.07**	**0.16**	**0.11**	**0.17**	~	~	0.10	0.19	29 of 34
CHROMIUM	**1.35**	**1.09**	**0.98**	**1.02**	**0.64**	**0.94**	**0.71**	**1.52**	**1.39**	**2.28**	~	~	1.46	6.88	32 of 36
COPPER	**11.00**	**12.50**	**12.50**	**16.90**	**10.50**	**15.40**	**17.80**	**17.80**	**18.60**	**22.60**	~	~	16.60	27.80	31 of 36
LEAD	**2.20**	**1.54**	**1.78**	1.20	**1.49**	1.20	1.20	1.20	**2.66**	**3.93**	~	~	2.12	5.42	9 of 33
MERCURY	**0.04**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.03**	**0.03**	**0.06**	**0.06**	~	~	0.04	0.08	34 of 36
MOLYBDENUM	**7.80**	**8.34**	**6.06**	**5.66**	**6.36**	**5.91**	**4.93**	**4.02**	**4.23**	**3.29**	~	~	5.58	11.10	33 of 33
NICKEL	**3.54**	**3.14**	**2.90**	**2.35**	**3.30**	**3.61**	**4.71**	**3.29**	**3.55**	**3.23**	~	~	3.44	5.80	36 of 36
SILVER	**0.20**	**0.27**	**0.48**	**1.10**	**0.70**	**0.78**	**0.41**	**0.59**	**0.95**	**0.56**	~	~	0.56	1.25	33 of 36
ZINC	**32.10**	**27.40**	**30.60**	**15.30**	**15.80**	**27.30**	**29.00**	**38.30**	**43.90**	**53.80**	~	~	35.90	63.60	35 of 35

Organochlorine Pesticides and PCBs (ug/L)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
2,4'-DDD	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002	0 of 40
2,4'-DDE	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002	0 of 40
2,4'-DDT	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	**0.0003**	**0.0002**	0.0001	0.0007	2 of 40
4,4'-DDD	0.0001	0.0001	**0.0003**	**0.0015**	0.0001	0.0001	**0.0002**	**0.0003**	**0.0004**	**0.0004**	**0.0005**	**0.0004**	0.0004	0.0020	11 of 41
4,4'-DDE	0.0001	0.0001	**0.0003**	0.0001	0.0001	0.0001	**0.0003**	**0.0005**	**0.0004**	**0.0003**	**0.0002**	**0.0009**	0.0003	0.0016	12 of 41
4,4'-DDT	0.0001	0.0001	0.0001	**0.0081**	0.0001	**0.0004**	0.0001	**0.0003**	**0.0002**	0.0001	**0.0002**	0.0001	0.0003	0.0081	5 of 41
ALDRIN	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002	0 of 41
ALPHA-CHLORDANE	0.0001	0.0001	**0.0005**	0.0001	**0.0011**	**0.0010**	**0.0009**	**0.0015**	**0.0002**	**0.0027**	**0.0022**	**0.0023**	0.0013	0.0035	22 of 41
DDMU	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002	0 of 40
DIELDRIN	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002	0 of 41
ENDRIN	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002	0 of 41
GAMMA-BHC (LINDANE)	**0.0049**	**0.0071**	**0.0013**	**0.0026**	**0.0050**	**0.0034**	**0.0036**	**0.0018**	**0.0018**	**0.0009**	**0.0019**	**0.0007**	0.0024	0.0139	34 of 41
GAMMA-CHLORDANE	**0.0007**	0.0001	**0.0005**	0.0001	**0.0004**	**0.0010**	**0.0008**	**0.0012**	**0.0002**	**0.0026**	**0.0011**	**0.0019**	0.0011	0.0036	22 of 41
HEPTACHLOR	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	**0.0002**	**0.0003**	0.0001	0.0001	0.0002	0.0009	2 of 41
HEPTACHLOR EPOXIDE	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	**0.0009**	**0.0007**	0.0002	0.0022	2 of 41
HEXACHLOROBENZENE	0.0001	0.0001	**0.0013**	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0022	3 of 41
MIREX	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002	0 of 40
TOTAL CHLORDANE	0.0001	0.0001	**0.0009**	0.0001	**0.0014**	**0.0012**	**0.0016**	**0.0022**	**0.0002**	**0.0053**	**0.0043**	**0.0042**	0.0022	0.0067	22 of 41
TOTAL DDT	0.0001	0.0001	**0.0005**	**0.0096**	0.0001	**0.0004**	**0.0004**	**0.0012**	**0.0007**	**0.0007**	**0.0013**	**0.0015**	0.0009	0.0096	16 of 41
TRANS-NONACHLOR	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	**0.0004**	0.0001	0.0001	0.0007	2 of 41

Notes:
DEC is the Detailed Effluent Characterization project in LIMS, which includes new testing methods that are not EPA approved.
Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table A-13 Deer Island Effluent Loadings (DEC), Fiscal Year 2000

Metals (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
CADMIUM	**0.21**	**0.11**	**0.10**	**0.24**	**0.19**	**0.10**	**0.17**	**0.43**	**0.39**	**1.01**	~	~	0.28	1.24	29 of 34
CHROMIUM	**3.33**	**2.33**	**2.49**	**2.51**	**1.64**	**2.50**	**1.87**	**4.18**	**4.92**	**13.40**	~	~	4.28	22.00	32 of 36
COPPER	**27.10**	**26.70**	**31.60**	**41.60**	**27.20**	**41.30**	**46.90**	**48.90**	**65.80**	**106.00**	~	~	48.60	152.00	31 of 36
LEAD	**5.42**	**3.31**	**4.51**	2.95	**3.83**	3.21	3.17	3.29	**9.41**	**23.00**	~	~	6.22	37.00	9 of 33
MERCURY	**0.09**	**0.05**	**0.06**	**0.05**	**0.04**	**0.05**	**0.08**	**0.09**	**0.20**	**0.30**	~	~	0.10	0.53	34 of 36
MOLYBDENUM	**19.20**	**17.80**	**15.40**	**13.90**	**16.40**	**15.80**	**13.00**	**11.00**	**15.00**	**19.30**	~	~	16.40	29.70	33 of 33
NICKEL	**8.72**	**6.72**	**7.36**	**5.78**	**8.52**	**9.66**	**12.40**	**9.03**	**12.60**	**19.00**	~	~	10.10	23.30	36 of 36
SILVER	**0.50**	**0.58**	**1.21**	**2.71**	**1.81**	**2.08**	**1.07**	**1.62**	**3.37**	**3.30**	~	~	1.64	5.52	33 of 36
ZINC	**79.00**	**58.60**	**77.60**	**37.70**	**40.70**	**73.10**	**76.50**	**105.00**	**155.00**	**252.00**	~	~	105.00	402.00	35 of 35

Organochlorine Pesticides and PCBs (lbs/day)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average	Maximum	Times Detected
2,4'-DDD	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0005	0.0005	0.0003	0.0007	0 of 40
2,4'-DDE	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0005	0.0005	0.0003	0.0007	0 of 40
2,4'-DDT	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	**0.0010**	**0.0012**	0.0004	0.0027	2 of 40
4,4'-DDD	0.0003	0.0002	**0.0007**	**0.0037**	0.0003	0.0003	**0.0006**	**0.0007**	**0.0014**	**0.0015**	**0.0016**	**0.0020**	0.0011	0.0088	11 of 41
4,4'-DDE	0.0003	0.0002	**0.0007**	0.0003	0.0003	0.0003	**0.0007**	**0.0013**	**0.0014**	**0.0013**	**0.0008**	**0.0045**	0.0010	0.0108	12 of 41
4,4'-DDT	0.0003	0.0002	0.0003	**0.0198**	0.0003	**0.0010**	0.0002	0.0007	0.0005	0.0004	**0.0006**	0.0005	0.0009	0.0198	5 of 41
ALDRIN	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0005	0.0005	0.0003	0.0007	0 of 41
ALPHA-CHLORDANE	0.0003	0.0002	**0.0012**	0.0003	**0.0029**	**0.0026**	**0.0024**	**0.0041**	**0.0005**	**0.0108**	**0.0072**	**0.0112**	0.0038	0.0240	22 of 41
DDMU	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0005	0.0005	0.0003	0.0007	0 of 40
DIELDRIN	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0005	0.0005	0.0003	0.0007	0 of 41
ENDRIN	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0005	0.0005	0.0003	0.0007	0 of 41
GAMMA-BHC (LINDANE)	**0.0120**	**0.0145**	**0.0034**	**0.0064**	**0.0129**	**0.0091**	**0.0094**	**0.0050**	**0.0061**	**0.0036**	**0.0062**	**0.0032**	0.0072	0.0386	34 of 41
GAMMA-CHLORDANE	**0.0018**	0.0002	**0.0014**	0.0003	**0.0009**	**0.0027**	**0.0020**	**0.0033**	**0.0005**	**0.0105**	**0.0035**	**0.0090**	0.0032	0.0225	22 of 41
HEPTACHLOR	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	**0.0005**	**0.0010**	0.0005	0.0005	0.0005	0.0029	2 of 41
HEPTACHLOR EPOXIDE	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	**0.0029**	**0.0033**	0.0007	0.0088	2 of 41
HEXACHLOROBENZENE	0.0003	0.0002	**0.0033**	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0005	0.0005	0.0006	0.0056	3 of 41
MIREX	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0005	0.0005	0.0003	0.0007	0 of 40
TOTAL CHLORDANE	0.0003	0.0002	**0.0024**	0.0003	**0.0035**	**0.0032**	**0.0043**	**0.0060**	**0.0005**	**0.0213**	**0.0137**	**0.0203**	0.0066	0.0465	22 of 41
TOTAL DDT	0.0003	0.0002	**0.0012**	**0.0235**	0.0003	**0.0010**	**0.0012**	**0.0033**	**0.0024**	**0.0026**	**0.0042**	**0.0071**	0.0027	0.0235	16 of 41
TRANS-NONACHLOR	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	**0.0012**	0.0005	0.0004	0.0021	2 of 41

Notes:

DEC is the Detailed Effluent Characterization project in LIMS, which includes new testing methods that are not EPA approved.

Results in **bold** indicate one or more detects in the month.

Yearly averages are calculated from individual results collected in the fiscal year.

Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Appendix B

Table B-1 Cottage Farm CSO Facility Operations Summary, Fiscal Year 2000

DATE	RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 mL)	CHLORINE RESIDUAL (mg/L)
July											
1	1.03	3.50	5.33	7.00	74	42	218	262	0.80	10	1.40
August											
15	0.12	1.00	0.56	7.0	164	85	88	238	0.6	<10	2.4
September											
10	4.71	16.00	65.41	ND	ND	48	ND	106	3.6	420	2.0
11*				ND	ND	ND	ND	ND	ND	ND	2.0
16	3.16	18.00	50.10	ND	82	ND	46	ND	ND	ND	2.5
**				7.0	46	51	106	54	1.2	ND	2.4
17*	0.02			ND	ND	ND	ND	ND	ND	ND	2.4
30	0.45	0.75	0.77	6.0	133	84	208	71	0.8	ND	3.0
October											
4	0.70	2.00	6.47	7.0	ND	ND	98	139	4.0	<10	ND
18	1.08	2.00	4.78	7.0	34	30	54	34	0.4	<10	0.0
November											
	No Activation										
December											
	No Activation										
January											
5	0.23	3.50	7.89	6.0	27	76	40	95	2.0	<10	3.00
10	0.74	3.00	6.15	6.0	129.0	92	124	138	5	2300	ND
February											
14	0.98	5.00	22.87	7.0	195	86	214	134	3.0	<10	2.50
March											
11	0.88	4.25	7.74	ND	110	87	193	88	2.0	ND	0.0
17	0.77	1.50	2.70	7.0	26	27	46	40	<0.2	ND	0.0
28	1.00	3.50	6.40	7.0	34	57	90	84	2.0	<10	0.0
April											
21	1.02	1.50	1.00	~	~	~	~	~	~	~	~
22*	1.50	24.00	80.00	7.0	30	60	47	79	1.6	<10	ND
**				7.0	60	70	83	75	1.2	<10	0.0
**				7.0	85	68	46	56	<0.4	30	ND
**				7.0	60	60	83	60	0.8	<10	0.0
23	0.24	8.50	2.00	ND	49	72	57	27	<0.4	ND	0.0
24*				ND	ND	ND	ND	ND	ND	ND	ND
May											
24	0.71	2.25	5.21	7.0	72	58	88	87	0.8	<10	0.0

Table B-1 Cottage Farm CSO Facility Operations Summary, Fiscal Year 2000, cont.

	RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
June											
2	0.52	0.42	2.12	7.0	126	<17.2	166	<1	<.4	<10	0.00
6	4.00	9.50	75.84	6.8	34	75	25	91	3.2	~	0.00
7*	0.24	6.48	86.04	7.0	69	51	62	35	<.2	<10	2.71
12	0.20	1.00	0.90	~	~	~	~	~	~	~	0.00
TOTAL	24.30	117.65	440.27								
AVERAGE	1.10	5.60	20.97		78	64	99	95	1.6	21	1.2
MINIMUM	0.02	0.42	0.56	6.00	26	27	25	27	<0.2	<10	0.0
MAXIMUM	4.71	24.00	86.04	7.00	195	92	218	262	5.0	2300	3.0

No. of Times CSO Activated 19
No. of Days CSO Activated 24

* Continued from previous day
** Multiple samples taken on day
~ No samples taken; station shut down upon arrival at the facility or short activation
ND = No data

Table B-2 Cottage Farm CSO Facility BOD and TSS Loadings, Fiscal Year 2000

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
July					
1	5.33	3,289	1,867	9,691	11,646
August					
15	0.56	766	397	411	1,112
September					
10*	65.41	ND	26,185	ND	57,825
16*	50.10	26,741	21,310	31,755	22,563
30	0.77	854	539	1,336	456
October					
4	6.47	ND	ND	5,288	7,500
18	4.78	1,355	1,196	2,153	1,355
November					
No Activation					
December					
No Activation					
January					
5	7.89	1,777	5,001	2,632	6,251
10	6.15	6,617	4,719	6,360	7,078
February					
14	22.87	37,193	16,403	40,817	25,559
March					
11	7.74	7,101	5,616	12,458	5,681
17	2.70	585	608	1,036	901
28	6.40	1,815	3,042	4,804	4,484

Table B-2 Cottage Farm CSO Facility BOD and TSS Loadings, Fiscal Year 2000, cont.

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
April					
21*	1.00	~	~	~	~
22*	80.00	39,198	43,034	43,201	45,036
23*	2.00	817	1,201	951	450
May					
24	5.21	3,129	2,520	3,824	3,780
June					
2	2.12	2,224	304	2,929	18
6*	75.84	21,504	47,119	15,495	57,491
7	86.04	49,294	36,451	44,487	25,329
12	0.9	~	~	~	~
TOTAL	439.37	204,260	217,512	229,629	284,515
AVERAGE	21.97	12,015	12,084	12,757	14,974
MINIMUM	0.56	585	304	411	18
MAXIMUM	86.04	49,294	47,119	44,487	57,825

No. of Times CSO Activated	19
No. of Days CSO Activated	24

* Continued to following day
~ No samples taken
ND = No Data

Table B-3 Cottage Farm CSO Facility Effluent Characterization, Fiscal Year 2000

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	AVG	MAX	Times Detected
Metals (ug/L)															
CADMIUM			<2.00				<2.00	<2.00	<2.00	<2.00		<2.00	<1.00	<2.00	0 of 6
COPPER			**58.50**				**51.65**	**24.80**	**72.20**	**59.05**		**48.40**	52.43	72.20	6 of 6
LEAD			**10.40**				**18.50**	**21.70**	**66.10**	**42.55**		**25.00**	30.71	66.10	6 of 6
MERCURY			**0.644**				**0.23**	**0.16**	**0.70**	**0.28**		**0.056**	0.34	0.70	6 of 6
NICKEL	**N**	**N**	**12.00**	**N**	**N**	**N**	**5.11**	<3.00	**6.82**	**4.98**	**N**	**4.52**	5.82	12.00	5 of 6
ZINC	**O**	**O**	**141.00**	**O**	**O**	**O**	**97.60**	**42.50**	**122.00**	**133.00**	**O**	**99.6**	105.95	141.00	6 of 6
Cyanide and Phenols (mg/L)	**S**	**S**		**S**	**A**	**A**					**S**				
CYANIDE	**A**	**A**	<0.01	**A**	**C**	**C**	**0.02**	**0.03**	**0.02**	**0.01**	**A**	<0.01	0.01	0.03	4 of 6
PHENOL	**M**	**M**	<0.01	**M**	**T**	**T**	<0.01	<0.01	<0.01	<0.01	**M**	<0.01	<0.001	<0.01	0 of 6
	P	**P**		**P**	**I**	**I**					**P**				
Surfactants (mg/L)	**L**	**L**		**L**	**V**	**V**					**L**				
SURFACTANTS	**E**	**E**	**3.07**	**E**	**A**	**A**	**3.10**	**0.23**	**0.85**	**1.26**	**E**	**1.43**	1.66	3.10	6 of 6
	S	**S**		**S**	**T**	**T**					**S**				
Organochlorine Pesticides and PCBs (ng/L)					**I**	**I**									
4,4'-DDD	**T**	**T**	<24.4	**T**	**O**	**O**	<22.5	<20.4	<26.0	<22.0	**T**	<20.6	<2.27	<26.00	0 of 6
4,4'-DDE	**A**	**A**	<24.4	**A**	**N**	**N**	<22.5	<20.4	**15.1**	<22.0	**A**	<20.6	4.35	15.100	1 of 6
4,4'-DDT	**K**	**K**	<24.4	**K**	**S**	**S**	<22.5	<20.4	**25.8**	<22.0	**K**	<20.6	6.13	25.800	1 of 6
METHOXYCHLOR	**E**	**E**	<244	**E**			<225	<204	<260	<220	**E**	<206	22.65	<260.00	0 of 6
	N	**N**		**N**							**N**				
Semivolatile Organics (ug/L)															
4-METHYLPHENOL (INCLUDES 3-MET)			**26.80**				<54.5	<10	**7.96**	<10.5		**5.4**	7.94	26.80	3 of 6
BENZOIC ACID			**90.60**				<109.0	<20.0	<22.2	<21.0		<20.6	18.31	90.60	1 of 6
BENZYL ALCOHOL			<31.5				<54.5	<10.0	<11.1	<10.5		<10.3	<10.66	<54.5	0 of 6
BIS(2-ETHYLHEXYL)PHTHALATE			<31.5				<54.5	<10.0	**18.00**	**6.60**		**7.00**	4.93	18.00	3 of 6
FLUORANTHENE			<31.5				<54.5	<10.0	**9.68**	<10.5		**10.30**	5.11	10.30	2 of 6
PHENANTHRENE			<3.15				<5.45	<1.00	**6.30**	<1.05		<1.03	1.24	6.30	1 of 6

Results in **bold** indicate one or more detects in the month.

Yearly averages are calculated from individual results collected in the fiscal year.

Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table B-4 Cottage Farm CSO Facility Effluent Loadings, Fiscal Year 2000

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	AVG	MAX	Times Detected
Metals (lbs/day)															
CADMIUM			0.55				0.05	0.19	0.05	0.01		0.63	0.25	0.63	0 of 6
COPPER			**31.91**				**2.65**	**4.73**	**3.85**	**0.49**		**30.61**	12.37	31.91	6 of 6
LEAD			**5.67**				**0.95**	**4.14**	**3.53**	**0.35**		**15.81**	5.08	15.81	6 of 6
MERCURY			**0.35**				**0.01**	**0.03**	**0.04**	**0.002**		**0.04**	0.08	0.35	6 of 6
NICKEL	**N**	**N**	**6.55**	**N**	**N**	**N**	**0.26**	0.29	**0.36**	**0.04**	**N**	**2.86**	1.73	6.55	5 of 6
ZINC	**O**	**O**	**76.92**	**O**	**O**	**O**	**5.01**	**8.11**	**6.51**	**1.11**	**O**	**62.99**	26.77	76.92	6 of 6
Cyanide and Phenols (lbs/day)	**S**	**S**		**S**	**A**	**A**					**S**				
CYANIDE	**A**	**A**	2.73	**A**	**C**	**C**	**0.89**	**5.09**	**0.81**	**0.09**	**A**	3.16	2.13	5.09	4 of 6
PHENOL	**M**	**M**	0.55	**M**	**T**	**T**	0.05	0.19	0.05	0.01	**M**	0.63	0.25	0.63	0 of 6
	P	**P**		**P**	**I**	**I**					**P**				
Surfactants (lbs/day)	**L**	**L**		**L**	**V**	**V**					**L**				
SURFACTANTS	**E**	**E**	**1674.74**	**E**	**A**	**A**	**159.00**	**43.30**	**45.37**	**10.51**	**E**	**904.42**	472.89	1674.74	6 of 6
	S	**S**		**S**	**T**	**T**					**S**				
Organochlorine Pesticides and PCBs (lbs/day)					**I**	**I**									
4,4'-DDD	**T**	**T**	0.0013	**T**	**O**	**O**	0.0001	0.0004	0.0001	0.00002	**T**	0.001303	0.0005	0.0013	0 of 6
4,4'-DDE	**A**	**A**	0.0013	**A**	**N**	**N**	0.0001	0.0004	**0.0008**	0.00002	**A**	0.001303	0.0007	0.0013	1 of 6
4,4'-DDT	**K**	**K**	0.0013	**K**	**S**	**S**	0.0001	0.0004	**0.0014**	0.00002	**K**	0.001303	0.0008	0.0014	1 of 6
METHOXYCHLOR	**E**	**E**	0.0133	**E**			0.0012	0.0039	0.0014	0.00018	**E**	0.0130	0.0055	0.0133	0 of 6
	N	**N**		**N**							**N**				
Semivolatile Organics (lbs/day)															
4-METHYLPHENOL (INCLUDES 3-MET)			**14.62**				1.13	0.19	**0.42**	0.01		**3.42**	3.30	14.62	3 of 6
BENZOIC ACID			**49.42**				2.27	0.38	0.12	0.02		1.30	8.92	49.42	1 of 6
BENZYL ALCOHOL			1.72				1.13	0.19	0.06	0.01		0.65	0.63	1.72	0 of 6
BIS(2-ETHYLHEXYL)PHTHALATE			1.72				1.13	0.19	**0.96**	**0.06**		**4.43**	1.41	4.43	3 of 6
FLUORANTHENE			1.72				1.13	0.19	**0.52**	0.01		**6.51**	1.68	6.51	2 of 6
PHENANTHRENE			0.17				0.01	0.019	**0.34**	0.001		0.07	0.10	0.34	1 of 6

Results in **bold i**ndicate one or more detects in the month.

Appendix C

Table C-1 Prison Point CSO Facility Operations Summary, Fiscal Year 2000

DATE		RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
July												
	1	1.03	5.50	16.00	7.2	50.5	49.5	216.0	137.0	ND	<10	1.9
	23	0.30	3.50	8.00	~	~	~	~	~	~	~	~
	25	0.72	4.75	14.00	7.00	89.3	39.6	332	975	1.6	<10	2.2
August												
	15	0.12	2.25	6.00	7.2	74.4	59.9	240	200	1.6	<10	3.2
September												
	10	4.71	16.50	149.00	6.8	32.6	27.5	266	242	1.2	10	1.5
	11*				ND	ND	ND	ND	ND	ND	ND	1.3
	16	3.16	15.00	117.50	7.1	15.2	13.2	46	44	0.4	<10	1.8
	**				7.1	35.7	34.8	120	104	1.6	10	1.6
	17*				ND	ND	ND	ND	ND	ND	ND	2.0
	30	0.45	0.75	4.00	~	~	~	~	~	~	~	~
October												
	4	0.7	3.50	11.50	7.00	ND	ND	415	78	0.4	<10	1.6
	14	0.25	1.00	2.50	6.90	60.6	27.5	224	90	0.2	<10	2.5
	18	1.08	5.50	15.00	7.00	<16.8	15.6	64	82	0.6	10	2.5
	20	0.8	2.25	7.75	7.40	60.9	36.6	78	48	0.8	<10	2.5
November												
	3	0.74	3.00	10.50	7.4	29.3	20.5	70	52	0.2	<10	2.1
December												
	7	0.88	4.25	10.25	7.20	180.0	25.7	555	70	0.8	<10	2.3
January												
	4	0.76	4.50	18.00	7.2	77	44.8	265	128	2.0	<10	3.0
	10	0.74	3.75	11.00	7.2	<68.8	41.6	170	58	<0.2	<10	3.4
February												
	14	0.98	5.75	11.13	7.1	34.4	73.6	172	232	3.0	<10	2.5
March												
	11	0.88	6.75	10.50	7.2	176	69.8	656	145	3.2	<10	2.6
	12*				ND	ND	ND	ND	ND	ND	ND	3.0
	17	0.77	3.75	10.88	7.2	<22.3	24.4	66	28	<0.2	50	2.3
	28	1.00	5.00	22.75	7.3	61.7	54.6	225	174	0.4	<10	2.2
April												
	9	0.51	1.75	3.00	ND	ND	ND	ND	ND	ND	ND	3.3
	21	1.02	2.50	6.50	7.2	<37.8	25.4	102	62	0.8	<10	3.8
	22*	1.5	18	97.25	7.2	37.8	45.2	43	30	<0.4	<10	3.0
	**				7.3	<19.1	15	31	66	0.8	<10	1.6

Table C-1 Prison Point CSO Facility Operations Summary, Fiscal Year 2000, cont.

DATE		RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
May												
	24	0.71	2.75	9.25	7.10	36	37	194	90	0.4	<10	2.95
June												
	2	0.52	1.83	4.50	~	~	~	~	~	~	~	2.3
	6	4.00	9.50	114.50	7.0	3.23	36.1	164	114	2.0		1.4
	7*	0.24	5.48	48.25	7.0	17.9	<13.7	37	31	<.2	<10	1.6
	12	0.20	1.67	3.50	~	~	~	~	~	~	~	2.6
TOTAL		28.57	139.06	739.50								
AVERAGE		1.10	5.35	28.44		57.91	37.19	197.96	136.67	0.99	11.82	2.34
MINIMUM		0.12	0.75	2.50	6.80	15.20	13.20	31.00	28.00	<0.2	<10	1.30
MAXIMUM		4.71	18.00	149.00	7.40	180.00	73.60	656.00	975.00	3	50	3.80

No. of Times CSO Activated 25
No. of Days CSO Activated 30

* Continued from previous day
** Multiple samples taken on day
~ No samples taken due to short activation
ND = No Data

Table C-2 Prison Point CSO Facility TSS and BOD Loadings, Fiscal Year 2000

DATE	TOTAL VOLUME (MG)	BOD		TSS	
		INFLUENT (lbs/d)	EFFLUENT (lbs/d)	INFLUENT (lbs/d)	EFFLUENT (lbs/d)
July					
1	16.00	6,739	6,605	28,823	18,281
23	8.00	~	~	~	~
25	14.00	10,427	4,624	38,764	113,841
August					
15	6.00	3,723	2,997	12,010	10,008
September					
10*	149.00	40,511	34,173	330,548	300,724
16*	117.50	24,940	23,519	81,336	72,516
30	4.00	~	~	~	~
October					
4	11.50	ND	ND	39,803	7,481
14	2.50	1,264	573	4,670	1,877
18	15.00	2,102	1,952	8,006	10,258
20	7.75	3,936	2,366	5,042	3,102
November					
3	10.50	2,566	1,795	6,130	4,554
December					
7	10.25	15,387	2,197	47,444	5,984
January					
4	18.00	11,559	6,725	39,782	19,215
10	11.00	6,312	3,816	15,596	5,321
February					
14	11.13	3,193	6,832	15,966	21,535

Table C-2 Prison Point CSO Facility TSS and BOD Loadings, Fiscal Year 2000, cont.

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
March					
11*	10.50	15,412	6,112	57,446	12,698
17	10.88	2,023	2,214	5,989	2,541
28	22.75	11,707	10,360	42,690	33,014
April					
9	3.00	ND	ND	ND	ND
21*	6.50	2,049	1,377	5,529	3,361
22	97.25	23,075	24,413	30,009	38,931
May					
24	9.25	2,777	2,854	14,966	6,943
June					
2	4.50	ND	ND	ND	ND
6*	114.50	30,844	34,473	156,609	108,862
7	48.25	7,203	5,513	14,889	12,475
12	3.50	ND	ND	ND	ND
TOTAL	739.51	227,748	185,491	1,002,046	813,522
AVERAGE	28.44	10,845	8,833	45,548	36,978
MINIMUM	2.50	1,264	573	4,670	1,877
MAXIMUM	149.00	40,511	34,473	330,548	300,724

No. of Times CSO Activated 25
No. of Days CSO Activated 30

* Continued to next day
~ No samples taken due to short activation
ND = No Data

Table C-3 Prison Point CSO Facility Effluent Characterization, Fiscal Year 2000

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	AVG	MAX	Times Detected
Metals (ug/L)															
CADMIUM			**4.42**	<2.00			<2.00	<2.00	<2.00	<2.00		<2.00	1.49	4.42	1 of 7
COPPER			**372.00**	**72.40**			**56.50**	**71.50**	**100.00**	**54.30**		**72.8**	114.21	372.00	7 of 7
LEAD			**813.00**	**78.95**			**59.30**	**94.90**	**116.00**	**66.90**		**83.6**	187.52	813.00	7 of 7
MERCURY			**3.69**	**0.20**			**0.11**	**0.13**	**0.17**	**0.11**		**0.255**	0.67	3.69	7 of 7
NICKEL	**N**	**N**	**33.50**	**6.79**	**N**	**N**	**6.24**	**7.59**	**11.70**	**3.56**	**N**	**5.62**	10.71	33.50	7 of 7
ZINC	**O**	**O**	**904.00**	**219.00**	**O**	**O**	**203.00**	**263.00**	**340.00**	**154.00**	**O**	**184**	323.86	904.00	7 of 7
Cyanide and Phenols (mg/L)	**S**	**S**			**S**	**S**					**S**				
CYANIDE	**A**	**A**	**0.03**	**0.02**	**A**	**A**	**0.07**	**0.05**	**0.04**	**0.01**	**A**	**0.04**	0.04	0.07	7 of 7
PHENOL	**M**	**M**	<0.01	**0.02**	**M**	**M**	<0.01	<0.01	<0.01	**0.03**	**M**	<0.01	0.01	0.03	2 of 7
	P	**P**			**P**	**P**					**P**				
Surfactants (mg/L)	**L**	**L**			**L**	**L**					**L**				
SURFACTANTS	**E**	**E**	**0.48**	**2.200**	**E**	**E**	**0.66**	**1.22**	**0.88**	**0.35**	**E**	**0.544**	0.90	2.20	7 of 7
	S	**S**			**S**	**S**					**S**				
Organochlorine Pesticides and PCBs (ng/L)															
4,4'-DDD	**T**	**T**	<24.7	<20	**T**	**T**	<26.7	<20	<22.2	<23.2	**T**	<21.5	<2.26	<2.67	0 of 7
4,4'-DDE	**A**	**A**	<24.7	<20	**A**	**A**	<26.7	<20	<22.2	<23.2	**A**	<21.5	<2.26	<2.67	0 of 7
4,4'-DDT	**K**	**K**	<24.7	<20	**K**	**K**	<26.7	<20	<22.2	<23.2	**K**	<21.5	<2.26	<2.67	0 of 7
METHOXYCHLOR	**E**	**E**	<247	<200	**E**	**E**	<267	<200	<222	<232	**E**	<215	<22.6	<26.7	0 of 7
	N	**N**			**N**	**N**					**N**				
Semivolatile Organics (ug/L)															
4-METHYLPHENOL (INCLUDES 3-MET)			**8.33**	<10.6			<12.8	<10	<11.1	<11		<10.2	2.13	8.33	1 of 7
BENZOIC ACID			<23.2	<21.2			<25.6	<20	<22.2	<22.2		<20.4	<2.21	0.00	0 of 7
BENZYL ALCOHOL			<11.6	<10.6			<12.8	<10.0	<11.1	<11.0		<10.2	<1.10	0.00	0 of 7
BIS(2-ETHYLHEXYL)PHTHALATE			**10.30**	**6.10**			**11.40**	**20.80**	**10.50**	**6.30**		**6.3**	10.24	20.80	7 of 7
FLUORANTHENE			<11.6	<10.6			<12.8	**11.10**	<11.1	<11.0		<10.2	2.55	11.10	1 of 7
PHENANTHRENE			**3.68**	**1.20**			**1.33**	**8.94**	**2.60**	<1.1		<1.02	2.57	8.94	5 of 7

Results in **bold** indicate one or more detects in the month.
Yearly averages are calculated from individual results collected in the fiscal year.
Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table C-4 Prison Point CSO Facility Effluent Loadings, Fiscal Year 2000

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	AVG	MAX	Times Detected
Metals (lbs/day)															
CADMIUM			**5.49**	0.10			0.15	0.09	0.09	0.05		0.95	0.99	5.49	1 of 7
COPPER			**462.27**	**6.94**			**8.48**	**6.64**	**8.76**	**2.94**		**69.52**	80.79	462.27	7 of 7
LEAD			**1010.28**	**7.66**			**8.90**	**8.81**	**10.16**	**3.63**		**79.83**	161.32	1010.28	7 of 7
MERCURY			**4.59**	**0.02**			**0.02**	**0.01**	**0.01**	**0.01**		**0.24**	0.70	4.59	7 of 7
NICKEL	**N**	**N**	**41.63**	**0.65**	**N**	**N**	**0.94**	**0.70**	**1.02**	**0.19**	**N**	**5.37**	7.22	41.63	7 of 7
ZINC	**O**	**O**	**1123.36**	**21.00**	**O**	**O**	**30.47**	**24.41**	**29.77**	**8.35**	**O**	**175.71**	201.87	1123.36	7 of 7
Cyanide and Phenols (lbs/day)	**S**	**S**			**S**	**S**					**S**				
CYANIDE	**A**	**A**	**32.56**	**2.30**	**A**	**A**	**9.85**	**4.67**	**3.82**	**0.57**	**A**	**39.15**	3.78	39.15	7 of 7
PHENOL	**M**	**M**	1.24	**2.28**	**M**	**M**	0.15	0.09	0.09	**1.46**	**M**	0.95	1.24	2.28	2 of 7
	P	**P**			**P**	**P**					**P**				
Surfactants (lbs/day)	**L**	**L**			**L**	**L**					**L**				
SURFACTANTS	**E**	**E**	**596.48**	**211.00**	**E**	**E**	**99.08**	**113.25**	**77.06**	**18.97**	**E**	**0.52**	159.48	596.48	7 of 7
	S	**S**			**S**	**S**					**S**				
Organochlorine Pesticides and PCBs (lbs/day)															
4,4'-DDD	**T**	**T**	0.0031	0.0002	**T**	**T**	0.0004	0.0002	0.0002	0.0001	**T**	0.00205	0.0009	0.0031	0 of 7
4,4'-DDE	**A**	**A**	0.0031	0.0002	**A**	**A**	0.0004	0.0002	0.0002	0.0001	**A**	0.00205	0.0009	0.0031	0 of 7
4,4'-DDT	**K**	**K**	0.0031	0.0002	**K**	**K**	0.0004	0.0002	0.0002	0.0001	**K**	0.00205	0.0009	0.0031	0 of 7
METHOXYCHLOR	**E**	**E**	0.0307	0.0019	**E**	**E**	0.0040	0.0019	0.0019	0.0013	**E**	0.02053	0.0089	0.0307	0 of 7
	N	**N**			**N**	**N**					**N**				
Semivolatile Organics (lbs/day)															
4-METHYLPHENOL (INCLUDES 3-MET)			**10.35**	0.10			0.19	0.09	0.10	0.06		0.97	1.70	10.35	1 of 7
BENZOIC ACID			2.88	0.20			0.38	0.19	0.19	0.12		1.95	0.85	2.88	0 of 7
BENZYL ALCOHOL			1.44	0.10			0.19	0.09	0.10	0.06		0.97	0.42	1.44	0 of 7
BIS(2-ETHYLHEXYL)PHTHALATE			**12.80**	**0.59**			**1.71**	**1.93**	**0.92**	**0.34**		**6.02**	3.47	12.80	7 of 7
FLUORANTHENE			1.44	0.10			0.19	**1.03**	0.10	0.06		0.97	0.56	1.44	1 of 7
PHENANTHRENE			**4.57**	**0.12**			**0.20**	**0.83**	**0.23**	0.01		**0.10**	0.86	4.57	5 of 7

Results in **bold** indicate one or more detects in the month.

Appendix D

Table D-1 Somerville Marginal CSO Facility Operations Summary, Fiscal Year 2000

DATE	RAINFALL (inches)	DISCHARGE DURATION (hours)	VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
July											
1	1.03	2.50	5.803	6.70	>232	12	80	75	<0.2	<10	3.80
23	0.30	3.00	1.46	~	~	~	~	~	~	~	~
25	0.72	3.00	1.615	~	~	~	~	~	~	~	~
August											
6	0.10	0.08	0.06	~	~	~	~	~	~	~	~
14	0.49	0.50	0.97	~	~	~	~	~	~	~	~
September											
6	0.14	0.75	0.26	~	~	~	~	~	~	~	~
10	4.71	12.00	22.15	6.8	<18.8	<9.42	40	30	<0.4	<10	3.0
**				7.5	<23.6	20	52	215	4.0	50	2.7
11*				ND	ND	ND	ND	ND	ND	ND	ND
16	3.16	15.50	25.06	6.8	17	20	57	96	1.6	10	2.7
**				6.8	24	<13.6	34	106	0.8	50	2.2
17*	0.02			ND	ND	ND	ND	ND	ND	ND	ND
30	0.45	1.00	0.43	~	~	~	~	~	~	~	~
October											
4	0.70	1.50	1.84	6.8	ND	ND	147	66	0.4	10	3.8
18	1.08	5.00	1.56	6.5	11.1	8.6	33	16	<0.2	<10	3.2
November											
3	0.74	1.50	0.50	6.9	ND	116.0	ND	23	ND	<10	3.2
27	0.36	4.50	0.53	6.8	64.9	67.9	152	160	8.0	50	3.4
December											
7	0.88	5.00	2.28	6.6	<4.55	4.32	17	<1	<0.02	<10	3.4
January											
4	0.76	7.00	1.34	7.2	12.1	10.2	22	20	0.2	<10	3.5
5*				ND	ND	ND	ND	ND	ND	ND	ND
10	0.74	3.50	2.6	7	88.8	99.6	240	216	20	<10	3.2
February											
14	0.98	6.75	2.13	6.5	75.6	61.2	212	238	4.0	20	3.4
25	0.49	0.50	0.01	~	~	~	~	~	~	~	~
March											
11	0.88	2.25	1.57	6.8	49.9	45.1	64	64	1.0	<10	4.2
12*				ND	ND	ND	ND	ND	ND	ND	ND
16	0.20	8.75	1.15	7.1	>197	19.2	41	49	0.4	30	3.0
17*				ND	ND	ND	ND	ND	ND	ND	ND
28	1.00	4.00	3.52	6.8	133.0	45.0	114	172	3.0	80	2.7
April											
9	0.51	5.00	0.55	7.10	<14.3	35.40	110	134	1.2	<10	3.0
21	1.02	2.32	1.64	6.50	<21	42.3	76	104	3.0	<10	4.20
22*	1.5	15.68	11.093	6.8	46.4	13.5	38.7	20	0.4	<10	3.20
23	0.24	1.50	0.03	~	~	~	~	~	~	~	~

Table D-1 Somerville Marginal CSO Facility Operations Summary, Fiscal Year 2000, cont.

DATE		RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
May												
	10	0.61	0.75	0.31	6.8	96.9	116.0	200	252	5.0	30	3.2
	24	0.71	2.75	1.73	6.8	49.4	24.8	85	118	0.8	<10	3.0
June												
	2	0.52	7.00	1.42	6.8	44	40	80	94	2.0	<10	2.7
	6	4.00	16.25	20.21	7.0	14	<13.7	41	40	<.2	~	2.9
TOTAL		29.04	139.83	113.80								
AVERAGE		0.97	4.82	3.92		62.12	42.19	87.99	104.89	2.95	23.75	3.2
MINIMUM		0.02	0.08	0.01	6.5	<4.55	4.32	17	16	<0.02	<10	2.2
MAXIMUM		4.71	16.25	25.06	7.5	>232	116	240	252	20.0	80	4.2

No. of Times CSO Activated 28
No. of Days CSO Activated 34

* Continued from previous day
** Multiple samples taken on day
~ No samples taken due to short activation
ND = No Data

Table D-2 Somerville Marginal CSO BOD and TSS Loadings, Fiscal Year 2000

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
July					
1	5.80	11,228	581	3,872	3,630
23	1.46	~	~	~	~
25	1.62	~	~	~	~
August					
6	0.06	~	~	~	~
14	0.97	~	~	~	~
September					
6	0.26	~	~	~	~
10*	22.15	3,916	2,717	8,498	22,630
16*	25.06	4,285	3,511	9,510	21,109
30	0.43	~	~	~	~
October					
4	1.84	ND	ND	2,256	1,013
18	1.56	144	117	429	208
November					
3	0.50	ND	484	ND	96
27	0.53	393	442	1,061	955
December					
7	2.28	87	76	323	19
January					
4*	1.34	134	112	246	224
10	2.60	1,930	2,168	5,204	4,684
February					
14	2.13	1,343	1,087	3,766	4,228
25	0.01	~	~	~	~
March					
11*	1.57	653	591	838	838
16*	1.15	1,889	184	393	470
28	3.52	3,904	1,321	3,347	5,049

Table D-2 Somerville Marginal CSO BOD and TSS Loadings, Fiscal Year 2000, cont.

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
April					
9	0.55	66	162	505	615
21*	1.64	287	579	1,039	1,422
22	11.09	4,293	1,249	3,580	1,850
23	0.03	~	~	~	~
May					
10	0.31	251	300	517	652
24	1.73	713	358	1,226	1,703
June					
2	1.42	522	467	944	1,109
6	20.21	2428	2310	6912	6659
TOTAL	93.61	36,038	16,506	47,554	72,502
AVERAGE	3.34	2,002	869	2,503	3,625
MINIMUM	0.01	66	76	246	19
MAXIMUM	25.06	11,228	3,511	9,510	22,630

No. of Times CSO Activated 28
No. of Days CSO Activated 34

* Continued to following day
~ No samples taken due to short activation
ND = No Data

Table D-3 Somerville Marginal CSO Facility Effluent Characterization, Fiscal Year 2000

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	AVG	MAX	Times Detected
Metals (ug/L)															
CADMIUM			<2	ND	ND		<2	**2.10**	<2	<2		<2	1.18	2.10	1 of 6
COPPER			**62.70**	ND	ND		**38.67**	**105.00**	**46.50**	**21.90**		**22.8**	49.59	105.00	6 of 6
LEAD			**183.00**	ND	ND		**37.50**	**269.00**	**57.00**	**25.40**		35.00	101.15	269.00	6 of 6
MERCURY			**0.38**	ND	ND		**0.033**	**0.29**	**0.06**	**0.07**		0.05	0.15	0.38	6 of 6
NICKEL	**N**	**N**	**14.10**	ND	ND	**N**	**5.45**	**17.90**	**8.33**	**3.95**	**N**	**3.1**	8.80	17.90	6 of 6
ZINC	**O**	**O**	**262.00**	ND	ND	**O**	**127.50**	**469.00**	**190.00**	**111.00**	**O**	**85.2**	207.45	469.00	6 of 6
Cyanide and Phenols (mg/L)	**S**	**S**				**S**					**S**				
CYANIDE	**A**	**A**	**0.03**	<0.01	ND	**A**	**0.04**	ND	**0.04**	<0.01	**A**	<0.01	0.02	0.04	3 of 6
PHENOL	**M**	**M**	<0.01	ND	ND	**M**	<0.01	<0.01	<0.01	<0.01	**M**	<0.01	<0.01	<0.01	0 of 6
	P	**P**				**P**					**P**				
Surfactants (mg/L)	**L**	**L**				**L**					**L**				
SURFACTANTS	**E**	**E**	<0.027	ND	**0.29**	**E**	**1.25**	**1.15**	**0.48**	**0.47**	**E**	**0.60**	0.60	1.25	6 of 7
	S	**S**				**S**					**S**				
Organochlorine Pesticides and PCBs (ng/L)															
4,4'-DDD	**T**	**T**	<23.2	ND	ND	**T**	<22	<20	<20	<20.8	**T**	<20.8	<2.11	<23.2	0 of 6
4,4'-DDE	**A**	**A**	<23.2	ND	ND	**A**	<22	<20	<20	<20.8	**A**	<20.8	<2.11	<23.2	0 of 6
4,4'-DDT	**K**	**K**	<23.2	ND	ND	**K**	<22	<20	<20	<20.8	**K**	<20.8	<2.11	<23.2	0 of 6
METHOXYCHLOR	**E**	**E**	<232	ND	ND	**E**	<220	<200	<200	<208	**E**	<208	<21.13	<232	0 of 6
	N	**N**				**N**					**N**				
Semivolatile Organics (ug/L)															
4-METHYLPHENOL (INCLUDES 3-MET)			<10.2	ND	ND		<10.9	<10.3	<10	ND		<10.4	<1.04	<10.9	0 of 5
BENZOIC ACID			<20.1	ND	ND		<21.8	<20.6	<20	ND		<20.8	<2.07	<21.8	0 of 5
BENZYL ALCOHOL			<10.2	ND	ND		<10.9	<10.3	<10	ND		<10.4	<1.04	<10.9	0 of 5
BIS(2-ETHYLHEXYL)PHTHALATE			<10.2	ND	ND		**12.10**	**18.30**	**10.60**	ND		<10.4	8.61	18.30	3 of 5
FLUORANTHENE			<10.2	ND	ND		<10.9	**7.16**	<10	ND		<10.4	2.26	7.16	1 of 5
PHENANTHRENE			<1.02	ND	ND		**1.70**	**4.92**	<1.0	ND		<1.04	1.39	4.92	2 of 5

ND = No Data

Results in **bold** indicate one or more detects in the month.

Yearly averages are calculated from individual results collected in the fiscal year.

Non-detected compounds are assumed to equal one half of the detection limit for metals and inorganics and one tenth of the reporting limit for organic compounds.

Table D-4 Somerville Marginal CSO Facility Effluent Loadings, Fiscal Year 2000

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	AVG	MAX	Times Detected
Metals (lbs/day)															
CADMIUM			0.21	ND	ND		0.02	**0.04**	0.03	0.01		0.17	0.08	0.21	1 of 6
COPPER			**13.10**	ND	ND		**0.84**	**1.87**	**1.37**	**0.30**		**3.84**	3.55	13.10	6 of 6
LEAD			**38.25**	ND	ND		**0.81**	**4.78**	**1.67**	**0.35**		**5.90**	8.63	38.25	6 of 6
MERCURY			**0.08**	ND	ND		**0.001**	**0.01**	**0.002**	**0.001**		**0.01**	0.016	0.08	6 of 6
NICKEL	**N**	**N**	**2.95**	ND	ND	**N**	**0.12**	**0.32**	**0.24**	**0.05**	**N**	**0.52**	0.70	2.95	6 of 6
ZINC	**O**	**O**	**54.76**	ND	ND	**O**	**2.76**	**8.33**	**5.58**	**1.52**	**O**	**14.36**	14.55	54.76	6 of 6
Cyanide and Phenols (lbs/day)	**S**	**S**				**S**					**S**				
CYANIDE	**A**	**A**	**6.75**	0.07	ND	**A**	**0.83**	ND	**1.09**	0.07	**A**	0.84	1.61	6.75	3 of 6
PHENOL	**M**	**M**	0.21	ND	ND	**M**	0.02	0.02	0.03	0.01	**M**	0.17	0.08	0.21	0 of 6
	P	**P**				**P**					**P**				
Surfactants (lbs/day)	**L**	**L**				**L**					**L**				
SURFACTANTS	**E**	**E**	0.57	ND	**1.19**	**E**	**27.11**	**20.43**	**14.09**	**6.43**	**E**	**101.15**	24.42	101.15	6 of 7
	S	**S**				**S**					**S**				
Organochlorine Pesticides and PCBs (lbs/day)															
4,4'-DDD	**T**	**T**	0.0005	ND	ND	**T**	0.00005	0.00004	0.0001	0.00003	**T**	0.0004	0.0002	0.0005	0 of 6
4,4'-DDE	**A**	**A**	0.0005	ND	ND	**A**	0.00005	0.00004	0.0001	0.00003	**A**	0.0004	0.0002	0.0005	0 of 6
4,4'-DDT	**K**	**K**	0.0005	ND	ND	**K**	0.00005	0.00004	0.0001	0.00003	**K**	0.0004	0.0002	0.0005	0 of 6
METHOXYCHLOR	**E**	**E**	0.0048	ND	ND	**E**	0.00048	0.00036	0.0006	0.00028	**E**	0.0035	0.0017	0.0048	0 of 6
	N	**N**				**N**					**N**				
Semivolatile Organics (lbs/day)															
4-METHYLPHENOL (INCLUDES 3-MET)			0.21	ND	ND		0.02	0.02	0.03	ND		0.18	0.09	0.21	0 of 5
BENZOIC ACID			0.42	ND	ND		0.05	0.04	0.06	ND		0.35	0.18	0.42	0 of 5
BENZYL ALCOHOL			0.21	ND	ND		0.02	0.02	0.03	ND		0.18	0.09	0.21	0 of 5
BIS(2-ETHYLHEXYL)PHTHALATE			0.21	ND	ND		**0.26**	**0.33**	**0.31**	ND		0.18	0.26	0.33	3 of 5
FLUORANTHENE			0.21	ND	ND		0.02	**0.13**	0.03	ND		0.18	0.11	0.21	1 of 5
PHENANTHRENE			0.02	ND	ND		**0.04**	**0.09**	0.003	ND		0.02	0.03	0.09	2 of 5

ND = No Data

Results in **bold** indicate one or more detects in the month.

Appendix E

Table E-1 Constitution Beach CSO Facility Operations Summary, Fiscal Year 2000

DATE	RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
July											
1	1.03	0.75	0.05	~	~	~	~	~	~	~	~
23	0.30	0.50	0.08	~	~	~	~	~	~	~	~
25	0.72	0.50	0.20	~	~	~	~	~	~	~	~
August											
14	0.49	0.25	0.97	~	~	~	~	~	~	~	~
September											
10	4.71	13.50	0.38	7.0	<45.5	<45.5	65	70	1.2	ND	4.0
16	3.16	16.00	0.36	7.0	<11.6	9.86	40	54	0.4	<10	3.5
**				7.0	20.1	<10.2	50	39	0.4	<10	3.5
October											
4	0.70	1.50	0.09	~	~	~	~	~	~	~	~
20	0.80	1.00	0.05	~	~	~	~	~	~	~	~
23	0.39	0.75	0.04	~	~	~	~	~	~	~	~
November											
No Activation											
December											
7	0.88	0.75	0.04	~	~	~	~	~	~	~	~
January											
5	0.23	0.25	0.02	~	~	~	~	~	~	~	~
February											
No Activation											
March											
11	0.88	1.50	0.08	~	~	~	~	~	~	~	~
12	0.55	0.50	0.01	~	~	~	~	~	~	~	~
17	0.77	3.00	0.09	7.1	<10.4	<8.09	94	97	0.2	20	2.5
April											
9	0.51	3.00	0.06	~	~	~	~	~	~	~	~
21	1.02	12.50	0.64	~	~	~	~	~	~	~	~
22*				~	~	~	~	~	~	~	~

Table E-1 Constitution Beach CSO Facility Operations Summary, Fiscal Year 2000, cont.

DATE	RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
May											
	No Activation										
June											
6	4	18.75	6.8	<27.5	<13.7	46	38	<.2	130		1.8
TOTAL	21.14	75.00	9.95								
AVERAGE	1.24	4.41	0.59		21.9	18.41	57	65.0	26.4	13	3.1
MINIMUM	0.23	0.25	0.01	7.00	<10.4	<8.09	38	39	0.2	<10	1.8
MAXIMUM	4.71	18.75	6.80	7.10	<45.5	<45.5	94	97	130.0	20	4.0

No. of Times CSO Activated 17
No. of Days CSO Activated 18

* Continued from previous day
** Multiple samples taken
~ No samples taken; station shut down upon arrival at the facility or short activation
ND = No Data

Table E-2 Constitution Beach CSO BOD and TSS Loadings, Fiscal Year 2000

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
July					
1	0.05	~	~	~	~
23	0.08	~	~	~	~
25	0.20	~	~	~	~
August					
14	0.97	~	~	~	~
September					
10	0.38	144	144	206	222
16	0.36	48	30	270	140
October					
4	0.09	~	~	~	~
20	0.05	~	~	~	~
23	0.04				
November					
No Activation		~	~	~	~
December					
7	0.04				
January					
5	0.02	~	~	~	~
February					
No Activation		~	~	~	~

Table E-2 Constitution Beach CSO BOD and TSS Loadings, Fiscal Year 2000, cont.

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
March					
11	0.08	~	~	~	~
12	0.01	~	~	~	~
17	0.09	8	6	71	73
April					
9	0.06	~	~	~	~
21*	0.64	~	~	~	~
May					
No Activation					
June					
6	0.085	19.49	9.71	32.61	26.94
TOTAL	3.25	219	190	579	461
AVERAGE	0.19	55	48	145	115
MINIMUM	0.01	8	6	33	27
MAXIMUM	0.97	144	144	270	222

No. of Times CSO Activated	17
No. of Days CSO Activated	18

* Continued to following day
~ No samples taken; station shut down upon arrival at the facility or short activation

Appendix F

Table F-1 Fox Point CSO Facility Operations Summary, Fiscal Year 2000

DATE	RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
July											
1	1.03	2.75	1.41	~	~	~	~	~	~	~	~
23	0.30	0.50	0.50	~	~	~	~	~	~	~	~
26	0.72	0.50	1.00	~	~	~	~	~	~	~	~
August											
	No Activation										
September											
10	4.71	13.00	24.66	ND	<45.5	<30.4	56.00	64.50	0.40	ND	ND
11*				ND	ND	ND	ND	ND	ND	ND	ND
16	3.16	15.00	22.67	6.8	>130	150	36	44	<0.4	<10	ND
**				8.8	39.4	44	136	224	4	120	ND
30	0.45	0.50	0.84	~	~	~	~	~	~	~	~
October											
20	0.80	0.25	1.86	~	~	~	~	~	~	~	~
November											
26	0.08	0.75	1.79	~	~	~	~	~	~	~	~
27	0.36	0.75	0.80	~	~	~	~	~	~	~	~
December											
7	0.88	0.50	1.67	~	~	~	~	~	~	~	~
21	0.09	0.25	0.80	~	~	~	~	~	~	~	~
January											
5	0.23	3.75	3.80	6.8	23.2	18	62	30	<0.2	50	2.4
February											
25	0.49	1.00	0.88	~	~	~	~	~	~	~	~
26	0.03	0.50	0.802	~	~	~	~	~	~	~	~
28	0.24	0.50	2.588	~	~	~	~	~	~	~	~
March											
11	0.88	1.50	3.093	~	~	~	~	~	~	~	~
12	0.55	1.00	1.05	~	~	~	~	~	~	~	~
17	0.77	4.00	2.536	7.2	23	14.4	97	52	0.4	50	3.5
28	1.00	5.00	4.834	7.2	<8.37	14.4	234	162	1.2	<10	3.5
April											
9	0.51	2.25	1.034	6.9	<11.9	<5.12	38	34	<0.2	<10	3.5
19	0.25	0.75	0.55	~	~	~	~	~	~	~	~
22*	1.5	20	10.507	7.3	<19.1	30.8	41	73	1.6	10	ND
23	0.24	0.5	0.465	~	~	~	~	~	~	~	~

Table F-1 Fox Point CSO Facility Operations Summary, Fiscal Year 2000, cont.

DATE	RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
May											
	No Activation										
June											
27	0.39	1.00	6.797	~	~	~	~	~	~	~	~
TOTAL	19.66	76.50	96.93								
AVERAGE	0.82	3.19	4.04		37.56	38.4	87.50	85.44	1.1	37	3.2
MINIMUM	0.03	0.25	0.47	6.80	<8.37	<5.12	36.00	30.00	<0.2	<10	2.4
MAXIMUM	4.71	20.00	24.66	8.80	>130	150	234.00	224.00	4	120	3.5

No. of Times CSO Activated 23
No. of Days CSO Activated 25

* Continued from previous day
** Multiple samples taken
~ No samples taken; station shut down upon arrival at the facility or short activation
ND = No data

Table F-2 Fox Point CSO BOD and TSS Loadings, Fiscal Year 2000

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
July					
1	1.41	~	~	~	~
23	0.50	~	~	~	~
26	1.00	~	~	~	~
August					
No Activation					
September					
10*	24.66	9,358	6,252	11,517	13,265
16	22.67	16,014	18,340	16,260	25,335
30	0.84	~	~	~	~
October					
20	1.86	~	~	~	~
November					
26	1.79	~	~	~	~
27	0.80	~	~	~	~
December					
7	1.67	~	~	~	~
21	0.80	~	~	~	~
January					
5	3.80	735	570	1,965	951
February					
25	0.88	~	~	~	~
26	0.802	~	~	~	~
28	2.588	~	~	~	~
March					
11	3.093	~	~	~	~
12	1.05	~	~	~	~
17	2.536	486	305	2,052	1,100
28	4.834	337	581	9,434	6,531

Table F-2 Fox Point CSO BOD and TSS Loadings, Fiscal Year 2000, cont.

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
April					
9	1.034	103	44	328	293
19	0.55	~	~	~	~
22#	10.507	1,674	2,699	3,593	6,397
23	0.465	~	~	~	~
May					
No Activation					
June					
27	6.80	~	~	~	~
TOTAL	96.94	28,707	28,790	45,148	53,872
AVERAGE	4.04	4,101	4,113	6,450	7,696
MINIMUM	0.47	103	44	328	293
MAXIMUM	24.66	16,014	18,340	16,260	25,335

No. of Times CSO Activated 23
No. of Days CSO Activated 25

* Continued to following day
# Continued from previous day
~ No samples taken; station shut down upon arrival at the facility or short activation

Appendix G

Table G-1 Commercial Point CSO Facility Operations Summary, Fiscal Year 2000

DATE	RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
July											
1	1.03	3.75	1.33	~	~	~	~	~	~	~	~
23	0.30	1.50	2.00	~	~	~	~	~	~	~	~
25	0.72	1.25	3.41	~	~	~	~	~	~	~	~
August											
14	0.49	0.50	0.08	~	~	~	~	~	~	~	~
September											
10	4.71	14.00	30.42	ND	<18.8	<10.5	78	32	<0.4	ND	ND
11*				ND	ND	ND	ND	ND	ND	ND	ND
16	3.16	17.25	23.11	8.7	37.6	55.1	268	362	3.2	<5	3.5
**				6.7	<9.74	9.12	75	92	0.4	10	3.2
17*				ND	ND	ND	ND	ND	ND	ND	ND
30	0.45	0.50	0.48	~	~	~	~	~	~	~	~
October											
4	0.7	2.25	1.69	7.0	ND	ND	306	402	4	30	3.5
18	1.08	4.00	2.71	7.1	19.3	19.3	147	214	1	80	4.1
20	0.8	2.50	1.87	~	~	~	~	~	~	~	~
November											
3	0.74	2.00	1.17	ND	ND	17.5	ND	46.0	0.6	<10	3.5
20	0.12	1.00	0.06	~	~	~	~	~	~	~	~
27	0.36	1.00	0.17	~	~	~	~	~	~	~	~
December											
7	0.88	2.00	1.07	~	~	~	~	~	~	~	~
January											
4	0.76	4.00	2.02	6.8	23.9	14.3	42	54	<0.2	<10	2.7
5*				ND	ND	ND	ND	ND	ND	ND	ND
10	0.74	2.50	1.7	7.3	57.4	36.4	238	140	2	10	3.4
February											
14	0.98	3.75	2.33	~	~	~	~	~	~	~	~
25	0.49	1.00	0.29	~	~	~	~	~	~	~	~
26	0.03	0.50	0.05	~	~	~	~	~	~	~	~
28	0.24	0.50	0.03	~	~	~	~	~	~	~	~
March											
11	0.88	2.50	1.22	~	~	~	~	~	~	~	~
12	0.55	1.25	0.94	~	~	~	~	~	~	~	~
17	0.77	4.25	2.11	7.2	<14.6	24.2	88	108	1.6	<10	3.5
28	1.00	4.00	3.22	7.0	ND	52.7	ND	214	4.0	<10	2.7
29	0.17	3.00	3.24	~	~	~	~	~	~	~	~
April											
9	0.51	2.75	1.16	7.0	<19.9	19	44	132	0.4	<10	3.5
19	0.25	1.25	0.37	6.8	16	16	26	18	<0.2	<10	4.0
21	1.02	1.51	0.79	6.7	22	<31.5	174	115	2	<10	3.7
22*	1.50	19.24	10.03	6.7	<19.1	17	58	115	1	<10	ND
23	0.24	1.25	0.44	~	~	~	~	~	~	~	~

Table G-1 Commercial Point CSO Facility Operations Summary, Fiscal Year 2000, cont.

DATE	RAINFALL (inches)	DISCHARGE DURATION (hours)	TOTAL VOLUME (MG)	PH (su)	BOD INFLUENT (mg/L)	BOD EFFLUENT (mg/L)	TSS INFLUENT (mg/L)	TSS EFFLUENT (mg/L)	SETTL. SOLIDS (mL/L)	FECAL COLIFORM (col/100 ml)	CHLORINE RESIDUAL (mg/L)
May											
19	0.37	0.25	0.04	~	~	~	~	~	~	~	~
June											
2	0.52	2.00	1.04	~	~	~	~	~	~	~	~
27	0.39	2.00	0.75	~	~	~	~	~	~	~	~
TOTAL	26.95	111.00	101.33								
AVERAGE	0.82	3.36	3.07		23.40	24.81	129	146.0	1.5	16.5	3.34
MINIMUM	0.03	0.25	0.03	6.7	<9.74	9.12	26	18	<0.2	<5	2.70
MAXIMUM	4.71	19.24	30.42	8.7	57.40	55.1	306	402	4	80	4.10

No. of Times CSO Activated 32
No. of Days CSO Activated 36

* Continued from previous day
** Multiple samples taken on day
~ No samples taken; station shut down upon arrival at the facility or short activation
ND = No Data

Table G-2 Commercial Point CSO BOD and TSS Loadings, Fiscal Year 2000

DATE	TOTAL VOLUME (MG)	BOD		TSS	
		INFLUENT (lbs/d)	EFFLUENT (lbs/d)	INFLUENT (lbs/d)	EFFLUENT (lbs/d)
July					
1	1.33	~	~	~	~
23	2.00	~	~	~	~
26	3.41	~	~	~	~
August					
14	0.08	~	~	~	~
September					
10*	30.42	4,770	2,664	19,789	8,118
16*	23.11	4,601	6,168	33,054	43,751
30	0.48	~	~	~	~
October					
4	1.69	ND	ND	4,313	5,666
18	2.71	429	429	3,322	4,837
20	1.87	~	~	~	~
November					
3	1.17	ND	171	ND	449
20	0.06	~	~	~	~
27	0.17	~	~	~	~
December					
7	1.07				
January					
4*	2.02	403	241	708	910
10	1.70	814	516	3,374	1,985

Table G-2 Commercial Point CSO BOD and TSS Loadings, Fiscal Year 2000, cont.

DATE	TOTAL VOLUME (MG)	BOD INFLUENT (lbs/d)	BOD EFFLUENT (lbs/d)	TSS INFLUENT (lbs/d)	TSS EFFLUENT (lbs/d)
February					
14	2.33	~	~	~	~
25	0.29	~	~	~	~
26	0.05	~	~	~	~
28	0.03	~	~	~	~
March					
11	1.22	~	~	~	~
12	0.94	~	~	~	~
17	2.11	257	426	1,549	1,901
28	3.22	ND	1,415	ND	5,747
29	3.24	~	~	~	~
April					
9	1.16	193	184	426	1,277
19	0.37	49	49	80	56
21*	0.79	145	208	1,146	758
22	10.03	1,598	1,422	4,852	9,620
23	0.44	~	~	~	~
May					
19	0.04	~	~	~	~
June					
2	1.04	~	~	~	~
27	0.75	~	~	~	~
TOTAL	100.59	13,258	13,893	72,613	85,074
AVERAGE	3.14	1,326	1,158	6,601	6,544
MINIMUM	0.03	49	49	80	56
MAXIMUM	30.42	4,770	6,168	33,054	43,751

No. of Times CSO Activated 32
No. of Days CSO Activated 36

* Continued to following day
~ No samples taken; station shut down upon arrival at the facility or short activation
ND = No Data

Appendix H

NPDES Monitoring Requirements

The Environmental Protection Agency (EPA) mandates that any discharge to a body of water must be permitted through the National Pollutant Discharge Elimination System (NPDES). The EPA and the Massachusetts Department of Environmental Protection (DEP) jointly issued a NPDES permit to MWRA for the Deer Island treatment plant and three CSO treatment facilities, Cottage Farm, Prison Point, and Somerville Marginal. MWRA also owns and operates three additional CSO facilities, Constitution Beach, Fox Point, and Commercial Point. The effluent from these three gravity CSO facilities discharges to the City of Boston sewer lines. Thus, the Boston Water and Sewer Commission (BWSC) NPDES permit allows for the ultimate discharge of the effluent from those facilities.

The limits set in the MWRA NPDES permit are limitations for secondary treatment plants. MWRA currently operates under court-ordered interim limits while the upgrade of the Deer Island secondary treatment plant is being completed. A new NPDES permit is expected to become effective in FY01.

In addition, MWRA, through the NPDES Pretreatment Program, monitors the influent quality of wastewater. Those monitoring results provide the basis for determining the adequacy of existing Local Limits to protect the treatment plants and Boston Harbor. Local Limits allow the discharge of toxic chemicals from industrial sources to be regulated. Current Local Limits were enacted in FY94 and, under the Pretreatment Program requirements, must be re-evaluated every five years.

MWRA not only monitors to comply with the NPDES requirements, but also has its own monitoring programs, including Plant Monitoring and Receiving Water Monitoring. These monitoring programs serve to assure appropriate control of discharges to the system, to assure the most cost-effective wastewater treatment while meeting water quality standards, and to assure the quality of life of the organisms and health of the animal communities living in the receiving bodies of water.

H.1 Permits and Compliance Order

H.1.a NPDES Permit

Under the NPDES permit, "in compliance with the provisions of the Clean Water Act, as amended, 33 U.S.C. ə 1251 et seq., and the Massachusetts Clean Water Act, as amended, Mass. Gen. Laws, ch. 21, ə 266-53, the MWRA is permitted to discharge from (MWRA Publicly Owned Treatment Works, CSO Treatment Facilities, and CSO Outfalls), in accordance with effluent limitations, monitoring limitations, and other conditions..."

Monitoring Requirements and Effluent Limitations: The NPDES permit establishes monitoring requirements for existing POTW outfalls as well as for CSO treatment facility outfalls. In addition, the permit mandates CSO outfall identification and receiving water monitoring. It also establishes numerical limitations for certain parameters as well as narrative limits for all authorized discharges.

Reporting Requirements: In addition to POTW and CSO monitoring requirements, the NPDES permit requires certain reports on the state of MWRA sewerage and operational systems. These include the Infiltration/Inflow Report, CSO Facilities and Systems Inspection, reports on operational upsets, Overflow Reports, Operations Bypass Reports, Monthly Discharge Monitoring Reports (DMRs), and reporting on the effects of discharges (Annual Bioaccumulation Study). Table H-1 presents a summary of the permit limits and monitoring requirements for POTWs while Table H-2 presents permit limits for CSOs.

H.1.b Court Order

MWRA also operates under a court order issued in June 1986. In addition to establishing interim discharge limits for the treatment plant, the court order established a schedule for MWRA to upgrade the sewerage system and treatment plant. Table H-3 summarizes the court-ordered interim limits for the Deer Island Treatment Plant.

Table H-1

NPDES PERMIT Effluent Limitations and Monitoring Requirements for POTW Outfalls Deer Island Treatment Plant			
Effluent Characteristic	Discharge Limitation		
	Average Monthly	Average Weekly	Maximum Daily
BOD	*	*	*
TSS	*	*	*
Settleable Solids	*	*	*
pH	Not less than 6.5 nor greater than 8.5 at any time to Boston Harbor, Quincy Bay, Hingham Bay, the Inner Harbor and the Mystic River.		
Fecal Coliform	*	*	*
Total Coliform	*	*	*
Chlorine, Total Residual	(1) The total chlorine residual and other toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standards, this permit may be modified in accordance with such standards. (2) The permitee shall minimize the use of chlorine, still maintaining adequate bacterial control.		
Oil and Grease of Petroleum Origin (also called TPH or PHC)	N/A	N/A	15 mg/L

* Court ordered interim limit applies to this parameter.

Table H-1 [cont.]

NPDES PERMIT Effluent Limitations and Monitoring Requirements for POTW Outfalls Deer Island Treatment Plant	
Effluent Characteristic	Discharge Limitation
NOEC[a]	10% or greater (10% or more of the sample is composed of effluent; remainder is dilution water)
	Chronic toxicity tests to establish the NOEC (No Observed Effect Concentration): Chronic toxicity tests on representative 24-hour composite samples of the discharge using each of the following organisms: (i) the sheepshead minnow, *Cyprinodon variegatus* (7-day tests to measure growth and survival); and (ii) the red marine alga, *Champia parvula* (multi-day tests to evaluate the effects on sexual reproduction).
NOAEL[b] and LC50[c]	Acute static toxicity tests to establish the NOAEL (No Observed Acute Effect Level) and LC50 of the effluent: 96-hour acute static toxicity tests on representative 24-hour composite samples of the discharge using one to five-day-old juvenile mysid shrimp, *Mysidopsis bahia*.
NOAEL	20% or greater (20% or more of the sample is composed of effluent)
Other Monitored Parameters	Pollutants listed in 40 CFR Part 122 Appendix D. (See Table K-3 of Appendix K in this report.)

[a] NOEC: No Observed Effect Concentration is the highest concentration of effluent to which organisms are exposed in a life cycle or partial life cycle test which has no adverse effects (on growth, survival and reproduction).

[b] NOAEL: No Observed Acute Effect Level is the highest concentration of effluent to which organisms are exposed in a short-term test in which at least 90% of the test organisms survive.

[c] LC50: the concentration of effluent in a sample that causes mortality in 50% of the test population at a specific time of observation.

Table H-2

NPDES PERMIT Effluent Limitations and Monitoring Requirements for CSO Treatment Facility Outfalls	
Characteristic	Discharge Limitation
pH	The pH of the effluent shall not be (1) less than 6.5 nor greater than 8.5 at any time to the Inner Harbor and Mystic River (2) less than 6.5 nor greater than 9.0 at any time to the Charles River
Fecal Coliform	(1) Maximum monthly geometric mean: 1000 col/100 mL (2) Not more than 10% of the total samples can exceed 2500 col/100 mL during any monthly sampling period.
Chlorine, Total Residual	(1) The total chlorine residual and other toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be modified in accordance with such standard. (2) The permitee shall minimize the use of chlorine, still maintaining adequate bacterial control.
Other Monitored Parameters	
Rainfall/Precipitation	
Flow	
BOD[a]	
TSS[a]	
Settleable Solids	

[a] Report both influent and effluent results for this parameter.

Table H-2 [cont.]

NPDES PERMIT Effluent Limitations and Monitoring Requirements for CSO Treatment Facility Outfalls
NOAEL[b]
LC50[b]
Cadmium[c]
Chromium (Hexavalent)[c]
Copper[c]
Lead[c]
Mercury[c]
Nickel[c]
Zinc[c]
Chlorinated Hydrocarbons[c]
Ammonia Nitrogen[c]
Total Phosphorus[c]
Pesticides[c]
PAHs[c]
VOCs[c]

[b] Only required to be monitored in the first and fifth year of the permit. Has not been monitored since the permit expired.

[c] Only required to be monitored in the first and fifth year of the permit, although MWRA has been continually monitoring these parameters since the start of the permit.

Table H-3

COURT ORDERED SEWAGE TREATMENT PLANT INTERIM LIMITATIONS			
Effluent Characteristic	Effluent Limits Average Monthly	Maximum Daily	Percent Removal*
BOD	140 mg/L	200 mg/L	27%
TSS	110 mg/L	180 mg/L	38%
Settleable Solids	2.8 mL/L	N/A	N/A
Fecal Coliform	200 col/100 mL	N/A	N/A
Total Coliform	1000 col/100 mL	N/A	N/A
pH	The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time unless these values are exceeded due to natural causes or as a result of approved modifications of treatment processes.		

* Percent Removal is based on a 12-month running average.

Table H-3 [cont.]

COURT ORDERED SEWAGE TREATMENT PLANT INTERIM LIMITATIONS	
Other Effluent Limitations	
Chlorine	The Authority shall minimize the use of chlorine consistent with maintaining adequate bacterial control.
Reduction of Suspended Solids	Volatile suspended solids shall be reduced through anaerobic digestion, with percentage reductions to be computed as a two month rolling average (50%).
Special Monitoring of Oil and Grease	The Authority shall separately measure the concentration of the following by means of a weekly grab sample: Influent oil and grease, effluent oil and grease, digester sludge influent oil and grease, and digester sludge effluent oil and grease.

H.2 Monitoring Programs

In FY00, MWRA conducted several monitoring programs. However, this report will present only the influent and effluent monitoring programs. The report will also include information on the "critical areas" in MWRA and community sewer systems that have historically discharged during and after heavy rainstorms. These "critical areas" were monitored and inspected as part of the NPDES monitoring program.

H.2.a Treatment Plant Monitoring Program

The Treatment Plant Monitoring Program has two main components: The Influent Monitoring Program and the Effluent Monitoring Program.

The Influent Monitoring Program characterizes the influent to the Deer Island Treatment Plant. Influent monitoring for conventional parameters, in addition to being mandated by the NPDES permit, is also necessary for process control. Data from the Influent Monitoring Program provide

influent loading rates and the basis for determining treatment plant efficiency. In addition, influent monitoring for non-conventional parameters is mandated by the NPDES Permit Pretreatment Program.

The Effluent Monitoring Program characterizes the quality of the effluent discharged to a receiving body of water. Except for whole effluent toxicity (WET) testing, the parameters measured in the effluent are the same as those measured in the influent. The NPDES permit requires effluent monitoring and imposes permit limits to ensure the health of the receiving water.

Table H-4 lists the treatment plant monitoring program parameters, including sample type, sampling frequency and analytical procedures used.

H.2.b Combined Sewer Overflow Facilities Monitoring Program

The CSO Monitoring Program includes influent and effluent monitoring at the six CSO facilities, although only three of them are currently included in the MWRA NPDES permit. Influent and effluent samples are collected and tested for conventional parameters at all six CSO facilities. For the permitted facilities, in addition to conventional parameters, select priority pollutants are also analyzed in the effluent. Table H-5 lists the CSO monitoring program parameters, including sample type, sampling frequency and analytical procedures used.

H.2.c Sewer System Monitoring Program

The Sewer System Monitoring Program, which attempts to identify Sanitary Sewer Overflows (SSOs), involves conducting visual inspections of areas in the separate sewer system that have a history of discharging during or shortly after a heavy rainfall event. Because of the hydraulics of the South System, discharges occur in manholes or other low-lying areas, while discharges in the North System are the result of combined sewage overwhelming sewage system capacity.

H.3 Treatment of Results

It can be difficult to interpret laboratory results and to ensure that they are representative of the sample, especially when the results are at or below method detection levels. For the conventional parameters measured in these monitoring programs, calculating the average concentration of a particular parameter was straightforward: the arithmetic average was used. However, the concentrations of metals, pesticides and organics are very frequently below method detection levels, and data were manipulated. Appendix J gives a brief description of method detection limits and how measurements below detection limits are treated in this report.

Daily loadings were calculated using the formula:

Loadings (lbs/day) = Q*C*8.34

where Q= flow (mgd)

C = concentration (mg/L)

8.34 = unit conversion factor

Monthly average concentrations for priority pollutants (metals, cyanide, pesticides/PCBs and organic compounds) were calculated by adding the loadings of the pollutant during each sampling event for that month and then dividing it by the total flow during those sampling events.

Average annual concentrations were calculated using the same method, taking each individual sampling event into account in the calculation.

It should be kept in mind that with the large flows going through the Deer Island Treatment Plant, taking one small sample may not always be truly representative. It is also important to keep in mind that certain parameters (conventional) were analyzed daily while other parameters (priority pollutants) were analyzed only two or three times per month.

Table H-4
POTW Monitoring Program

Parameter	Sample Type[1]	Sampling Frequency		Analytical Method[2]
		Influent	Effluent	
Metals				
Antimony	Composite	8 x per month	8 x per month	204.2
Arsenic	Composite	8 x per month	8 x per month	206.2
Beryllium	Composite	8 x per month	8 x per month	200.7
Boron	Composite	8 x per month	8 x per month	200.7
Cadmium	Composite	8 x per month	8 x per month	213.1
Chromium	Composite	8 x per month	8 x per month	200.7
Lead	Composite	8 x per month	8 x per month	239.2
Mercury	Composite	8 x per month	8 x per month	245.1
Molybdenum	Composite	8 x per month	8 x per month	200.7
Nickel	Composite	8 x per month	8 x per month	200.7
Selenium	Composite	8 x per month	8 x per month	270.2
Silver	Composite	8 x per month	8 x per month	200.7
Thallium	Composite	8 x per month	8 x per month	279.2
Zinc	Composite	8 x per month	8 x per month	200.7
Cyanide	Grab	3 x per month	3 x per month	335.2
TPH	Grab	3 x per month	6-7 x per month	418.1
Pesticides/PCBs	Composite	3 x per month	3 x per month	608
Semi-volatiles	Composite	2 x per month	3 x per month	625
Volatiles	Grab	2 x per month	3 x per month	624
Whole Effluent Toxicity[3]	Composite		1 x per month	WET Test Protocols

[1] Influent and effluent composite samples are 24-hour time composite samples.

[2] EPA Methods.

[3] Effluent sample only.

Table H-4 [cont.]
POTW Monitoring Program

Parameter	Sample Type[1]	Sampling Frequency		Analytical Method[2]
		Influent	Effluent	
Conventional				
pH	Grab	1 x per day	1 x per day	150.1
Settleable Solids	Grab	1 x per day	1 x per day	160.5
Biochemical Oxygen Demand	Composite	1 x per day	1 x per day	405.1
Carbonaceous BOD	Composite	1 x per day	1 x per day	405.1
Chemical Oxygen Demand	Composite	1 x per day	1 x per day	410.1
Total Suspended Solids	Composite	1 x per day	1 x per day	160.2
Total Coliform	Grab		3 x per day	9222 D[3]
Fecal Coliform	Grab		3 x per day	9222 B[3]
Oil and Grease	Grab	1 x per week	1 x per week	413.1
Chlorides	Composite	1 x per day		4500 B[3]
Total Chlorine Residual	Grab		3 x per day	330.5
Nutrients[4]				
Total Kjeldahl Nitrogen	Composite	1 x per week	1 x per week	351.3
Ammonia	Composite	1 x per week	1 x per week	350.2
Nitrates	Composite	1 x per week	1 x per week	353.3
Nitrites	Composite	1 x per week	1 x per week	354.1
Orthophosphorus	Composite	1 x per week	1 x per week	365.2
Total Phosphorus	Composite	1 x per week	1 x per week	365.2

[1] Influent and effluent composite samples are 24-hour time composite samples.

[2] EPA Methods.

[3] Standard Methods.

[4] Sampling frequency is once a week at Deer Island.

Table H-5
CSO Monitoring Program

Parameter	Sample Type	Sampling Frequency	Analytical Method[1]
pH	Grab[2]	See Footnote 2	150.1
Biochemical Oxygen Demand	Grab[2]	See Footnote 2	405.1
Total Suspended Solids	Grab[2]	See Footnote 2	160.2
Settleable Solids	Grab[2]	See Footnote 2	160.5
Fecal Coliform	Grab[2]	See Footnote 2	9222 B[3]
Total Chlorine Residual	Grab[2]	See Footnote 2	330.5

[1] EPA Methods.
[2] Grab samples are collected once within the first 2 hours of each discharge from the CSO treatment facility and every eight hours thereafter.
[3] Standard Methods.

Appendix I

An Overview of the MWRA Sewerage System and Facilities

The MWRA is responsible for the collection, transport, pumping, treatment, and disposal of sewage in Boston and the greater Boston area. In addition to the Deer Island Treatment Plant, the MWRA operates another treatment plant, which serves the town of Clinton and the Lancaster Sewer District under special arrangements that originated when the Metropolitan District Commission (MDC) acquired land in Clinton for the Wachusett Reservoir. The Clinton Treatment Plant operates under a separate permit from the Boston NPDES permit and is not discussed in this report.

The MWRA serves 43 communities with a total population of about two million people, 5,500 businesses, and 1,400 industries. More than 5,400 miles of town- and city-owned local sewers connect at over 1,800 points to over 230 miles of MWRA interceptor sewers. Also included in the vast sewerage system are eleven pumping stations, five headworks, over 80 combined sewer relief overflows and six CSO treatment facilities. Table I-1 lists the MWRA treatment facilities and relevant information pertaining to each facility.

The Deer Island Treatment Plant in Winthrop serves the 43 communities in the metropolitan Boston sewerage system and is allowed to discharge under the Boston NPDES Permit. The sewerage system is divided into two major regions: the North and the South Systems. Table I-2 lists the sewerage service area population by community.

Table I-1 List of Treatment Facilities and Discharge Locations

Facility Name	Location	First year of Operation	Treatment Process	Design Flow (mgd)	Conduit Size At Facility: In	Conduit Size At Facility: Out	Outfall Number	Receiving Water
POTW								
Deer Island	Deer Island Boston, MA	1997 1998	Primary Upgrade Secondary	1270		9'x 10' 6'x 6.5' 9' Dia 9' Dia	MWR001 MWR002 MWR004 MWR005	Boston Harbor
Nut Island Headworks	Nut Island Quincy, MA	1998	Pre-treatment of South System flows to Deer Island	360		60" Outfall 60" Outfall 60" Outfall	101 102 103 Spillway	Boston Harbor Hingham Bay
CSO FACILITIES								
Cottage Farm	Memorial Dr. near Boston University Bridge, Cambridge	1971	Screening Settling Chlorination Detention	233	72" N. Charles Relief 42" S. Charles Relief 54" Brookline	96" Outfall	MWR201	Charles River
Prison Point	Near Museum of Science Bridge, Cambridge	1980	Screening Settling Chlorination Detention	385	10' Conduit	8' Conduit	MWR203	Inner Harbor
Somerville Marginal	McGrath Highway under Route I-93, Somerville	1973*	Screening Chlorination	245	7' x 7.5' Conduit 84" Conduit	6' x 8' Conduit	MWR205	Mystic River
Constitution Beach	Off Shore St. East Boston	1987	Screening Chlorination	20	36" Conduit	36" Conduit	BOS002	Boston Harbor
Fox Point	Freeport Street near Southeast Expressway, Dorchester	1989	Screening Chlorination	119	10' x 12' Conduit	10' x 12' Conduit	BOS089	Dorchester Bay
Commercial Point	Victory Road Dorcester	1991	Screening Chlorination	194	15' x 11' Conduit	15' x 11' Conduit	BOS090	Dorchester Bay

* Rehabilitated in 1988
MWR refers to MWRA
BOS refers to BWSC

Table I-2
Sewerage Service Area Population By Community

TOWN	COMMUNITY POPULATION[1]	SEWERED POPULATION[2]	North System	South System	North System[3]	South System[3]
Arlington	43,431	43,388	x		43,388	
Ashland	13,482	8,628		x		8,628
Bedford	13,947	12,273	x		12,273	
Belmont	23,907	23,429	x		23,429	
Boston	555,447	554,892	x	x	418,056	136,836
Braintree	34,906	34,871		x		34,871
Brookline	53,911	53,372	x	x	29,381	23,991
Burlington	23,694	22,983	x		22,983	
Cambridge	93,352	93,259	x		93,259	
Canton	20,677	15,301		x		15,301
Chelsea	27,426	27,398	x		27,398	
Dedham	23,721	22,298		x		22,298
Everett	34,922	34,887	x		34,887	
Framingham	64,646	60,121		x		60,121
Hingham	6,289	5,283		x		5,283
Holbrook	11,125	7,287		x		7,287
Lexington	29,594	28,114	x		28,114	
Malden	52,644	52,591	x		52,591	
Medford	55,981	55,925	x		55,925	
Melrose	27,376	27,349	x		27,349	
Milton	25,662	24,122	x	x	1,843	22,279
Natick	31,491	26,452		x		26,452
Needham	27,924	25,690		x		25,690
Newton	80,345	78,176	x	x	42,786	35,390
Norwood	28,824	28,507		x		28,507
Quincy	85,752	85,666		x		85,666
Randolph	30,567	30,322		x		30,322
Reading	23,371	21,969	x		21,969	
Revere	41,663	41,621	x		41,621	
Somerville	74,100	74,026	x		74,026	
Stoneham	22,254	21,809	x		21,809	
Stoughton	27,664	17,428		x		17,428
Wakefield	24,772	23,732	x		23,732	
Walpole	22,640	14,490		x		14,490
Waltham	58,540	58,481	x		58,481	
Watertown	32,435	32,403	x		32,403	
Wellesley	26,789	25,396		x		25,396
Westwood	13,160	11,186		x		11,186
Weymouth	54,903	51,334		x		51,334
Wilmington	20,593	3,295	x		3,295	
Winchester	20,339	20,319	x		20,319	
Winthrop	17,179	17,162	x		17,162	
Woburn	37,070	36,329	x		36,329	
TOTALS	2,038,515	1,953,564			1,264,808	688,756

[1] Community population data are from UMass MISER (Massachusetts Institute for Social and Economic Research) estimates of 1998 population.

[2] MWRA, preliminary sewer rates estimates for FY01.

[3] Boston, Brookline, Milton, and Newton cross over between the North and South Systems. Population data for these communities estimated by MWRA's Infiltration/Inflow Program.

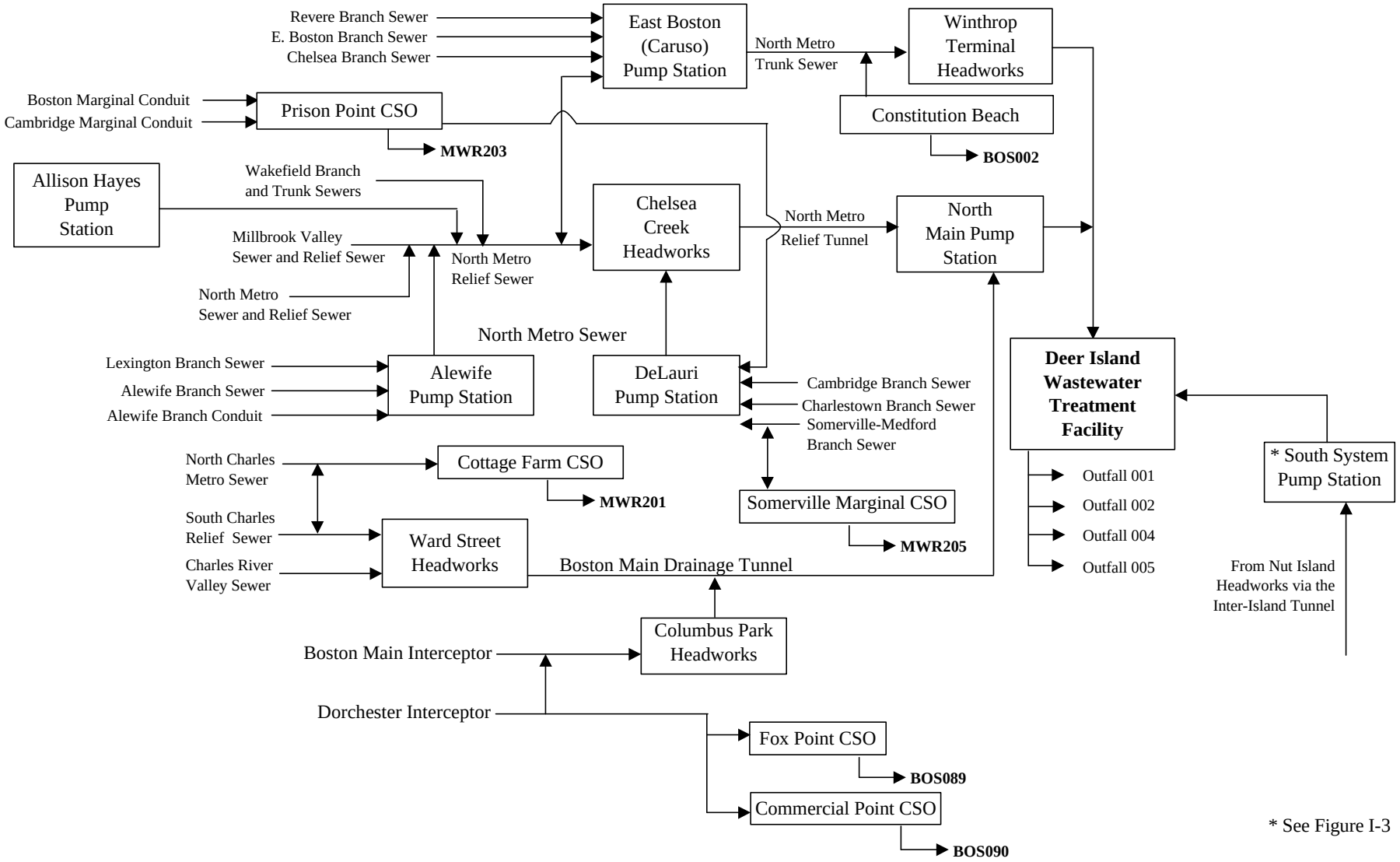
I.1 North System

The North System serves a population of about 1.3 million and is located to the north and west of Boston. It covers an area of about 168 square miles. Most of the North System is a separate system – sanitary wastewater and storm water are carried in different conduits. However, portions of Boston, Cambridge, Somerville, and Chelsea still have combined sewers. Combined sewers serve about 20 percent of the North System service area. Community sewer lines tie into the MWRA system through interceptor lines that feed into remote headwork facilities.

Three remote headworks connect to the North Main Pump Station (NMPS) on Deer Island by two deep rock tunnels, the Boston Main Drainage Tunnel (BMDT) and the North Facilities Metropolitan Relief Tunnel (North Metro Relief). The seven-mile BMDT originates at the Ward Street Headworks, continues to the Columbus Park Headworks, and runs under Boston Harbor to the NMPS. The four-mile North Metro Relief Tunnel connects the Chelsea Creek Headworks to the NMPS. The two tunnels combined can handle approximately 800 mgd, matching the combined peak flow capacity of 788 mgd from the three remote headworks.

A fourth headworks facility, the Winthrop Terminal, is located on Deer Island and receives flows from the city of Winthrop and the East Boston (Caruso) Pump Station through the North Metro Trunk Sewer. Figure I-1 shows the North System schematics.

Figure I-1
North System Pump Stations, Headworks, CSOs and Tunnel Hydraulic Schematic



I.1.a Pump Stations

The MWRA North System has four pump stations. Alewife Brook (64 mgd), Caruso (110 mgd), DeLauri (90 mgd), and Allison Hayes (11 mgd) pump stations convey wastewater to the headworks facilities. The four pump stations receive flow from interceptor lines as follows:

Alewife Brook Pump Station	Lexington Branch Sewer Alewife Branch Sewer Alewife Branch Conduit
Caruso (East Boston) Pump Station	Revere Branch Sewer East Boston Branch Sewer Chelsea Branch Sewer North Metro Relief Sewer *
DeLauri Pump Station	Cambridge Branch Sewer Charlestown Branch Sewer Medford-Somerville Branch Sewer Prison Point Pump Station Somerville Marginal CSO Overflow **
Allison Hayes Pump Station	Wakefield Branch Sewer

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* When flow to the Chelsea Headworks is held back, wastewater is diverted to the Caruso Station.

** During low-intensity rainfall when line capacity is not exceeded, the combined wastewater is pumped back to the trunk sewers and ultimately to the DeLauri Station.

I.1.b Headworks

The Deer Island Treatment Plant receives North System flow from three remote headworks and the Winthrop Terminal Headworks. The three remote headworks, the Ward Street Headworks (256 mgd) located in Roxbury, the Columbus Park Headworks (182 mgd) located in South Boston, and the Chelsea Creek Headworks (350 mgd) located in Chelsea, have a combined pumping capacity of 788 mgd. The Winthrop Terminal Headworks (125 mgd) is located on Deer Island. The four North System headworks receive flows from interceptor lines or pump stations as follows:

Ward Street Headworks	South Charles Relief Sewer Charles River Valley Sewer North Charles Metro Sewer * Cottage Farm CSO *
Columbus Park Headworks	Boston Main Interceptor Dorchester Interceptor
Chelsea Creek Headworks	Alewife Pump Station North Metro Relief Sewer DeLauri Pump Station Caruso Pump Station Overflow
Winthrop Terminal Headworks	Winthrop Sewer Caruso Pump Station **

* During low-intensity rainfall when line or holding capacity are not exceeded, the combined wastewater is pumped back to the trunk sewers and ultimately to the Ward Street Headworks.
** Overflow from the Caruso Pump Station.

I.1.c Combined Sewer Overflow Facilities

The conditions for discharge of effluent from three CSO chlorination facilities are also included in MWRA's Boston NPDES permit. These three CSO chlorination facilities, Cottage Farm in Cambridge, Prison Point in Cambridge, and Somerville Marginal in Somerville, discharge to the Charles River, the Inner Harbor, and the Mystic River respectively. Three other CSO chlorination facilities, Constitution Beach in East Boston, Fox Point in Dorchester, and Commercial Point in Dorchester, are owned and operated by the MWRA. These facilities, which discharge to Boston Water and Sewer Commission (BWSC) lines, are included in the BWSC NPDES permit. The new

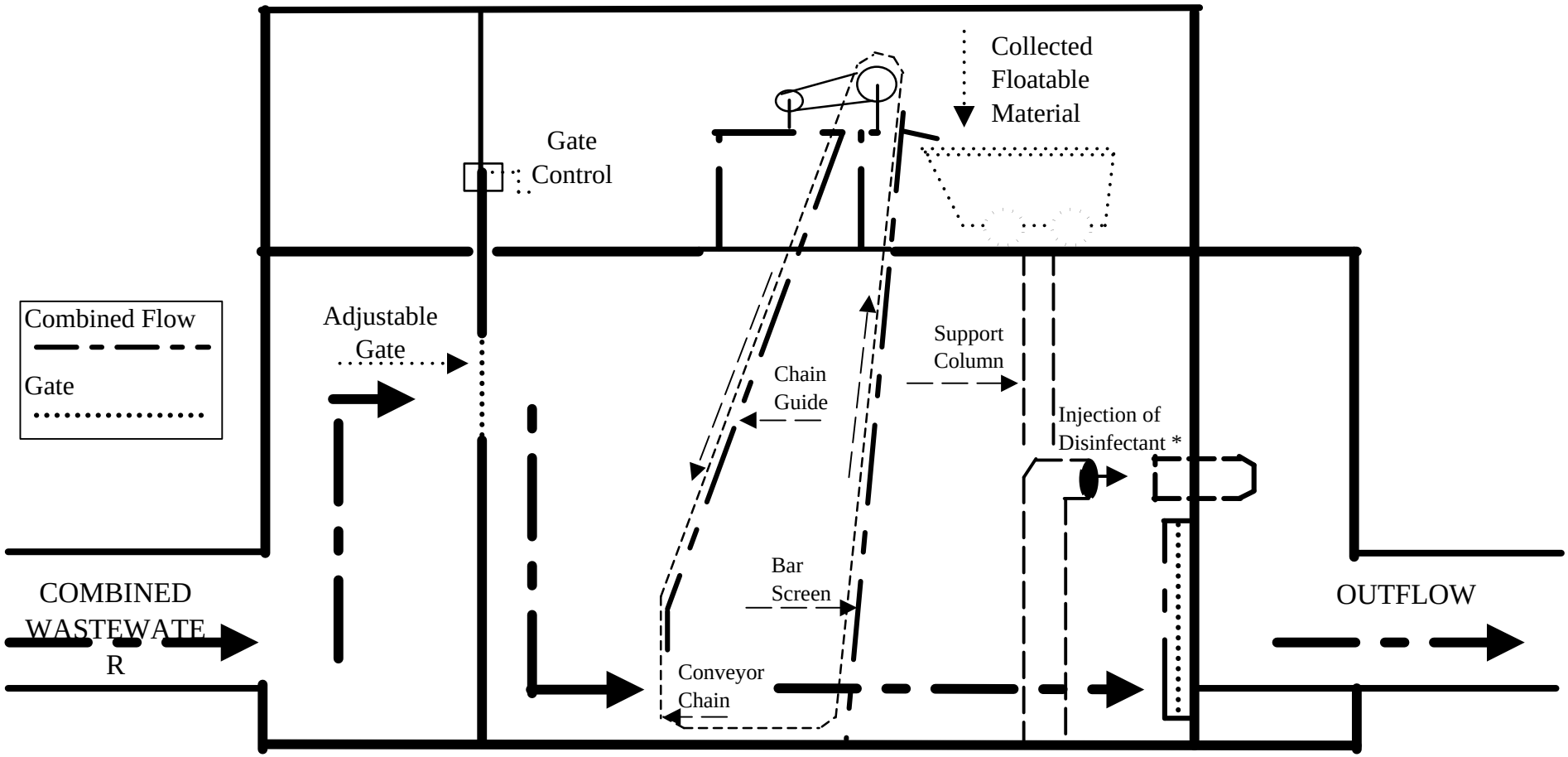
MWRA NPDES permit will include all six CSO facilities.

Discharge of combined wastewater from a CSO treatment facility to a receiving body of water is defined in this report as a CSO activation. Discharge of combined wastewater to a CSO outfall pipe is defined as a CSO overflow. CSO overflows will not be discussed in this report. In general, CSO activations occur as a result of heavy rain, snowmelt, or choking at the headworks.

Choking is the process by which the headworks restricts the flow to Deer Island. During wet weather, when the wastewater volume exceeds the hydraulic capacity of the treatment plant, the headworks "chokes" the flow and holds the wastewater in the lines. As a result, the combined wastewater backs up into the system, forcing the combined wastewater to overflow to CSO treatment facilities and CSO outfall pipes, resulting in potential CSO activations and overflow. In addition to choking in response to hydraulic demand on the system, the headworks may choke so that emergency repairs, system testing, or maintenance work can be performed at the treatment plant. Choking at Ward Street and Columbus Park Headworks influences Cottage Farm activations. Choking at the Columbus Park Headworks can influence activations at Fox Point and Commercial Point CSOs. Backups at the DeLauri Pumping Station brought about by choking at the Chelsea Headworks can activate the Somerville Marginal CSO.

At the CSO facilities, the combined wastewater is chlorinated prior to discharge. Of the six CSO facilities, only Cottage Farm and Prison Point have tank storage capacity. This allows the chlorinated wastewater to be held at these facilities prior to discharge. When the CSO facility's storage capacity is exceeded, treated wastewater overflows and is discharged to the river. The four other CSO facilities are gravity CSO facilities, which means that combined wastewater arrives and leaves the CSO facility by gravity. This type of facility provides disinfection and allows the chlorinated combined wastewater to overflow to the receiving water as quickly as the wastewater arrives at the facility. Figure I-2 is a schematic of a typical gravity CSO treatment facility.

Figure I-2
Combined Sewer Overflow Treatment Facility



* At Somerville Marginal, injection occurs at the influent gate

The six CSO facilities provide treatment for approximately 50% of the CSO volume while the other half overflows in any of 80-plus permitted CSO overflow structures of the sewerage system without the benefit of any type of treatment. Of the more than 80 permitted CSO overflow structures, 53 are located in Boston, 15 in Cambridge, 5 in Chelsea, and 12 in Somerville. These outfalls discharge into Boston Harbor, the Alewife Brook, the Mystic River, the Charles River, and the Neponset River.

Prison Point Combined Sewer Overflow Facility

Prison Point is both a dry weather and storm water pumping station. The dry weather phase is a five-mgd capacity sewer pumping station that receives flow from the Boston Marginal Conduit and the Cambridge Marginal Conduit. Prison Point feeds into the DeLauri Pumping Station.

The storm water phase has a maximum pumping capacity of 385 mgd. Treatment includes screening, disinfection, and detention. During wet weather, if the dry pumping capacity is exceeded, the combined flow is screened, chlorinated, and held in detention basins. Once the basins fill, treated flow is discharged downstream below the new Charles River Dam at outfall MWR203. Combined wastewater volume that is held back, up to 1.2 mgd, is pumped back to the DeLauri Station. This facility came on-line in 1980.

Cottage Farm Combined Sewer Overflow Facility

During dry weather conditions, wastewater arrives at the Ward Street Headworks where it is pumped to the Deer Island Plant. Under storm conditions, wastewater backs up into sewer lines and into the Cottage Farm CSO facility. Cottage Farm detains wastewater up to a volume of 1.3 MG. Any excess flow is screened, settled, chlorinated, and discharged to the Charles River through outfall MWR201. Combined wastewater that is held back is pumped back to the Ward Street Headworks. This facility, on-line since 1971, has a design pumping capacity of 233 mgd.

Somerville Marginal Combined Sewer Overflow Facility

Somerville Marginal CSO is an unmanned gravity facility with a design capacity of 245 mgd. It receives wet weather flow from the northeast portion of Somerville and part of Medford. Normally,

dry weather flow from these areas arrives at the DeLauri Station via the Somerville-Medford trunk sewers. During wet weather, combined sewer flow backs up to the Somerville CSO facility. Unlike Cottage Farm or Prison Point, this facility does not provide any detention capacity during storm conditions. Treatment consists of screening and chlorination. Effluent is discharged to the lower Mystic River basin at outfall number MWR205. During low-intensity rainfall when line capacity is not exceeded, the combined wastewater is pumped back from a wet well to the DeLauri Station. This facility came on-line in 1973 and was upgraded in 1988.

Constitution Beach Combined Sewer Overflow Facility

Constitution Beach is an unmanned gravity facility with a design capacity of 20 mgd. It receives flows from the North Metro Trunk sewer. Treatment consists of screening and disinfection. Effluent is discharged to a BWSC line that ultimately discharges to Boston Harbor through outfall number BOS002. This outfall is included in the BWSC permit. Since the issuance of that permit, full ownership of Constitution Beach CSO Facility has been transferred to MWRA. This facility came on-line in 1987.

Fox Point Combined Sewer Overflow Facility

Fox Point is an unmanned gravity facility with a design capacity of 119 mgd. It receives wet weather flows from the Dorchester Interceptor sewer line. Operation of this facility parallels that of the Constitution Beach CSO; treatment includes screening and disinfection. Effluent is discharged to a BWSC sewer line that discharges to Dorchester Bay through outfall number BOS089. This outfall is included in the BWSC permit. This facility came on-line in 1989.

Commercial Point Combined Sewer Overflow Facility

Commercial Point is an unmanned gravity CSO with a design capacity of 194 mgd. This facility also receives wet weather backups from the Dorchester Interceptor. Treatment includes screening and disinfection. Effluent is discharged to a BWSC line that ultimately discharges to Dorchester Bay through outfall number BOS090. This outfall is included in the BWSC permit. This facility came on-line in 1991.

I.2 South System

The South System serves a population of about 700,000 people and is located to the south and southwest of Boston. The South System covers an area of approximately 237 square miles. Figure I-3 illustrates the South System schematics. Community sewer lines tie into the South System through MWRA interceptor lines. The Framingham Extension Sewer, Wellesley Extension Sewer, Upper Neponset Valley Sewer, Wellesley Extension Relief Sewer, Neponset Valley Sewer, Walpole Extension Sewer, Stoughton Extension Sewer, Braintree-Randolph Trunk Sewer, and several other branch sewers discharge to the South System High Level Sewer. The High Level Sewer has a capacity of 360 mgd. Pump stations move the wastewater through the High Level Sewer to the Nut Island Headworks for preliminary treatment. The South System flows are then conveyed to the South System Pump Station at Deer Island through the 4.7-mile Inter-Island Tunnel for treatment at the Deer Island Treatment Plant.

I.2.a Pump Stations

Seven MWRA pump stations move wastewater from low-lying areas to the High Level Sewer: Hingham Pump Station (16.5 mgd), Braintree-Weymouth Pump Station (60 mgd), Squantum Pump Station (12 mgd), Houghs Neck Lift Station (2.8 mgd), Neponset Pump Station (90 mgd), Framingham Pump Station (48 mgd) and Quincy Pump Station (52 mgd). The high level sewer conveys wastewater to the Nut Island Headworks for preliminary treatment .

The seven pumping stations receive flow from interceptor or community lines as follows:

Hingham Pump Station	Weymouth-Hingham Sewer Lines
Braintree-Weymouth Pump Station	Braintree-Randolph Trunk Sewer Braintree-Weymouth Extension Sewer Holbrook Extension Sewer Hingham Pumping Station
Squantum Pump Station	Squantum Sewers
Houghs Neck Lift Station	Houghs Neck Sewer
Neponset Pump Station	Neponset Valley Sewer

Framingham Pump Station	Framingham Sewers
Quincy Pump Station	Quincy and Upstream Sewers

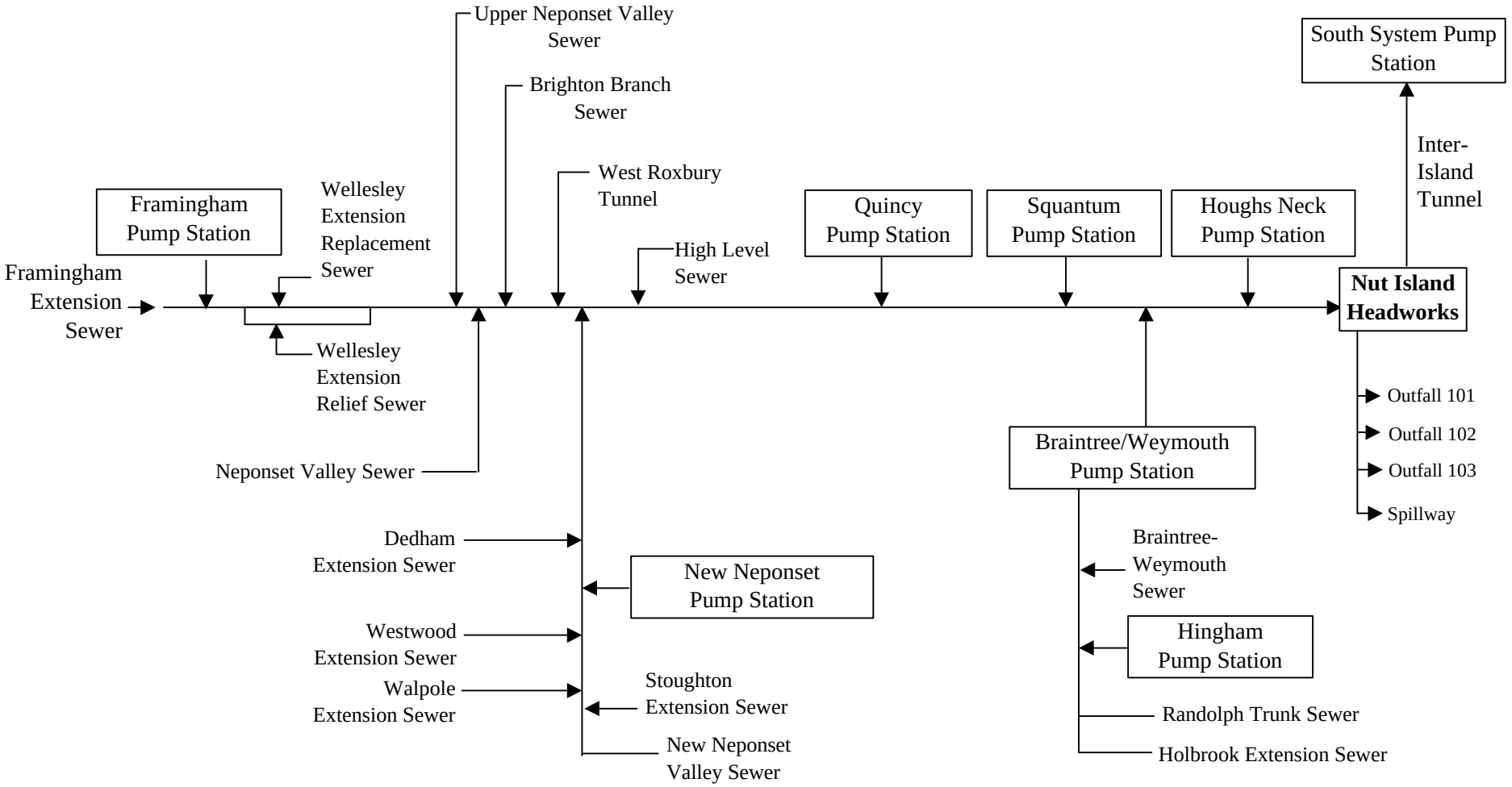
Wastewater collected from the South System communities is conveyed to Deer Island via the 4.7-mile Inter-Island Tunnel. The South System Pump Station, located on Deer Island, delivers the South System flow to the Deer Island Treatment Plant. This South System wastewater has already been screened and degritted by the Nut Island Headworks.

Two force mains deliver the South System flow to one of two locations. The South System flow is normally discharged to the effluent channel of the Grit Facility, where it is combined with the North System and recycle flows, then split between Primary Clarifier Batteries A through D. The alternate discharge location is directly to the Primary Clarifier Battery D influent channel, which allows the South System flow to be isolated.

I.2.b Headworks

The Deer Island Treatment Plant receives South System flow from the new Nut Island Headworks. The Nut Island Headworks went on-line on July 7, 1998. It is located in Quincy and has a capacity of 360 mgd.

Figure I-3
South System Hydraulic Schematic



I.3 Deer Island Treatment Plant

Until FY99, wastewater flows from the North System were treated at the Deer Island Treatment Plant and flows from the South System were treated at the Nut Island Treatment Plant. In July 1998, the Nut Island Treatment Plant was decommissioned and all flows were treated at Deer Island.

Four lines convey sewage to the Deer Island Treatment Plant. North System wastewater is delivered to the plant via the Boston Main Drainage Tunnel (from the Ward Street and Columbus Park Headworks), the North Metropolitan Relief Tunnel (from the Chelsea Creek Headworks), and the North Metropolitan Trunk Sewer. South System wastewater is transferred to the plant from the Nut Island Headworks via the 4.7-mile Inter-Island Tunnel.

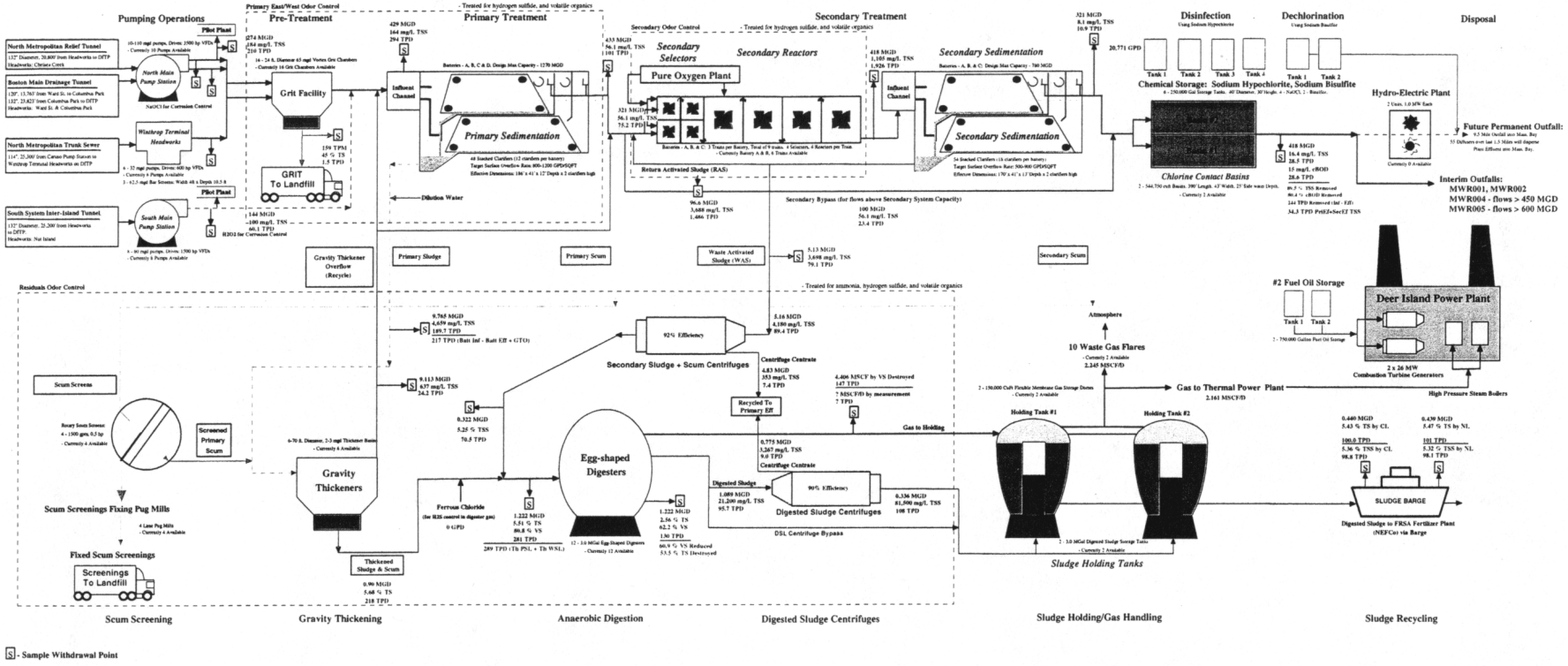
The Deer Island Treatment Plant receives wastewater at the North Main Pump Station (NMPS), the Winthrop Terminal, and the new South System Pump Station (SSPS). The North Metro Relief Tunnel and the Boston Main Drainage Tunnel connect to the NMPS, which consists of ten pumps, each rated at 110 mgd, for a total pumping capacity of 1,100 mgd. The North Metro Trunk Sewer connects to the Winthrop Terminal. The Inter-Island Tunnel connects to the SSPS, which consists of eight pumps, each rated at 66.7 mgd.

Grit removal and screening (preliminary treatment) is provided at the remote headworks. Flow from the South System receives preliminary treatment at the Nut Island Headworks. Flow from the city of Winthrop is degritted at the Winthrop Terminal. Grit chambers and screens remove heavy particles and debris from the wastewater. Grit and screenings are landfilled off-site.

The upgraded primary treatment plant came on-line on January 21, 1995. The first battery of secondary treatment was initiated at Deer Island in July 1997. By the end of FY98, there were two batteries of secondary treatment on-line. A third battery will be added sometime in FY00. Figure I-4 presents the new Deer Island plant process flow diagram.

DEER ISLAND TREATMENT PLANT - PROCESS OVERVIEW

Population Served: 2.08 Million People. Average Design Flow: 480 MGD. Peak Design Flow: 1270 MGD
Current Operation - June, 2000



Wastewater from the North System flows through the grit chambers for additional grit removal. It then flows to the primary settling tanks where floatables (consisting mainly of oil, grease, and plastics) rise to the surface while the sludge (consisting of heavy solid particles) settles to the bottom. A portion of the primary effluent (the allowable capacity for secondary treatment) is sent to secondary treatment, while the remaining portion (from high flow conditions due to rainfall) is sent directly to the disinfection basins to be treated with sodium hypochlorite. Effluent from secondary treatment is then sent to the disinfection basins, and is combined with the primary effluent.

The scum (floatables) is skimmed off the top of the primary and secondary settling tanks while the sludge (settled solids) is scraped from the bottom of the tanks. Scum is pumped to the scum concentrator while the sludge is pumped to the sludge thickeners. After the scum and sludge are concentrated and thickened, they are conveyed to the anaerobic digesters for further treatment. The digested sludge/scum is barged to the Fore River Pelletizing Plant, where it is converted into fertilizer.

I.3.a Deer Island Outfalls

Effluent is channeled through a common conduit to four potential outfall pipes, 001, 002, 004, and 005. Figure I-5 illustrates the Deer Island outfall schematics while Table I-3 presents the specifics of each outfall. Outfalls 001, 002 and 004 connect to Chamber C while outfall 005 connects to Chamber A. A sluice gate in Chamber A controls discharge from outfall 005. Likewise, a sluice gate in Chamber C isolates discharge from outfall 004. Of the four permitted outfalls, only outfalls 001 and 002 are used regularly. Outfall 004 is used only during high flow conditions, while relief outfall 005, although not generally used, can be activated during extremely high flows or emergency situations. Outfall 003 is permanently blocked and out of service.

The amount of wastewater that can be pumped to the plant is not only limited by sewer line capacity, treatment plant capacity, and pumping capacity, but also by the outfall pipe capacity. The approximate amounts of treatment plant effluent that can be discharged through the outfalls are as follows:

Outfalls 001 & 002
High tide 400 mgd
Low tide 735 mgd

Outfalls 001 & 002 & 004
High tide 635 mgd
Low tide 900 mgd

Outfalls 001 & 002 & 004 & 005
High tide 900 mgd
Low tide 1,270 mgd

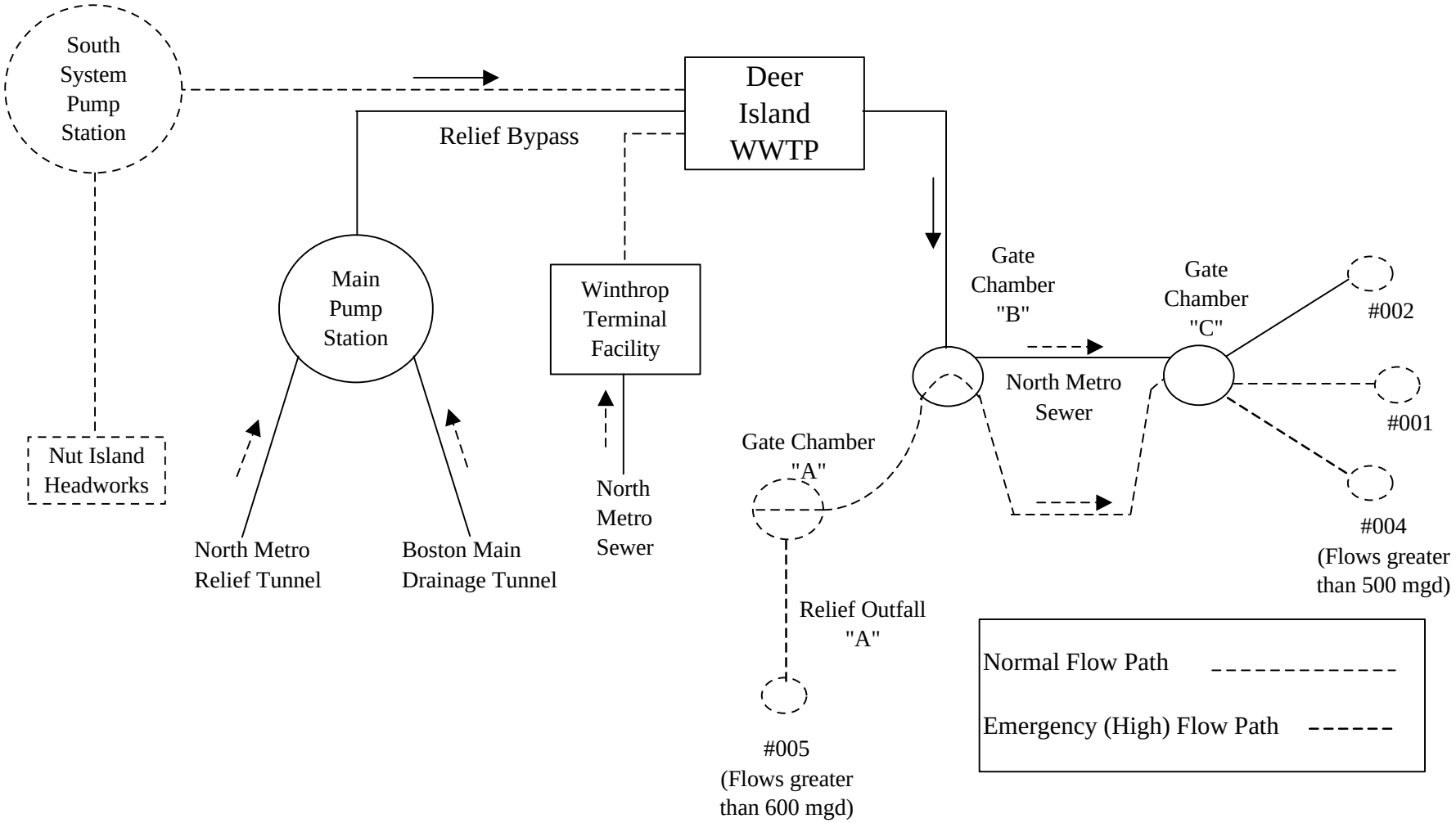
Table I-3 Deer Island Outfall Characteristics

	Outfall Number			
	No. 001	No. 002	No. 004	No. 005
Length (ft.)	2260	2565	500	135
Discharge Elevation (ft.)	54.7	54.7	97.8	98
Number of Open Ports	14	47	1	1
Port Diameter (ft.)	1.67	1.69	9	9
Chamber Invert Elevation (ft.)	98.1	98.1	98.1	103.2
Chamber Overflow Elevation (ft.)	120	120	120	125
Pipe Size (in.) and Pipe Material	16 x 12 concrete to 12 x 10 concrete to 10 (diameter) reinforced concrete (RC)	6 x 6.25 to 9 (diameter) brick with concrete casing	9 (diameter) reinforced concrete (RC)	9 (diameter) reinforced concrete (RC)
Year Built	1896	1959	1959	1959

I.3.b Nut Island Outfalls

The former Nut Island Treatment Plant discharged treated wastewater through four outfalls. Although the Nut Island Treatment Plant no longer exists, outfalls 101, 102 and 103 remain operational in case of emergency. These outfalls discharge to Boston Harbor; the new emergency spillway built concurrently with the new headworks discharges to Hingham Bay.

Figure I-5
Deer Island Outfall System Schematic



1.3.c Outfall Tunnel

Once the new outfall tunnel goes on-line, there will no longer be discharge of treated wastewater from the Deer Island Treatment Plant into Boston Harbor. All effluent flows will be sent via the new 9.5-mile outfall tunnel to Massachusetts Bay.

I.4 Collection and Transport System

An issue of concern in both the North System and the South System is the occurrence of Sanitary Sewer Overflows (SSOs). These occur during extreme rainfall events, when inflow and infiltration from heavy rains exceeds the capacity of the pipes, causing certain areas to become inundated. As a matter of course, whenever there is a high amount of rainfall, a crew from the Transport Department investigates a number of critical areas to visually monitor overflows. While some of these critical areas are the MWRA's responsibility, most of them are the responsibility of the local communities. A list of these areas and who is responsible for them is included in Table I-4. Not all of these areas are checked during every rainfall, and some are monitored by the MWRA only during extreme storm events.

Table I-4

MWRA Sewer System Overflow Locations

Number	Owner	Location and Description
1	MWRA[1,3]	Section 107 (Overflow Relief Point) Medford, On Median Strip of On Ramp to Rt. 16
2	MWRA[1]	Section C (Overflow Relief Point) Medford, Auburn St. at Rt. 16
3	MWRA[1]	Section 91B (Siphon) Medford, Lakeview Ter. At Mystic Valley Pkwy
4	MWRA[1,3]	Section 91B (Manhole) Medford, Lakeview Ter.
5	MWRA[2,3]	Section 126 (Siphon) Braintree, Easement between Commercial St. & Quincy Ave.
6	MWRA[2,3]	Section 126 (Manhole) Braintree, Idlewell Blvd.
7	MWRA[2]	Section 128 (Siphon) Braintree, Pearl St.
8	MWRA[2]	Norwood, Manhole
9	MWRA[2]	Weymouth, Manhole, Regina Rd.
10	Newton	Manhole, 100 Peregrine Rd.
11A	Roslindale	Manhole, Florence St. Sycamore St.
11B	Roslindale	Manhole, Sammett Ave. Mt. Hope Rd. Holly St.
11C	Roslindale	Manhole, Archdale St.
12	Everett	Manhole, Preston St.
13	Malden	Manhole, Taylor St.
14	Medford	Manhole, Roosevelt St.
15	Medford	Manhole, Mystic Ave.
16	Arlington	Manhole, Kimball Rd.
17	Arlington	Manhole, Summer St.
18	Quincy	Manhole, 40 Willard St.
19	W. Roxbury	Manhole, 307 V.F.W. Parkway
20	Hyde Park	Manhole, Clark Ave. American Legion Hwy.
21	Arlington	Manhole, 22 Grove St.
22	Weymouth	Manhole, 159 Spring Way
23	Hyde Park	Manhole, 46 Collins St.
24	Hyde Park	Manhole, 45 Sierra St.
25	Braintree	Manhole, 16 Allen St.
26	Newton	Manhole, 183 Old Farm Rd.

Table I-4 [cont.]

Number	Owner	Location and Description
27	Arlington	Section 80 (Overflow Relief Point) Behind Brattle Court Pumping Station
28	Arlington	Section 80 (Overflow Relief Point) Hobbs Court Plug- Temporary
29	Medford	Section 43.5 (Overflow Relief Point) Boston Ave. At Rt. 16
30	Cambridge	Section B (Overflow Relief Point) Alewife Brook at T-Station
31	Malden	Section 19 (Overflow Relief Point) Off Commercial Street at Malden River
32	Winchester	Section 113 (Siphon) Wedgemere Siphon
33	Natick	Section 132 (Siphon) Eliot St.
34	Norwood	Section 117 (Siphon and Manhole) Wooded Area at Neponset River
35	Canton	Section 121 (Manhole) Wooded Area at Steep Hill Brook Neponset River
36	Norwood	Manhole, New Walpole Extension Sewer Behind Overlook Dr.

[1] North System

[2] South System

[3] Active during severe storms in conjunction with high ground water and limited capacity

Appendix J

Instrument Detection Limits, Method Detection Limits, and Quantitation Limits: A Brief Description

An understanding of the detection limits of analysis is essential to reviewing the data from chemical analyses. There are three different types of detection limits that are most often encountered:

- **Instrument Detection Limits**
- **Method Detection Limits**
- **Quantitation Limits**, also known as **Reporting Limits.**

Instrument detection limits (IDL) reflect the capability of the instrument. This will be the lowest of the three detection limits. The IDL will not take into account the losses of the pollutant associated with the matrix (soil or wastewater) and extraction procedure. This discrepancy is known as matrix interference.

Method detection limits (MDL) are the smallest amount of a substance that can be detected above background noise using a particular method. The MDL is statistically determined by running a series of analyses using various low concentrations of a pollutant. Using a Student's “T” test, the smallest concentration that has a 99% probability of being detected above the background is designated the MDL for that pollutant. The EPA, using several private laboratories, has determined what the MDLs are for most priority pollutants using their approved methods. These are published in the 40 CFR and some are listed in Table K-1 of Appendix K of this report.

In general, if a plot is made of pollutant concentration versus instrument response, it will generate a linear relationship. As the pollutant concentration approaches zero, the linearity of the relationship is lost. At the point where the linearity is lost is the **Quantitation Limit (QL)** or sometimes the **Reporting Limit**. In other words, the smallest concentration where the linear relationship holds is

the smallest concentration that can be quantified. Generally, the QL is about five times the MDL. Quantitative limits are relevant to GC/MS analyses, that is, methods 608 (for pesticides), 624 (for volatile organics), and 625 (for semi-volatile organics). Specific limits are highly matrix-dependent.

The EPA has developed **Contract Required Quantitation Limits (CRQL)**, which serve as a guideline for selecting contract laboratories to perform analyses. Some CRQLs are listed in Table K-1 of this report.

In short, the IDL is the lowest concentration that a particular instrument can detect. The MDL is the lowest concentration that can be detected using a particular method. The QL is the smallest concentration that can be confidently considered to be accurate.

Reported concentrations that are between the MDL and the QL indicate that a pollutant is present, but at a concentration too low to be accurately quantified. For example, using EPA method 624, chloroform has an MDL of 1.6 μg/L and a QL of 10 μg/L. If the concentration from an analysis is reported as 5 μg/L then it can be inferred that although the actual chloroform concentration in the wastewater is uncertain, 5 μg/L is a best guess. The EPA requires that these intermediate values be flagged with a "J" on any reports submitted to them. Therefore, these are sometimes simply called "J-values."

For non-detects in analyses of metals, cyanide, petroleum hydrocarbons, etc., it is customary for "less than the MDL" to be listed as a result. For a non-detect in the 608, 624, and 625 analyses, "less than the QL" is typically listed.

Often it becomes necessary to estimate a concentration for below detection limit values, specifically when calculating the average yearly concentration of a pollutant. A well established method is to assume the actual concentration of a non-detected pollutant is simply one half of the MDL. While no scientific theory supports this assumption, it is more reasonable than assuming that the

concentration is zero, or the MDL itself. It is also accepted by the EPA and DEP as a standard practice that can be applied to any series of tests.

This technique is utilized in this report. For the organic compounds – methods 608, 624, and 625 – one tenth of the QL, or half the MDL, was assumed for all non-detects (i.e. values below QL). For all metals, cyanide, petroleum hydrocarbons, etc., half the MDL was assumed for all non-detects (i.e. values below MDL).

In Appendix K, Table K-1 is a list of the parameters regularly tested for in MWRA effluent. The required EPA method is referenced by its number and the recommended EPA detection limit is provided. The CRQL is also provided when applicable. These limits are compared to the detection levels normally attained by the contract laboratory analyzing MWRA effluent.

Appendix K

Priority Pollutants List and Other Parameters

Table K-1 List of Parameters Tested

Table K-2 EPA List of 126 Priority Pollutants

Table K-3 NPDES Permit Testing Requirements, 40 CFR 122, Appendix D, Tables I and II

Table K-1
List of Parameters Tested

(Influent and Effluent)*

	EPA Method Number	EPA MDL	CRQL	Contract Lab MDL	Contract Lab QL
METALS					
Antimony	204.2	3.0	NA	5.0	NA
Arsenic	206.2	1.0	NA	2.0	NA
Beryllium	200.7	0.3	NA	1.0	NA
Cadmium	213.2	0.1	NA	1.0	NA
Chromium	218.2	1.0	NA	5.0	NA
Copper	200.7	6.0	NA	4.0	NA
Lead	239.2	1.0	NA	1.5	NA
Mercury	245.1	0.2	NA	0.2	NA
Nickel	200.7	15.0	NA	12.0	NA
Selenium	270.2	2.0	NA	2.0	NA
Thallium	279.2	1.0	NA	2.0	NA
Zinc	200.7	2.0	NA	10.0	NA
Boron	200.7	5.0	NA	30.0	NA
Molybdenum	246.2	1.0	NA	8.0	NA
Silver	272.2	0.2	NA	3.0	NA
OTHER INORGANIC CHEMICALS **					
Cyanide	335.2	20.0	NA	10.0	NA
Hexavalent Chromium	307 B	10.0	NA	5.0	NA
Oil & Grease (mg/L)	413.1	5.0	NA	5.0	NA
Petroleum Hydrocarbons (mg/L)		1.0	NA	1.0	NA
Surfactants (mg/L)		25.0	NA	25.0	NA
PESTICIDES	608			NA	
alpha-BHC		0.003	0.05		0.05
beta-BHC		0.006	0.05		0.05
delta-BHC		0.009	0.05		0.05
gamma-BHC (Lindane)		0.004	0.05		0.05
Heptachlor		0.003	0.05		0.05
Aldrin		0.004	0.05		0.05
Heptachlor epoxide		0.083	0.05		0.05
Endosulfan I		0.014	0.05		0.05
Endrin aldehyde		0.023	0.10		0.10
Dieldrin		0.002	0.10		0.10
4,4'-DDE		0.004	0.10		0.10
Endrin		0.006	0.10		0.10
Endosulfan II		0.004	0.10		0.10
4,4'-DDD		0.011	0.10		0.10
Endosulfan sulfate		0.066	0.10		0.10
4,4'-DDT		0.012	0.10		0.10
Methoxychlor			0.50		0.50

Table K-1 [cont.]

(Influent and Effluent)*

	EPA Method Number	EPA MDL	CRQL	Contract Lab MDL	Contract Lab QL
Toxaphene		0.240	0.50		5.00
Chlordane		0.014	1.00		1.00
PCBs					
Aroclor-1016		ND	2.00		2.00
Aroclor-1221		ND	1.00		1.00
Aroclor-1232		ND	1.00		1.00
Aroclor-1242		0.065	1.00		1.00
Aroclor-1248		ND	1.00		1.00
Aroclor-1254		ND	1.00		1.00
Aroclor-1260		ND	0.05		0.20
VOLATILE ORGANICS	624				
Chloromethane		ND	10		10
Bromomethane		ND	10		10
Vinyl chloride		ND	10		10
Chloroethane		ND	10		10
Methylene chloride		2.8	10		10
Acetone			10		10
Carbon disulfide			10		10
1,1-dichloroethylene		2.8	10		10
1,1-dichloroethane		4.7	10		10
1,2-dichloroethylene		1.6	10		10
Chloroform		1.6	10		10
Methylethyl ketone (2-butanone)			10		10
1,2-dichloroethane		2.8	10		10
1,1,1-trichloroethane		3.8	10		10
Carbon tetrachloride		2.8	10		10
Vinyl acetate			10		10
Bromodichloromethane		2.2	10		10
1,2-dichloropropane		6.0			
Cis-1,3-dichloropropene		5.0	10		10
Trichloroethylene		1.9	10		10
Chlorodibromomethane		3.1	10		10
1,1,2-trichloroethane		5.0	10		10
Benzene		4.4	10		10
Trans-1,3-dichloropropene		ND	10		10
Bromoform		4.7	10		10
4-methyl-2-pentanone			10		10
2-hexanone			10		10
Tetrachloroethylene		4.1	10		10
1,1,2,2-tetrachloroethane		6.9	10		10
Toluene		6.0	10		10

Table K-1 [cont.]

(Influent and Effluent)*

	EPA Method Number	EPA MDL	CRQL	Contract Lab MDL	Contract Lab QL
Chlorobenzene		6.0	10		10
Ethylbenzene		7.2	10		10
Styrene			10		10
Xylene (Total)			10		10
2-chloroethylvinylether			10		10
Trichlorofluoromethane			10		10
Acrolein			10		10
Acrylonitrile			10		10
SEMI-VOLATILES	625				
Phenol		1.5	10		10
Bis (2-chloroethyl) ether		5.7	10		10
2-chlorophenol		3.3	10		10
m-dichlorobenzene		1.9	10		10
p-dichlorobenzene		1.9	10		10
o-dichlorobenzene		1.9	10		10
o-cresol			10		10
2,2'-oxybis (1-chloropropane)		5.7	10		10
p-cresol			10		10
N-nitroso-di-n-propylamine		ND	10		10
Hexachloroethane		1.6	10		10
Nitrobenzene		1.9	10		10
Isophrone		2.2	10		10
o-nitrophenol		3.6	10		10
2,4-dimethylphenol		2.7	10		10
Bis (2-chloroethoxy)methane		5.3	10		10
2,4-dichlorophenol		2.7	10		25
1,2,4-trichlorobenzene		1.9	10		10
Naphthalene		1.6	10		10
p-chloroaniline			10		10
Hexachlorobutadiene			10		10
p-chloro-m-cresol			10		10
2-methylnaphthalene			10		10
Hexachlorocyclopentadiene		ND	10		10
2,4,6-trichlorophenol		2.7	10		10
2,4,5-trichlorophenol			25		25
2-chloronaphthalene		1.9	10		10
o-nitroaniline			25		25
Dimethyl phthalate		1.6	10		10
Acenaphthylene		3.5	10		10
2,6-dinitrotoluene		1.9	10		10
m-nitroaniline			25		25

Table K-1 [cont.]

(Influent and Effluent)*

	EPA Method Number	EPA MDL	CRQL	Contract Lab MDL	Contract Lab QL
Acenaphthene		1.9	10		10
2,4-dinitrophenol		42.0	25		25
p-nitrophenol		3.6	25		25
Dibenzofuran			10		10
2,4-dinitrotoluene		5.7	10		10
Diethyl phthalate		1.9	10		10
4-chlorophenyl phenyl ether		4.2	10		10
Fluorene		1.9	10		10
p-nitroaniline			25		25
4,6-dinitro-o-cresol			10		10
N-nitrosodiphenylamine		1.9	10		10
4-bromophenyl phenyl ether		1.9	10		10
Hexachlorobenzene		1.9	10		10
Pentachlorophenol		3.6	25		10
Phenanthrene		5.4	10		10
Anthracene		1.9	10		10
Di-n-butyl phthalate		2.5	10		10
Fluoranthene		2.2	10		10
Pyrene		1.9	10		10
Butyl benzyl phthalate		2.5	10		10
3,3'-dichlorobenzidine		16.5	10		10
Benzo(a)anthracene		7.8	10		10
Chrysene		2.5	10		10
Bis (2-ethylhexyl) phthalate		2.5	10		10
Di-n-octyl phthalate		2.5	10		10
Benzo(b)fluoranthene		4.8	10		10
Benzo(k)fluoranthene		2.5	10		10
Benzo(a)pyrene		2.5	10		10
Indeno(1,2,3-cd)pyrene		3.7	10		10
Dibenzo(a,h)anthracene		2.5	10		10
Benzo(ghi)perylene		4.1	10		10
Benzoic acid			10		10
Benzyl alcohol		ND	10		10
Benzidene		44	10		10
1,2-diphenylhydrazine			10		10
N-nitrosodimethylamine		ND	10		10

* Pollutants analyzed in addition to influent and effluent analyses of conventional pollutants listed in Appendix A, Table A-1. All units expressed in mg/L unless otherwise noted.

** Units expressed in mg/L.

ND - Not determined by EPA

NA - Not applicable

Table K-2
EPA List of 126 Priority Pollutants

Chlorinated Benzenes
- Chlorobenzene
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- 1,2,4-trichlorobenzene
- Hexachlorobenzene

Chlorinated Ethanes
- Chloroethane
- 1,1-dichloroethane
- 1,2-dichloroethane
- 1,1,1-trichloroethane
- 1,1,2,2-tetrachloroethane
- Hexachloroethane

Chlorinated Phenols
- 2-chlorophenol
- 2,4-dichlorophenol
- 2,4,6-trichlorophenol
- Parametachlorocresol (4-chloro-3-methyl phenol)

Other Chlorinated Organics
- Chloroform (trichloromethane)
- Carbon tetrachloride (tetrachloromethane)
- Bis(2-chloroethoxy)methane
- Bis(2-chloroethyl)ether
- 2-chloroethyl vinyl ether (mixed)
- 2-chloronaphthalene
- 3,3'-dichlorobenzidine
- 1,1-dichlorethylene
- 1,2-trans-dichloroethylene
- 1,2-dichloropropane
- 1,2-dichloropropylene (1,3-dichloropropene)
- Tetrachloroethylene
- Trichloroethylene
- Vinyl chloride (chloroethylene)
- Hexachlorobutadiene
- Hexachlorocyclopentadiene
- 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)

Haloethers
- 4-chlorophenyl phenyl ether
- 2-bromophenyl phenyl ether
- Bis(2-chloroisopropyl) ether

Halomethanes
- Methylene chloride (dichloromethane)
- Methyl chloride (chloromethane)
- Methyl bromide (bromomethane)
- Bromoform (tribromomethane)
- Dichlorobromomethane
- Chlorodibromomethane

Nitroamines
- N-nitrosodimethylamine
- N-nitrosodiphenylamine
- N-nitrosodi-n-propylamine

Phenols (other than chlorinated)
- 2-nitrophenol
- 4-nitrophenol
- 2,4-dinitrophenol
- 4,6-dinitro-o-cresol (4,6-dinitro-2-methylphenol)
- Pentachlorophenol
- Phenol
- 2,4-dimethylphenol

Phthalate Esters
- Bis(2-ethylhexyl)phthalate
- Butyl benzyl phthalate
- Di-n-butyl phthalate
- Di-n-octyl phthalate
- Diethyl phthalate
- Dimethyl phthalate

Polynuclear Aromatic Hydrocarbons (PAHs)

- Acenaphthene
- 1,2-benzanthracene (benzo(a)anthracene)
- Benzo(a)pyrene (3,4-benzo-pyrene)
- 3,4-benzofluoranthene (benzo(b)fluoranthene)
- 11,12-benzofluoranthene (benzo(k)fluoranthene)
- Chrysene
- Acenaphthylene
- Anthracene
- 1,12-benzoperylene (benzo(ghi)perylene)
- Fluorene
- Fluoranthene
- Phenanthrene
- 1,2,5,6-dibenzanthracene (dibenzo(a,h)anthracene)
- Indeno (1,2,3-cd) pyrene (2,3-o-phenylene pyrene)
- Pyrene

Pesticides and Metabolites

- Aldrin
- Dieldrin
- Chlordane (technical mixture and metabolites)
- Alpha-endosulfan
- Beta-endosulfan
- Endosulfan sulfate
- Endrin
- Endrin aldehyde
- Heptachlor
- Heptachlor epoxide (BHC-hexachlorocyclohexane)
- Alpha-BHC
- Beta-BHC
- Gamma-BHC (Lindane)
- Delta-BHC
- Toxaphene

DDT and Metabolites

- 4,4-DDT
- 4,4-DDE (p,p-DDX)
- 4,4-DDD (p,p-DDE)

Polychlorinated Biphenyls (PCBs)

- PCB-1242 (Aroclor 1242)
- PCB-1254 (Aroclor 1254)
- PCB-1221 (Aroclor 1221)
- PCB-1232 (Aroclor 1232)
- PCB-1248 (Aroclor 1248)
- PCB-1260 (Aroclor 1260)
- PCB-1016 (Aroclor 1016)

Other Organics

- Acrolein
- Acrylonitrile
- Benzene
- Benzidine
- 2,4-dinitrotolulene
- 2,6-dinitrotolulene
- Ethylbenzene
- Isophrone
- Naphthalene
- Nitrobenzene
- Tolulene

Inorganics

- Antimony
- Arsenic
- Asbestos
- Beryllium
- Cadmium
- Chromium (III)
- Chromium (VI)
- Copper
- Cyanide, total
- Lead
- Mercury
- Nickel
- Selenium
- Silver
- Thallium
- Zinc

Table K-3
NPDES Permit Application Testing Requirements, 40 CFR 122, Apppendix D, Tables II and III

Organic Toxic Pollutants

Volatiles

acrolein
acrylonitrile
benzene
bromoform
carbon tetrachloride
chlorobenzene
chlorodibromomethane
chloroethane
2-chloroethylvinyl ether
chloroform
dichlorobromomethane
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethylene
1,2-dichloropropane
1,3-dichloropropylene
ethyl benzene
methyl bromide
methyl chloride
methylene chloride
1,1,2,2-tetrachloroethane
tetrachloroethylene
toluene
1,2-trans-dichloroethylene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethylene
vinyl chloride

Acid Compounds

2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
4,6-dinitro-o-cresol (2-methyl-4,6-dinitrophenol)
2,4-dinitrophenol
2-nitrophenol
4-nitrophenol
p-chloro-m-cresol (4-chloro-m-cresol)
pentachlorophenol
phenol
2,4,6-trichlorophenol

Base/Neutral

acenaphthene
acenaphthylene
anthracene
benzidine
benzo(a)anthracene
benzo(a)pyrene
3,4-benzofluoranthracene
benzo(ghi)perylene
benzo(k)fluoranthene
bis(2-chloroethoxy)methane
bis(2-chloroethyl)ether
bis(2-ethylhexyl)phthalate
4-bromophenyl phenyl ether
butylbenzyl phthalate
2-chloronaphthalene
4-chlorophenyl phenyl ether
chrysene
dibenzo(a,h)anthracene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3-3'-dichlorobenzidine
diethyl phthalate
dimethyl phthalate
di-n-butyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
di-n-octyl phthalate
1,2-diphenylhydrazine
fluoranthene
fluorene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
indeno(1,2,3-cd)pyrene
isophorone
napthalene
nitrobenzene
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine
phenanthrene

pyrene
1,2,4-trichlorobenzene

Pesticides

aldrin
alpha-BHC
beta-BHC
gamma-BHC
delta-BHC
chlordane
4,4'-DDT
4,4'-DDE
4,4'-DDD
dieldrin
alpha-endosulfan
beta-endosulfan
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide
PCB-1242
PCB-1254
PCB-1221
PCB-1232
PCB-1248
PCB-1260
PCB-1016
toxaphene

Other Toxic Pollutants (Metals and Cyanide) and Total Phenols

antimony, total
arsenic, total
beryllium, total
cadmium, total
chromium, total
copper, total
lead, total
mercury, total
nickel, total
selenium, total
silver, total
thallium, total
zinc, total
cyanide, total
phenols, total

Appendix L

Glossary, Abbreviations/Acronyms, and Units

GLOSSARY

40 CFR Part 122 - Code of Federal Regulations: Protection of the Environment. Part 122 is Administered Permit Programs: The National Pollutant Discharge Elimination System. (Appendix D of 40 CFR 122 lists the Permit Application Requirements.)

Acid Base Neutrals (ABNs) - A category of organic chemical pollutants also called semi-volatile organics. See Appendix K.

Acute - A stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed in 96 hours or less is typically considered acute. When referring to aquatic toxicology or human health, an acute effect is not always measured in terms of lethality.

Acute Criteria- The maximum concentration of a constituent in water that an organism may be exposed to for a total of one hour, once over three years, without dying.

Acute Static Toxicity Test - Test designed to measure water quality effect on mortality. It measures the effect of the whole effluent sample on an organism. Animals are put in a vial with effluent, and the fatal effects are monitored. To calculate water quality standards, the test is run on sensitive animals. The concentration that shows a 95% mortality rate is then multiplied by two.

Activation - An event when the wastewater flow exceeds the holding capacity of the sewer lines and the hydraulic capacity of the treatment plant, causing a diversion of flow to the CSO facilities.

Aeration - The process of adding air to a liquid (e.g. wastewater).

Aliquot - A measured portion of a sample.

Anaerobic Digester - The structure where organic material is broken down by organisms in the absence of oxygen.

Anoxia - The absence of oxygen.

Average Monthly Discharge Limitation - The highest allowable average of "daily discharge" over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured.

Average Weekly Discharge Limitation - The highest allowable average of "daily discharge" over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bar Screen - A screen made of bars designed to catch large debris (e.g. rags, wood, shoes) in waterways.

Below Detection Limit/Level (BDL) - Values below the Reporting or Quantitation Limit. For further explanation see Appendix K.

Bioaccumulation - The process in which industrial waste, toxic chemicals, and other pollutants gradually build up in living tissues and organs.

Biochemical - Having to do with a chemical change resulting from the metabolic activities of living organisms.

Biochemical Oxygen Demand (BOD) - The amount of oxygen needed to oxidize inorganic materials and to degrade organic materials by *biochemical reactions* in a certain time at a certain temperature. BOD is used as a measure of organic pollution.

Biomagnification - The process by which the concentration of a compound increases in species occupying successive trophic levels.

BDL - See Below Detection Limit

Bloom - A large mass of algae (microscopic and or macroscopic) in water.

BOD - See Biochemical Oxygen Demand.

Buffering Capacity - Measures the ability of certain water bodies to resist changes in pH from addition of acidic or caustic substances.

CFR- See Code of Federal Regulations

Chemical Oxygen Demand (COD) - The amount of oxygen needed for the *chemical oxidation* of chemicals in water. COD is used to measure the suitability of water for organisms that require oxygen.

Chlorination - The addition of chlorine or chlorine compounds to wastewater. Chlorination is most often done for disinfection purposes.

Choking - A process by which flows that cannot be handled by existing pumps are "choked back" into the sewer system, frequently leading to local overflows.

Chronic - A stimulus that lingers or continues for a relatively long period of time, often one-tenth of the life span or more. Chronic should be considered a relative term depending on the life span of an organism. The measurement of a chronic effect can be reduced growth, reduced reproduction, etc., in addition to lethality.

Chronic Criteria - The maximum concentration of a constituent in water that an organism may be exposed to for a total of four days over three years without showing long term, harmful effects, short of mortality. Chronic criteria involve sublethal effects on, among other things, the growth, reproductivity, and fertility of organisms.

Chronic Reproduction Test - A test designed to measure the chronic effects of wastewater on reproduction and fertility.

Chronic Survival and Growth Test - Test designed to see if any mortality occurs after the chronic criteria have been passed. After the organisms have survived, the size of the animals are measured after seven days and statistically compared to controls.

Clean Water Act (CWA) - Formally referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972. Pub. L. 92-500, as amended by Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117: 33 U.S.C.ɔ1251 et seq.

COD - See Chemical Oxygen Demand

Code of Federal Regulations (CFR) - Codification of the general and permanent rules of the federal government. CFR 40 covers environmental protection.

Combined Sewer - A sewer receiving both sanitary wastewater and stormwater runoff.

Combined Sewer Overflow Facility - A place where overflow from combined sewers is screened, settled, and chlorinated before being discharged.

Combined Sewer Overflow Pipe - A pipe that discharges overflow from combined sewers in order to prevent back-ups in the sewerage system.

Composite Sample - A sample consisting of a minimum of eight grab samples collected at equal intervals during a 24-hour period (or lesser period if specified) and combined proportional to flow, or a sample continuously collected proportionally to flow over that same time period.

Conventional Parameters/Pollutants - Those pollutants and constituents that are removed from wastewater by conventional treatment. Generally these constituents are settleable solids, biochemical oxygen demand, total suspended solids, oil and grease, total coliform, fecal coliform, residual chlorine, and chlorides.

Conventional Treatment - Well-known or well-established water or wastewater treatment methods, usually consisting of primary and secondary processes and may include advanced or tertiary treatment.

Criteria - The numerical and or narrative elements of water quality standards.

Critical Dilution - Dilution of the effluent required to meet Water Quality Standards.

CWA - See Clean Water Act.

Daily Discharge - The discharge of a pollutant measured during a calendar day or any 24-hours period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the daily discharge is calculated as the average measurement of the pollutant over the day.

Designated Use - Specified use of a body of water included in state water quality standards.

Digester - A place where organic matter is broken down either with oxygen (aerobically) or without oxygen (anaerobically).

Disinfection - The destruction of pathogens (e.g. fecal coliform bacteria) in a water source or wastewater.

Effluent - The wastewater or other water coming out of a treatment facility or process.

Effluent Limitation - Any restriction imposed by the Director (the person authorized to sign NPDES permits by EPA and/or the State) on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Eutrophication - The natural process by which a body of water ages. Nutrients stimulate plant growth and lakes, estuaries, and bays evolve into bogs or marshes. Effluents high in nutrients cause excessive plant growth that accelerates eutrophication.

Fecal Coliform - Bacteria found in the wastes of warm-blooded animals. Fecal coliform is used as an indicator that disease causing bacteria and viruses are present. It is a component of Total Coliform.

Floatables - Constituents of wastewater that rise to the surface in the settling process, consisting mainly of oil, grease, and plastics.

Grab Sample - An individual sample collected in a period of less than 15 minutes.

Gravity Facility - A combined sewer overflow facility that receives flows by gravity (descending gradients from source to outfall) and requires no pumping.

Grit - Heavy suspended mineral matter in wastewater like sand and gravel.

Grit Chamber - A detention tank were grit is separated by sedimentation (grit settles to the bottom). The settling is controlled by the velocity of the water.

Headworks - A structure where wastewater are screened out and grit and other solids are trapped before the wastewater is pumped to a treatment facility.

Human Health Criteria - Estimated concentrations or quantities of chemicals that can be expected to occur in the environment in water, sediment, or food and that are not likely to pose a significant risk to the exposed human population. Human health criteria are published under section 304(a) of the CWA and are based on the latest scientific information. This information is updated and issued to the states to serve as guidance for the development of criteria.

Hydrocarbons - Chemical compounds only containing hydrogen and carbon.

Hypochlorite - The chemical used for chlorine disinfection of wastewater (either calcium, sodium, or lithium hypochlorite).

Hypoxia - The state of very low oxygen concentration.

IDL - See Instrument Detection Limit.

I/I - Infiltration and Inflow. See separate entries for each.

Infiltration - Groundwater that enters sewer pipes through cracks.

Inflow - Water that enters sewer pipes through illegal connections and storm water runoff.

Inorganic - Not containing carbon.

Influent - Wastewater or other water going into treatment facility or process.

Instrument Detection Limit (IDL) - The smallest amount of a substance a particular instrument is capable of detecting. See Appendix K for further explanation.

Interceptor - A large sewerage line collecting water from smaller sewerage pipes.

J values - Values between the Method Detection Limit and the Quantitation (or Reporting) Limit. See Appendix J for further explanation.

Lethal Concentration 50% (LC50) - The concentration of effluent in a sample that causes mortality to 50% of the test population at a specific time of observation.

Limiting Nutrient - In a given ecosystem, the limiting nutritional factor that controls the growth of plants or animals. Usually the limiting nutrient for plant growth is nitrogen in the marine environment and phosphorus in the fresh water environment. The limiting nutrient can also be thought of as the specific nutrient that will have the most impact on a receiving body of water (for example, the accelerated eutrophication of fresh water bodies caused by phosphorus in wastewater effluent).

Local Limits - The development of specific limits as part of MWRA's General Pretreatment Program: "The permittee shall develop and enforce specific effluent limits for industrial users, and all other users, as appropriate, pursuant to 40 CFR 403.5."

Lowest Observed Effect Concentration (LOEC) - The lowest concentration of effluent to which organisms are exposed in a life cycle or partial life cycle test which contains an adverse effect (on survival, growth, and reproduction).

Maximum Acceptable Toxicant Concentration (MATC)- The effluent concentration that may be present in a receiving water body without causing significant harm to productivity or other uses. The MATC is determined by the results of chronic tests of either a partial life cycle with sensitive life stages or a full life cycle of the test organism. The MATC is the geometric mean of the No Observed Effect Concentration and the Lowest

Observed Effect Concentration.

Maximum Daily Discharge Limitation - The highest allowable daily discharge.

MBAS - See Methylene Blue Anion Surfactant

MDL - See Method Detection Limit

Metals - A group of priority pollutants. See Appendix K for a complete list.

Method Detection Limit (MDL) - The smallest amount of a substance that can be detected above background noise by following a particular method of analysis. See Appendix K for further explanation.

Methylene Blue Anion Surfactant - A specific type of surfactant. See surfactant.

Mixing Zone - Area where discharged effluent is first diluted. The area is extended to cover the secondary mixing in the ambient water body. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as toxic conditions are prevented.

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, and 405 of the Clean Water Act (CWA). The term includes an "approved program."

Nine Minimum Controls - Part of the EPA's CSO Policy. The Nine Minimum Controls are:

1) Proper operation and regular maintenance (O&M) programs for the sewer system and combined sewer overflow points
2) Maximum use of the collection system for storage
3) Review and modification of the pretreatment programs to assure CSO impacts are minimized
4) Maximization of flow to the POTW for treatment
5) Prohibition of CSO discharges during dry weather
6) Control of solid and floatable materials in CSO discharges
7) Pollution prevention programs that focus on contaminant reduction activities
8) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts
9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

Nitrification - The conversion of ammonia and nitrite to nitrate.

No Observed Acute Level (NOAL) - The highest concentration of effluent to which organisms are exposed in a short-term test in which at least 90% of the test organisms survive.

No Observed Effect Concentration (NOEC) - The highest concentration of effluent to which organisms are exposed in a life cycle or partial life cycle test which contains no adverse effects (on growth, survival, and reproduction).

NPDES - See National Pollutant Discharge Elimination System

Nutrient - Any element or compound essential as raw material for organism growth and development. Examples: phosphorus and nitrogen.

Oil and Grease - Fats, oils, and grease from animal and plant derivation. Also called FOGs.

Organic Compounds - Volatiles, Acid Compounds, Base/Neutral, and Pesticides. Organics are listed in 40 CFR Ch. 1 Appendix D under CWA Section 307(a). See Appendix K for a complete list.

Orthophosphorus - A form of phosphorus, included in nutrients.

Outfall - the site of initial discharge

PAH - See Polynuclear Aromatic Hydrocarbon

Pesticides/PCBs - Subdivision of priority pollutants. See Appendix K for a complete list.

Petroleum Hydrocarbon (PHC) - Oil and grease from petroleum derivation.

pH - The negative log of the hydrogen ion concentration used to express acidity (<7) and alkalinity (>7).

PHC - See Petroleum Hydrocarbon.

Pollutant - Dredged soil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemicals wastes, biological materials, radioactive materials, (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. ɜ2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

It does not mean: (a) Sewage from vessels; or (b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed or in

a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Polynuclear Aromatic Hydrocarbon (PAH) - A type of semi-volatile organic. Also known as polycyclic aromatic hydrocarbons.

POTW - See Publicly Owned Treatment Work.

Preaeration - The process by which air is added to primary influent to help in the removal of gases, floatation of grease, addition of oxygen, and in the settling or coagulation of wastewater.

Prechlorination - The addition of chlorine to primary influent at or near the beginning of the treatment facility/process.

Primary Settling - The detention of wastewater as part of primary treatment to settle out solids (sludge) and collect floatables (scum).

Primary Treatment - Screening and settling of wastewater.

Priority Pollutants - Refers to some of the chemicals listed in 40 CFR Ch. 1 Appendix D under Section 307(a) of the CWA. There are 65 compounds and families of compounds that are among the most persistent, prevalent, and toxic of chemicals know to man. These 65 compounds or families of compounds have been translated into 126 individual pollutants. See Appendix K, Table K-2 for the complete list.

Priority Pollutant Scan - A series of chemical analyses to identify the presence of priority pollutants.

Publicly Owned Treatment Work (POTW) - Any facility or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of liquid nature that is owned by a "State" or a "municipality." This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Pumping Station - Structures where wastewater from low-lying areas is pumped.

Quantitation Limit - See Reporting Limit.

Removal Rate - or Percent Removal. Defined as the influent concentration minus the effluent concentration, divided by the influent concentration.

Reporting Limit - The smallest concentration that can be quantified. On a graph of pollutant concentration versus instrument response, the reporting limit is the smallest concentration where the linear relationship holds before starting to curve as the pollutant concentration goes to zero. Also called the Quantitation Limit. See Appendix J for further explanation.

Residuals - Matter left over by treatment processes including screenings, scum, and sludge.

Screening - The process by which sewage from interceptors first goes through headworks where grit and large objects like leaves, sticks, and hygiene products (like tampon applicators and condoms) are screened out.

Screenings - The objects that are collected by the process of screening.

Scum - Solids that float to the top of wastewater.

Secondary Treatment - The treatment of wastewater beyond solids and grit removal. The process decreases the organic load.

Sedimentation - The process by which solids are allowed to settle by gravity.

Sedimentation Tank - Tanks used to detain wastewater while the solids settle out.

Semi-Volatile Organics - Also known as Acid Base Neutrals (ABNs). A subcategory of organic pollutants. See Appendix K for a complete list.

Separate Sewer - A sewerage system divided into a storm sewer and a sanitary sewer.

Settleable Solids - The estimated amount of sludge that will settle by sedimentation. It is a fraction of the suspended-solids.

Settled Solids - Sludge. (See sludge.)

Sewage - Any wastes, including wastes from humans, households, commercial establishments, industries, and storm water runoff, that are discharged to or otherwise enter a POTW.

Sludge - Solids, residues, and precipitate separated from or created in sewage by the unit processes of a POTW.

SOP - See System Optimization Plan or Standard Operating Procedures

Stratification - The separation of water into layers characterized by thermal differences.

Standard Operating Procedures (SOP) - Documented protocols for plant operation, laboratory procedures, etc.

Surcharging - When the capacity of the sewer is insufficient and sewage escapes through a manhole.

Surfactant - Surface-active agent. Large organic molecules that cause foaming. They are usually found in detergents.

System Optimization Plan (SOP) - Hydraulic improvements that, in conjunction with ongoing programs of municipal sewerage agencies, might promote a balanced hydraulic system. The SOP may include optimization of the collector/interceptor system upstream of regulators, to ensure that the storage and transport capacity of the system is maximized within constraints unalterable except for major structural modifications.

Thickener - The structure where sludge is sent to be thickened by removing water.

TKN - See Total Kjeldahl Nitrogen.

Total Coliform - Bacteria found in decaying matter, feces, and soil. It used as an indicator of pathogens that are present in wastewater.

Total Kjeldahl Nitrogen (TKN) - The total organic and ammonia nitrogen.

Total Phosphorus - A measure of all the forms of phosphorus, a nutrient, found in water (orthophosphates, polyphosphates, and organic phosphates).

Total Suspended Solids (TSS) - The sum of insoluble solids that either float on the surface of, or are in suspension in water, wastewater, or other liquids.

Toxic Pollutant - Any pollutant listed as toxic in Appendix D of 40 CFR Part 122, under Section 307(a)(1) of CWA.

Toxics - Pollutants that have a toxic effect on living organisms. The "priority pollutants" of CWA Section 307(a) are a subset of this group of pollutants.

Toxicity Test - A procedure to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of effect on exposed test organisms of a specific chemical or effluent.

TSS - See Total Suspended Solids.

Twelve Month Running Average - The monthly average computed using the specific month and the previous 11 months.

Unregulated Community - Dischargers not required to have Permits to discharge into MWRA sewerage system. They are not regulated or required to meet Local Limits, nor are they regulated under the Local Limits Discharge Program.

Vertical Mixing - The vertical movement of the water column caused by wind, and/or density and/or temperature differences.

Volatile Organic Acid (VOA) - Same as Volatile Organic Compound.

Volatile Organic Compound (VOC) - Same as Volatile Organic Acid.

Volatile Solids - Those solids of a suspended solid sample that are burned off in a muffle oven at 550±50 °C.

Water Quality - The chemical, biological, and physical conditions of a body of water.

Water Quality Criteria - Specific levels of pollutants that would make a body of water unsuitable for its designated use (i.e. harmful if used for drinking, swimming, farming, fishing, or industrial processes).

Water Quality Standard - A law or regulation that consists of: the beneficial designated use or uses of a water body; the numeric and narrative water quality criteria that are necessary to protect the use or uses of that particular water body; and an antidegradation statement.

Whole Effluent Toxicity (WET) - The total toxic effect of effluent, not chemical specific but rather the cumulative effect, whether it be synergistic or antagonistic, of the chemicals found in the effluent.

ABBREVIATIONS, ACRONYMS AND UNITS

Abbreviations, Acronyms

ABNs - Acids Bases Neutrals
BDL - Below Detection Limit
BOD - Biochemical Oxygen Demand
BWSC - Boston Water and Sewer Commission
CFR - Code of Federal Regulations
CSO - Combined Sewer Overflow
CWA - Clean Water Act
DEP - Massachusetts Department of Environmental Protection
DITP - Deer Island Treatment Plant
ENQUAD - Environmental Quality Department
EPA - United States Environmental Protection Agency
FY - Fiscal Year
IDL - Instrument Detection Level
I/I - Infiltration and Inflow
LC50 - Median Lethal Concentration
LD50 - Median Lethal Dose
LOAEL - Lowest Observed Adverse Effect Level
LOEC - Lowest Observed Effect Concentration
MATC - Maximum Acceptable Toxicant Concentration
MDC - Metropolitan District Commission
MDL - Method Detection Limit
MPN - Most Probable Number
MWRA - Massachusetts Water Resources Authority
NITP - Nut Island Treatment Plant
NOAL - No Observed Acute Level
NOEC - No Observed Effect Concentration
NPDES - National Pollutant Discharge Elimination System
PAH - Polycyclic (or Polynuclear) Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl
PHC - Petroleum Hydrocarbon
POTW - Publicly Owned Treatment Work
SD - Standard Deviation
SOP - Standard Operating Procedures or System Optimization Plan
SSO - Sanitary Sewer Overflow
TKN - Total Kjeldahl Nitrogen
TRAC - Toxic Reduction and Control Department
TSS - Total Suspended Solids
VOA - Volatile Organic Acid
VOC - Volatile Organic Compound
WET - Whole Effluent Toxicity [test]

Units

in/yr - inches per year
L - liter
lbs - pounds
lbs/day - pounds per day
mL/L - milliliters per liter
MG - million gallons
mgd - million gallons per day
mg/L - milligrams per liter
µg/L (or ug/L) - micrograms per liter

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