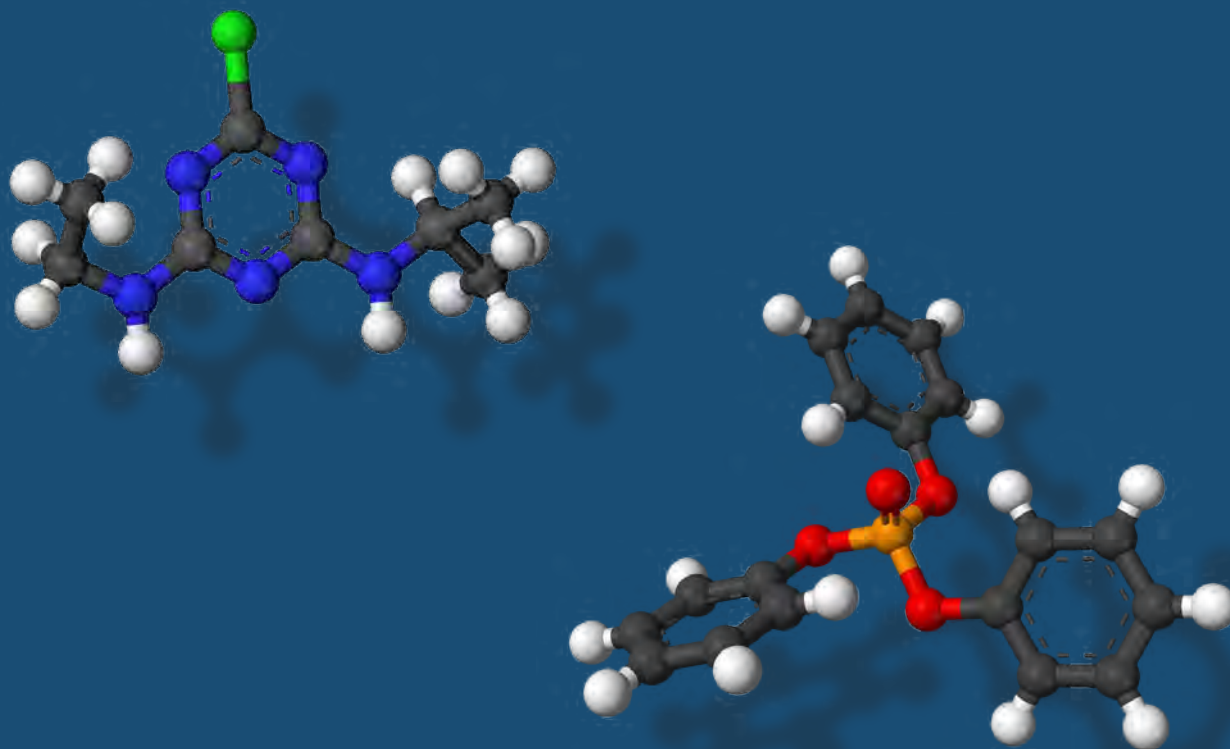


Prepared in cooperation with the Miami-Dade Water and Sewer Department

Occurrence of Organic Compounds in Source and Finished Samples from Seven Drinking-Water Treatment Facilities in Miami-Dade County, Florida, 2008



Data Series 550

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By Adam L. Foster and Brian G. Katz

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Data Series 550

**U.S. Department of the Interior
U.S. Geological Survey**

U.S. Department of the Interior
KEN SALAZAR, Secretary

U.S. Geological Survey
Marcia K. McNutt, Director

U.S. Geological Survey, Reston, Virginia: 2010

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Suggested citation:

Foster, A.L., and Katz, B.G., 2010, Occurrence of Organic Compounds in Source and Finished Samples from Seven Drinking-Water Treatment Facilities in Miami-Dade County, Florida, 2008: U.S. Geological Survey Data Series 550, 22 p.

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Conversion Factors and Datum

Multiply	By	To obtain
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m ³ /s)
foot (ft)	0.3048	meter (m)

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Concentrations of chemical constituents in water are given in micrograms per liter (µg/L) unless otherwise noted.

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:
 $F = (1.8 \times ^\circ\text{C}) + 32$

Acronyms and Additional Abbreviations

CIAT	2-chloro-4-isopropylamino-6-amino-s-triazine
GC/MS	Gas chromatography/mass spectrometry
MDL	Method detection level
MRL	Method reporting level
µg/L	microgram per liter
OWCs	Organic wastewater compounds
SVOCs	Semivolatile organic compounds
USGS	U.S. Geological Survey
WASD	Water and Sewer Department
USEPA	U.S. Environmental Protection Agency

Occurrence of Organic Compounds in Source and Finished Samples from Seven Drinking-Water Treatment Facilities in Miami-Dade County, Florida, 2008

By Adam L. Foster and Brian G. Katz

Abstract

The U.S. Geological Survey, in cooperation with the Miami-Dade Water and Sewer Department, conducted a reconnaissance study in 2008 to determine the occurrence of 228 organic compounds in raw, source (untreated) and finished (treated) drinking water at seven municipal water-treatment facilities in Miami-Dade County. Results of this sampling study showed that 25 (about 11 percent) of the 228 organic compounds were detected in at least one source water sample and 22 (about 10 percent) were detected in at least one finished water sample. The concentrations of organic compounds in source water samples were less than or equal to 0.2 µg/L (micrograms per liter). The concentrations of organic compounds in finished water samples were generally less than or equal to 0.5 µg/L, with the exception of bromoform (a possible disinfection byproduct) at estimated concentrations ranging from 0.7 to 2.8 µg/L and diethyl phthalate (a plasticizer compound) at 2 µg/L.

Introduction

As part of an ongoing reconnaissance study to identify the environmental presence of organic chemicals not commonly monitored in water resources, the U.S. Geological Survey (USGS), in cooperation with the Miami-Dade Water and Sewer Department (WASD), collected samples at seven drinking water-treatment facilities during June and July 2008 (fig. 1). The purpose of this sampling study was to determine the occurrence of organic compounds in source water (raw, untreated groundwater that has not passed through treatment processes) and finished drinking water (water that has passed through treatment processes, but prior to distribution) in Miami-Dade County. Samples were analyzed for 228 organic compounds, including organic wastewater compounds (OWCs), semivolatile organic compounds (SVOCs), prescription and nonprescription pharmaceutical, pesticides, antibiotics, and hormones. Public water-supply systems are required to monitor for regulated organic compounds under the Safe Drinking Water

Act of 1996 (U.S. Environmental Protection Agency, 1998); however, most of the compounds included in this sampling study are not regulated by Federal drinking-water standards (U.S. Environmental Protection Agency, 2009).

Purpose and Scope

The WASD is the sole water supplier for most residents of Miami-Dade County (Miami-Dade County, 2010). This report presents the results of the sampling efforts at seven WASD drinking-water treatment facilities and describes the sampling methods and analyses used during June and July 2008. Data include tables listing the concentrations of organic wastewater compounds, semivolatile organic compounds, pharmaceuticals, pesticides, antibiotics, and hormones detected in the samples collected during June and July 2008.

Study Area and Site Selection

The Biscayne aquifer is the source of raw, untreated groundwater for the WASD. About 330 Mgal/d (million gallons per day) are withdrawn from the aquifer through wells extending an average of 80 ft (feet) below land surface to meet the needs of the community (Miami-Dade Water and Sewer Department, 2009). As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up organic compounds resulting from the presence of animals or from human activity. To ensure that drinking water is safe, the U.S. Environmental Protection Agency (USEPA) regulates the contaminants in water provided by public water-supply systems (Miami-Dade Water and Sewer Department, 2009).

The seven sites selected for this sampling study include three large drinking-water treatment facilities in Miami-Dade County where groundwater from multiple well fields was blended before treatment. At these facilities, source water samples were collected after the groundwater from the various

2 Occurrence of Organic Compounds in Source and Finished Samples from Seven Drinking-Water Treatment Facilities

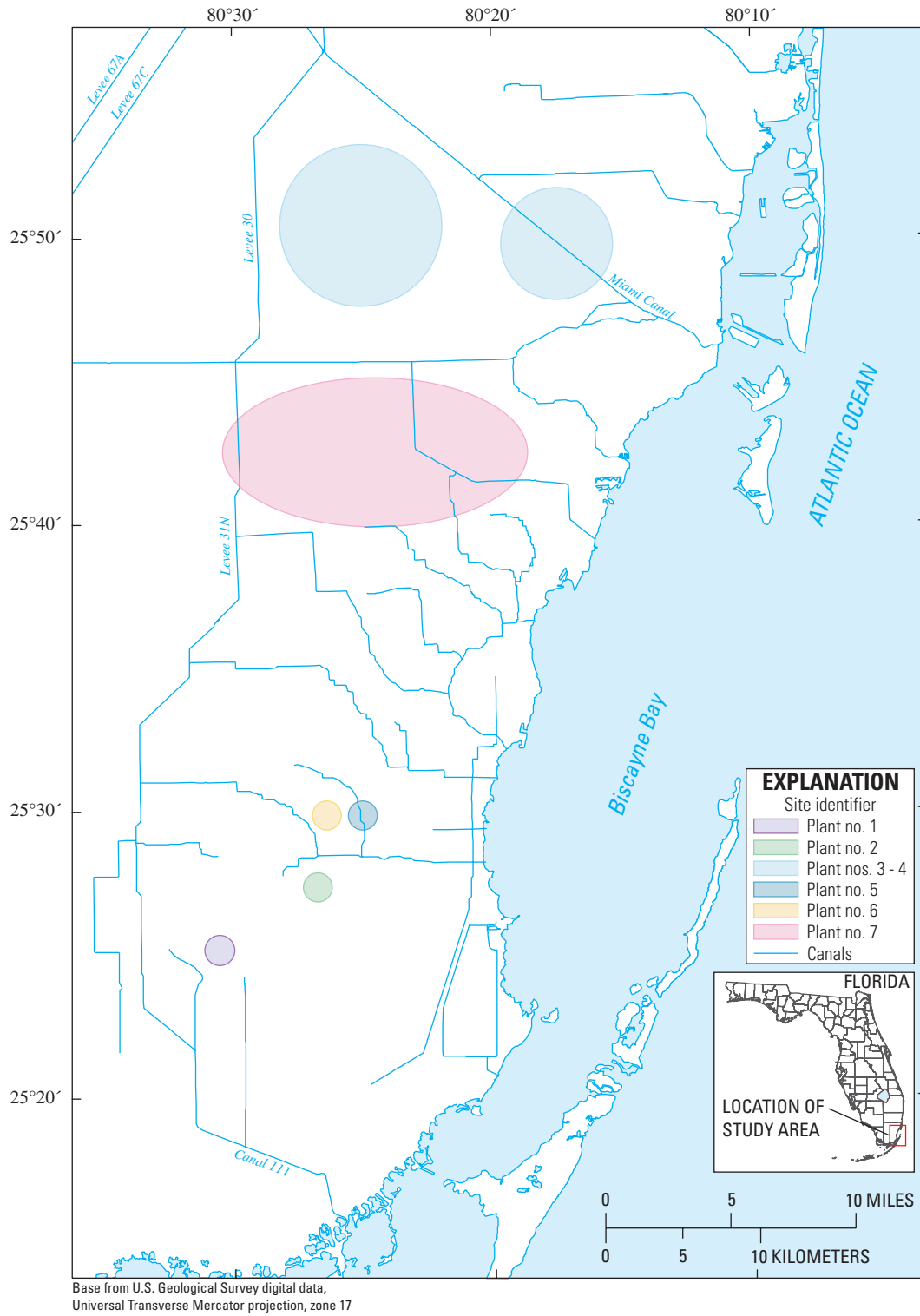


Figure 1. Generalized locations of sampling sites used during June and July 2008 in Miami-Dade County, Florida.

well fields is blended. The other four sites are “pump and treat” facilities where groundwater is collected, treated, and distributed from a single well. At these sites, source-water samples were collected from the well head. Finished water samples were collected from locations immediately after treatment at all seven plants. Because policies of the U.S. Geological Survey prohibit the public release of information pertaining to the location and ownership of municipal drinking-water treatment facilities (Katherine Lins, U.S. Geological Survey, Office of Water Information, written commun., July, 17, 2008), only generalized site locations are shown for the sites and facilities at which samples were collected and are referred to by site identifiers rather than facility names (Ferrell, 2009). Figure 1 shows the general areas of well fields from which each plant draws groundwater.

Sample Collection and Analyses

Field personnel collected all water samples in accordance with consistent and standardized USGS protocols (Koterba and others, 1995; U.S. Geological Survey, continuously updated). For samples requiring filtration, water was passed through an 0.7 micron, baked (450 °C for 8 hours), glass-fiber filter in the field. Water samples for each chemical analysis were stored in precleaned amber, glass bottles. Following collection, samples were immediately chilled and shipped overnight to either the USGS National Water Quality Laboratory in Denver, Colorado, or the USGS Organic Geochemistry Research Laboratory in Lawrence, Kansas.

Samples collected for analysis of wastewater, pharmaceutical, and antibiotic compounds are susceptible to contamination during sampling because some of the compounds are ubiquitous or common in daily use. To ensure sample integrity, field personnel avoided contact with, or consumption of, products that contain the compounds targeted for analysis. These products include: soaps and detergents, insect repellents, fragrances, sunscreen, caffeine, and tobacco products. Caution was exercised to avoid contact with the following pharmaceutical compounds: prescription drugs, medications and hormonal substances, nonprescription medications, and selected human and veterinary antibiotics. Field personnel wore powderless nitrile gloves that were changed frequently between activities and sample bottle collections. Direct contact between samples and clothing also was avoided during sampling and processing activities.

Water samples from this sampling study were analyzed for a total of 228 organic compounds, including OWCs, SVOCs, prescription and nonprescription pharmaceuticals, antibiotics, pesticides, and one hormone (17 β -estradiol). USGS approved analytical methods were used for all analytes except for 17 β -estradiol, which has no approved USGS method. OWCs and SVOCs were extracted from unfiltered water samples and analyzed by gas chromatography/mass spectrometry (GC/MS) (Zaugg and others, 2006; Fishman, 1993). Pesticides were extracted from filtered water samples and analyzed by GC/MS

(Sandstrom and others, 2001). Pharmaceuticals and antibiotics were extracted from filtered water samples and analyzed by high-performance liquid chromatography/mass spectrometry (Meyer and others, 2007; Furlong and others, 2008). The hormone 17 β -estradiol was analyzed in filtered water samples using enzyme-linked immunosorbent assay techniques described in Lietz and Meyer (2006).

A critical concept to assure a full understanding of the data presented in this report is knowledge of the difference between the method detection level (MDL) and the method reporting level (MRL). The MDL is defined as the minimum concentration of a constituent that can be determined and reported with 99-percent confidence that the value is greater than zero (U.S. Environmental Protection Agency, 1997). The MRL is defined as the lowest measured concentration of a compound that can be reliably reported by a certain analytical method (Timme, 1995) and generally is at least two times the MDL. When organic compounds were not detected during an analysis, concentrations are censored at the MRL (that is, concentrations are reported as less than the value).

Quality Assurance and Quality Control

Quality-assurance samples were collected to assess laboratory performance and to identify potential contamination problems associated with field-collection methods. Quality-assurance information for this sampling study included the collection of two replicate samples, one equipment blank sample, and two samples containing field-spiked compounds and surrogate compounds. Surrogate compounds were added by the laboratory to each of the samples submitted for organic-compound analyses. These surrogate compounds, which are not normally found in the environment, were used to determine whether there are interferences from other chemicals in the sample matrix and to evaluate the efficacy of the laboratory's analytical methods to detect target compounds that are chemically similar.

The two collected replicate samples (one source water and one finished water sample) showed that detections agreed within ± 10 percent of each other. The exception is 2-chloro-4-isopropylamino-6-amino-s-triazine (CIAT), which agreed within ± 20 percent.

To ensure that the sample tubing for this sampling study did not contaminate the samples, an equipment blank sample was processed using pesticide-grade blank water that was certified for use in the collection of blank samples for organic compounds. The equipment blank detected two compounds, 4-nonylphenol monoethoxylate (estimated concentration 0.11 $\mu\text{g/L}$) and bis(2-ethylhexyl) phthalate (estimated concentration 1.0 $\mu\text{g/L}$), and verified, but did not quantify, the presence of triphenyl phosphate and tris(2-chloroethyl) phosphate. The next section of this report provides a detailed explanation of estimated concentration values. No compounds present in the blank sample were detected in any of the environmental samples.

Two surrogate organic compounds, alpha-HCH- d_6 and diazinon- d_{10} , were added to each of the source and finished water samples collected for pesticide analyses. The median recoveries of alpha-HCH- d_6 and diazinon- d_{10} for this sampling study were 90.9 percent (ranging from 78.0 to 97.6 percent) and about 107 percent (ranging from 67.9 to 127 percent), respectively (table 1). Recovery values that range from 60 to 130 percent generally are considered to be within acceptable limits, although this range can vary considerably for specific compounds. Values that exceed this range may indicate possible problems with analytical methodology and (or) the sample matrix. Two surrogate compounds, carbamazepine- d_{10} and ethylnicotinate- d_4 , were added to the source and finished samples analyzed for pharmaceutical compounds (table 1). The median recoveries of carbamazepine- d_{10} and ethylnicotinate- d_4 for this sampling study were 109 percent (ranging from 70.8 to 128 percent) and about 93.5 percent (ranging from 73.2 to 141 percent), respectively (table 1). Four surrogate compounds, bisphenol A- d_3 , caffeine- ^{13}C , decafluorobiphenyl, and fluoranthene- d_{10} , are added to the source and finished samples analyzed for wastewater compounds (table 1). The median recoveries of bisphenol A- d_3 , caffeine- ^{13}C , decafluorobiphenyl, and fluoranthene- d_{10} for this sampling study are 65.2 percent (ranging from 41.9 to 119 percent), 77.7 percent (ranging from 51.9 to 88.6), 59.5 percent (ranging from 51.7 to 72.1 percent), and 81.2 percent (ranging from 71.1 to 89.7 percent), respectively (table 1). Five surrogate compounds, 2,4,6-tribromophenol, 2-fluorobiphenyl, nitrobenzene- d_5 , phenol- d_5 , and terphenyl- d_{14} , were added to the source and finished samples analyzed for semivolatile organic compounds (table 1). The median recoveries of 2,4,6-tribromophenol, 2-fluorobiphenyl, nitrobenzene- d_5 , phenol- d_5 , and terphenyl- d_{14} for this sampling study were 92.6 percent (ranging from 41.3 to 110 percent), 79.1 percent (ranging from 65.2 to 96.0), 87.2 percent (ranging from 69.5 to 99.6 percent), 61.2 percent (ranging from 23.7 to 87.1 percent), and about 72.9 percent (ranging from 58.5 to 92.3 percent), respectively (table 1).

Organic Compounds in Water Samples

The list of compounds analyzed during this sampling study and the results are listed in tables 2 through 7. Water samples were analyzed for 66 organic wastewater compounds, 14 pharmaceutical compounds, 33 antibiotic compounds, 54 semivolatile compounds, 60 pesticides, and 1 hormone. Of these compounds, a total of 31 were detected in the water samples.

Many of the compounds detected in water samples were detected at concentrations below MRLs; however, because these detections met qualitative criteria used for compound identification (gas chromatographic retention times, full-scan mass spectra, and ion abundance ratios), they were reported by the laboratory as estimated values (table 3) (Zaugg and Leiker 2006). Other factors that may result in an estimated value include: (1) the sample matrix interfered with measurement of

the compound; (2) surrogates added to the sample indicated poor performance during the analysis; or (3) the compound consistently has poor recoveries in laboratory reagent water spike samples, and concentrations are always reported as estimated. The compounds that were detected at concentrations below the MDLs are reported as “M” values, meaning the presence of the compound is verified, but the concentration could not be quantified.

Organic Compounds in Source (Untreated) Water

Thirty compounds (13 pesticides, 14 OWCs, and 3 SVOCs) were detected in source-water samples. Of these, 13 compounds (10 OWCs and 3 SVOCs) were verified, but not quantified (tables 2 to 4). Generally, concentrations were less than or equal to 0.1 $\mu\text{g/L}$, with the exception of the plasticizer tributyl phosphate (0.2 $\mu\text{g/L}$) and the flame retardant tris (2-butoxyethyl) phosphate (estimated at 0.2 $\mu\text{g/L}$). The herbicide atrazine and its metabolite, CIAT, were detected in all filtered source water samples at concentrations ranging from an estimated value of 0.006 to 0.02 $\mu\text{g/L}$.

Organic Compounds in Finished (Treated) Water

Twenty-one compounds (8 pesticides, 11 OWCs, and 2 SVOCs) were detected in finished water samples. Of these, 7 compounds (6 OWCs and 1 SVOCs) were verified but not quantified (tables 2 to 4). Generally, concentrations were less than or equal to 0.2 $\mu\text{g/L}$, with the exception of the plasticizer diethyl phthalate (2 $\mu\text{g/L}$) and the disinfection byproduct bromoform (estimated between 0.1 and 2.8 $\mu\text{g/L}$). Similar to the source water, the herbicide atrazine was detected in all filtered finished water samples at concentrations ranging from an estimated value of 0.005 to 0.035 $\mu\text{g/L}$.

Summary

This report summarizes part of an ongoing reconnaissance study where source and finished water samples were collected at seven drinking-water treatment facilities in Miami-Dade County during June and July 2008. The purpose of the sampling study was to assess the occurrence of 228 organic compounds (including organic wastewater compounds, semivolatile organic compounds, prescription and nonprescription pharmaceuticals, pesticides, antibiotics, and one hormone), the majority of which are not regulated by Federal drinking-water standards. Only 11 percent and 10 percent of these compounds were detected in source and finished waters, respectively. Concentrations in source waters were less than or equal to 0.2 $\mu\text{g/L}$, whereas concentrations in finished water samples were generally less than or equal to 0.5 $\mu\text{g/L}$, with the exception of bromoform (a possible disinfection byproduct), at estimated concentrations ranging from 0.7 to 2.8 $\mu\text{g/L}$ and diethyl

phthalate (a plasticizer compound) at 2 µg/L). Analysis of quality-assurance samples indicated that the analytical methods were efficient in both matrices, and field and laboratory practices did not introduce target analytes to the samples.

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Tables 1-6

Table 1. Percent recovery values for surrogate compounds added to source and finished water samples at the U.S. Geological Survey National Water Quality Laboratory.

[Values in percent recovery; yyyyymmdd, year, month, day; shading indicates different laboratory methods; R, replicate; --, no data]

Site identifier	Sample type	Sample date (yyyymmdd)	Sample time	2-Fluorobiphenyl	Nitrobenzene-d5	p-Terphenyl-d14	2,4,6-Tribromophenol	Phenol-d5	Bisphenol A-d3	Caffeine-13C	Decafluorobiphenyl	Fluoranthene-d10	Carbamazepine-d10	Ethyl nicotinate-d4	Diazinon-d10	alpha-HCH-d6
None	Equipment blank	20080616	1200	81.6	84.6	81.6	76.3	55.1	55.0	85.4	72.1	89.7	128	141	74.0	86.2
Plant no. 1	Raw	20080617	1000	83.0	86.4	80.9	41.3	23.7	67.6	83.7	55.4	84.3	123	108	99.1	93.4
Plant no. 1	Finished	20080617	1100	76.0	87.1	71.1	99.9	87.1	54.6	66.9	53.9	72.0	109	79.8	115	94.1
Plant no. 2	Raw	20080617	1300	78.8	86.7	83.5	86.7	64.8	54.1	62.0	59.5	75.2	112	102	77.2	90.9
Plant no. 2	Finished	20080617	1400	86.7	95.2	81.5	105	84.4	50.7	64.4	52.6	71.1	116	102	110	94.1
Plant no. 3	Raw	20080618	0900	87.5	94.7	84.0	107	56.4	62.1	75.5	52.6	77.7	81.3	93.5	114	93.4
Plant no. 3	Finished	20080618	1000	81.7	90.2	78.8	104	86.2	65.2	84.2	58.3	85.1	86.7	86.6	127	94.1
Plant no. 3	Finished-spike	20080618	1001	--	--	--	--	--	68.9	88.2	63.6	84.4	--	--	117	88.0
Plant no. 3	Finished-spike	20080618	1011	--	--	--	--	--	--	--	--	--	85.4	86.9	--	--
Plant no. 3	Finished-spike	20080618	1021	78.3	87.2	61.5	93.3	53.0	--	--	--	--	--	--	--	--
Plant no. 4	Raw	20080618	1130	79.7	87.3	69.6	91.8	59.2	68.1	85.3	59.5	86.2	70.8	80.8	119	94
Plant no. 4	Raw-spike	20080618	1131	--	--	--	--	--	67.0	78.0	59.6	81.2	--	--	125	97.6
Plant no. 4	Raw-spike	20080618	1141	--	--	--	--	--	--	--	--	--	81.1	92.6	--	--
Plant no. 4	Raw-spike	20080618	1151	75.7	77.4	70.9	95.3	49.7	--	--	--	--	--	--	--	--
Plant no. 4	Finished	20080618	1300	79.3	91.0	71.5	110	86.0	67.8	88.6	58.5	87.2	86.6	85.8	123	92.0
Plant no. 5	Finished	20080619	1000	71.9	77.6	71.7	82.5	71.7	41.9	69.7	54.6	73.8	109	99.4	107	89.7
Plant no. 5	Raw	20080619	1100	69.9	74.9	71.2	70.8	42.6	52.9	72.7	61.4	77.6	123	110	67.9	87.6
Plant no. 6	Finished	20080619	1200	78.6	84.8	74.0	93.9	74.9	48.7	74.5	51.7	74.1	103	112	112	96.2
Plant no. 6	Raw	20080619	1230	65.2	69.5	64.3	64.4	39.1	49.0	70.3	54.1	78.5	122	95.5	82.0	88.1
Plant no. 7	Raw	20080730	1100	96.0	99.6	92.3	96.9	63.1	106	77.7	68.7	83.7	115	98.7	85.1	86.2
Plant no. 7	Raw-R	20080730	1105	89.2	94.1	84.2	86.7	52.3	97.3	79.1	64.5	81.9	115	93.5	83.2	85.1
Plant no. 7	Finished	20080730	1200	--	--	--	--	--	119	82.1	66.2	81.1	110	73.2	106	84.2
Plant no. 7	Finished-R	20080730	1205	76.3	87.6	58.5	86.1	67.9	92.7	51.9	66.9	81.4	104	78.6	97.6	78
Median				79.1	87.2	72.9	92.6	61.2	65.2	77.7	59.5	81.2	109	93.5	107	90.9
Minimum				65.2	69.5	58.5	41.3	23.7	41.9	51.9	51.7	71.1	70.8	73.2	67.9	78.0
Maximum				96.0	99.6	92.3	110	87.1	119	88.6	72.1	89.7	128	141	127	97.6

Table 2. Concentrations of semivolatile organic compounds in unfiltered source and finished water samples.

[Bold values indicate detections. Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated; M, presence verified but not quantified; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	1,4-Dichlorobenzene	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2-Methyl-4,6-dinitrophenol	4-Chloro-3-methylphenol	4-Nitrophenol	Hexachlorobenzene	Pentachlorophenol	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,2-Diphenylhydrazine	1,3-Dichlorobenzene	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol		
P-Code				P34571	P34621	P34601	P34606	P34657	P34452	P34646	P39700	P39032	P34551	P34536	P82626	P34566	P34611	P34626	P34581	P34586			
None	Equipment blank	20080616	1200	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<0.4	<0.2	>0.2	<0.30	<0.2	<0.80	<0.43	<0.43	<0.2	<0.42		
Plant no. 1	Raw	20080617	1000	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 1	Finished	20080617	1100	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 2	Raw	20080617	1300	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 2	Finished	20080617	1400	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 3	Raw	20080618	0900	M	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	M	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 3	Finished	20080618	1000	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 4	Raw	20080618	1130	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	M	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 4	Finished	20080618	1300	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 5	Finished	20080619	1000	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 5	Raw	20080619	1100	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 6	Finished	20080619	1200	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 6	Raw	20080619	1230	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 7	Raw	20080730	1100	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 7	Raw-R	20080730	1105	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		
Plant no. 7	Finished	20080730	1200	Sample lost. Use data from replicate.																			
Plant no. 7	Finished-R	20080730	1205	<2	<6	<0.39	<6	<0.77	<0.55	<0.51	<0.30	<4	<2	<2	<0.30	<2	<80	<43	<43	<2	<42		

Table 2. Concentrations of semivolatile organic compounds in unfiltered source and finished water samples.—Continued

[Bold values indicate detections. Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated; M, presence verified but not quantified; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	2-Nitrophenol	3,3-Dichlorobenzidine	4-Bromophenyl phenyl ether	4-Chlorophenyl phenyl ether	9H-Fluorene	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[ghi]perylene	Benzo[k]fluoranthene	Benzo[e]fluoranthene	Benzyl n-butyl phthalate	Bis(2-chloroethoxy)methane	Bis(2-chloroethyl) ether	Bis(2-chloroisopropyl) ether	Chrysene
P-Code				P34591	P34631	P34636	P34641	P34381	P34205	P34200	P34220	P34526	P34247	P34230	P34521	P34242	P34292	P34278	P34273	P34283	P34320	
None	Equipment blank	20080616	1200	<0.6	<0.4	<0.36	<0.34	<0.33	<0.28	<0.30	<0.39	<0.26	<0.33	<0.40	<0.4	<0.4	<0.4	<0.4	<0.35	<0.30	<0.38	<0.33
Plant no. 1	Raw	20080617	1000	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 1	Finished	20080617	1100	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 2	Raw	20080617	1300	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 2	Finished	20080617	1400	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 3	Raw	20080618	0900	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 3	Finished	20080618	1000	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 4	Raw	20080618	1130	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 4	Finished	20080618	1300	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 5	Finished	20080619	1000	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 5	Raw	20080619	1100	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 6	Finished	20080619	1200	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 6	Raw	20080619	1230	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 7	Raw	20080730	1100	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 7	Raw-R	20080730	1105	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33
Plant no. 7	Finished	20080730	1200	Sample lost. Use data from replicate.																		
Plant no. 7	Finished-R	20080730	1205	<6	<4	<36	<34	<33	<28	<30	<39	<26	<33	<40	<4	<4	<4	<4	<35	<30	<38	<33

Table 2. Concentrations of semivolatile organic compounds in unfiltered source and finished water samples.—Continued

[Bold values indicate detections. Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated; M, presence verified but not quantified; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	Dibenz[a,h]anthracene	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Floranthene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno[1,2,3-cd]pyrene	Naphthalene	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodi-n-propylamine	N-Nitrosodiphenylamine	Phenanthrene	Phenol	Pyrene		
P-Code				P34556	P34336	P34341	P39110	P34596	P34376	P39702	P34386	P34396	P34403	P34696	P34447	P34438	P34428	P34433	P34461	P34694	P34469		
None	Equipment blank	20080616	1200	<4	<0.61	<0.59	<0.4	<0.4	<0.30	<0.2	<0.4	<0.2	<0.4	<0.32	<0.21	<0.33	<0.4	<0.32	<0.4	<0.35			
Plant no. 1	Raw	20080617	1000	<4	<61	M	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 1	Finished	20080617	1100	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 2	Raw	20080617	1300	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 2	Finished	20080617	1400	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 3	Raw	20080618	0900	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 3	Finished	20080618	1000	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 4	Raw	20080618	1130	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 4	Finished	20080618	1300	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 5	Finished	20080619	1000	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 5	Raw	20080619	1100	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 6	Finished	20080619	1200	<4	2	M	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 6	Raw	20080619	1230	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 7	Raw	20080730	1100	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 7	Raw-R	20080730	1105	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			
Plant no. 7	Finished	20080730	1200	Sample lost. Use data from replicate.																			
Plant no. 7	Finished-R	20080730	1205	<4	<61	<59	<4	<4	<30	<2	<4	<2	<4	<32	<21	<33	<4	<32	<4	<35			

Table 3. Concentrations of organic wastewater compounds in unfiltered source and finished water samples.

[Values in bold indicate detections. Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated value; M, presence verified but not quantified; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	Atrazine	Bromacil	Camphor	Carbaryl	Carbazole	Chlorpyrifos	DEET	Diazinon	Dichlorvos	Metolachlor	p-Cresol	Pentachlorophenol	Prometon	1-Methylnaphthalene	2,6-Dimethylnaphthalene	2-Methylnaphthalene
P-Code				P34571 P39630	P30234 P62817	P39750 P39750	P77571 P77571	P38932 P38932	P61947 P61947	P39570 P39570	P30218 P30218	P82612 P82612	P77146 P77146	P39032 P39032	P39056 P39056	P81696 P81696	P62805 P62805	P30194 P30194	
None	Equipment blank	20080616	1200	<0.020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2
Plant no. 1	Raw	20080617	1000	<20	<2	<2	<2	<2	<2	<2	<2	<2	M	<2	<4	<2	<2	<2	<2
Plant no. 1	Finished	20080617	1100	<20	<2	<2	<2	<2	<2	<2	<2	<2	M	<2	<4	<2	<2	<2	<2
Plant no. 2	Raw	20080617	1300	E.03	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	M	<2	<2	<2
Plant no. 2	Finished	20080617	1400	E.03	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 3	Raw	20080618	0900	<20	M	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 3	Finished	20080618	1000	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 4	Raw	20080618	1130	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 4	Finished	20080618	1300	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 5	Finished	20080619	1000	E.05	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 5	Raw	20080619	1100	E.04	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 6	Finished	20080619	1200	E.03	<2	<2	<2	<2	<2	<2	<2	<2	M	<2	<4	<2	<2	<2	<2
Plant no. 6	Raw	20080619	1230	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 7	Raw	20080730	1100	E.02	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 7	Raw-R	20080730	1105	E.02	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 7	Finished	20080730	1200	E.02	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2
Plant no. 7	Finished-R	20080730	1205	E.03	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2

Table 3. Concentrations of organic wastewater compounds in unfiltered source and finished water samples.—Continued

[Values in bold indicate detections. Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated value; M, presence verified but not quantified; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	3-beta-Coprostanol	3-Methyl-1H-indole	3-tert-Butyl-4-hydroxyanisole	4-Cumylphenol	4-n-Octylphenol	4-Nonylphenol (sum of all isomers)	4-Nonylphenol diethoxylate (sum of all isomers)	4-Nonylphenol monoethoxylate (sum of all isomers)	4-tert-Octylphenol diethoxylate	4-tert-Octylphenol monoethoxylate	4-tert-Octylphenol	5-Methyl-1H-benzotriazole	9,10-Anthraquinone	Acetophenone	Acetyl hexamethyl tetrahydro naphthalene	Anthracene	BDE congener 47
P-Code				P62806	P62807	P61702	P62808	P62809	P62829	P61703	P61704	P62486	P62485	P62810	P61944	P62813	P62811	P62812	P34220	P63147
None	Equipment blank	20080616	1200	<0.8	<0.2	<0.2	<0.2	<0.2	<2	<3	E0.11	<0.32	<1	<0.2	<2	<0.2	<0.3	<0.2	<0.39	<0.2
Plant no. 1	Raw	20080617	1000	<8	<2	<2	<2	<2	<2	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 1	Finished	20080617	1100	M	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 2	Raw	20080617	1300	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 2	Finished	20080617	1400	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 3	Raw	20080618	0900	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	M	M	<2	<2	<3	<2	<39	<2
Plant no. 3	Finished	20080618	1000	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	M	<3	<2	<39	<2
Plant no. 4	Raw	20080618	1130	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 4	Finished	20080618	1300	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 5	Finished	20080619	1000	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 5	Raw	20080619	1100	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	M	<2	<2	<2	<3	<2	<39	<2
Plant no. 6	Finished	20080619	1200	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 6	Raw	20080619	1230	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 7	Raw	20080730	1100	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 7	Raw-R	20080730	1105	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 7	Finished	20080730	1200	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2
Plant no. 7	Finished-R	20080730	1205	<8	<2	<2	<2	<2	<3	<3	<2.0	<32	<1	<2	<2	<2	<3	<2	<39	<2

Table 3. Concentrations of organic wastewater compounds in unfiltered source and finished water samples.—Continued

[Values in bold indicate detections. Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated value; M, presence verified but not quantified; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	Benzo[a]pyrene	Benzophenone	beta-Stirosterol	beta-Stigmastanol	Bis(2-ethylhexyl) phthalate	Bisphenol A	Caffeine	Cholesterol	Cotinine	D-Limonene	Fluranthene	Hexahydrohexamethyl cyclopentabenzopyran	Indole	Isoborneol	Isophorone	Isopropylbenzene
P-Code				P34247	P62814	P62815	P61948	P39100	P62816	P81436	P62818	P61945	P62819	P34376	P62823	P62824	P62825	P34408	P77223
None	Equipment blank	20080616	1200	<0.33	<0.2	<0.8	<0.8	E1	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 1	Raw	20080617	1000	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 1	Finished	20080617	1100	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	E.2	M	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 2	Raw	20080617	1300	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	E.1	M	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 2	Finished	20080617	1400	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 3	Raw	20080618	0900	<0.33	<0.2	<0.8	<0.8	<0.2	M	M	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 3	Finished	20080618	1000	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 4	Raw	20080618	1130	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	M	<0.2
Plant no. 4	Finished	20080618	1300	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 5	Finished	20080619	1000	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 5	Raw	20080619	1100	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 6	Finished	20080619	1200	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 6	Raw	20080619	1230	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 7	Raw	20080730	1100	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 7	Raw-R	20080730	1105	<0.33	<0.2	<0.8	<0.8	<0.2	M	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 7	Finished	20080730	1200	<0.2	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2
Plant no. 7	Finished-R	20080730	1205	<0.33	<0.2	<0.8	<0.8	<0.2	<0.4	<0.2	<0.8	<0.8	<0.2	<0.30	<0.2	<0.2	<0.2	<0.4	<0.2

Table 4. Concentrations of pesticides in filtered source and finished water samples.

[Values in bold indicate detections. Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated value; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	1-Naphthol	2,6-Diethylaniline	2-Chloro-2',6'-diethylanilide	2-Ethyl-6-methylaniline	3,4-Dichloroaniline	4-Chloro-2-methylphenol	Acetochlor	Alachlor	Atrazine	Azinphos-methyl analog	Azinphos-methyl	Benfluralin	Carbaryl	Chlorpyrifos oxygen analog	Chlorpyrifos
P-Code				P49295	P82660	P61618	P61620	P61625	P61633	P49260	P46342	P39632	P61635	P82686	P82673	P82680	P61636	P38933
None	Equipment blank	20080616	1200	<0.04	<0.006	<0.010	<0.010	<0.006	<0.005	<0.006	<0.006	<0.007	<0.06	<0.120	<0.010	<0.060	<0.06	<0.005
Plant no. 1	Raw	20080617	1000	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	E.006	<.04	<.120	<.010	<.060	<.06	<.005
Plant no. 1	Finished	20080617	1100	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	E.007	<.04	<.120	<.010	<.060	<.06	<.005
Plant no. 2	Raw	20080617	1300	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.014	<.04	<.120	<.010	<.060	<.06	<.005
Plant no. 2	Finished	20080617	1400	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.021	<.04	<.120	<.010	<.060	<.06	<.005
Plant no. 3	Raw	20080618	0900	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.011	<.06	<.120	<.010	<.060	<.06	<.005
Plant no. 3	Finished	20080618	1000	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.012	<.06	<.120	<.010	<.060	<.06	<.005
Plant no. 4	Raw	20080618	1130	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	E.006	<.06	<.120	<.010	<.060	<.06	<.005
Plant no. 4	Finished	20080618	1300	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	E.007	<.06	<.120	<.010	<.060	<.06	<.005
Plant no. 5	Finished	20080619	1000	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.035	<.04	<.120	<.010	<.060	<.06	<.005
Plant no. 5	Raw	20080619	1100	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.022	<.04	<.120	<.010	<.060	<.06	<.005
Plant no. 6	Finished	20080619	1200	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	E.005	<.04	<.120	<.010	<.060	<.06	<.005
Plant no. 6	Raw	20080619	1230	<.04	<.006	<.010	E.001	<.006	<.005	<.006	<.006	E.004	<.04	<.120	<.010	<.060	<.06	<.005
Plant no. 7	Raw	20080730	1100	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.02	<.06	<.120	<.010	<.060	<.06	<.005
Plant no. 7	Raw-R	20080730	1105	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.019	<.06	<.120	<.010	<.060	<.06	<.005
Plant no. 7	Finished	20080730	1200	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.025	<.06	<.120	<.010	<.060	<.06	<.005
Plant no. 7	Finished-R	20080730	1205	<.04	<.006	<.010	<.010	<.006	<.005	<.006	<.006	.024	<.06	<.120	<.010	<.060	<.06	<.005

Table 4. Concentrations of pesticides in filtered source and finished water samples.—Continued

[Values in bold indicate detections. Concentrations in micrograms per liter; yyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated value; R, replicate]

Site identifier	Sample type	Sample date (yyymmdd)	Sample time	cis-Permethrin	Cyfluthrin	Cypermethrin	DCPA	Desulfnylfipronil amide	Desulfnylfipronil	Diazinon	Dichlorvos	Dicetophos	Dieldrin	Dimethoate	Ethion monoxon	Ethion	Fenamiphos sulfone	Fenamiphos sulfoxide
P-Code				P82687	P61585	P61586	P82682	P62169	P62170	P39572	P38775	P38454	P39381	P82662	P61644	P82346	P61645	P61646
None	Equipment blank	20080616	1200	<0.010	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<0.02	<0.006	<0.053	<0.20
Plant no. 1	Raw	20080617	1000	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	E.003	<0.006	<.02	<0.006	<.053	<.20
Plant no. 1	Finished	20080617	1100	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 2	Raw	20080617	1300	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 2	Finished	20080617	1400	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 3	Raw	20080618	0900	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 3	Finished	20080618	1000	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 4	Raw	20080618	1130	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 4	Finished	20080618	1300	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 5	Finished	20080619	1000	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 5	Raw	20080619	1100	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 6	Finished	20080619	1200	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 6	Raw	20080619	1230	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 7	Raw	20080730	1100	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 7	Raw-R	20080730	1105	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 7	Finished	20080730	1200	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20
Plant no. 7	Finished-R	20080730	1205	<0.10	<0.016	<0.014	<0.003	<0.029	<0.012	<0.005	<0.01	<0.08	<0.009	<0.006	<.02	<0.006	<.053	<.20

Table 4. Concentrations of pesticides in filtered source and finished water samples.—Continued

[Values in bold indicate detections. Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated value; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	Fenamiphos P61591	Fipronil sulfide P62167	Fipronil sulfone P62168	Fipronil P62166	Iprothione P61593	Isophos P61594	Malaoxon P61652	Malathion P39532	Metaxyl P61596	Methidathion P61598	Methyl paraoxon P61664	Methyl parathion P82667	Metachlor P39415	Metribuzin P82630	Myclobutanil P61599
None	Equipment blank	20080616	1200	<0.03	<0.013	<0.024	<0.020	<0.010	<0.006	<0.020	<0.016	<0.007	<0.004	<0.01	<0.008	<0.010	<0.012	<0.010
Plant no. 1	Raw	20080617	1000	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	.008	<.004	<.01	<.008	.019	.019	.011
Plant no. 1	Finished	20080617	1100	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.020	<.004	<.01	<.008	.023	E.011	.011
Plant no. 2	Raw	20080617	1300	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 2	Finished	20080617	1400	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 3	Raw	20080618	0900	<.03	E.007	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 3	Finished	20080618	1000	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 4	Raw	20080618	1130	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 4	Finished	20080618	1300	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 5	Finished	20080619	1000	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 5	Raw	20080619	1100	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 6	Finished	20080619	1200	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	E.006	.048	<.010
Plant no. 6	Raw	20080619	1230	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	E.005	.024	<.010
Plant no. 7	Raw	20080730	1100	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 7	Raw-R	20080730	1105	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 7	Finished	20080730	1200	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010
Plant no. 7	Finished-R	20080730	1205	<.03	<.013	<.024	<.020	<.010	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012	<.010

Table 4. Concentrations of pesticides in filtered source and finished water samples.—Continued

[Values in bold indicate detections. Concentrations in micrograms per liter; yyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; E, estimated value; R, replicate]

Site identifier	Sample type	Sample date (yyymmdd)	Sample time	Pendimethalin	Phorate oxygen analog	Phorate	Phosmet oxygen analog	Phosmet	Propylamide	Tebuthiuron	Terbufos oxygen analog	Terbufos	Tribufos	Trifluralin	2-Chloro-4-isopropylamino-6-amino-s-triazine (CIAT)	Simazine	Hexazinone	Prometon
P-Code				P82683	P61666	P82664	P61668	P61601	P82676	P82670	P61674	P82675	P61610	P82661	P04040	P04035	P04025	P04037
None	Equipment blank	20080616	1200	<0.012	<0.03	<0.040	<0.06	<0.008	<0.004	<0.02	<0.04	<0.02	<0.035	<0.009	<0.014	<0.006	<0.008	<0.01
Plant no. 1	Raw	20080617	1000	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.009	<0.06	<0.08	<0.1
Plant no. 1	Finished	20080617	1100	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.010	<0.06	<0.11	<0.1
Plant no. 2	Raw	20080617	1300	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.016	E.005	<0.08	E.01
Plant no. 2	Finished	20080617	1400	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.019	E.006	<0.08	<0.1
Plant no. 3	Raw	20080618	0900	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	.08	<0.4	<0.2	<0.35	<0.09	E.010	<0.06	.033	<0.1
Plant no. 3	Finished	20080618	1000	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	.15	<0.4	<0.2	<0.35	<0.09	<0.14	<0.06	.058	<0.1
Plant no. 4	Raw	20080618	1130	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	.03	<0.4	<0.2	<0.35	<0.09	E.007	<0.06	.013	<0.1
Plant no. 4	Finished	20080618	1300	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	.04	<0.4	<0.2	<0.35	<0.09	<0.14	<0.06	<0.08	<0.1
Plant no. 5	Finished	20080619	1000	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.023	E.007	<0.13	<0.1
Plant no. 5	Raw	20080619	1100	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.018	E.006	<0.08	E.01
Plant no. 6	Finished	20080619	1200	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.013	E.008	<0.11	<0.1
Plant no. 6	Raw	20080619	1230	<0.12	<0.3	<0.40	<0.5	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.009	E.006	<0.08	E.01
Plant no. 7	Raw	20080730	1100	<0.12	<0.3	<0.40	<0.6	<0.08	<0.04	E.01	<0.4	<0.2	<0.35	<0.09	E.015	<0.06	.031	E.01
Plant no. 7	Raw-R	20080730	1105	<0.12	<0.3	<0.40	<0.6	<0.08	<0.04	E.01	<0.4	<0.2	<0.35	<0.09	E.013	<0.06	.029	E.01
Plant no. 7	Finished	20080730	1200	<0.12	<0.3	<0.40	<0.6	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.018	<0.06	.063	<0.1
Plant no. 7	Finished-R	20080730	1205	<0.12	<0.3	<0.40	<0.6	<0.08	<0.04	<0.2	<0.4	<0.2	<0.35	<0.09	E.015	<0.06	.058	<0.1

Table 5. Concentrations of pharmaceutical compounds in filtered source and finished water samples.

[Concentrations in micrograms per liter; yyyyymmdd, year, month, day; P code, U.S. Environmental Protection Agency STORET code; <, less than; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	Thibendazole	1,7-Dimethylxanthine	Acetaminophen	Albuterol	Caffeine	Carbamazepine	Codeine	Cotinine	Dehydroepiandrosterone	Diltiazem	Diphenhydramine	Sulfamethoxazole	Trimethoprim	Warfarin
P-Code				P62801	P62030	P62000	P62020	P50305	P62793	P62003	P62005	P62004	P62008	P62796	P62021	P62023	P62024
None	Equipment blank	20080616	1200	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 1	Raw	20080617	1000	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 1	Finished	20080617	1100	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 2	Raw	20080617	1300	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 2	Finished	20080617	1400	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 3	Raw	20080618	0900	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 3	Finished	20080618	1000	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 4	Raw	20080618	1130	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 4	Finished	20080618	1300	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 5	Finished	20080619	1000	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 5	Raw	20080619	1100	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 6	Finished	20080619	1200	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 6	Raw	20080619	1230	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 7	Raw	20080730	1100	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 7	Raw-R	20080730	1105	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 7	Finished	20080730	1200	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060
Plant no. 7	Finished-R	20080730	1205	<0.100	<0.100	<0.080	<0.040	<0.060	<0.040	<0.040	<0.026	<0.060	<0.040	<0.050	<0.100	<0.040	<0.060

Table 6. Concentrations of antibiotic compounds and 17 β -estradiol (E2) in source and finished water samples.

[Concentrations in micrograms per liter; yyyyymmdd, year, month, day; <, less than; R, replicate]

Site identifier	Sample type	Sample date (yyyyymmdd)	Sample time	Azithromycin	Carbamazepine	Chloramphenicol	Chlorotetracycline	Ciprofloxacin	Doxycycline	Enrofloxacin	Epi-chlorotetracycline	Epi-iso-chlorotetracycline	Epi-oxytetracycline	Epi-tetracycline	Erythromycin	Erythromycin-H2O	Ibuprofen	Iso-chlorotetracycline	Lincomycin	Lomefloxacin
None	Equipment blank	20080616	1200	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 1	Raw	20080617	1000	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 1	Finished	20080617	1100	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 2	Raw	20080617	1300	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 2	Finished	20080617	1400	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 3	Raw	20080618	0900	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 3	Finished	20080618	1000	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 4	Raw	20080618	1130	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 4	Finished	20080618	1300	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 5	Finished	20080619	1000	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 5	Raw	20080619	1100	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 6	Finished	20080619	1200	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 6	Raw	20080619	1230	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 7	Raw	20080730	1100	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 7	Raw-R	20080730	1105	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 7	Finished	20080730	1200	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005
Plant no. 7	Finished-R	20080730	1205	<0.005	<0.005	<0.100	<0.010	<0.005	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.008	<0.008	<0.050	<0.010	<0.005	<0.005

Table 6. Concentrations of antibiotic compounds and 17β-estradiol (E2) in source and finished water samples.—Continued

[Concentrations in micrograms per liter; yyyyymmdd, year, month, day; <, less than; R, replicate]

Site identifier	Sample type	Sample date (yyyymmdd)	Sample time	Norfloxacin	Ofloxacin	Ormetoprim	Oxytetracycline	Roxithromycin	Sarafloxacin	Sulfachloropyridazine	Sulfadiazine	Sulfadimethoxine	Sulfamethazine	Sulfamethoxazole	Sulfathiazole	Tetracycline	Trimethoprim	Tylosin	Virginiamycin	17β-estradiol (E2)
None	Equipment blank	20080616	1200	<.005	<.005	<.005	<.010	<.005	<.005	<.005	<.100	<.005	<.005	>.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 1	Raw	20080617	1000	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 1	Finished	20080617	1100	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 2	Raw	20080617	1300	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 2	Finished	20080617	1400	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 3	Raw	20080618	0900	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 3	Finished	20080618	1000	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 4	Raw	20080618	1130	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 4	Finished	20080618	1300	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 5	Finished	20080619	1000	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 5	Raw	20080619	1100	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 6	Finished	20080619	1200	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 6	Raw	20080619	1230	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 7	Raw	20080730	1100	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 7	Raw-R	20080730	1105	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 7	Finished	20080730	1200	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50
Plant no. 7	Finished-R	20080730	1205	<.005	<.005	<.005	<.010	<.005	<.005	<.100	<.005	<.005	<.005	<.005	<.050	<.010	<.005	<.008	<.005	<.50

