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Calleguas Creek Characterization Study

Results of the Coordinated Water Quality Monitoring Program, Surface Water Element

Submitted to:
Participating Agencies

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Introduction

The Los Angeles Regional Water Quality Control Board (LARWQCB) has required that the major point source dischargers within the Calleguas Creek watershed participate in a study to characterize water quality within the watershed and determine the dischargers' contributions to the quality of surface water and groundwater. The Calleguas Creek Characterization Study (CCCS) was developed in response to these requirements. The Study includes a Coordinated Water Quality Monitoring Program (CMP), consisting of a surface water element and a groundwater element. The surface water element is described in detail in the *Calleguas Creek Characterization Study Monitoring Plan: Surface Water Element*. This monitoring plan details the Standard Operating Procedures for field activities under the surface water element.

The primary purpose of the surface water element of the CMP was to collect the additional discharge and receiving water quality data necessary to accomplish the objectives of the Calleguas Creek Characterization Study and provide information for development of a Calleguas Watershed Management Plan. The monitoring program was designed to supplement existing discharge and receiving water quality monitoring performed by various agencies within the watershed. The objective of this report is to present the results of the surface water monitoring program and compare it to existing data collected in the watershed.

Monitoring Program Overview

From July 1998 through June 1999, samples were collected and analyzed for general water quality constituents (GWQC), metals, organics, water toxicity, sediment chemistry (receiving water only), and sediment toxicity (receiving water only). Samples were analyzed monthly for general water quality constituents, quarterly for metals and organics, six times for water toxicity, and semi-annually for sediment toxicity and chemistry. The sampling schedule is presented in Table 1.

Table 1. Sampling Schedule

	Receiving Water						Discharge Water (5)			
Date	Metals (1)	Organics (1)	CWQC (1)	Water Tox (3)	Sed Chem (4)	Sed Tox (4)	Metals	Organics	CWQC	Water Tox (8)
7/1/98			X(2)						X	
8/5/98	X(2)	X(2)	X(2)	X			X	X	X	X
9/2/98			X						X(6)	
10/7/98			X	X					X(6,7)	X(7)
11/5/98	X	X	X	X	X	X	X(7)	X(7)	X(7)	X(7)
12/2/98			X						X(6,7)	
1/6/99			X	X					X(7)	X(7)
2/3/99	X	X	X	X			X(6,7)	X(6,7)	X(6,7)	X(6,7)
3/3/99			X						X	
4/7/99			X						X(6)	
5/5/99	X	X	X	X	X	X	X(6,7)	X(6)	X(6)	X(6)
6/2/99			X						X(6)	

Notes

1 Samples collected at all receiving water sites, with the exception of 2, 5, and 6.
2 Samples not collected at site 15 due to harbor seal breeding.
3 Samples collected at sites 2, 5, 6, 10, and 12 only.
4 Samples collected at sites 2, 5, 6, 7, 10, 12, and 13 only.
5 Camrosa WWTP never discharged, so no samples were collected at Station D.
6 Samples not collected at site C due to lack of plant discharge.
7 Samples not collected at site H due to lack of flow.
8 Sites B, E, F, G, H, I analyzed for Ceriodaphnia. Sites A, B, C, H, I analyzed for Pimephales.

There were 9 discharge stations used during the study. Figure 1 shows the location of these discharge stations. The discharge stations were labeled with letters from A to I and were located as follows:

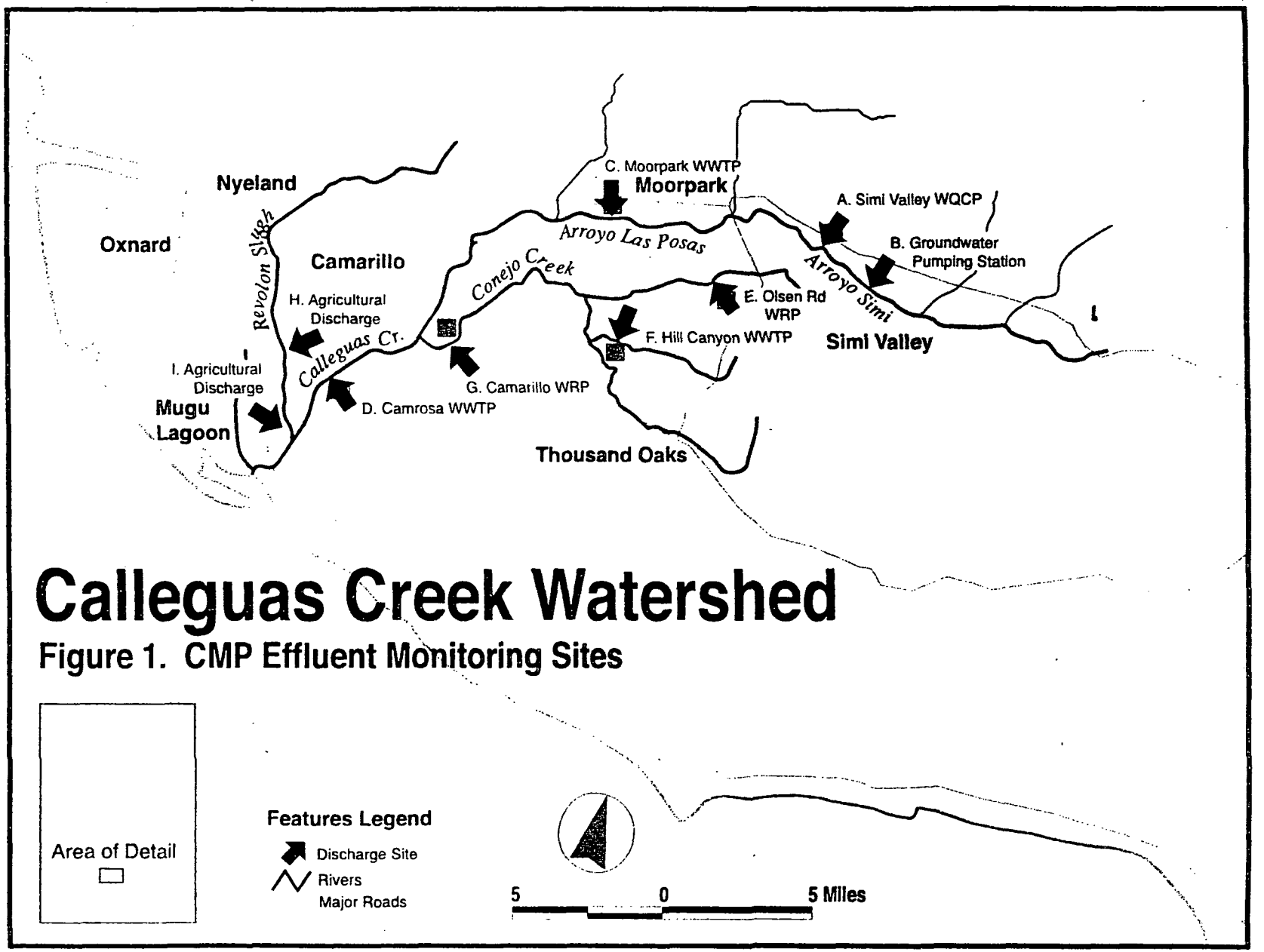
- A - Simi Valley Water Quality Control Plant
- B - Groundwater pumping station on Arroyo Simi, above SVWQCP Simi Valley Water Quality Control Plant
- C - Moorpark Wastewater Treatment Plant
- D - Camrosa Wastewater Treatment Plant (the plant never discharged during the monitoring period, so there is no data for this station)
- E - Olsen Road Water Reclamation Plant
- F - Hill Canyon Wastewater Treatment Plant
- G - Camarillo Water Reclamation Plant
- H - Agricultural Discharge on Revolon Slough, above Wood Road
- I - Agricultural Discharge on Revolon Slough, at Las Posas Road

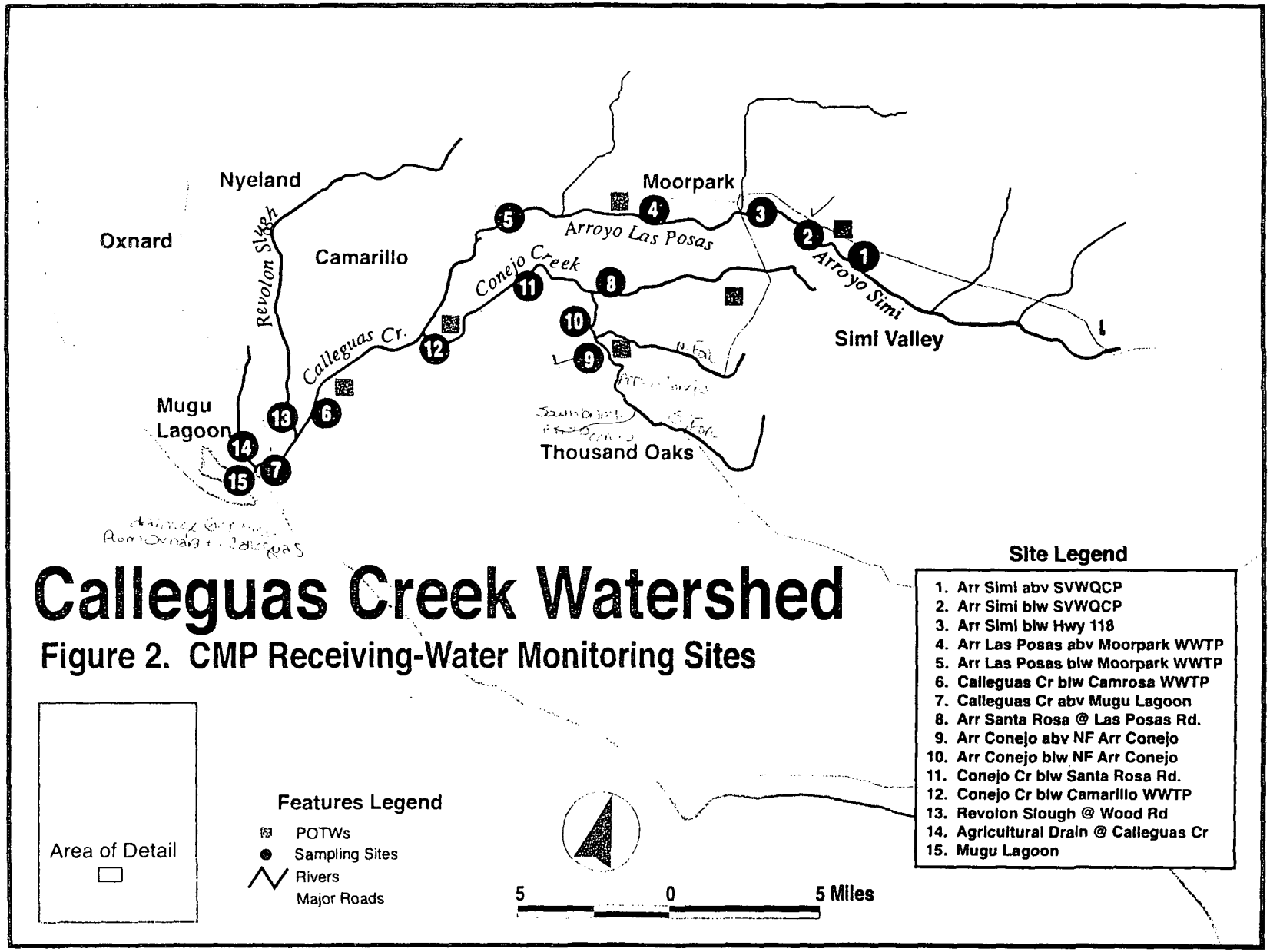
There were 15 receiving water stations used during the study. Figure 2 shows the location of these receiving water stations. The receiving water stations were labeled with the numbers 1 to 15 and were located as follows:

- 1 – Arroyo Simi, above Simi Valley Water Quality Control Plant, west of Madera Road
- 2 – Arroyo Simi, below Simi Valley Water Quality Control Plant
- 3 – Arroyo Simi, below Highway 118
- 4 – Arroyo Las Posas, above Moorpark Wastewater Treatment Plant at Hitch Boulevard
- 5 – Arroyo Las Posas, below Moorpark Wastewater Treatment Plant off Somis Road
- 6 – Calleguas Creek, below Camrosa Wastewater Reclamation Plant at Camarillo Drive
- 7 – Calleguas Creek, above Mugu Lagoon
- 8 – Arroyo Santa Rosa, at Las Posas Road
- 9 – Arroyo Conejo, above the confluence of the North Fork of Arroyo Conejo
- 10 – Arroyo Conejo, below the confluence of the North Fork of Arroyo Conejo
- 11 – Conejo Creek, at Adolfo Road
- 12 – Conejo Creek, below Camarillo Wastewater Treatment Plant at Howard Road Bridge
- 13 - Revolon Slough, at Wood Road
- 14 – Agricultural drain, at Calleguas Creek
- 15 – Mugu Lagoon

QUALITY ASSURANCE/QUALITY CONTROL RESULTS

After the laboratory results were received for each monitoring event, a comprehensive QA/QC evaluation was done on the reported results. Any problems or discrepancies were reviewed with the laboratories, and amended reports were issued as necessary. A memo summarizing the QA/QC issues found during each monitoring event was produced after the data review. In general, the sample analyses met the QA/QC criteria or the identified issues were resolved with the laboratory. Those sample results for which QA/QC criteria were not met have been qualified in the database of sample results. Additionally, for some events the levels of dissolved metals were reported as being higher than those of the total recoverable metals. In these cases, the laboratory reviewed its sample handling and analysis procedures, refiltered and reanalyzed the samples, and still obtained similar results. The discrepancies may have resulted from the sample collection process (different grab bottles for total and dissolved metals and insufficient sample mixing when pouring off composite samples) or may be a function of the fact that most of the metals are present in dissolved form in this watershed, but there were no laboratory errors identified.


Nyeland
Oxnard
Revolon Slough
Camarillo
C. Moorpark WWTP
Moorpark
A. Simi Valley WQCP
Arroyo Las Posas
B. Groundwater
Pumping Station
Conejo Creek
Arroyo Simi
H. Agricultural
Discharge
Calleguas Cr.
E. Olsen Rd
WRP
F. Hill Canyon WWTP
Simi Valley
I. Agricultural
Discharge
Mugu
Lagoon
G. Camarillo WRP
D. Camrosa WWTP
Thousand Oaks
Calleguas Creek Watershed
Figure 1. CMP Effluent Monitoring Sites
Area of Detail
Features Legend
Discharge Site
Rivers
Major Roads
5
0
5 Miles



Calleguas Creek Watershed

Figure 2. CMP Receiving-Water Monitoring Sites

Report Layout

The complete data set of monitoring results, containing results for every sample, constituent, and site, and the summary statistics for those results are found in the appendices. Receiving water monitoring results for general water quality constituents, metals, organics, water toxicity, sediment toxicity, and sediment chemistry may be found in Appendices A through F, respectively. Receiving water summary statistics may be found in Appendices G through L. Effluent monitoring results for general water quality constituents, metals, organics, and water toxicity may be found in Appendices M through P, respectively. Effluent summary statistics are found in Appendices Q through T.

To simplify the presentation of data for purposes of this report, the Calleguas Creek watershed was broken down into four smaller hydrological systems:

- Arroyo Simi/Arroyo Las Posas
- Calleguas Creek/Conejo Creek
- Revolon Slough
- Mugu Lagoon

The Arroyo Simi/Arroyo Las Posas hydrological region includes the upper reach of Arroyo Simi to the confluence of Arroyo Las Posas and Conejo Creek. It is characterized by data from receiving water stations 1, 2, 3, 4, and 5. The Calleguas Creek/Conejo Creek hydrological system includes the north and south fork of Arroyo Conejo, Arroyo Santa Rosa, Conejo Creek, and Calleguas Creek to just above Mugu Lagoon. It is characterized by data from stations 6, 8, 9, 10, 11, and 12. The Revolon Slough hydrological system includes Revolon Slough to the confluence with Calleguas Creek. It is characterized by data from station 13. Lastly, the Mugu Lagoon hydrological system includes Mugu Lagoon and the Calleguas Creek estuary. It is characterized by data from stations 7, 14, and 15. The receiving water data for each system are summarized in the following section of this report.

To check the CCCS data for consistency with past studies, historical data were collected from local POTWs, the Regional Water Quality Control Board, the Department of Water Resources, United States Geological Survey, and Ventura County Flood Control District. The data date from as far back as January of 1952 to as recently as January of 1999. The historical data consist of general water quality constituents and some metals and organics data. The historical data from each hydrological system described above are summarized and presented in the applicable section.

The CCCS data are checked against the historical data by using unpaired t-tests to compare the data sets. Unpaired t-tests compare the means of the data sets to determine the likelihood that the differences are due to chance. The lower the p-value, the less likely the difference is due to chance. The results of the t-tests are presented as a p-value along with a summary of CCCS and historical data. A p-value <0.010 indicates that the CCCS data and the historical data are significantly different.

Arroyo Simi/Arroyo Las Posas

GENERAL WATER QUALITY CONSTITUENTS--

There were 36 total samples analyzed for general water quality constituents in this hydrological system (3 monitoring stations and 12 sampling events). All but five general water quality constituents were detected in 100% of the samples. Manganese was detected in 94%, TSS in 92%, ammonia in 78%, organic nitrogen in 61%, and ortho phosphate in 88%. Summary statistics for all general water quality constituents in the Arroyo Simi/Arroyo Las Posas hydrological region are listed in Table 2.

METALS

There were 12 total samples analyzed for metals in this hydrological system (3 monitoring stations and 4 sampling events). All metals, with the exception of total and dissolved selenium, were detected in 100% of the samples. Total selenium was detected in 75%, and dissolved selenium was detected in 67%. Summary statistics for all metals in this hydrological region are listed in Table 3.

ORGANICS

There were 12 total samples analyzed for organics in this hydrological system (3 monitoring stations and 4 sampling events). In this hydrological system, there were three organic pesticides frequently detected. Diazinon was detected in 50% of the samples, at levels up to 0.15 µg/L. 4,4-DDE was detected in 33% of the samples at levels up to 11 ng/L. BHC-gamma (lindane) was detected in 50% of the samples at levels up to 7.2 ng/L. Summary statistics for these constituents are listed in Table 4.

WATER TOXICITY

There were 12 total samples analyzed for water toxicity in this hydrological system (2 monitoring stations and 6 sampling events). The data show that the water was regularly toxic to aquatic life in this hydrological region. Ceriodaphnia mortality and diminished reproduction were observed in at least 42% of the samples. Pimephales mortality and diminished growth were also observed in 42% of the samples. To determine the extent to which ammonia caused the observed toxicity,

three samples (one sample from each of three events) were tested. For one sample, the observed toxicity was no longer present by the time the testing was conducted. For the remaining two samples, removing ammonia did reduce the toxicity of the sample, but the reduction was small and the overall toxicity of those samples remained significant, suggesting that there are other pollutants which contribute to the observed toxicities. A summary of water toxicity results is listed in Table 5.

SEDIMENT TOXICITY

There were 4 total samples analyzed for sediment toxicity in this hydrological system (2 monitoring stations and 2 sampling events). The data suggest that sediments in this hydrological region are toxic to aquatic life. Hyalella mortality was observed in 50% of the samples. Ceriodaphnia reproduction was hampered in 50% of the samples, and mortality was observed in at least 25% of the samples. A summary of sediment toxicity results is listed in Table 6.

SEDIMENT CHEMISTRY

Sediments were tested for chlorinated pesticides, PAHs, and dioxins. There were 4 total samples analyzed for chlorinated pesticides and PAHs in this hydrological system (2 monitoring stations and 2 sampling events) and 2 total samples analyzed for dioxins (1 monitoring station and 2 sampling events). In this hydrological region, the only chlorinated pesticide detected in sediment was 4,4-DDE, which was detected in 100% of samples at levels between 1.5-33.3 µg/kg. No PAHs were detected in any sample. 20 dioxins were detected in 100% of samples. Summary statistics for sediment chemistry in this hydrological system are listed in Table 7.

HISTORICAL DATA

There were 32 constituents with enough historical data to compare to the CCCS data. Of these, only 7 were significantly different. There were significant disparities between the CCCS and historical data for total coliform (historic mean 2000 MPN/100mL, CCCS mean 24000 MPN/100mL), nitrate-NO_3 (historic mean 9.9 mg/L, CCCS mean 29 mg/L), organic nitrogen (historic mean 2.4 mg/L, CCCS mean 0.94 mg/L), potassium (historic mean 46 mg/L, CCCS mean 7.5 mg/L), total selenium (historic mean 7.2 µg/L, CCCS mean 1.3 µg/L), dissolved selenium (historic mean 7.0 µg/L, CCCS mean 0.99 µg/L), and turbidity (historic mean 2 NTU, CCCS mean 12 NTU). Summary statistics and p-values for historical data in this hydrological system are listed in Table 8 through Table 10. There are a few possible explanations for the disparity among

historical and CCCS data for these constituents. In the last 20 years, much of the Arroyo Simi/Arroyo Las Posas region has been urbanized. Additionally, in 1987, groundwater dewatering wells were installed which now discharge a significant amount of water in the upper watershed. There were proportionally more CCCS sampling stations lower in the watershed, below agricultural land uses. Lastly, the data sets for metals and organics are relatively small and often include many ND values. The smaller the data set and greater the number of detects, the less reliable the statistical methods for comparison become.

Table 2. Arroyo Simi/Arroyo Las Posas
General Water Quality Constituents - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	n	Detects	% Detected
Turbidity	NTU	12	24	4.3	132	0.97	36	36	100%
Boron	mg/L	0.83	0.27	0.8	2	0.4	36	36	100%
Calcium	mg/L	170	64	150	410	73	36	36	100%
Hardness	mg/L	650	260	570	1700	280	34	34	100%
Iron	mg/L	1.5	3.2	0.46	16	0.06	36	36	100%
Magnesium	mg/L	58	26	51	170	23	36	36	100%
Manganese	mg/L	0.081 (a)	0.059 (a)	0.068 (a)	0.31	<0.03	36	34	94%
Potassium	mg/L	7.5	1.7	7	11	5	36	36	100%
Silica	mg/L	31	3.9	31	37	24	36	36	100%
Sodium	mg/L	150	48	150	360	62	36	36	100%
Alkalinity	mg/L	250	29	250	320	165	36	36	100%
Chloride	mg/L	140	26	150	168	50.8	36	36	100%
TSS	mg/L	44 (a)	83 (a)	24 (a)	470	<10	36	33	92%
TDS	mg/L	1400	370	1300	2072	549	36	36	100%
Sulfate	mg/L	580	210	520	1058	180	36	36	100%
Nutrients									
Total Ammonia	mg/L	4.3 (a)	4.7 (a)	2.4 (a)	14.7	<1	36	28	78%
Nitrate as NO3	mg/L	29	20	20	76.6	4.46	36	36	100%
Nitrite as NO2	mg/L	1.4	1.4	0.78	5.6	0.07	36	36	100%
Organic Nitrogen	mg/L	0.94 (a)	1.1 (a)	0.82 (a)	5.8	<1.5	36	22	61%
Total Phosphorus	mg/L	0.78	0.59	0.85	1.9	0.03	36	36	100%
Ortho Phosphate as Phosphate	mg/L	0.89 (a)	0.86 (a)	0.48 (a)	2.7	<0.3	33	29	88%
Organic Carbon									
TOC	mg/L	6.8	5.7	5.7	39	4.2	36	36	100%
DOC	mg/L	6.6	5.2	5.6	35.9	4.1	36	36	100%
Microbiological									
Total Coliform	MPN/100mL	24000	39000	7000	160000	700	36	36	100%
Fecal Coliform	MPN/100mL	7100	26000	500	160000	20	36	36	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

Table 8. Arroyo Simi/Arroyo Las Posas
Metals - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	n	Detects	% Detected
Arsenic, TR	µg/L	2.7	0.91	2.7	3.9	1.2	12	12	100%
Cadmium, TR	µg/L	0.33	0.14	0.32	0.65	0.15	12	12	100%
Chromium, TR	µg/L	1.8	1	1.5	4.1	0.65	12	12	100%
Copper, TR	µg/L	5.8	5.8	3.9	24	2.2	12	12	100%
Lead, TR	µg/L	1.1	1.8	0.56	6.9	0.07	12	12	100%
Mercury, TR	µg/L	0.0023	0.0011	0.0017	0.005	0.0011	12	12	100%
Nickel, TR	µg/L	8.9	5.2	8.1	20	2.6	12	12	100%
Selenium, TR	µg/L	1.3 (a)	0.37 (a)	1.2 (a)	1.8	<0.8	12	9	75%
Zinc, TR	µg/L	10	4.4	11	17	3.9	12	12	100%
Arsenic, D	µg/L	2.2	0.85	2.4	3.4	0.76	12	12	100%
Cadmium, D	µg/L	0.17	0.075	0.17	0.3	0.04	12	12	100%
Chromium, D	µg/L	1.2	0.99	0.76	3.2	0.22	12	12	100%
Copper, D	µg/L	2.2	0.73	2.1	3.7	0.92	12	12	100%
Lead, D	µg/L	0.19	0.14	0.14	0.51	0.03	12	12	100%
Nickel, D	µg/L	3.7	1.6	3.8	6.4	0.4	12	12	100%
Selenium, D	µg/L	0.99 (a)	0.45 (a)	0.97 (a)	1.7	<0.8	12	8	67%
Zinc, D	µg/L	7.6	5.5	6.4	19	0.92	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

Table 4. Arroyo Simi/Arroyo Las Posas
Organics - Summary Statistics

Constituent (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Diazinon	µg/L	0.059 (a)	0.051 (a)	0.064 (a)	0.15	<0.05	12	6	50%
EPA 8080									
4,4-DDE	ng/L	2.09 (a)	0.78 (a)	0.57 (a)	11	<0.5	12	4	33%
BHC-gamma	ng/L	2.0 (a)	2.2 (a)	2.1 (a)	7.2	<2	12	6	50%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) Only constituents with 3 or more detects and at least 20% detected are listed

Table 5. Arroyo Simi/Arroyo Las Posas
Water Toxicity - Summary

	Toxicity Observed	n	% Toxic
Ceriodaphnia mortality NOEC	6	12	50%
Ceriodaphnia mortality IC25	5	12	42%
Ceriodaphnia mortality IC50	5	12	42%
Ceriodaphnia reproduction NOEC	7	12	58%
Ceriodaphnia reproduction IC25	9	12	75%
Ceriodaphnia reproduction IC50	5	12	42%
Pimephales mortality NOEC	5	12	42%
Pimephales mortality IC25	5	12	42%
Pimephales mortality IC50	5	12	42%
Pimephales growth NOEC	5	12	42%
Pimephales growth IC25	5	12	42%
Pimephales growth IC50	5	12	42%

Table 6. Arroyo Simi/Arroyo Las Posas
Sediment Toxicity - Summary

	Toxicity Observed	n	% Toxic
Hyalella mortality-sediment NOEC	2	4	50%
Hyalella mortality-sediment IC25	2	4	50%
Hyalella mortality-sediment IC50	2	4	50%
Ceriodaphnia reproduction NOEC	2	4	50%
Ceriodaphnia reproduction IC25	2	4	50%
Ceriodaphnia reproduction IC50	2	4	50%
Ceriodaphnia mortality NOEC	1	4	25%
Ceriodaphnia mortality IC25	2	4	50%
Ceriodaphnia mortality IC50	1	4	25%

Table 7. Arroyo Simi/Arroyo Las Posas
Sediment Chemistry - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES (a)									
4,4-DDE	µg/kg	15	14	13	33	1.5	4	4	100%
EPA 1613 (DIOXINS) (b)									
1,2,3,4,7,8-HxCDD	ng/kg	0.16	0.035	0.16	0.19	0.12	2	2	100%
1,2,3,6,7,8-HxCDD	ng/kg	0.74	0.26	0.74	0.99	0.48	2	2	100%
1,2,3,4,6,7,8-HpCDD	ng/kg	9.7	2.3	9.7	12	7.4	2	2	100%
OCDD	ng/kg	110	3	110	110	100	2	2	100%
2,3,7,8-TCDF	ng/kg	0.23	0.095	0.23	0.32	0.13	2	2	100%
1,2,3,4,7,8-HxCDF	ng/kg	0.29	0.07	0.29	0.36	0.22	2	2	100%
1,2,3,6,7,8-HxCDF	ng/kg	0.25	0.075	0.25	0.32	0.17	2	2	100%
1,2,3,7,8,9-HxCDF	ng/kg	0.84	0.66	0.84	1.5	0.18	2	2	100%
2,3,4,6,7,8-HxCDF	ng/kg	0.27	0.08	0.27	0.35	0.19	2	2	100%
1,2,3,4,6,7,8-HpCDF	ng/kg	12	8.7	12	21	3.2	2	2	100%
1,2,3,4,7,8,9-HpCDF	ng/kg	0.24	0.045	0.24	0.28	0.19	2	2	100%
OCDF	ng/kg	110	92	110	200	14	2	2	100%
Total Tetra-Dioxins	ng/kg	6.0	0.065	6.0	6.1	5.9	2	2	100%
Total Penta-Dioxins	ng/kg	0.94	0.42	0.94	1.4	0.52	2	2	100%
Total Hexa-Dioxins	ng/kg	3.7	0.73	3.7	4.4	3.0	2	2	100%
Total Hepta-Dioxins	ng/kg	23	5.0	23	28	18	2	2	100%
Total Tetra-Furans	ng/kg	19	18	19	37	1.3	2	2	100%
Total Penta-Furans	ng/kg	3.3	0.86	3.4	4.3	2.6	2	2	100%
Total Hexa-Furans	ng/kg	5.3	1.9	5.3	7.2	3.3	2	2	100%
Total Hepta-Furans	ng/kg	25	18	25	43	7.0	2	2	100%
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	0.97	0.40	0.97	1.4	0.57	2	2	100%
2,3,7,8-TCDD TEQs ND = 0	ng/kg	0.91	0.42	0.91	1.3	0.49	2	2	100%

Notes

(a) Only constituents with 3 or more detects and at least 20% detected are listed

(b) Only constituents detected in both samples are listed.

Table 8. Arroyo Simi/Arroyo Las Posas
Historical Data - General Water Quality Constituents

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (b)
Turbidity (c)	NTU	12	36	36	100%	3.1	99	99	100%	0.0002
Boron	mg/L	0.83	36	36	100%	0.85	99	99	100%	0.916
Calcium (same as diss)	mg/L	170	36	36	100%	130	99	99	100%	0.318
Hardness (As CACO3)	mg/L	650	34	34	100%	590 (a)	73	72	99%	0.489
Iron	mg/L	1.5	36	36	100%	0.50 (a)	22	20	91%	0.144
Magnesium	mg/L	58	36	36	100%	56	65	65	100%	0.879
Manganese	mg/L	0.081 (a)	36	34	94%	0.12 (a)	19	17	89%	0.247
Potassium	mg/L	7.5	36	36	100%	49	61	61	100%	<0.0001
Silica	mg/L	31	36	36	100%	22	23	23	100%	0.010
Sodium	mg/L	150	36	36	100%	130	65	65	100%	0.380
Chloride	mg/L	140	36	36	100%	110	91	91	100%	0.184
TSS	mg/L	44 (a)	36	33	92%	13 (a)	23	22	96%	0.059
TDS	mg/L	1400	36	36	100%	1100	91	91	100%	0.163
Sulfate	mg/L	580	36	36	100%	490	74	74	100%	0.295
Nutrients										
Total Ammonia	mg/L	4.3 (a)	36	28	78%	13 (a)	105	97	92%	0.320
Nitrate as NO3	mg/L	29	36	36	100%	19 (a)	137	136	99%	0.004
Nitrite as NO2	mg/L	1.4	36	36	100%	2.6 (a)	67	53	79%	0.244
Nitrogen-Total Organic	mg/L	0.94 (a)	36	22	61%	2.4 (a)	55	50	91%	0.009
Ortho Phosphate	mg/L	0.89 (a)	33	29	88%	1.1	9	9	100%	0.555
Organic Carbon										
TOC	mg/L	6.8	36	36	100%	6.8 (a)	17	17	100%	0.961
Microbiological										
Coliform-Total	MPN/100mL	24000	36	36	100%	1500 (e)	495	495	100%	<0.0001

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) A p-value of ≤0.010 signifies that the historical data differs significantly from the CCCS data for this constituent.
(c) Extreme outliers were removed from historical data.
(d) Historical data set for this constituent was limited to approximately the 500 most recent data points.
(e) NDs were set equal to MDL to compute the summary statistics.

Table 9. Arroyo Simi/Arroyo Las Posas
Historical Data - Metals

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Arsenic, TR	µg/L	2.7	12	12	100%	1.7 (a)	12	8	67%	0.011
Cadmium, TR	µg/L	0.33	12	12	100%	(b)	10	0	0%	(b)
Chromium, TR	µg/L	1.8	12	12	100%	(b)	10	2	20%	(b)
Copper, TR	µg/L	5.8	12	12	100%	3.1 (a)	10	8	80%	0.194
Mercury, TR	µg/L	0.0023	12	12	100%	0.0042 (a)	10	4	40%	0.037
Nickel, TR	µg/L	8.9	12	12	100%	20	10	9	90%	0.198
Selenium, TR	µg/L	1.3 (a)	12	9	75%	7.2 (a)	10	7	70%	0.003
Zinc, TR	µg/L	10	12	12	100%	15 (a)	12	9	75%	0.360
Arsenic, D	µg/L	2.2	12	12	100%	1.5 (a)	10	3	30%	0.072
Cadmium, D	µg/L	0.17	12	12	100%	(b)	10	1	10%	(b)
Chromium, D	µg/L	1.2	12	12	100%	(b)	10	1	10%	(b)
Copper, D	µg/L	2.2	12	12	100%	2.3 (a)	10	5	50%	0.867
Lead, D	µg/L	0.19	12	12	100%	(b)	10	1	10%	(b)
Nickel, D	µg/L	3.7	12	12	100%	7.3	10	9	90%	0.521
Selenium, D	µg/L	0.99 (a)	12	8	67%	7.0 (a)	10	6	60%	0.003
Zinc, D	µg/L	7.6	12	12	100%	10.8 (a)	9	6	67%	0.153

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) There is insufficient detected data to compute this value
(c) A p-value of ≤0.010 signifies that the historical data differs significantly from the CCCS data for this constituent.

Table 10 Arroyo Simi/Arroyo Las Posas
Historical Data - Organics

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Aldrin	ng/L	(b)	12	0	0%	(b)	10	0	0%	(b)
Chlordane (d)	ng/L	(b)	12	0	0%	(b)	10	0	0%	(b)
Dieldrin	ng/L	(b)	12	0	0%	(b)	10	0	0%	(b)
Endosulfan Sulfate	ng/L	(b)	12	1	8%	(b)	10	0	0%	(b)
Endosulfan I	ng/L	(b)	12	0	0%	(b)	10	0	0%	(b)
Endosulfan II	ng/L	(b)	12	1	8%	(b)	10	0	0%	(b)
Endrin	ng/L	(b)	12	0	0%	(b)	10	0	0%	(b)
Endrin Aldehyde	ng/L	(b)	12	0	0%	(b)	10	0	0%	(b)
Heptachlor	ng/L	(b)	12	1	8%	(b)	10	0	0%	(b)
Heptachlor Epoxide	ng/L	(b)	12	1	8%	(b)	10	0	0%	(b)
Methoxychlor	ng/L	(b)	12	0	0%	(b)	10	0	0%	(b)
Toxaphene	ng/L	(b)	12	0	0%	(b)	10	0	0%	(b)
4,4-DDE	ng/L	2.1 (a)	12	4	33%	(b)	10	1	10%	(b)
Aroclor 1016 (PCB)	ng/L	(b)	12	0	0%	(b)	9	0	0%	(b)
Aroclor 1221 (PCB)	ng/L	(b)	12	0	0%	(b)	9	0	0%	(b)
Aroclor 1232 (PCB)	ng/L	(b)	12	0	0%	(b)	9	0	0%	(b)
Aroclor 1242 (PCB)	ng/L	(b)	12	0	0%	(b)	9	0	0%	(b)
Aroclor 1248 (PCB)	ng/L	(b)	12	0	0%	(b)	9	0	0%	(b)
Aroclor 1254 (PCB)	ng/L	(b)	12	0	0%	(b)	9	0	0%	(b)
Aroclor 1260 (PCB)	ng/L	(b)	12	0	0%	(b)	9	0	0%	(b)

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) There is insufficient detected data to compute this value
(c) A p-value of ≤0.010 signifies that the historical data differs significantly from the CCCS data for this constituent.
(d) CCCS data reports Chlordane as alpha-Chlordane and gamma-Chlordane.

Calleguas Creek/Conejo Creek

GENERAL WATER QUALITY CONSTITUENTS

There were 60 total samples analyzed for general water quality constituents in this hydrological system (5 monitoring stations and 12 sampling events). All but seven general water quality constituents were detected in 100% of the samples. Manganese was detected in 77%, TSS in 52%, ammonia in 75%, nitrite in 57%, organic nitrogen in 65%, total phosphorus in 85%, and ortho phosphate in 73%. Summary statistics for all general water quality constituents in this hydrological region are listed in Table 11.

METALS

There were 20 total samples analyzed for metals in this hydrological system (5 monitoring stations and 4 sampling events). All metals, with the exception of total and dissolved selenium, were detected in 100% of the samples. Total selenium was detected in 35%, and dissolved selenium was detected in 35%. Summary statistics for all metals in this hydrological region are listed in Table 12.

ORGANICS

There were 20 total samples analyzed for organics in this hydrological system (5 monitoring stations and 4 sampling events). In this hydrological system, there were three organic pesticides frequently detected. Diazinon was detected in 45% of the samples, at levels up to 0.19 µg/L. 4,4-DDE was detected in 50% of the samples at levels up to 70 ng/L. BHC-gamma (lindane) was detected in 40% of the samples at levels up to 12 ng/L. Summary statistics for these constituents are listed in Table 13.

WATER TOXICITY

There were 18 total samples analyzed for water toxicity in this hydrological system (3 monitoring stations and 6 sampling events). The data show that the water was occasionally toxic to aquatic life in this hydrological region. Ceriodaphnia mortality was observed in 17% of the samples. Ceriodaphnia reproduction was diminished in 28% of the samples. Pimephales mortality and diminished growth were also observed in at least 17%% of the samples. To determine the extent to

which ammonia caused the observed toxicity, two samples (one sample from each of two events) were tested. For one sample, the observed toxicity was no longer present by the time the testing was conducted. A summary of water toxicity results is listed in Table 14.

SEDIMENT TOXICITY

There were 6 total samples analyzed for sediment toxicity in this hydrological system (3 monitoring stations and 2 sampling events). The data show that sediments in this hydrological region may be toxic to aquatic life. Hyalella mortality was observed in 50% of the samples. Ceriodaphnia reproduction was hampered in up to 33% of the samples, and mortality was observed in up to 67% of the samples. A summary of sediment toxicity results is listed in Table 15.

SEDIMENT CHEMISTRY

Sediments were tested for chlorinated pesticides, PAHs, and dioxins. There were 6 total samples analyzed for chlorinated pesticides and PAHs in this hydrological system (3 monitoring stations and 2 sampling events) and 2 total samples analyzed for dioxins (1 monitoring station and 2 sampling events). In this hydrological region, three chlorinated pesticides were regularly detected in sediment. 2,4-DDT was detected in 50% of samples at levels up to 14.9 µg/kg. 4,4-DDD was detected in 50% of samples at levels up to 9.9 µg/kg. 4,4-DDE was detected in 100% of samples at levels between 1.7 and 179 µg/kg. Four PAHs were frequently detected in sediment. Benzo(a)pyrene was detected in 83% of samples at levels up to 10 µg/kg. Benzo(g,h,i)perylene was detected in 50% of samples at levels up to 12 µg/kg. Benzo(k)fluoranthene was detected in 67% of samples at levels up to 9 µg/kg. 19 dioxins were detected in 100% of samples. Summary statistics for sediment chemistry in this hydrological system are listed in Table 16.

HISTORICAL DATA

There were 21 constituents with enough historical data to compare to the CCCS data. Of these, the t-tests revealed inconsistencies between historical and CCCS data for only 6 constituents. There were significant disparities between the CCCS and historical data for total coliform (historic mean 1800 MPN/100mL, CCCS mean 16000 MPN/100mL), nitrite-NO_2 (historic mean 2.6 mg/L, CCCS mean 1.1 mg/L), magnesium (historic mean 63 mg/L, CCCS mean 53 mg/L), ortho phosphate (historic mean 4.4 mg/L, CCCS mean 1.1 mg/L), and potassium (historic mean 32 mg/L, CCCS mean 6.2 mg/L). These discrepancies

could be explained by the urbanization of this area of the watershed over the last twenty years. Additionally, historic data for 4,4-DDE significantly differed from CCCS data. However, the magnitude of the historical mean was skewed by what is believed to be erroneously reported values (historic mean 13000 ng/L, CCCS mean 5.3 ng/L). Assuming that the historical data was reported in µg/L instead of ng/L, the data were corrected and the analysis was performed again. This corrected analysis returned a p-value of 0.1742, suggesting that the historical and CCCS data for 4,4-DDE are indeed consistent. Summary statistics and p-values for the Calleguas Creek/Conejo Creek hydrological system are listed in Table 17 through Table 19.

Table 11. Calleguas Creek/Conejo Creek
General Water Quality Constituents - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	7.3	16	2.2	103	0.4	60	60	100%
Boron	mg/L	0.29	0.1	0.32	0.46	0.09	60	60	100%
Calcium	mg/L	84	24	77	150	43	60	60	100%
Hardness	mg/L	430	140	390	800	220	60	60	100%
Iron	mg/L	0.49	0.76	0.27	5.6	0.06	60	60	100%
Magnesium	mg/L	53	19	48	100	28	60	60	100%
Manganese	mg/L	0.036 (a)	0.043 (a)	0.031 (a)	0.15	<0.03	60	46	77%
Potassium	mg/L	6.2	2.9	7	13	2	60	60	100%
Silica	mg/L	31	8.4	28	55	22	60	60	100%
Sodium	mg/L	90	19	93	130	50	60	60	100%
Alkalinity	mg/L	230	48	220	360	150	60	60	100%
Chloride	mg/L	140	30	150	200	70	60	60	100%
TSS	mg/L	8.9 (a)	15 (a)	8.4 (a)	114	<10	60	31	52%
TDS	mg/L	870	210	840	1400	460	60	60	100%
Sulfate	mg/L	250	92	250	480	98	60	60	100%
Nutrients									
Total Ammonia	mg/L	3.7 (a)	6.1 (a)	1.6 (a)	16	<2	60	45	75%
Nitrate as NO3	mg/L	18	16	12	64.8	2	60	60	100%
Nitrite as NO2	mg/L	0.81 (a)	1.4 (a)	0.74 (a)	3.8	<0.3	60	34	57%
Organic Nitrogen	mg/L	0.82 (a)	0.99 (a)	0.68 (a)	6	<4	60	39	65%
Total Phosphorus	mg/L	0.62 (a)	0.66 (a)	0.51 (a)	3.2	<0.1	60	51	85%
Ortho Phosphate as Phosphate	mg/L	1.1 (a)	1.6 (a)	0.97 (a)	5.1	<0.3	60	44	73%
Organic Carbon									
TOC	mg/L	5.9	1.9	6.3	9.1	2.4	60	60	100%
DOC	mg/L	5.9	1.8	6.3	9.3	2.3	60	60	100%
Microbiological									
Total Coliform	MPN/100mL	16000	42000	3000	240000	300	60	60	100%
Fecal Coliform	MPN/100mL	1600	6400	240	50000	30	60	60	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

Table 12. Calleguas Creek/Conejo Creek
Metals - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Arsenic, TR	µg/L	3.5	1.1	3.5	6	1.8	20	20	100%
Cadmium, TR	µg/L	0.21	0.11	0.2	0.45	0.09	20	20	100%
Chromium, TR	µg/L	1.6	0.79	1.5	3.2	0.62	20	20	100%
Copper, TR	µg/L	3.9	5.1	2.7	26	1.8	20	20	100%
Lead, TR	µg/L	0.46	0.24	0.43	0.97	0.14	20	20	100%
Mercury, TR	µg/L	0.0027	0.0014	0.0023	0.0056	0.0003	20	20	100%
Nickel, TR	µg/L	5.5	3	4.8	14	1.9	20	20	100%
Selenium, TR	µg/L	0.87 (a)	0.3 (a)	0.9 (a)	1.4	<0.8	20	7	35%
Zinc, TR	µg/L	13	7.9	13	33	2.2	20	20	100%
Arsenic, D	µg/L	3.3	1	3.1	5.7	1.7	20	20	100%
Cadmium, D	µg/L	0.14	0.061	0.13	0.3	0.05	20	20	100%
Chromium, D	µg/L	1.2	0.94	1.1	3.5	0.25	20	20	100%
Copper, D	µg/L	2.1	0.77	1.9	4.1	1.2	20	20	100%
Lead, D	µg/L	0.27	0.19	0.22	0.72	0.03	20	20	100%
Nickel, D	µg/L	3.8	2.3	3.4	11	1.6	20	20	100%
Selenium, D	µg/L	0.73 (a)	0.36 (a)	0.76 (a)	1.3	<0.8	20	7	35%
Zinc, D	µg/L	14	8.2	14	34	1.1	20	20	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

Table 13. Calleguas Creek/Conejo Creek
Organics - Summary Statistics

Constituent (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Diazinon	µg/L	0.034 (a)	0.088 (a)	0.048 (a)	0.19	<0.05	20	9	45%
EPA 8081									
4,4-DDE	ng/L	5.3 (a)	28 (a)	0.59 (a)	70	<0.5	20	10	50%
BHC-gamma	ng/L	2.3 (a)	4.9 (a)	2.4 (a)	12	<2	20	8	40%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) Only constituents with 3 or more detects and at least 20% detected are listed

Table 14. Calleguas Creek/Conejo Creek
Water Toxicity - Summary

	Toxicity Observed	n	% Toxic
Ceriodaphnia mortality-NOEC	3	18	17%
Ceriodaphnia mortality IC25	3	18	17%
Ceriodaphnia mortality IC50	3	18	17%
Ceriodaphnia reproduction NOEC	5	18	28%
Ceriodaphnia reproduction IC25	5	18	28%
Ceriodaphnia reproduction IC50	5	18	28%
Pimephales mortality NOEC	3	18	17%
Pimephales mortality IC25	3	18	17%
Pimephales mortality IC50	3	18	17%
Pimephales growth NOEC	5	18	28%
Pimephales growth IC25	3	18	17%
Pimephales growth IC50	3	18	17%

Table 15. Calleguas Creek/Conejo Creek
Sediment Toxicity - Summary

	Toxicity Observed	n	% Toxic
Hyalella mortality-sediment NOEC	3	6	50%
Hyalella mortality-sediment IC25	3	6	50%
Hyalella mortality-sediment IC50	3	6	50%
Ceriodaphnia reproduction NOEC	2	6	33%
Ceriodaphnia reproduction IC25	2	6	33%
Ceriodaphnia reproduction IC50	0	6	0%
Ceriodaphnia mortality NOEC	2	6	33%
Ceriodaphnia mortality IC25	4	6	67%
Ceriodaphnia mortality IC50	1	6	17%

Table 16. Calleguas Creek/Conejo Creek
Sediment Chemistry - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES (a)									
2,4-DDT	µg/kg	3.9	11	1.8	14.9	<1	6	3	50%
4,4-DDD	µg/kg	2.7	7.5	0.97	9.9	<1	6	3	50%
4,4-DDE	µg/kg	41	63	13	179	1.7	6	6	100%
EPA 8321 (PAH) (a)									
Benzo(a)pyrene	µg/kg	4.6 (a)	3.5 (a)	3.6 (a)	10	<2	6	5	83%
Benzo(b)fluoranthene	µg/kg	4.0 (a)	2.7 (a)	4.3 (a)	8	<5	6	3	50%
Benzo(g,h,i)perylene	µg/kg	9.3 (a)	1.8 (a)	9.4 (a)	12	<10	6	3	50%
Benzo(k)fluoranthene	µg/kg	2.5 (a)	3.8 (a)	1.9 (a)	9	<2	6	4	67%
EPA 1613 (DIOXINS) (b)									
1,2,3,7,8-PeCDD	ng/kg	0.21	0.075	0.21	0.28	0.13	2	2	100%
1,2,3,6,7,8-HxCDD	ng/kg	0.59	0.24	0.59	0.82	0.35	2	2	100%
1,2,3,7,8,9-HxCDD	ng/kg	0.52	0.22	0.52	0.73	0.3	2	2	100%
1,2,3,4,6,7,8-HpCDD	ng/kg	11	3.8	11	14.6	7.02	2	2	100%
OCDD	ng/kg	120	37	120	157	84	2	2	100%
2,3,7,8-TCDF	ng/kg	0.33	0.095	0.33	0.42	0.23	2	2	100%
2,3,4,7,8-PeCDF	ng/kg	0.22	0.075	0.22	0.29	0.14	2	2	100%
1,2,3,4,7,8-HxCDF	ng/kg	0.36	0.13	0.36	0.49	0.23	2	2	100%
1,2,3,6,7,8-HxCDF	ng/kg	0.24	0.12	0.24	0.35	0.12	2	2	100%
2,3,4,6,7,8-HxCDF	ng/kg	0.24	0.085	0.24	0.32	0.15	2	2	100%
OCDF	ng/kg	25	2.1	25	27	22.8	2	2	100%
Total Tetra-Dioxins	ng/kg	8.1	3.4	8.1	11.5	4.71	2	2	100%
Total Penta-Dioxins	ng/kg	0.99	0.38	0.99	1.37	0.61	2	2	100%
Total Hexa-Dioxins	ng/kg	3.3	1.1	3.3	4.39	2.15	2	2	100%
Total Hepta-Dioxins	ng/kg	22	7.7	22	29.4	14.1	2	2	100%
Total Tetra-Furans	ng/kg	4.2	0.94	4..2	5.18	3.31	2	2	100%
Total Penta-Furans	ng/kg	4.5	0.7	4.5	5.16	3.76	2	2	100%
Total Hexa-Furans	ng/kg	4.1	1	4.1	5.14	3.14	2	2	100%
Total Hepta-Furans	ng/kg	4.6	1.2	4.6	5.77	3.37	2	2	100%
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	0.84	0.23	0.84	1.06	0.61	2	2	100%
2,3,7,8-TCDD TEQs ND = 0	ng/kg	0.81	0.21	0.81	1.01	0.6	2	2	100%

Notes

(a) Only constituents with 3 or more detects and at least 20% detected are listed

(b) Only constituents detected in both samples are listed.

Table 17. Calleguas Creek/Conejo Creek
Historical Data - General Water Quality Constituents

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Turbidity	NTU	7.3	60	60	100%	52	128	128	100%	0.284
Boron	mg/L	0.29	60	60	100%	0.50 (a)	122	115	94%	0.015
Calcium (same as diss)	mg/L	84	60	60	100%	94	276	276	100%	0.403
Hardness (As CACO3)	mg/L	430	60	60	100%	470	234	234	100%	0.214
Iron	mg/L	0.49	60	60	100%	1.9(a)	210	124	59%	0.550
Magnesium	mg/L	53	60	60	100%	65	310	310	100%	<0.0001
Manganese	mg/L	0.036 (a)	60	46	77%	0.095 (a)	210	133	63%	0.360
Potassium	mg/L	6.2	60	60	100%	33	302	302	100%	<0.0001
Silica	mg/L	31	60	60	100%	28	7	7	100%	0.158
Sodium	mg/L	90	60	60	100%	110	310	310	100%	0.113
Chloride (b)	mg/L	140	60	60	100%	160	503	503	100%	0.022
TDS (b)	mg/L	870	60	60	100%	870	500	500	100%	0.478
Sulfate	mg/L	250	60	60	100%	250	326	326	100%	0.645
Nutrients										
Total Ammonia (b)	mg/L	4.8	60	45	75%	5.6 (d)	506	466	92%	0.171
Nitrate as NO3 (b)	mg/L	18	60	60	100%	20 (d)	502	476	95%	0.030
Nitrite as NO2 (b)	mg/L	1.1	60	34	57%	2.6 (d)	499	430	86%	0.0002
Nitrogen-Total Organic	mg/L	0.82 (a)	60	39	65%	1.2 (d)	334	296	89%	0.124
Ortho Phosphate	mg/L	1.1 (a)	60	44	73%	4.4	2	2	100%	0.001
Microbiological										
Coliform-Total (b)	MPN/100mL	16000	60	60	100%	2200 (a)	505	505	100%	<0.0001

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) Historical data set for this constituent was limited to approximately the 500 most recent data points.
(c) A p-value of ≤0.010 signifies that the historical data differs significantly from the CCCS data for this constituent.
(d) NDs were set equal to MDL to compute the summary statistics.

Table 18. Calleguas Creek/Conejo Creek
Historical Data - Metals

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Arsenic, TR	µg/L	3.5	20	20	100%	(b)	9	0	0%	(b)
Cadmium, TR	µg/L	0.21	20	20	100%	(b)	9	1	11%	(b)
Chromium, TR	µg/L	1.6	20	20	100%	(b)	9	0	0%	(b)
Copper, TR	µg/L	3.9	20	20	100%	(b)	176	5	3%	(b)
Lead, TR	µg/L	0.46	20	20	100%	(b)	12	0	0%	(b)
Mercury, TR	µg/L	0.0027	20	20	100%	(b)	7	0	0%	(b)
Nickel, TR	µg/L	5.5	20	20	100%	(b)	2	0	0%	(b)
Selenium, TR	µg/L	0.87(a)	20	7	35%	(b)	7	0	0	(b)
Zinc, TR	µg/L	13	20	20	100%	12 (a)	176	44	25%	0.921

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) There is insufficient detected data to compute this value
(c) A p-value of ≤0.010 signifies that the historical data differs significantly from the CCCS data for this constituent.

Table 19. Calleguas Creek/Conejo Creek
Historical Data - Organics

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Aldrin	ng/L	(b)	20	0	0%	(b)	7	0	0%	(b)
Chlordane (d)	ng/L	(b)	20	0	0%	(b)	6	0	0%	(b)
Dieldrin	ng/L	(b)	20	0	0%	(b)	7	0	0%	(b)
Endosulfan Sulfate	ng/L	(b)	20	2	10%	(b)	7	0	0%	(b)
Endosulfan I	ng/L	(b)	20	0	0%	(b)	7	0	0%	(b)
Endosulfan II	ng/L	(b)	20	1	5%	(b)	7	0	0%	(b)
Endrin	ng/L	(b)	20	0	0%	(b)	7	0	0%	(b)
Endrin Aldehyde	ng/L	(b)	20	0	0%	(b)	7	0	0%	(b)
Heptachlor	ng/L	(b)	20	0	0%	(b)	7	0	0%	(b)
Heptachlor Epoxide	ng/L	(b)	20	0	0%	(b)	7	0	0%	(b)
Methoxychlor	ng/L	(b)	20	0	0%	(b)	6	0	0%	(b)
Toxaphene	ng/L	(b)	20	0	0%	(b)	7	0	0%	(b)
4,4-DDD	ng/L	(b)	20	2	10%	(b)	13	1	8%	(b)
4,4-DDE	ng/L	5.3 (a)	20	10	50%	16000 (a)	11	4	36%	0.003
Aroclor 1016 (PCB)	ng/L	(b)	20	0	0%	(b)	3	0	0%	(b)
Aroclor 1221 (PCB)	ng/L	(b)	20	0	0%	(b)	3	0	0%	(b)
Aroclor 1232 (PCB)	ng/L	(b)	20	0	0%	(b)	3	0	0%	(b)
Aroclor 1242 (PCB)	ng/L	(b)	20	0	0%	(b)	3	0	0%	(b)
Aroclor 1248 (PCB)	ng/L	(b)	20	0	0%	(b)	3	0	0%	(b)
Aroclor 1254 (PCB)	ng/L	(b)	20	0	0%	(b)	3	0	0%	(b)
Aroclor 1260 (PCB)	ng/L	(b)	20	0	0%	(b)	3	0	0%	(b)

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) There is insufficient detected data to compute this value
(c) A p-value of ≤0.010 signifies that the historical data differs significantly from the CCCS data for this constituent.
(d) CCCS data reports Chlordane as alpha-Chlordane and gamma-Chlordane.

Revolon Slough

GENERAL WATER QUALITY CONSTITUENTS

There were 12 total samples analyzed for general water quality constituents in this hydrological system (1 monitoring station and 12 sampling events). All but six general water quality constituents were detected in 100% of the samples. TSS, ammonia, nitrite, and organic nitrogen were all detected in 67% of the samples. Total phosphorus was detected in 75% of samples, and ortho phosphate was not detected in any sample. Summary statistics for all general water quality constituents in this hydrological region are listed in Table 20.

METALS

There were 12 total samples analyzed for metals in this hydrological system (3 monitoring stations and 4 sampling events). All metals, with the exception of total and dissolved selenium, were detected in 100% of the samples. Total selenium was detected in 50%, and dissolved selenium was detected in 75%. Summary statistics for all metals in this hydrological region are listed in Table 21.

ORGANICS

There were 4 total samples analyzed for organics in this hydrological system (1 monitoring station and 4 sampling events). In this hydrological system, there were four organic pesticides frequently detected. 2,4-DDT was detected in 75% of the samples, at levels up to 10.7 ng/L. 4,4-DDD was detected in 75% of the samples at levels up to 5.5 ng/L. 4,4-DDE was detected in 100% of the samples at levels between 4.7-30.6ng/L. 4,4-DDT was detected in 75% of the samples at levels up to 88.4 ng/L. Summary statistics for organics in water are listed in Table 22.

WATER TOXICITY

There were no samples analyzed for water toxicity in this hydrological system.

SEDIMENT TOXICITY

There were 2 total samples analyzed for sediment toxicity in this hydrological system (1 monitoring station and 2 sampling events). The data suggest that sediments in this hydrological region are toxic to aquatic life. Hyalella mortality was observed in 100% of the samples. Ceriodaphnia reproduction was hampered in 50% of the samples, and mortality was observed in up to 50% of the samples. A summary of sediment toxicity results is listed in Table 23.

SEDIMENT CHEMISTRY

Sediments were tested for chlorinated pesticides, PAHs, and dioxins. There were 2 total samples analyzed for chlorinated pesticides, PAHs, and dioxins in this hydrological system (1 monitoring station and 2 sampling events). All six forms of DDT and its byproducts, chlordane-alpha, and chlordane-gamma were all detected in sediment in 100% of samples. No PAHs were detected in either sample. 21 dioxins were detected in 100% of samples. Summary statistics for sediment chemistry in this hydrological system are listed in Table 24.

HISTORICAL DATA

There were 18 constituents with enough historical data to conduct t-tests. Of these, only silica showed inconsistency between historical and CCCS data. The historical mean for silica was 25 mg/L, and the CCCS mean was 36 mg/L. Summary statistics and p-values for historical data in this hydrological system are listed in Table 25 through Table 27.

Table 20. Revelon Slough
General Water Quality Constituents - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	n	Detects	% Detected
Turbidity	NTU	14	32	1.9	120	1.4	12	12	100%
Boron	mg/L	1.5	0.47	1.7	2.1	0.4	12	12	100%
Calcium	mg/L	320	100	350	430	100	12	12	100%
Hardness	mg/L	1300	430	1500	1800	390	12	12	100%
Iron	mg/L	2.1	4.5	0.47	17	0.04	12	12	100%
Magnesium	mg/L	130	44	150	170	34	12	12	100%
Manganese	mg/L	0.10	0.089	0.085	0.36	0.02	12	12	100%
Potassium	mg/L	5.8	1.5	5.0	9	4	12	12	100%
Silica	mg/L	36	4.4	37	41	27	12	12	100%
Sodium	mg/L	310	110	370	420	78	12	12	100%
Alkalinity	mg/L	260	62	280	330	110	12	12	100%
Chloride	mg/L	180	85	170	430	50	12	12	100%
TSS	mg/L	7 (a)	140 (a)	25	370	<10	12	8	67%
TDS	mg/L	3300	850	3600	3900	770	12	12	100%
Sulfate	mg/L	1700	450	1900	2100	380	12	12	100%
Nutrients									
Total Ammonia	mg/L	0.2 (a)	0.2 (a)	0.15	0.7	<0.2	12	8	67%
Nitrate as NO3	mg/L	210	80	210	420	49	12	12	100%
Nitrite as NO2	mg/L	0.61 (a)	0.79 (a)	0.60	2.4	<3	12	8	67%
Organic Nitrogen	mg/L	0.7 (a)	0.5 (a)	0.75	1.6	<0.5	12	8	67%
Total Phosphorus	mg/L	0.18 (a)	0.61 (a)	0.20	1.8	<0.1	12	9	75%
Ortho Phosphate as Phosphate	mg/L	(b)	(b)	(b)	<0.3	<6	12	0	0%
Organic Carbon									
TOC	mg/L	7.0	3.2	5.8	14.9	4.5	12	12	100%
DOC	mg/L	6.3	2.4	5.5	13	4.4	12	12	100%
Microbiological									
Total Coliform	MPN/100mL	64000	60000	40000	160000	1600	12	12	100%
Fecal Coliform	MPN/100mL	1400	1700	550	5000	130	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute the this value.

Table 21. Revolon Slough
Metals - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	n	Detects	% Detected
Arsenic, TR	µg/L	2.7	0.61	2.8	3.5	1.8	4	4	100%
Cadmium, TR	µg/L	0.4	0.032	0.4	0.43	0.35	4	4	100%
Chromium, TR	µg/L	2.9	1.1	2.8	4.3	1.7	4	4	100%
Copper, TR	µg/L	6.5	2.6	7.5	8.7	2.2	4	4	100%
Lead, TR	µg/L	0.81	0.6	0.83	1.5	0.09	4	4	100%
Mercury, TR	µg/L	0.0025	0.0014	0.0024	0.0043	0.001	4	4	100%
Nickel, TR	µg/L	15	10	14	29	2.7	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	0.94	<0.8	4	2	50%
Zinc, TR	µg/L	10	5	11	15	3.4	4	4	100%
Arsenic, D	µg/L	2.3	0.49	2.3	3	1.6	4	4	100%
Cadmium, D	µg/L	0.21	0.11	0.19	0.37	0.1	4	4	100%
Chromium, D	µg/L	1.5	1.2	0.97	3.5	0.38	4	4	100%
Copper, D	µg/L	2.5	1	2.3	4.2	1.3	4	4	100%
Lead, D	µg/L	0.088	0.047	0.087	0.14	0.04	4	4	100%
Nickel, D	µg/L	3	0.69	3.2	3.7	2	4	4	100%
Selenium, D	µg/L	0.81 (a)	0.057 (a)	0.8	0.88	<0.8	4	3	75%
Zinc, D	µg/L	6.6	6	3.3	17	2.9	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute the this value.

Table 22. Revelon Slough
Organics - Summary Statistics

Constituent (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081									
2,4-DDT	ng/L	1.8 (a)	6.8 (a)	1.3 (a)	10.7	<0.5	4	3	75%
4,4-DDD	ng/L	2.1 (a)	3.1 (a)	1.7 (a)	5.5	<1	4	3	75%
4,4-DDE	ng/L	15	11	11	30.6	4.7	4	4	100%
4,4-DDT	ng/L	8.4 (a)	61 (a)	2.8 (a)	88.4	<0.5	4	3	75%

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) Only constituents with 3 or more detects and at least 20% detected are listed

Table 23. Revelon Slough
Sediment Toxicity - Summary

	Toxicity Observed	n	% Toxic
Hyalella mortality-sediment NOEC	2	2	100%
Hyalella mortality-sediment IC25	2	2	100%
Hyalella mortality-sediment IC50	2	2	100%
Ceriodaphnia reproduction NOEC	1	2	50%
Ceriodaphnia reproduction IC25	1	2	50%
Ceriodaphnia reproduction IC50	1	2	50%
Ceriodaphnia mortality NOEC	1	2	50%
Ceriodaphnia mortality IC25	1	2	50%
Ceriodaphnia mortality IC50	0	2	0%

Table 24. Revelon Slough
Sediment Chemistry - Summary Statistics

Constituent (a)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
2,4-DDD	µg/kg	6.6	2.9	6.6	9.4	3.7	2	2	100%
2,4-DDE	µg/kg	2.8	0.8	2.8	3.6	2	2	2	100%
2,4-DDT	µg/kg	49	43	49	92.7	6.1	2	2	100%
4,4-DDD	µg/kg	9.6	0.8	9.6	10.4	8.8	2	2	100%
4,4-DDE	µg/kg	140	46	140	184	92.2	2	2	100%
4,4-DDT	µg/kg	100	92	100	193	9.5	2	2	100%
Chlordane-alpha	µg/kg	2.9	0.95	2.9	3.8	1.9	2	2	100%
Chlordane-gamma	µg/kg	3.6	0.3	3.6	3.9	3.3	2	2	100%
EPA 1613 (DIOXINS)									
1,2,3,6,7,8-HxCDD	ng/kg	1.2	0.33	1.2	1.5	0.84	2	2	100%
1,2,3,7,8,9-HxCDD	ng/kg	1.1	0.26	1.1	1.37	0.85	2	2	100%
1,2,3,4,6,7,8-HpCDD	ng/kg	27	8.0	27	35.1	19	2	2	100%
OCDD	ng/kg	300	130	300	428	178	2	2	100%
2,3,7,8-TCDF	ng/kg	0.45	0.18	0.45	0.63	0.27	2	2	100%
1,2,3,7,8-PeCDF	ng/kg	0.15	0.045	0.15	0.19	0.1	2	2	100%
2,3,4,7,8-PeCDF	ng/kg	0.24	0.085	0.24	0.32	0.15	2	2	100%
1,2,3,4,7,8-HxCDF	ng/kg	0.53	0.16	0.53	0.69	0.37	2	2	100%
1,2,3,6,7,8-HxCDF	ng/kg	0.54	0.16	0.54	0.69	0.38	2	2	100%
1,2,3,7,8,9-HxCDF	ng/kg	0.32	0.15	0.32	0.47	0.17	2	2	100%
2,3,4,6,7,8-HxCDF	ng/kg	0.76	0.29	0.76	1.04	0.47	2	2	100%
1,2,3,4,6,7,8-HpCDF	ng/kg	16	8.1	16	24.6	8.37	2	2	100%
OCDF	ng/kg	120	81	120	203	41.3	2	2	100%
Total Tetra-Dioxins	ng/kg	5.5	3.6	5.5	9.1	1.87	2	2	100%
Total Penta-Dioxins	ng/kg	1.1	0.32	1.1	1.38	0.75	2	2	100%
Total Hexa-Dioxins	ng/kg	8.6	3.2	8.6	11.8	5.46	2	2	100%
Total Hepta-Dioxins	ng/kg	62.	20	62.	81.7	42.5	2	2	100%
Total Tetra-Furans	ng/kg	7.7	3.9	7.7	11.6	3.77	2	2	100%
Total Penta-Furans	ng/kg	11	4.2	11	14.7	6.4	2	2	100%
Total Hexa-Furans	ng/kg	14	5.2	14	19.2	8.71	2	2	100%
Total Hepta-Furans	ng/kg	37	19	37	55.8	18.4	2	2	100%
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	1.7	0.65	1.7	2.35	1.06	2	2	100%
2,3,7,8-TCDD TEQs ND = 0	ng/kg	1.7	0.67	1.7	2.33	1	2	2	100%

Notes

(a) Only constituents detected in both samples are listed.

Table 26. Revolon Slough
Historical Data - General Water Quality Constituents

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Boron	mg/L	1.5	12	12	100%	3.1	30	30	100%	0.087
Calcium (same as diss)	mg/L	320	12	12	100%	370	31	31	100%	0.170
Hardness (As CACO3)	mg/L	1300	12	12	100%	1700	26	26	100%	0.086
Iron	mg/L	2.1	12	12	100%	0.11 (a)	21	7	33%	0.068
Magnesium	mg/L	130	12	12	100%	180	31	31	100%	0.052
Manganese	mg/L	0.10	12	12	100%	0.065 (a)	21	18	86%	0.774
Potassium	mg/L	5.8	12	12	100%	23	31	31	100%	0.029
Silica	mg/L	36	12	12	100%	25	3	3	100%	0.009
Sodium	mg/L	310	12	12	100%	740	31	31	100%	0.024
Chloride	mg/L	180	12	12	100%	270	33	33	100%	0.146
TDS	mg/L	3300	12	12	100%	4400	33	33	100%	0.089
Sulfate	mg/L	1700	12	12	100%	2300	33	33	100%	0.114
Nutrients										
Total Ammonia	mg/L	0.22	12	8	67%	0.56	12	9	75%	0.017
Nitrate as NO3	mg/L	210	12	12	100%	150	31	31	100%	0.044
Nitrite as NO2	mg/L	0.76	12	8	67%	0.72	14	11	79%	0.845
Nitrogen-Total Organic	mg/L	0.7 (a)	12	8	67%	(b)	11	1	9%	(b)

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) There is insufficient detected data to compute the this value.
(c) A p-value of ≤0.010means that the historical data differs significantly from the CCCS data for that constituent.

Table 26. Revolon Slough
Historical Data - Metals

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (a)
Arsenic, TR	µg/L	2.7	4	4	100%	(b)	5	0	0%	(b)
Cadmium, TR	µg/L	0.4	4	4	100%	(b)	5	0	0%	(b)
Chromium, TR	µg/L	2.9	4	4	100%	(b)	5	0	0%	(b)
Copper, TR	µg/L	6.5	4	4	100%	(b)	4	1	25%	(b)
Lead, TR	µg/L	0.81	4	4	100%	(b)	6	1	17%	(b)
Mercury, TR	µg/L	0.0025	4	4	100%	(b)	5	0	0%	(b)
Selenium	µg/L	(b)	4	2	50%	(b)	4	2	50%	(b)
Zinc	µg/L	10	4	4	100%	(b)	4	0	0%	(b)

Notes
(a) A p-value of ≤0.010means that the historical data differs significantly from the CCCS data for that constituent.
(b) There is insufficient detected data to compute the this value.

Table 27. Revolon Slough
Historical Data - Organics

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Aldrin	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Chlordane (d)	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)
Dieldrin	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Endosulfan Sulfate	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Endosulfan I	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Endosulfan II	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Endrin	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Endrin Aldehyde	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Heptachlor	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Heptachlor Epoxide	ng/L	(b)	0	0	0%	(b)	5	0	0%	(b)
Methoxychlor	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)
Toxaphene	ng/L	(b)	0	0	0%	(b)	4	0	0%	(b)
4,4-DDD	ng/L	2.1 (a)	4	3	75%	10000 (a)	14	10	71%	0.060
4,4-DDE	ng/L	15	4	4	100%	52000 (a)	14	11	79%	0.123
4,4-DDT	ng/L	8.4 (a)	4	3	75%	25000 (a)	14	10	71%	0.365
Aroclor 1016 (PCB)	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)
Aroclor 1221 (PCB)	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)
Aroclor 1232 (PCB)	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)
Aroclor 1242 (PCB)	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)
Aroclor 1248 (PCB)	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)
Aroclor 1254 (PCB)	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)
Aroclor 1260 (PCB)	ng/L	(b)	0	0	0%	(b)	3	0	0%	(b)

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute the this value.

(c) A p-value of ≤0.010means that the historical data differs significantly from the CCCS data for that constituent.

(d) CCCS data reports Chlordane as alpha-Chlordane and gamma-Chlordane.

Mugu Lagoon

GENERAL WATER QUALITY CONSTITUENTS

There were 34 total samples analyzed for general water quality constituents in this hydrological system (3 monitoring stations and 12 sampling events--two samples could not be taken at one station due to harbor seal breeding). All but six general water quality constituents were detected in 100% of the samples. TSS was detected in 92%, ammonia in 62%, nitrite in 35%, organic nitrogen in 79%, total phosphorus in 97%, and ortho phosphate in 44% of the samples. Summary statistics for all general water quality constituents in this hydrological region are listed in Table 28.

METALS

There were 11 total samples analyzed for metals in this hydrological system (3 monitoring stations and 4 sampling events--one sample could not be taken at one station due to harbor seal breeding). All metals, with the exception of total selenium, dissolved selenium, and dissolved lead were detected in 100% of the samples. Total selenium was detected in 18%, dissolved selenium in 0%, and dissolved lead in 91% of the samples. Summary statistics for all metals in this hydrological region are listed in Table 29.

ORGANICS IN WATER

There were 10 total samples analyzed for organics in this hydrological system (3 monitoring stations and 4 sampling events--two samples could not be taken at one station due to harbor seal breeding). In this hydrological system, there were eight organics constituents frequently detected. Chlorpyrifos was detected in 30% of samples at levels up to 0.15 µg/L. 2,4-DDD was detected in 40% of samples at levels up to 2.7 ng/L. 2,4-DDT was detected in 50% of samples at levels up to 7.7 ng/L. 4,4-DDD was detected in 70% of samples at levels up to 40.3 ng/L. 4,4-DDE was detected in 100% of samples at levels up to 40.3 ng/L. 4,4-DDT was detected in 70% of samples at levels up to 40.3 ng/L. BHC-gamma (lindane) was detected in 40% of samples at levels up to 9.3 µg/L. Endosulfan Sulfate was detected in 40% of samples at levels up to 9.3 ng/L. Summary statistics for these constituents are listed in Table 30.

WATER TOXICITY

There were no samples analyzed for water toxicity in this hydrological system.

SEDIMENT TOXICITY

There were 2 total samples analyzed for sediment toxicity in this hydrological system (1 monitoring station and 2 sampling events). The data indicate that sediments in this hydrological region could be toxic to aquatic life. Hyalella mortality, diminished Ceriodaphnia reproduction, and Ceriodaphnia mortality were all observed in 50% of the samples. A summary of sediment toxicity results is listed in Table 31.

SEDIMENT CHEMISTRY

Sediments were tested for chlorinated pesticides, PAHs, and dioxins. There were 2 total samples analyzed for chlorinated pesticides, PAHs, and dioxins (1 monitoring station and 2 sampling events). In this hydrological region, 2,4-DDD, 2,4-DDT, and 4,4-DDE were all detected in 100% of samples. No PAHs were detected in any sample. 21 dioxins were detected in 100% of samples. Summary statistics for sediment chemistry in this hydrological system are listed in Table 32.

HISTORICAL DATA

There were 18 constituents with enough historical data to conduct t-tests. Of these, 11 revealed inconsistencies between historical and CCCS data. There were significant disparities between the CCCS and historical data for ammonia (historic mean 2.4 mg/L, CCCS mean 0.63 mg/L), calcium (historic mean 120 mg/L, CCCS mean 290 mg/L), chloride (historic mean 550 mg/L, CCCS mean 3200 mg/L), hardness (historic mean 770 mg/L, CCCS mean 1800 mg/L), magnesium (historic mean 110 mg/L, CCCS mean 260 mg/L), nitrate (historic mean 46 mg/L, CCCS mean 150 mg/L), potassium (historic mean 23 mg/L, CCCS mean 71 mg/L), silica (historic mean 14 mg/L, CCCS mean 29 mg/L), sodium (historic mean 460, CCCS mean 1600), sulfate (historic mean 480, CCCS mean 1300) and TDS (historic mean 2300 mg/L, CCCS mean 7300 mg/L). The large number of constituents that are inconsistent with historical data appear to be more of a function of the sampling locations included in the hydrological region than the data itself. The CCCS monitoring locations include stations in the estuary and Mugu Lagoon, while historical data monitoring locations were mainly in the upper estuary and lower Calleguas Creek. Salt water constituents such as calcium, chloride, hardness, silica, sodium, sulfate, and TDS will clearly vary between saltwater and fresh water

environments. The statistics for nitrate were definitely skewed by inclusion of data from the agricultural drain (Station 14). Likewise, statistics for ammonia were skewed by inclusion of data from Mugu Lagoon (Station 15). Summary statistics and p-values for historical data in the Mugu Lagoon hydrological system are listed in Table 33 through Table 35.

Table 28. Mugu Lagoon
General Water Quality Constituents - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	n	Detects	% Detected
Turbidity	NTU	11	16	5.6	92	2.7	34	34	100%
Boron	mg/L	1.5	0.49	1.5	2.8	0.72	34	34	100%
Calcium	mg/L	290	110	270	500	100	34	34	100%
Hardness	mg/L	1800	770	1500	4300	730	34	34	100%
Iron	mg/L	1.7	3.8	0.83	23	0.18	34	34	100%
Magnesium	mg/L	260	190	170	860	56	34	34	100%
Manganese	mg/L	0.093	0.096	0.07	0.63	0.04	34	34	100%
Potassium	mg/L	71	68	50	240	6	34	34	100%
Silica	mg/L	29	6.5	30	47	14	34	34	100%
Sodium	mg/L	1680	1500	1000	6000	120	34	34	100%
Alkalinity	mg/L	240	58	230	340	90	34	34	100%
Chloride	mg/L	3200	3500	2200	14000	100	34	34	100%
TSS	mg/L	19 (a)	73 (a)	16 (a)	520	<10	34	28	82%
TDS	mg/L	7300	5500	4900	23000	1400	34	34	100%
Sulfate	mg/L	1300	420	1400	1900	510	34	34	100%
Nutrients									
Total Ammonia	mg/L	0.045 (a)	1.6 (a)	0.23 (a)	5.6	<0.2	34	21	62%
Nitrate as NO3	mg/L	150	90	110	330	27	34	34	100%
Nitrite as NO2	mg/L	0.65 (a)	1.4 (a)	0.57 (a)	4.4	<30	34	12	35%
Organic Nitrogen	mg/L	0.69 (a)	0.66 (a)	0.66 (a)	3.5	<1.5	34	27	79%
Total Phosphorus	mg/L	0.62 (a)	0.52 (a)	0.48 (a)	3.1	<0.1	34	33	97%
Ortho Phosphate as Phosphate	mg/L	0.79 (a)	0.6 (a)	0.76 (a)	1.8	<3	34	15	44%
Organic Carbon									
TOC	mg/L	6.1	4.1	5.5	27	2	34	34	100%
DOC	mg/L	5.6	2.6	5.3	15	1.8	34	34	100%
Microbiological									
Total Coliform	MPN/100mL	64000	64000	30000	160000	800	34	34	100%
Fecal Coliform	MPN/100mL	2000	3100	900	14000	80	34	34	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

Table 28. Mugu Lagoon
Metals - Summary Statistics

Constituent	Units	Mean	SD	Median	Max	Min	n	Detects	% Detected
Arsenic, TR	µg/L	2.8	0.99	2.8	4.9	1.6	11	11	100%
Cadmium, TR	µg/L	0.5	0.13	0.44	0.73	0.34	11	11	100%
Chromium, TR	µg/L	7.5	6	6.6	22	0.72	11	11	100%
Copper, TR	µg/L	5.7	2.3	5.3	11	3	11	11	100%
Lead, TR	µg/L	0.9	0.53	0.94	2	0.2	11	11	100%
Mercury, TR	µg/L	0.0023	0.001	0.0023	0.0043	0.00078	11	11	100%
Nickel, TR	µg/L	14	11	13	43	3.2	11	11	100%
Selenium, TR	µg/L	(b)	(b)	(b)	0.86	<0.8	11	2	18%
Zinc, TR	µg/L	11	3.7	11	18	5.6	11	11	100%
Arsenic, D	µg/L	2.2	0.76	2.1	3.4	1.3	11	11	100%
Cadmium, D	µg/L	0.29	0.15	0.27	0.56	0.09	11	11	100%
Chromium, D	µg/L	4.4	5.3	1.5	17	0.14	11	11	100%
Copper, D	µg/L	3.8	1.1	3.9	5.3	2	11	11	100%
Lead, D	µg/L	0.26 (a)	0.18 (a)	0.22 (a)	0.51	0	11	10	91%
Nickel, D	µg/L	5.1	1.3	4.8	7.4	3.2	11	11	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	11	0	0%
Zinc, D	µg/L	11	6.6	10	25	3.6	11	11	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute the this value.

Table 30. Mugu Lagoon
Organics - Summary Statistics

Constituent (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Chlorpyrifos	µg/L	0.056 (a)	0.055 (a)	0.07 (a)	0.15	<0.05	10	3	30%
EPA 8081									
2,4-DDD	ng/L	0.27 (a)	1.5 (a)	0.59 (a)	2.7	<1	10	4	40%
2,4-DDT	ng/L	0.47 (a)	4.0 (a)	1.2 (a)	7.7	<1	10	5	50%
4,4-DDD	ng/L	1.3 (a)	4.3 (a)	1.3 (a)	11	<1	10	7	70%
4,4-DDE	ng/L	9.4	5.8	7.7	21.9	3.1	10	10	100%
4,4-DDT	ng/L	3.5 (a)	18 (a)	3.4 (a)	40.3	<0.5	10	7	70%
BHC-gamma	ng/L	1.3 (a)	1.3 (a)	1.6 (a)	3.5	<2	10	4	40%
Endosulfan Sulfate	ng/L	2.3 (a)	5.7 (a)	1.3 (a)	9.3	<2	10	4	40%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) Only constituents with 3 or more detects and at least 20% detected are listed.

Table 31. Mugu Lagoon
Sediment Toxicity - Summary

	Toxicity Observed	n	% Toxic
Hyalella mortality-sediment NOEC	1	2	50%
Hyalella mortality-sediment IC25	1	2	50%
Hyalella mortality-sediment IC50	1	2	50%
Ceriodaphnia reproduction NOEC	1	2	50%
Ceriodaphnia reproduction IC25	1	2	50%
Ceriodaphnia reproduction IC50	1	2	50%
Ceriodaphnia mortality NOEC	1	2	50%
Ceriodaphnia mortality IC25	1	2	50%
Ceriodaphnia mortality IC50	1	2	50%

Table 82. Mugu Lagoon
Sediment Chemistry - Summary Statistics

Constituent (a)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
2,4-DDD	µg/kg	2.1	0.75	2.1	2.8	1.3	2	2	100%
2,4-DDT	µg/kg	5.0	3.0	5.0	8	2	2	2	100%
4,4-DDE	µg/kg	43	19	43	62.1	24.3	2	2	100%
EPA 1613 (DIOXINS)									
1,2,3,7,8-PeCDD	ng/kg	0.20	0.035	0.20	0.23	0.16	2	2	100%
1,2,3,4,7,8-HxCDD	ng/kg	0.30	0.14	0.30	0.43	0.16	2	2	100%
1,2,3,6,7,8-HxCDD	ng/kg	0.91	0.18	0.91	1.08	0.73	2	2	100%
1,2,3,7,8,9-HxCDD	ng/kg	0.75	0.19	0.75	0.94	0.56	2	2	100%
1,2,3,4,6,7,8-HpCDD	ng/kg	29	17	29	46.5	11.9	2	2	100%
OCDD	ng/kg	140	35	140	176	107	2	2	100%
2,3,7,8-TCDF	ng/kg	0.27	0.03	0.27	0.3	0.24	2	2	100%
1,2,3,4,7,8-HxCDF	ng/kg	0.57	0.055	0.57	0.62	0.51	2	2	100%
1,2,3,6,7,8-HxCDF	ng/kg	0.32	0.08	0.32	0.4	0.24	2	2	100%
1,2,3,7,8,9-HxCDF	ng/kg	0.30	0.025	0.30	0.32	0.27	2	2	100%
1,2,3,4,6,7,8-HpCDF	ng/kg	6.2	1.1	6.2	7.31	5.14	2	2	100%
1,2,3,4,7,8,9-HpCDF	ng/kg	0.56	0.17	0.56	0.72	0.39	2	2	100%
OCDF	ng/kg	30	2.4	30	31.9	27.1	2	2	100%
Total Tetra-Dioxins	ng/kg	2.3	0.38	2.3	2.65	1.89	2	2	100%
Total Penta-Dioxins	ng/kg	0.54	0.12	0.54	0.66	0.42	2	2	100%
Total Hexa-Dioxins	ng/kg	5.3	1.1	5.3	6.4	4.15	2	2	100%
Total Hepta-Dioxins	ng/kg	36	11	36	46.5	25	2	2	100%
Total Tetra-Furans	ng/kg	3.0	0.005	3.0	2.99	2.98	2	2	100%
Total Penta-Furans	ng/kg	4.8	0.22	4.8	5.01	4.57	2	2	100%
Total Hexa-Furans	ng/kg	7.7	1.1	7.7	8.81	6.68	2	2	100%
Total Hepta-Furans	ng/kg	15	2.8	15	17.9	12.3	2	2	100%
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	1.1	0.29	1.1	1.39	0.82	2	2	100%
2,3,7,8-TCDD TEQs ND = 0	ng/kg	1.0	0.28	1.0	1.32	0.76	2	2	100%

Notes
(a) Only constituents detected in both samples are listed.

Table 33. Mugu Lagoon
Historical Data - General Water Quality Constituents

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Turbidity	NTU	11	34	34	100%	220	13	13	100%	0.036
Boron	mg/L	1.5	34	34	100%	(b)	6	0	0%	(b)
Calcium (same as diss)	mg/L	290	34	34	100%	120	58	58	100%	<0.0001
Hardness(As $CaCO_3$)	mg/L	1800	34	34	100%	770	56	56	100%	<0.0001
Iron	mg/L	1.7	34	34	100%	0.73 (a)	55	33	60%	0.184
Magnesium	mg/L	260	34	34	100%	110	58	58	100%	0.001
Manganese	mg/L	0.093	34	34	100%	0.078 (a)	55	33	60%	0.574
Potassium	mg/L	71	34	34	100%	23	58	58	100%	0.001
Silica	mg/L	29	34	34	100%	14	3	3	100%	0.001
Sodium	mg/L	1600	34	34	100%	460	58	58	100%	0.001
Chloride	mg/L	3200	34	34	100%	550	96	96	100%	<0.0001
TDS	mg/L	7300	34	34	100%	2300	110	110	100%	<0.0001
Sulfate	mg/L	1300	34	34	100%	480	58	58	100%	<0.0001
Nutrients										
Total Ammonia	mg/L	0.63	34	21	62%	2.4	107	97	91%	0.002
Nitrate as NO3	mg/L	150	34	34	100%	46	18	18	100%	<0.0001
Nitrite as NO2	mg/L	0.76 (a)	34	12	35%	3.2	107	96	90%	0.015
Nitrogen-Total Organic	mg/L	0.69 (a)	34	27	79%	0.85 (a)	66	58	88%	0.678
Microbiological										
Coliform-Total	MPN/100mL	64000	34	34	100%	1400	3	3	100%	0.111

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) There is insufficient detected data to compute this value.
(c) A p-value of ≤0.010means that the historical data differs significantly from the CCCS data for that constituent.

Table 34. Mugu Lagoon
Historical Data - Metals

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Copper	µg/L	3.8	11	11	100%	(b)	52	1	2%	(b)
Zinc	µg/L	11	11	11	100%	18 (a)	52	14	27%	0.512

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) There is insufficient detected data to compute the this value.
(c) A p-value of ≤0.010means that the historical data differs significantly from the CCCS data for that constituent.

Table 85. Mugu Lagoon
Historical Data - Organics

Constituent	Units	CCCS Data				Historical Data				T-test
		Mean	n	Detects	% Detected	Mean	n	Detects	% Detected	p-value (c)
Aldrin	ng/L	(b)	44	0	0%	(b)	1	0	0%	(b)
Chlordane (d)	ng/L	(b)	88	4	2%	(b)	1	0	0%	(b)
Dieldrin	ng/L	(b)	44	0	0%	(b)	1	0	0%	(b)
Endosulfan Sulfate	ng/L	2.3 (a)	10	4	40%	(b)	1	0	0%	(b)
Endosulfan I	ng/L	(b)	44	0	0%	(b)	1	0	0%	(b)
Endosulfan II	ng/L	(b)	44	2	5%	(b)	1	0	0%	(b)
Endrin	ng/L	(b)	44	1	2%	(b)	1	0	0%	(b)
Endrin Aldehyde	ng/L	(b)	44	0	0%	(b)	1	0	0%	(b)
Heptachlor	ng/L	(b)	44	1	2%	(b)	1	0	0%	(b)
Heptachlor Epoxide	ng/L	(b)	44	1	2%	(b)	1	0	0%	(b)
Methoxychlor	ng/L	(b)	44	0	0%	(b)	1	0	0%	(b)
Toxaphene	ng/L	(b)	44	0	0%	(b)	1	0	0%	(b)
4,4-DDD	ng/L	1.3 (a)	10	7	70%	(b)	1	0	0%	(b)
4,4-DDE	ng/L	9.4	10	10	100%	(b)	1	0	0%	(b)
4,4-DDT	ng/L	3.5 (a)	10	7	70%	(b)	1	0	0%	(b)

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present.
(b) There is insufficient detected data to compute the this value.
(c) A p-value of ≤0.010means that the historical data differs significantly from the CCCS data for that constituent.
(d) CCCS data reports Chlordane as alpha-Chlordane and gamma-Chlordane.

APPENDIX A - APPENDIX F

Receiving Water Results

Appendix A:
Receiving Water General Water Quality Constituents
Monitoring Results

STATION 1

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	4.78	1.64	2.68	3.65	5.16	8.22	1.85	4.26	1.9	132	0.97	21.5
Boron	mg/L	1.2	1.2	1.1	1	0.94	0.81	0.98	1	1	0.4	0.96	0.74
Calcium	mg/L	250	250	210	230	230	190	220	240	240	84	240	172
Hardness	mg/L	1000	980	830	900	880	720	860	930	940	310		647
Iron	mg/L	0.31	0.06	0.06	0.36	0.42	0.51	0.3	0.48	0.3	6.7	0.26	1.06
Magnesium	mg/L	95	85	72	78	76	63	77	79	84	25	88	53
Manganese	mg/L	<0.03	0.08	0.04	0.08	0.07	0.1	0.08	0.09	0.06	0.13	0.04	0.14
Potassium	mg/L	6	6	7	7	6	6	6	6	6	5	6	7
Silica	mg/L	34	36	37	37	36	32	30	37	32	24	32	26
Sodium	mg/L	210	200	170	170	170	140	190	170	180	62	180	116
Alkalinity	mg/L	271	270	222	250	270	264	294	288	270	270	245	208
Chloride	mg/L	168	161	140	159	160	130	149	148	156	50.8	160	120
TSS	mg/L	22.8	20.8	11.2	22.2	23.4	16.8	21.2	29.6	12	187	4.02	50
TDS	mg/L	2072	1988	1691	1953	1878	1574	1888	1862	1863	657	1926	1366
Sulfate	mg/L	938	904	592	894	804	1058	830	885	879	270	881	552
NUTRIENTS													
Total Ammonia	mg/L	0.4	0.3	0.35	<1	<1	<1	<1	<1	<1	0.3	<1	<1
Nitrate as NO3	mg/L	18.9	17	14.5	21	17.8	20.3	22.1	26.01	23.355	5.49	20.025	16.65
Nitrite as NO2	mg/L	0.18	0.29	0.23	0.22	0.16	0.066	0.23	0.11	0.231	0.0792	0.3135	0.528
Organic Nitrogen	mg/L	<1	1.1	<1	<1	<1	<1	<1	1	<1	0.2	<1	2.1
Total Phosphorus	mg/L	0.081	0.042	0.061	0.056	0.06	0.112	0.03	0.09	0.035	0.496	0.025	0.174
Ortho Phosphate as Phosphate	mg/L		0.34		0.043	<0.3	0.1	0.03	<0.3	<0.01	0.098	0.03	0.17
ORGANIC CARBON													
TOC	mg/L	4.5	4.6	5.1	5.1	4.2	5.5	4.6	4.6	4.5	6.9	4.4	39
DOC	mg/L	4.5	4.3	4.7	4.7	4.1	5.6	4.4	4.6	4.4	6.7	4.3	35.9
MICROBIOLOGICAL													
Total Coliform	MPN/100mL	1600	11000	90000	8000	5000	17000	2200	1300	5000	70000	2300	160000
Fecal Coliform	MPN/100mL	1600	8000	17000	2300	3000	3000	500	500	500	17000	500	16000

STATION 2

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	4.34	4.53	3.6	4.04	14.7	20.2	3.85	14.2	4.9	2.08	5.12	7.3
Boron	mg/L	0.9	0.9	0.9	0.75	0.67	0.63	0.81	0.74	0.73	0.4	0.71	0.81
Calcium	mg/L	140	140	150	120	120	120	130	130	130	73	140	143
Hardness	mg/L	570	570	590	480	470	490	530	500	530	280		558
Iron	mg/L	0.38	0.23	0.15	0.45	0.98	0.89	0.4	1	0.42	16	0.62	0.45
Magnesium	mg/L	55	54	56	46	44	46	51	46	50	23	54	49
Manganese	mg/L	0.04	0.06	0.06	0.08	0.09	0.12	0.13	0.1	0.12	0.31	0.11	0.12
Potassium	mg/L	10	9	9	11	10	7	11	10	9	8	10	9
Silica	mg/L	27	28	30	25	28	26	24	27	24	31	26	26
Sodium	mg/L	170	160	170	130	130	120	160	140	160	65	150	127
Alkalinity	mg/L	246	228	244	229	258	246	271	275	253	165	258	250
Chloride	mg/L	144	148	153	148	146	134	142	143	145	58.8	151	149
TSS	mg/L	17.2	12	14	15.6	35.2	36.8	14.4	53.6	24.4	470	12.1	26.8
TDS	mg/L	1259	1315	1340	1141	1214	1163	1213	1160	1203	549	1228	1268
Sulfate	mg/L	557	520	530	472	453	677	452	453	485	180	512	523
Nutrients													
Total Ammonia	mg/L	10.6	6.3	6.42	5.94	12.1	3.51	13.8	14.7	11.8	3.8	10.9	10.6
Nitrate as NO3	mg/L	12.2	10.2	13.3	18	23.5	11.4	12.2	18.7	15.885	4.455	13.5	15.03
Nitrite as NO2	mg/L	2.9	5.1	5.6	2.8	2.6	0.86	1.5	0.561	2.046	0.594	0.2937	2.64
Organic Nitrogen	mg/L	1	0.9	0.77	1.02	<1	<1	1.3	1.33	1.1	1.4	1	1.6
Total Phosphorus	mg/L	1.17	1.43	1.2	1.8	1.56	1.56	1.22	1.33	1.04	1.42	1.16	1.04
Ortho Phosphate as Phosphate	mg/L		1.66	1.1	1.64	2.7	0.5	1.02	2.4	0.825	0.47	1.01	1
Organic Carbon													
TOC	mg/L	6.1	5.9	5.7	6.5	5.9	6.5	7.2	7.2	7	7.3	6.3	14.3
DOC	mg/L	6.1	5.7	5.5	6.4	6.5	6.2	7.1	7.7	7.1	7.7	6.1	13.6
Microbiological													
Total Coliform	MPN/100mL	1600	1300	1300	5000	7000	24000	1300	3000	700	30000	24000	13000
Fecal Coliform	MPN/100mL	300	300	500	80	2400	1100	80	170	20	8000	80	800

STATION 4

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	4.2	2.4	1.8	2.9	3.6	7.6	66	21	2.6	48	8.9	3.5
Boron	mg/L	0.8	0.8	0.6	2	0.62	0.62	0.74	0.68	0.64	0.5	0.85	0.75
Calcium	mg/L	150	150	120	410	130	140	150	130	130	88	170	158
Hardness	mg/L	590	580	460	1700	480	500	570	480	500	330	630	579
Iron	mg/L	0.77	0.12	0.15	0.48	0.34	0.69	7	1.5	0.46	9.4	0.99	0.8
Magnesium	mg/L	50	47	37	170	41	40	49	40	43	26	51	45
Manganese	mg/L	0.03	<0.03	0.03	0.05	0.02	0.05	0.17	0.06	0.04	0.2	0.04	0.03
Potassium	mg/L	7	6	5	6	8	7	10	8	7	6	8	6
Silica	mg/L	31	34	34	31	30	33	35	31	28	32	33	34
Sodium	mg/L	160	150	120	360	130	130	150	140	140	82	160	129
Alkalinity	mg/L	220	200	200	210	230	220	240	250	230	320	250	250
Chloride	mg/L	160	160	160	160	130	140	150	150	140	84	160	154
TSS	mg/L	20	<10	<10	<10	20	20	220	50	20	320	30	30
TDS	mg/L	1300	1200	1300	1200	1200	1200	1200	1200	1200	680	1300	1390
Sulfate	mg/L	500	490	490	470	440	450	470	460	460	260	520	531
Nutrients													
Total Ammonia	mg/L	5.4	0.9	1.7	1.5	5.1	2.8	6.3	9.4	5.7	2.4	4.9	2.7
Nitrate as NO3	mg/L	61	62	60	56	44	57	58	37	42	42	61	76.6
Nitrite as NO2	mg/L	2.5	1.6	2	1.5	0.6	0.7	1.3	1.1	2	0.7	3.3	2
Organic Nitrogen	mg/L	0.6	0.8	1.6	0.5	<1.5	<0.5	2	<1.5	<1	0.8	5.8	3.5
Total Phosphorus	mg/L	0.9	0.8	0.8	1.1	1	0.6	1.9	1	0.1	1.5	0.7	0.6
Ortho Phosphate as Phosphate	mg/L	1.7	1.2	1.7	2.7	1.7	1	1	1.6	1.1	0.4	1.3	<0.3
Organic Carbon													
TOC	mg/L	5	4.2	4.5	5.1	5.2	4.9	5.9	5.8	5.7	6.1	4.9	6.9
DOC	mg/L	5.1	4.5	4.4	5.1	5.4	5.2	5.6	6.1	5.8	6.4	4.7	6.8
Microbiological													
Total Coliform	MPN/100mL	1600	3000	30000	160000	11000	50000	3000	50000	5000	30000	7000	30000
Fecal Coliform	MPN/100mL	240	300	170	160000	170	900	500	300	240	9000	70	130

STATION 7

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	11	4.3	4.9	4.1	3.4	24	8.1	11	7.3	6.7	5.4	8.2
Boron	mg/L	1.2	0.9	1.3	1.9	1.9	0.72	0.75	1.3	1.1	0.8	1.2	1.27
Calcium	mg/L	240	160	230	250	270	100	140	210	180	150	220	240
Hardness	mg/L	1300	970	1500	2200	2800	940	800	1400	1400	770	1400	1330
Iron	mg/L	0.73	0.36	0.18	0.64	0.76	1.9	0.71	1.1	1.1	0.98	0.82	0.93
Magnesium	mg/L	170	140	220	390	510	170	110	220	220	96	210	178
Manganese	mg/L	0.07	0.04	0.07	0.06	0.06	0.1	0.06	0.1	0.07	0.09	0.06	0.08
Potassium	mg/L	37	32	61	110	170	58	28	60	64	22	60	41
Silica	mg/L	31	31	32	30	23	21	31	31	27	26	28	30
Sodium	mg/L	930	810	1400	2800	3500	1100	580	1400	1400	490	1200	890
Alkalinity	mg/L	230	220	230	210	200	150	220	230	210	210	240	270
Chloride	mg/L	2200	1500	3000	5900	9400	2400	1000	2900	2500	830	2200	1440
TSS	mg/L	50	20	20	<10	20	40	10	20	20	20	10	20
TDS	mg/L	5900	3800	6400	12000	15000	4700	2900	6300	5700	2500	5000	4540
Sulfate	mg/L	1200	680	1000	1400	1500	520	510	950	840	580	860	1070
Nutrients													
Total Ammonia	mg/L	<0.1	0.1	0.2	<0.2	<0.2	1.5	2.3	2	0.9	0.3	<0.2	<0.2
Nitrate as NO3	mg/L	120	84	100	92	61	29	81	120	90	89	110	138
Nitrite as NO2	mg/L	<7.5	3.7	<9	<15	<15	<6	0.5	<9	<9	<6	<7.5	<1.5
Organic Nitrogen	mg/L	3.5	1.3	0.7	0.6	0.9	0.8	<0.5	0.5	0.5	0.7	0.7	1.1
Total Phosphorus	mg/L	1.9	0.9	1	0.5	0.6	0.8	1.3	1	0.2	0.8	0.7	0.6
Ortho Phosphate as Phosphate	mg/L	1.4	0.7	1.8	<1.5	<1.5	1.8	1.6	1.6	1.1	0.8	1.3	<0.1
Organic Carbon													
TOC	mg/L	7.2	7.1	4.7	3.9	2.8	7.1	5.9	5.2	5.1	7.4	4.8	5.4
DOC	mg/L	4.4	15	4.5	3.2	3.1	7.3	6	5.2	5.2	7	4.5	5.7
Microbiological													
Total Coliform	MPN/100mL	1600	24000	30000	9000	30000	90000	5000	160000	16000	160000	9000	30000
Fecal Coliform	MPN/100mL	1600	1300	900	1700	300	1700	230	500	300	11000	900	500

STATION 8

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	0.8	3.2	1.8	1.4	0.7	3.8	0.6	8.8	0.9	14	1	1.2
Boron	mg/L	0.2	0.2	0.2	0.18	0.19	0.19	0.18	0.14	0.1	0.2	0.3	0.17
Calcium	mg/L	72	78	70	75	83	57	72	54	78	43	80	71
Hardness	mg/L	380	400	350	380	420	280	380	260	390	220	390	354
Iron	mg/L	0.15	0.31	0.24	0.15	0.1	0.34	0.07	0.88	0.15	1.8	0.21	0.16
Magnesium	mg/L	48	49	43	47	52	33	48	31	48	28	46	43
Manganese	mg/L	<0.03	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.03	0.01	0.01
Potassium	mg/L	2	3	3	4	4	5	4	3	3	4	4	3
Silica	mg/L	51	55	52	49	49	36	47	37	40	37	35	50
Sodium	mg/L	59	70	63	61	69	57	74	51	74	50	88	57
Alkalinity	mg/L	260	250	250	260	260	190	250	190	260	190	280	280
Chloride	mg/L	100	130	120	110	110	97	110	81	100	70	130	107
TSS	mg/L	<10	<10	10	<10	<10	<10	<10	20	<10	20	<10	<10
TDS	mg/L	730	710	780	680	740	560	670	520	710	460	760	700
Sulfate	mg/L	150	170	170	170	170	130	150	110	150	98	190	148
Nutrients													
Total Ammonia	mg/L	0.4	0.2	<0.1	<0.2	<0.2	0.5	<0.2	0.23	0.3	<0.2	<0.2	<0.2
Nitrate as NO3	mg/L	3.1	12	12	8.3	14	9.4	12	8.8	14	6.7	2	3.7
Nitrite as NO2	mg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Organic Nitrogen	mg/L	<0.5	<0.5	0.6	<0.5	0.6	<0.5	0.6	<0.5	1	0.6	0.7	0.8
Total Phosphorus	mg/L	0.2	0.5	0.7	0.5	0.4	0.6	0.4	0.5	0.4	0.4	0.5	0.3
Ortho Phosphate as Phosphate	mg/L	0.3	0.8	1.8	1.2	0.7	1.4	0.7	1.2	0.6	0.4	1	<0.3
Organic Carbon													
TOC	mg/L	2.4	2.9	3.5	3	2.8	6.3	3	4.1	3.5	5	4.1	3.5
DOC	mg/L	2.3	3.2	3.4	2.8	3	6.7	2.9	4.5	3.6	5.2	4.1	3.6
Microbiological													
Total Coliform	MPN/100mL	1600	3000	5000	500	9000	900	300	9000	11000	160000	24000	24000
Fecal Coliform	MPN/100mL	1600	500	600	140	170	300	30	80	2100	3000	1100	240

STATION 9

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	0.6	1.9	4.6	1.7	1	14	0.4	0.9	1.2	1.7	0.5	2.5
Boron	mg/L	0.2	0.2	0.2	0.19	0.19	0.11	0.17	0.14	0.09	0.2	0.25	0.17
Calcium	mg/L	140	110	130	150	150	74	140	130	120	90	130	118
Hardness	mg/L	770	630	710	760	800	360	740	660	660	430	710	615
Iron	mg/L	0.06	0.15	0.96	0.18	0.35	1.2	0.12	0.18	0.23	0.26	0.13	0.36
Magnesium	mg/L	100	86	94	97	100	43	95	80	87	51	94	78
Manganese	mg/L	<0.03	<0.03	0.04	0.1	0.04	0.05	0.01	0.02	<0.01	0.02	<0.01	<0.01
Potassium	mg/L	2	2	3	4	3	3	2	2	2	2	2	2
Silica	mg/L	36	31	32	38	39	25	35	35	27	25	27	30
Sodium	mg/L	110	99	110	97	110	51	110	86	110	70	99	88
Alkalinity	mg/L	290	260	290	360	340	200	350	340	290	270	300	340
Chloride	mg/L	190	180	180	200	190	94	190	160	170	100	180	179
TSS	mg/L	<10	<10	20	<10	10	20	<10	<10	<10	<10	<10	<10
TDS	mg/L	1300	1200	1300	1300	1400	640	1300	1200	1300	870	1200	1250
Sulfate	mg/L	480	430	440	460	450	200	420	360	410	270	430	409
Nutrients													
Total Ammonia	mg/L	<0.1	<0.1	<0.1	<0.2	<2	0.3	0.2	0.24	0.3	<0.22	<0.2	<0.2
Nitrate as NO3	mg/L	5.8	3.8	6	8.2	8.3	6.1	8.5	8.1	4.8	5.3	3.5	6.5
Nitrite as NO2	mg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Organic Nitrogen	mg/L	0.8	0.9	<0.5	0.6	0.6	0.5	<0.5	<0.5	0.5	0.9	0.7	0.8
Total Phosphorus	mg/L	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Ortho Phosphate as Phosphate	mg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Organic Carbon													
TOC	mg/L	3.3	3.6	3.5	7.4	3.2	8	3.4	3.5	3.6	7.9	3.4	7.2
DOC	mg/L	3.3	3.7	3.5	6.5	3.2	8.2	3.2	3.5	3.7	7.9	3.4	7.4
Microbiological													
Total Coliform	MPN/100mL	1600	500	5000	160000	5000	50000	2400	5000	4000	24000	5000	3000
Fecal Coliform	MPN/100mL	1600	1600	50	50000	300	9000	70	50	80	3000	240	700

STATION 10

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	0.9	1.2	1.5	1.9	1.7	4.4	1.3	1.3	0.7	1.3	0.6	0.9
Boron	mg/L	0.4	0.4	0.4	0.38	0.36	0.31	0.38	0.35	0.35	0.3	0.46	0.35
Calcium	mg/L	93	85	69	79	83	58	76	76	69	75	82	81
Hardness	mg/L	490	450	350	390	410	270	380	370	340	360	410	420
Iron	mg/L	0.12	0.11	0.08	0.28	0.21	0.38	0.22	0.22	0.21	0.26	0.14	0.13
Magnesium	mg/L	63	58	44	48	50	31	46	43	40	42	51	53
Manganese	mg/L	<0.03	0.03	0.04	0.05	0.03	0.04	0.03	0.03	0.03	0.02	0.03	0.01
Potassium	mg/L	8	7	8	9	11	9	10	8	9	5	8	7
Silica	mg/L	29	28	25	27	28	22	24	26	22	26	24	27
Sodium	mg/L	110	110	96	98	100	76	99	86	100	80	97	88
Alkalinity	mg/L	240	220	210	240	200	180	230	230	220	260	220	230
Chloride	mg/L	160	160	160	140	140	100	150	150	130	110	130	155
TSS	mg/L	<10	<10	<10	10	<10	10	<10	<10	<10	<10	<10	<10
TDS	mg/L	920	860	840	810	810	610	790	830	770	840	830	930
Sulfate	mg/L	290	290	250	240	250	190	230	220	200	240	250	291
Nutrients													
Total Ammonia	mg/L	12	9.3	16	13	7.6	10	13	13	14	7.7	5.3	1.3
Nitrate as NO3	mg/L	3.8	4.4	3.7	4.8	6.5	4.6	6	4.8	6.7	6.7	20	27.6
Nitrite as NO2	mg/L	0.7	0.7	0.7	1.3	<0.3	0.6	1.8	<0.3	1.7	1.5	2.9	1.2
Organic Nitrogen	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.7	3	<2.5	<4	<2	6	2.6
Total Phosphorus	mg/L	1.4	0.8	1.3	1	1.9	0.6	0.7	0.7	0.5	0.2	0.4	0.3
Ortho Phosphate as Phosphate	mg/L	3.4	1.4	3.1	2.2	4.2	1.2	0.8	1.2	0.8	0.5	0.6	<0.3
Organic Carbon													
TOC	mg/L	6.3	6.1	7	7.3	7.1	8.9	8	7.4	7.6	7.4	6.4	8
DOC	mg/L	6.1	6	6.8	7.2	7.2	8.9	7.5	7.2	7.5	7.4	6.3	7.9
Microbiological													
Total Coliform	MPN/100mL	1600	5000	16000	2400	9000	240000	3000	3000	2400	90000	3000	9000
Fecal Coliform	MPN/100mL	1600	170	500	2400	130	1700	240	50	110	500	60	240

STATION 11

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	1.3	10.6	5.5	10	5.8	26.3	10.5	11.3	4.3	9.1	1.6	3.2
Boron	mg/L	0.4	0.3	0.4	0.37	0.32	0.24	0.37	0.37	0.33	0.4	0.32	0.43
Calcium	mg/L	90	73	69	77	74	56	77	79	76	59	74	77
Hardness	mg/L	480	390	360	390	370	270	390	380	380	290	370	398
Iron	mg/L	0.23	0.49	0.33	0.55	0.27	1	0.72	0.76	0.32	0.54	0.13	0.31
Magnesium	mg/L	62	49	46	49	46	32	48	45	46	34	46	50
Manganese	mg/L	0.06	0.13	0.09	0.09	0.07	0.1	0.09	0.08	0.09	0.07	0.06	0.04
Potassium	mg/L	7	7	7	9	9	6	9	8	9	7	8	8
Silica	mg/L	30	30	29	34	28	22	27	27	23	22	24	24
Sodium	mg/L	110	98	96	92	91	66	110	94	92	80	89	84
Alkalinity	mg/L	220	220	200	230	200	170	220	230	210	180	210	190
Chloride	mg/L	160	170	160	152	155	100	155	145	150	105	142	145
TSS	mg/L	<10	15.8	11.4	16.2	8.6	22.6	15.6	18	8.2	13	2.8	6.6
TDS	mg/L	1000	804	865	842	830	600	855	794	807	668	810	852
Sulfate	mg/L	280	259	172	162	252	189	262	227	247	173	238	264
Nutrients													
Total Ammonia	mg/L	7.1	10.1	7.68	10.5	7.31	5.7	11.6	11.9	9.57	8.86	5.5	0.18
Nitrate as NO3	mg/L	19	19	20.7	22	26.1	12.6	22.95	16.2	22.5	17.1	38.7	37.35
Nitrite as NO2	mg/L	3.5	3.7	3.8	2.4	2.7	0.86	2.6	0.99	2.475	1.815	3.399	0.396
Organic Nitrogen	mg/L	<2.5	2.6	0.3	0.8	1	1.4	0.6	0.4	0.6	<1	1.4	<1
Total Phosphorus	mg/L	1.1	1.5	0.8	1.6	1.2	0.5	0.6	0.6	0.6	0.3	0.6	0.4
Ortho Phosphate as Phosphate	mg/L	2.6	2.8	2.2	2	2.1	1.3	0.6	0.9	0.8	1.5	0.8	<0.3
Organic Carbon													
TOC	mg/L	5.5	6.1	7.3	6.3	6.6	9	7.1	6.7	6.5	7.4	6.3	6.1
DOC	mg/L	5.4	5.9	6	6.2	6.8	9.1	7.1	6.8	6.6	7.7	6.2	6.4
Microbiological													
Total Coliform	MPN/100mL	500	2200	5000	5000	800	3000	300	3000	700	9000	2400	5000
Fecal Coliform	MPN/100mL	240	80	220	80	500	340	130	230	230	300	500	700

STATION 12

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	2.8	6.53	7.3	65.6	8	23.7	15.1	103	3.2	8.3	2.4	3.8
Boron	mg/L	0.4	0.4	0.4	0.46	0.36	0.28	0.4	0.36	0.36	0.4	0.33	0.36
Calcium	mg/L	95	75	76	77	76	57	74	71	76	56	77	81
Hardness	mg/L	500	390	390	370	380	270	370	330	370	270	380	420
Iron	mg/L	0.83	0.41	0.21	5.6	0.52	1.5	1.2	0.77	0.42	0.51	0.16	0.32
Magnesium	mg/L	64	50	49	43	46	31	44	38	43	31	45	53
Manganese	mg/L	0.06	0.07	0.06	0.15	0.06	0.11	0.06	0.04	0.05	0.05	0.03	0.03
Potassium	mg/L	7	7	8	13	10	8	10	9	10	8	9	7
Silica	mg/L	31	31	30	28	29	24	28	27	24	22	26	27
Sodium	mg/L	130	110	110	110	100	77	110	97	120	85	97	87
Alkalinity	mg/L	220	210	190	180	180	150	210	190	190	160	190	230
Chloride	mg/L	170	157	162	155'	160	105	155	150	157	112	147	162
TSS	mg/L	20	13.8	8.2	114	14.4	36.4	27.6	16.4	12	13.4	2	8.8
TDS	mg/L	990	880	910	874	871	645	851	828	863	646	882	960
Sulfate	mg/L	280	259	258	257	263	197	254	234	242	178	259	302
Nutrients													
Total Ammonia	mg/L	3.9	6.53	4.16	5.34	4.59	3.89	8.8	7.96	6.49	5.93	2.86	0.28
Nitrate as NO3	mg/L	37	33.3	38.3	64.8	49	38.7	46.4	47.3	55.8	37.8	58.05	35.1
Nitrite as NO2	mg/L	2.5	0.26	2.7	1.4	1.5	0.5	1.9	0.92	1.518	1.188	2.376	0.264
Organic Nitrogen	mg/L	1.3	2.7	0.8	1.6	1.2	1.5	1.3	0.1	0.5	<1	1.3	1
Total Phosphorus	mg/L	1.1	1	1.3	3.2	1.6	1.4	0.8	1.4	1.1	0.9	1	0.7
Ortho Phosphate as Phosphate	mg/L	2.5	4.2	3.4	5.1	2.9	2.8	3	2.9	2.8	1.5	2.9	<0.3
Organic Carbon													
TOC	mg/L	5.5	5.9	6	7	6.8	9.1	8.1	7.4	7.2	8.2	6.6	6
DOC	mg/L	5.6	5.9	6	7.2	6.9	9.3	8.1	7.5	7.1	8.4	6.3	6.1
Microbiological													
Total Coliform	MPN/100mL	1600	2400	2400	3000	1400	16000	500	3000	700	9000	1700	2400
Fecal Coliform	MPN/100mL	1600	110	80	40	700	140	40	130	40	1300	500	800

STATION 13

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	1.7	8	1.4	1.4	14	11	3.4	1.9	1.5	120	1.8	1.9
Boron	mg/L	1.8	1.7	2.1	0.76	1.4	1.3	1.8	1.9	1.7	0.4	1.7	1.67
Calcium	mg/L	350	380	430	150	320	270	410	430	380	100	330	340
Hardness	mg/L	1500	1600	1800	560	1300	1100	1700	1700	1600	390	1500	1430
Iron	mg/L	0.46	1.9	0.08	0.37	2	0.039	0.79	0.68	0.45	17	0.47	0.43
Magnesium	mg/L	150	150	170	47	130	110	170	160	160	34	160	141
Manganese	mg/L	0.05	0.1	0.03	0.03	0.11	0.15	0.12	0.15	0.05	0.36	0.02	0.07
Potassium	mg/L	5	5	4	9	6	6	5	4	5	8	5	7
Silica	mg/L	33	39	41	41	40	30	35	38	34	38	27	32
Sodium	mg/L	390	370	410	150	240	260	420	410	370	78	360	320
Alkalinity	mg/L	270	280	300	300	270	200	330	320	280	110	190	310
Chloride	mg/L	430	160	180	180	160	110	160	180	180	50	180	160
TSS	mg/L	20	70	<10	<10	60	60	<10	10	30	370	40	<10
TDS	mg/L	3900	3600	3900	3600	3000	2600	3600	3900	3900	770	3500	3190
Sulfate	mg/L	1900	1800	2100	1900	1700	1400	1800	2100	2000	380	1900	1640
Nutrients													
Total Ammonia	mg/L	0.7	0.1	0.1	<0.2	0.2	0.4	<0.2	0.2	0.3	0.2	<0.2	<0.2
Nitrate as NO3	mg/L	420	200	240	220	170	170	200	240	230	49	210	177
Nitrite as NO2	mg/L	1	0.7	0.7	0.7	<3	<0.3	0.5	<0.3	0.5	<0.3	1.2	2.4
Organic Nitrogen	mg/L	1.1	0.5	0.8	0.8	<0.5	<0.5	<0.5	<0.5	0.7	1.6	0.8	1.2
Total Phosphorus	mg/L	0.2	0.4	0.1	0.2	0.4	0.5	0.2	0.1	<0.1	1.8	<0.1	<0.1
Ortho Phosphate as Phosphate	mg/L	<0.3	<0.3	<3.6	<0.3	<0.3	<0.3	<3	<6	<3	<0.3	<3	<0.3
Organic Carbon													
TOC	mg/L	5.6	6	5.1	4.7	4.5	7.1	4.8	5.1	6	13	7	14.9
DOC	mg/L	5.4	6	4.9	4.6	4.4	6.7	4.6	5.1	5.7	9.5	5.5	13
Microbiological													
Total Coliform	MPN/100mL	1600	30000	30000	9000	17000	90000	50000	160000	50000	160000	5000	160000
Fecal Coliform	MPN/100mL	900	750	1700	240	140	5000	350	240	130	5000	240	2400

STATION 14

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	3.2	4.7	3.3	28	15	13	4.7	20	3.3	92	13	3.5
Boron	mg/L	2	1.4	1.5	1.4	1.5	1.3	1.7	1.6	1.3	0.8	1.5	1.72
Calcium	mg/L	500	410	400	350	440	360	450	470	400	200	430	415
Hardness	mg/L	1800	1400	1400	1300	1600	1300	1600	1700	1500	730	1600	1550
Iron	mg/L	0.49	0.39	0.5	3.4	2.1	1.4	0.76	2	0.68	23	2.3	1.11
Magnesium	mg/L	140	100	100	100	110	94	120	120	110	56	120	124
Manganese	mg/L	0.05	0.06	0.06	0.14	0.11	0.1	0.09	0.11	0.07	0.63	0.12	0.06
Potassium	mg/L	11	6	6	9	8	9	8	7	8	16	10	10
Silica	mg/L	32	34	36	37	37	29	30	34	30	47	35	30
Sodium	mg/L	320	230	220	210	230	230	320	280	220	120	260	280
Alkalinity	mg/L	320	310	320	280	300	270	300	330	290	180	340	330
Chloride	mg/L	160	160	130	120	140	140	170	200	130	100	200	170
TSS	mg/L	20	10	30	70	30	30	<10	30	10	520	70	20
TDS	mg/L	3700	3300	3200	2700	3000	2900	3400	3600	2900	1400	3400	3240
Sulfate	mg/L	1700	1700	1700	1300	1700	1500	1500	1800	1500	640	1700	1510
Nutrients													
Total Ammonia	mg/L	0.1	<0.1	0.4	0.4	<0.2	0.3	5.6	0.3	0.4	0.3	<0.2	<0.2
Nitrate as NO3	mg/L	290	260	270	210	260	240	300	330	230	97	290	279
Nitrite as NO2	mg/L	0.9	0.5	0.8	0.4	<3	<0.3	0.4	<0.3	0.6	<0.3	0.5	0.9
Organic Nitrogen	mg/L	1.5	1.1	1	<0.5	<0.5	0.5	<1.5	0.5	<0.5	1.7	<0.5	1
Total Phosphorus	mg/L	0.2	0.1	0.2	0.5	0.3	0.5	0.3	0.4	0.2	3.1	0.4	0.3
Ortho Phosphate as Phosphate	mg/L	<0.3	<0.3	<3	<0.3	<0.3	0.5	<3	<3	<3	0.6	<3	<0.3
Organic Carbon													
TOC	mg/L	6.3	5.5	5.5	5.7	5.7	8.4	12	6.7	6.1	27	5.7	8.3
DOC	mg/L	6.1	5.3	5.7	5.5	5.6	8.1	11	6.6	6	11	5.8	8.2
Microbiological													
Total Coliform	MPN/100mL	1600	30000	30000	30000	160000	160000	9000	160000	16000	160000	160000	160000
Fecal Coliform	MPN/100mL	1600	3000	110	9000	500	2400	1700	600	300	3000	1600	220

STATION 15

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU			3.2	3.6	2.7	20	2.8	6.4	5.6	6.4	5.5	3.6
Boron	mg/L			1.8	2.3	2.3	1.1	2.8	1.7	1.8	1.8	1.8	2.46
Calcium	mg/L			260	270	270	130	320	210	260	230	300	339
Hardness	mg/L			2200	2600	3400	1500	4300	2100	2400	2100	2500	2940
Iron	mg/L			0.22	0.73	0.71	1.5	0.77	0.94	1	0.84	0.89	0.82
Magnesium	mg/L			380	480	670	290	860	380	420	370	420	510
Manganese	mg/L			0.06	0.05	0.04	0.09	0.05	0.09	0.08	0.1	0.07	0.07
Potassium	mg/L			130	180	240	100	230	110	140	140	130	166
Silica	mg/L			30	26	14	18	15	26	25	21	25	22
Sodium	mg/L			2700	3800	5100	2000	6000	2800	3000	2700	2700	3400
Alkalinity	mg/L			230	200	180	150	190	220	210	200	250	90
Chloride	mg/L			4400	8700	14000	4500	11000	5700	5600	5800	5800	6900
TSS	mg/L			<10	<10	<10	30	<10	10	10	10	10	10
TDS	mg/L			9000	16000	23000	7800	21000	11000	12000	11000	12000	14900
Sulfate	mg/L			1200	1500	1900	690	1900	1100	1200	1400	1600	1830
Nutrients													
Total Ammonia	mg/L			0.3	<0.2	<0.2	1.4	0.9	1.7	0.7	0.3	<0.2	<0.2
Nitrate as NO3	mg/L			95	73	35	27	68	81	90	80	140	133
Nitrite as NO2	mg/L			<12	<18	<30	4.4	<30	<15	<15	0.8	<3	<30
Organic Nitrogen	mg/L			0.5	0.5	0.6	0.7	0.5	<0.5	0.6	0.9	0.6	0.9
Total Phosphorus	mg/L			0.7	0.4	<0.1	0.6	0.2	0.7	0.8	0.5	0.5	0.4
Ortho Phosphate as Phosphate	mg/L			1.1	<1.5	<1.5	1	<3	<1.5	<0.3	1.3	0.6	<3
Organic Carbon													
TOC	mg/L			3.7	3.9	2	5.7	2	3.7	3.7	4.7	3.6	3.7
DOC	mg/L			3.7	2.9	1.8	5.1	2	3.9	3.2	4.8	3.2	4.3
Microbiological													
Total Coliform	MPN/100mL		30000	1700	30000	160000	800	50000	16000	160000	50000	30000	
Fecal Coliform	MPN/100mL		1700	500	500	3000	80	280	220	14000	900	2400	

Appendix B:
Receiving Water Metals
Monitoring Results

STATION 1

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	1.6	1.4	2.6	1.2
Cadmium, TR	µg/L	0.21	0.35	0.22	0.65
Chromium, TR	µg/L	1.3	1.2	3	2.1
Copper, TR	µg/L	10	4.2	3.8	2.2
Lead, TR	µg/L	0.073	0.49	0.55	0.15
Mercury, TR	µg/L	0.0015	0.0011	0.00139	0.00158
Nickel, TR	µg/L	4.4	20	13	2.6
Selenium, TR	µg/L	1.5	1.5	1.7	1.6
Zinc, TR	µg/L	17	4.3	5.8	3.9
Arsenic, D	µg/L	1.5	1.3	2.4	0.9
Cadmium, D	µg/L	0.099	0.038	0.15	0.19
Chromium, D	µg/L	0.36	0.57	3.2	1.6
Copper, D	µg/L	1.8	1.8	2.1	2.9
Lead, D	µg/L	0.041	0.049	0.51	0.12
Nickel, D	µg/L	2.4	2.6	4.6	2.5
Selenium, D	µg/L	1.7	1.4	1.4	1.4
Zinc, D	µg/L	1.1	0.92	6.1	4.2

STATION 3

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	3.6	2.5	3.7	3.9
Cadmium, TR	µg/L	0.3	0.15	0.24	0.33
Chromium, TR	µg/L	0.66	0.8	2.5	1.7
Copper, TR	µg/L	24	3.6	4.3	3.1
Lead, TR	µg/L	6.9	0.63	0.92	0.57
Mercury, TR	µg/L	0.00209	0.00269	0.0036	0.00158
Nickel, TR	µg/L	3.5	14	9.5	4.9
Selenium, TR	µg/L	<0.8	<0.8	1.8	1
Zinc, TR	µg/L	6.7	13	15	11
Arsenic, D	µg/L	3.4	2.4	3.1	2.1
Cadmium, D	µg/L	0.22	0.1	0.22	0.24
Chromium, D	µg/L	0.22	0.4	2.8	0.94
Copper, D	µg/L	2	3.2	3.7	2.1
Lead, D	µg/L	0.15	0.2	0.3	0.11
Nickel, D	µg/L	3	4.1	5.7	3.5
Selenium, D	µg/L	0.82	<0.8	1.4	<0.8
Zinc, D	µg/L	6.6	17	19	7.2

STATION 4

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	3.1	2.3	3.8	2.7
Cadmium, TR	µg/L	0.34	0.19	0.45	0.53
Chromium, TR	µg/L	0.65	0.93	4.1	2.6
Copper, TR	µg/L	2.2	3	4.8	3.9
Lead, TR	µg/L	0.18	0.4	1.2	1.1
Mercury, TR	µg/L	0.00176	0.00157	0.005	0.00322
Nickel, TR	µg/L	4.4	14	9.7	6.7
Selenium, TR	µg/L	<0.8	1.2	1.2	1.1
Zinc, TR	µg/L	5	11	13	14
Arsenic, D	µg/L	2.7	2.3	3.2	0.76
Cadmium, D	µg/L	0.27	0.13	0.3	0.14
Chromium, D	µg/L	0.51	0.49	2.3	1.6
Copper, D	µg/L	1.7	1.7	2.5	0.92
Lead, D	µg/L	0.079	0.32	0.32	0.032
Nickel, D	µg/L	4.3	4.5	6.4	0.4
Selenium, D	µg/L	<0.8	0.8	0.9	<0.8
Zinc, D	µg/L	4.2	11	9.5	4.3

STATION 7

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	4.9	2.9	3.8	3.2
Cadmium, TR	µg/L	0.73	0.52	0.68	0.42
Chromium, TR	µg/L	1.6	8.8	6.7	14
Copper, TR	µg/L	3	4.1	5.9	4.5
Lead, TR	µg/L	0.34	0.47	1.4	0.94
Mercury, TR	µg/L	0.0019	0.00078	0.00208	0.00225
Nickel, TR	µg/L	6.6	13	18	4.9
Selenium, TR	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, TR	µg/L	8.4	11	18	12
Arsenic, D	µg/L	1.7	2.7	3.4	3
Cadmium, D	µg/L	0.41	0.19	0.32	0.42
Chromium, D	µg/L	0.72	0.78	4.4	13
Copper, D	µg/L	5.3	2.3	3.2	4.3
Lead, D	µg/L	0.39	0.41	0.5	0.51
Nickel, D	µg/L	5.6	4	6.5	4.6
Selenium, D	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, D	µg/L	5.6	25	21	10

STATION 8

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	6	4.9	5.7	4.5
Cadmium, TR	µg/L	0.23	0.088	0.2	0.45
Chromium, TR	µg/L	1.2	1	3.2	1.6
Copper, TR	µg/L	3.1	2.5	26	2.6
Lead, TR	µg/L	0.26	0.14	0.55	0.16
Mercury, TR	µg/L	0.0009	0.00028	0.00142	0.00098
Nickel, TR	µg/L	3.8	7.8	4	2.9
Selenium, TR	µg/L	<0.8	1	<0.8	1.1
Zinc, TR	µg/L	2.8	4.6	7.6	5.3
Arsenic, D	µg/L	5.7	4.1	5.3	4.2
Cadmium, D	µg/L	0.047	0.074	0.11	0.26
Chromium, D	µg/L	0.42	0.74	1.9	1.4
Copper, D	µg/L	1.9	1.3	3.4	1.9
Lead, D	µg/L	0.054	0.14	0.17	0.089
Nickel, D	µg/L	1.8	2.2	9.1	2.6
Selenium, D	µg/L	<0.8	0.82	<0.8	1.1
Zinc, D	µg/L	1.1	19	15	4.9

STATION 9

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	2.2	2.6	4	1.8
Cadmium, TR	µg/L	0.093	0.35	0.11	0.39
Chromium, TR	µg/L	0.71	0.77	2.1	1.9
Copper, TR	µg/L	1.8	2.9	2.5	2.1
Lead, TR	µg/L	0.17	0.8	0.29	0.22
Mercury, TR	µg/L	0.00557	0.00209	0.00216	0.00178
Nickel, TR	µg/L	2.5	14	6.6	1.9
Selenium, TR	µg/L	1.2	1.4	1.2	1.4
Zinc, TR	µg/L	9.1	5.5	5.3	2.2
Arsenic, D	µg/L	2.4	2.6	3.8	1.7
Cadmium, D	µg/L	0.049	0.3	0.097	0.13
Chromium, D	µg/L	0.29	0.58	1.8	1.9
Copper, D	µg/L	1.2	1.5	1.5	1.5
Lead, D	µg/L	0.065	0.72	0.098	0.032
Nickel, D	µg/L	1.6	2.6	4.5	1.7
Selenium, D	µg/L	1.3	1.3	1.3	1.1
Zinc, D	µg/L	4.7	11	7.1	2.1

STATION 10

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	2.3	2.5	3.8	2.4
Cadmium, TR	µg/L	0.18	0.15	0.13	0.11
Chromium, TR	µg/L	0.8	1.4	2	2.1
Copper, TR	µg/L	2.8	3.1	2.2	2.1
Lead, TR	µg/L	0.3	0.7	0.53	0.41
Mercury, TR	µg/L	0.00344	0.0033	0.00204	0.00228
Nickel, TR	µg/L	3.2	8	4.7	2.3
Selenium, TR	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, TR	µg/L	16	33	16	15
Arsenic, D	µg/L	2.1	2.3	3.4	2.3
Cadmium, D	µg/L	0.078	0.14	0.11	0.11
Chromium, D	µg/L	0.25	0.55	2	3.5
Copper, D	µg/L	1.3	2.5	4.1	1.9
Lead, D	µg/L	0.28	0.43	0.54	0.18
Nickel, D	µg/L	2.1	3.5	11	2.3
Selenium, D	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, D	µg/L	15	14	21	15

STATION 11

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	3.7	3.2	4.1	3
Cadmium, TR	µg/L	0.2	0.19	0.44	0.23
Chromium, TR	µg/L	1	0.62	3.1	1.5
Copper, TR	µg/L	2.2	2.4	3.3	1.9
Lead, TR	µg/L	0.47	0.41	0.61	0.24
Mercury, TR	µg/L	0.0036	0.00223	0.00307	0.00158
Nickel, TR	µg/L	5.2	9.1	7.5	3.1
Selenium, TR	µg/L	<0.8	<0.8	1	<0.8
Zinc, TR	µg/L	14	17	17	12
Arsenic, D	µg/L	3.5	3.1	3.9	2.8
Cadmium, D	µg/L	0.16	0.18	0.17	0.1
Chromium, D	µg/L	0.29	0.4	2.6	1.4
Copper, D	µg/L	1.5	1.8	2.1	1.9
Lead, D	µg/L	0.32	0.38	0.41	0.17
Nickel, D	µg/L	3.8	3.4	4.8	3.4
Selenium, D	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, D	µg/L	11	28	21	13

STATION 12

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	4.2	3.5	3.5	2.9
Cadmium, TR	µg/L	0.16	0.25	0.13	0.2
Chromium, TR	µg/L	0.98	0.89	3	2
Copper, TR	µg/L	3	3.6	4.2	2.7
Lead, TR	µg/L	0.56	0.89	0.97	0.45
Mercury, TR	µg/L	0.004	0.00374	0.004	0.0049
Nickel, TR	µg/L	4.9	8.3	7.4	3
Selenium, TR	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, TR	µg/L	12	23	26	14
Arsenic, D	µg/L	4.2	2.7	3.1	2.8
Cadmium, D	µg/L	0.15	0.15	0.13	0.16
Chromium, D	µg/L	0.25	0.5	2.6	1.5
Copper, D	µg/L	1.4	2.8	2.8	2.9
Lead, D	µg/L	0.25	0.64	0.26	0.16
Nickel, D	µg/L	3.1	4.2	4.6	3.4
Selenium, D	µg/L	<0.8	0.8	<0.8	<0.8
Zinc, D	µg/L	12	34	22	13

STATION 13

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	2.9	2.6	3.5	1.8
Cadmium, TR	µg/L	0.43	0.35	0.42	0.38
Chromium, TR	µg/L	4.3	1.9	3.7	1.7
Copper, TR	µg/L	8.4	8.7	6.6	2.2
Lead, TR	µg/L	1.3	1.5	0.36	0.094
Mercury, TR	µg/L	0.00432	0.00337	0.00098	0.00134
Nickel, TR	µg/L	8.5	29	19	2.7
Selenium, TR	µg/L	<0.8	<0.8	0.94	0.94
Zinc, TR	µg/L	15	15	7.6	3.4
Arsenic, D	µg/L	2.3	2.3	3	1.6
Cadmium, D	µg/L	0.12	0.1	0.25	0.37
Chromium, D	µg/L	0.38	0.73	3.5	1.2
Copper, D	µg/L	4.2	1.3	2.3	2.3
Lead, D	µg/L	0.043	0.13	0.14	0.039
Nickel, D	µg/L	3.6	2	3.7	2.8
Selenium, D	µg/L	0.8	<0.8	0.8	0.88
Zinc, D	µg/L	3.2	17	2.9	3.3

STATION 14

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	1.7	1.6	1.7	2.1
Cadmium, TR	µg/L	0.41	0.34	0.66	0.57
Chromium, TR	µg/L	0.72	2.5	5	3.9
Copper, TR	µg/L	5.3	11	9	6.5
Lead, TR	µg/L	0.39	1.3	1.3	2
Mercury, TR	µg/L	0.00237	0.00296	0.0033	0.00427
Nickel, TR	µg/L	5.6	43	26	4.7
Selenium, TR	µg/L	<0.8	0.86	<0.8	<0.8
Zinc, TR	µg/L	5.6	11	12	16
Arsenic, D	µg/L	1.5	1.3	1.3	1.3
Cadmium, D	µg/L	0.089	0.119	0.27	0.56
Chromium, D	µg/L	0.14	0.49	3.5	1.5
Copper, D	µg/L	5.1	4.9	4.5	3.9
Lead, D	µg/L	<0.04	0.33	0.16	0.12
Nickel, D	µg/L	4.8	6.7	7.4	4.4
Selenium, D	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, D	µg/L	3.6	10	11	7.2

STATION 15

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L		2.2	3.5	2.8
Cadmium, TR	µg/L		0.41	0.44	0.37
Chromium, TR	µg/L		11	6.6	22
Copper, TR	µg/L		4.6	5.4	3
Lead, TR	µg/L		0.2	1	0.59
Mercury, TR	µg/L		0.00081	0.0016	0.00316
Nickel, TR	µg/L		15	15	3.2
Selenium, TR	µg/L		<0.8	0.82	<0.8
Zinc, TR	µg/L		6.8	14	7.2
Arsenic, D	µg/L		2.1	3.1	2.5
Cadmium, D	µg/L		0.097	0.26	0.45
Chromium, D	µg/L		1.2	5.4	17
Copper, D	µg/L		2	2.9	2.9
Lead, D	µg/L		0.12	0.2	0.11
Nickel, D	µg/L		3.8	5.5	3.2
Selenium, D	µg/L		<0.8	<0.8	<0.8
Zinc, D	µg/L		8.4	18	5.6

Appendix C:
Receiving Water Organics
Monitoring Results

STATION 1

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	0.058	<0.05	<0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 1 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	2	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	<1	<1
4,4-DDE	ng/L	<0.5	<0.5	11	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	<2	<2	<2	<2
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 3

Organics in Water					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	0.083	0.1	0.11	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 3 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	<1	<1
4,4-DDE	ng/L	<0.5	<0.5	5	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	2.3	<2	<2	<2
BHC-beta	ng/L	9.2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	1.9	<2	4	7.2
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	40.9	<2	<2	<2
Heptachlor Epoxide	ng/L	13.3	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 4

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	0.15	0.09	<0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 4 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	1.1
4,4-DDD	ng/L	<0.5	<0.5	<1	<1
4,4-DDE	ng/L	0.8	<0.5	<1	6.1
4,4-DDT	ng/L	<0.5	<0.5	<1	1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	2.6	<2	2	2.9
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	8	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 7

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	0.06	<0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 7 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	1	2.7
4,4-DDD	ng/L	0.8	1.4	1	<1
4,4-DDE	ng/L	3.1	5.4	6	9.4
4,4-DDT	ng/L	<0.5	<0.5	3	2.8
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	2.5	<2	2	3.5
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	4	3.3
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	7	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 8

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	0.097	<0.05	0.09	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 8 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	<1	1.2
4,4-DDE	ng/L	<0.5	<0.5	6	4.4
4,4-DDT	ng/L	<0.5	<0.5	<1	6.1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	<2	<2	3	<2
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 9

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	0.054	<0.05	0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 9 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	<1	<1
4,4-DDE	ng/L	0.9	<0.5	1	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	<2	<2	<2	<2
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 10

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	<0.05	<0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 10 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	5	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	2	<1
4,4-DDE	ng/L	<0.5	<0.5	70	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	<2	<2	12	10.5
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 11

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	0.06	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	0.06	0.14	0.17
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 11 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	<1	<1
4,4-DDE	ng/L	1.7	<0.5	1	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	1	<2	<2	<2
BHC-gamma	ng/L	1.5	<2	5	8
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 12

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	0.14	<0.05	0.19
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 12 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	1.2	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	<1	<1
4,4-DDE	ng/L	14.8	3.4	2	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	<2	<2	4	8
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 13

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	<0.05	<0.05	0.2
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 13 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	2.2	<0.5	<1	<1
2,4-DDE	ng/L	0.9	<0.5	<1	<1
2,4-DDT	ng/L	10.7	<0.5	1	1.4
4,4-DDD	ng/L	5.5	3.2	1	<1
4,4-DDE	ng/L	30.6	17.7	5	4.7
4,4-DDT	ng/L	88.4	<0.5	6	1.2
Aldrin	ng/L	2.2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	<2	<2	<2	<2
Chlordane-alpha	ng/L	0.9	<2	<2	<2
Chlordane-gamma	ng/L	0.8	<2	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	9.7	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 14

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	0.1	0.15	0.1
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	0.07	<0.05	0.03
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	0.12	0.17
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	0.14
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	0.29	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION 14 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	0.7	<0.5	2	2.7
2,4-DDE	ng/L	<0.5	<0.5	<1	1.3
2,4-DDT	ng/L	<0.5	<0.5	3	7.7
4,4-DDD	ng/L	2.3	<0.5	4	11
4,4-DDE	ng/L	4.4	10.6	16	21.9
4,4-DDT	ng/L	40.3	<0.5	14	17.2
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	<2	<2	<2	<2
Chlordane-alpha	ng/L	<1	<1	<2	2.6
Chlordane-gamma	ng/L	<1	<1	<2	2.2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION 15

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L		<1	<1	<1
Bolstar	µg/L		<0.1	<0.1	<0.1
Chlorpyrifos	µg/L		<0.05	<0.05	<0.05
Coumaphos	µg/L		<0.2	<0.2	<0.1
Def	µg/L		<0.1	<0.1	<0.1
Demeton-s	µg/L		<0.2	<0.2	<0.2
Diazinon	µg/L		<0.05	<0.05	<0.05
Dichlorvos	µg/L		<0.2	<0.2	<0.2
Dimethoate	µg/L		<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L		<0.1	<0.1	<0.1
EPN	µg/L		<0.1	<0.1	
EPTC	µg/L		<0.1	<0.1	
Ethion	µg/L		<0.1	<0.1	<0.1
Ethoprop	µg/L		<0.1	<0.1	<0.1
Fensulfothion	µg/L		<0.5	<0.5	<0.2
Fenthion	µg/L		<0.1	<0.1	<0.1
Malathion	µg/L		<0.1	<0.1	<0.1
Merphos	µg/L		<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L		<0.7	<0.7	<0.7
Naled	µg/L		<0.5	<0.5	<0.5
Parathion, ethyl	µg/L		<0.1	<0.1	<0.1
Parathion, methyl	µg/L		<0.1	<0.1	<0.1
Phorate	µg/L		<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L		<0.1	<0.1	<0.1
Ronnel	µg/L		<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L		<0.1	<0.1	
Tokuthion	µg/L		<0.1	<0.1	
Trichloronate	µg/L		<0.1	<0.1	<0.1
Trifluralin	µg/L		<0.1	<0.1	<0.1

STATION 15 (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L		<0.5	<1	1.2
2,4-DDE	ng/L		<0.5	<1	<1
2,4-DDT	ng/L		<0.5	<1	3.2
4,4-DDD	ng/L		<0.5	<1	2.3
4,4-DDE	ng/L		<0.5	4	12.7
4,4-DDT	ng/L		<0.5	2	6.6
Aldrin	ng/L		<2	<1	<1
BHC-alpha	ng/L		<2	<2	<2
BHC-beta	ng/L		<2	<2	<2
BHC-delta	ng/L		<2	<2	<2
BHC-gamma	ng/L		<2	2	<2
Chlordane-alpha	ng/L		<1	<2	3.9
Chlordane-gamma	ng/L		<1	<2	2.8
Dieldrin	ng/L		<1	<1	<1
Endosulfan Sulfate	ng/L		<2	2	9.3
Endosulfan-I	ng/L		<5	<1	<1
Endosulfan-II	ng/L		<5	<5	<5
Endrin	ng/L		<5	<5	<5
Endrin Aldehyde	ng/L		<10	<10	<10
Heptachlor	ng/L		<2	<2	<2
Heptachlor Epoxide	ng/L		<2	<5	<5
Methoxychlor	ng/L		<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L		<10	<10	<10
Aroclor 1016	ng/L		<10	<10	<10
Aroclor 1221	ng/L		<10	<10	<10
Aroclor 1232	ng/L		<10	<10	<10
Aroclor 1242	ng/L		<10	<10	22
Aroclor 1248	ng/L		<10	<10	<10
Aroclor 1254	ng/L		<10	<10	42
Aroclor 1260	ng/L		<10	<10	<10

Appendix D:
Receiving Water Toxicity
Monitoring Results

STATION 2

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality NOEC	100.00%	100.00%	56.00%	<100.00%	<100.00%	<100.00%
Ceriodaphnia mortality IC25	100.00%	100.00%	74.59%	<100.00%	<100.00%	<100.00%
Ceriodaphnia mortality IC50	100.00%	100.00%	93.17%	<100.00%	<100.00%	<100.00%
Ceriodaphnia reproduction NOEC	100.00%	<100.00%	10.00%	<100.00%	<100.00%	<100.00%
Ceriodaphnia reproduction IC25	99.70%	<100.00%	16.46%	<100.00%	<100.00%	<100.00%
Ceriodaphnia reproduction IC50	100.00%	100.00%	40.25%	<100.00%	<100.00%	<100.00%
Pimephales mortality NOEC	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%
Pimephales mortality IC25	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%
Pimephales mortality IC50	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%
Pimephales growth NOEC	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%
Pimephales growth IC25	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%
Pimephales growth IC50	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%

STATION 5

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality NOEC	100.00%	100.00%	<100.00%	100.00%	100.00%	100.00%
Ceriodaphnia mortality IC25	100.00%	100.00%	<100.00%	100.00%	100.00%	100.00%
Ceriodaphnia mortality IC50	100.00%	100.00%	<100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	<100.00%	<100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction IC25	96.84%	<100.00%	<100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction IC50	100.00%	100.00%	<100.00%	100.00%	100.00%	100.00%
Pimephales mortality NOEC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales mortality IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales mortality IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth NOEC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

STATION 6

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality NOEC	100.00%	<100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia mortality IC25	100.00%	<100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia mortality IC50	100.00%	<100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	<100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction IC25	100.00%	<100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction IC50	100.00%	<100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales mortality NOEC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales mortality IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales mortality IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth NOEC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

STATION 10

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality NOEC	100.00%	<100.00%	100.00%	<100.00%	100.00%	100.00%
Ceriodaphnia mortality IC25	100.00%	<100.00%	100.00%	<100.00%	100.00%	100.00%
Ceriodaphnia mortality IC50	100.00%	<100.00%	100.00%	<100.00%	100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	100.00%
Ceriodaphnia reproduction IC25	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	100.00%
Ceriodaphnia reproduction IC50	100.00%	<100.00%	<100.00%	<100.00%	<100.00%	100.00%
Pimephales mortality NOEC	100.00%	<100.00%	100.00%	<100.00%	<100.00%	100.00%
Pimephales mortality IC25	100.00%	<100.00%	100.00%	<100.00%	<100.00%	100.00%
Pimephales mortality IC50	100.00%	<100.00%	100.00%	<100.00%	<100.00%	100.00%
Pimephales growth NOEC	<100.00%	<100.00%	100.00%	<100.00%	<100.00%	100.00%
Pimephales growth IC25	100.00%	<100.00%	100.00%	<100.00%	<100.00%	100.00%
Pimephales growth IC50	100.00%	<100.00%	100.00%	<100.00%	<100.00%	100.00%

STATION 12

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality NOEC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia mortality IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia mortality IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia reproduction IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales mortality NOEC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales mortality IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales mortality IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth NOEC	100.00%	100.00%	100.00%	100.00%	<100.00%	100.00%
Pimephales growth IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Appendix E:
Receiving Water Sediment Toxicity
Monitoring Results

STATION 2

SEDIMENT TOXICITY		
	Event 5	**Event 11**
	11/5/98	5/5/99
Hyalella mortality-sediment NOEC	<100.00%	100.00%
Hyalella mortality-sediment IC25	<100.00%	100.00%
Hyalella mortality-sediment IC50	<100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	56%
Ceriodaphnia reproduction IC25	100.00%	54%
Ceriodaphnia reproduction IC50	100.00%	79%
Ceriodaphnia mortality NOEC	18%	100.00%
Ceriodaphnia mortality IC25	22%	100.00%
Ceriodaphnia mortality IC50	31%	100.00%

STATION 5

SEDIMENT TOXICITY		
	Event 5	**Event 11**
	11/5/98	5/5/99
Hyalella mortality-sediment NOEC	<100.00%	100.00%
Hyalella mortality-sediment IC25	<100.00%	100.00%
Hyalella mortality-sediment IC50	<100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	56%
Ceriodaphnia reproduction IC25	100.00%	53%
Ceriodaphnia reproduction IC50	100.00%	83%
Ceriodaphnia mortality NOEC	100%	56.00%
Ceriodaphnia mortality IC25	77%	67.20%
Ceriodaphnia mortality IC50	100%	84.76%

STATION 6

SEDIMENT TOXICITY		
	Event 5	**Event 11**
	11/5/98	5/5/99
Hyalella mortality-sediment NOEC	<100.00%	100.00%
Hyalella mortality-sediment IC25	<100.00%	100.00%
Hyalella mortality-sediment IC50	<100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	32%
Ceriodaphnia reproduction IC25	100.00%	49%
Ceriodaphnia reproduction IC50	100.00%	100%
Ceriodaphnia mortality NOEC	100%	56.00%
Ceriodaphnia mortality IC25	67%	73.00%
Ceriodaphnia mortality IC50	100%	100.00%

STATION 7

SEDIMENT TOXICITY		
	Event 5	**Event 11**
	11/5/98	5/5/99
Hyalella mortality-sediment NOEC	<100.00%	100.00%
Hyalella mortality-sediment IC25	<100.00%	100.00%
Hyalella mortality-sediment IC50	<100.00%	100.00%
Ceriodaphnia reproduction NOEC	56.00%	100%
Ceriodaphnia reproduction IC25	60.81%	100%
Ceriodaphnia reproduction IC50	73.88%	100%
Ceriodaphnia mortality NOEC	32%	100.00%
Ceriodaphnia mortality IC25	33%	100.00%
Ceriodaphnia mortality IC50	46%	100.00%

STATION 10

SEDIMENT TOXICITY		
	Event 5	**Event 11**
	11/5/98	5/5/99
Hyalella mortality-sediment NOEC	<100.00%	100.00%
Hyalella mortality-sediment IC25	<100.00%	100.00%
Hyalella mortality-sediment IC50	<100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	100%
Ceriodaphnia reproduction IC25	100.00%	100%
Ceriodaphnia reproduction IC50	100.00%	100%
Ceriodaphnia mortality NOEC	32%	100.00%
Ceriodaphnia mortality IC25	45%	100.00%
Ceriodaphnia mortality IC50	61%	100.00%

STATION 12

SEDIMENT TOXICITY		
	Event 5	**Event 11**
	11/5/98	5/5/99
Hyalella mortality-sediment NOEC	<100.00%	100.00%
Hyalella mortality-sediment IC25	<100.00%	100.00%
Hyalella mortality-sediment IC50	<100.00%	100.00%
Ceriodaphnia reproduction NOEC	100.00%	100%
Ceriodaphnia reproduction IC25	100.00%	56%
Ceriodaphnia reproduction IC50	100.00%	63%
Ceriodaphnia mortality NOEC	100%	100.00%
Ceriodaphnia mortality IC25	17%	100.00%
Ceriodaphnia mortality IC50	100%	100.00%

STATION 13

SEDIMENT TOXICITY		
	Event 5	**Event 11**
	11/5/98	5/5/99
Hyalella mortality-sediment NOEC	<100.00%	<100.00%
Hyalella mortality-sediment IC25	<100.00%	<100.00%
Hyalella mortality-sediment IC50	<100.00%	<100.00%
Ceriodaphnia reproduction NOEC	100.00%	56%
Ceriodaphnia reproduction IC25	100.00%	67%
Ceriodaphnia reproduction IC50	100.00%	85%
Ceriodaphnia mortality NOEC	10%	100.00%
Ceriodaphnia mortality IC25	14%	100.00%
Ceriodaphnia mortality IC50	100%	100.00%

Appendix F:
Receiving Water Sediment Chemistry
Monitoring Results

STATION 2

SEDIMENT CHEMISTRY			
Constituent			
EPA 8081 - Chlorinated Pesticides	**Units**	**Event 5**	**Event 11**
		11/5/98	5/5/99
2,4-DDD	µg/kg	<1	<1
2,4-DDE	µg/kg	<1	<1
2,4-DDT	µg/kg	<1	<1
4,4-DDD	µg/kg	<1	<1
4,4-DDE	µg/kg	1.7	1.5
4,4-DDT	µg/kg	<1	<1
Aldrin	µg/kg	<2	<1
BHC-alpha	µg/kg	<2	<2
BHC-beta	µg/kg	<2	<2
BHC-delta	µg/kg	<2	<2
BHC-gamma	µg/kg	<2	<2
Chlordane-alpha	µg/kg	<1	<2
Chlordane-gamma	µg/kg	<1	<2
Dieldrin	µg/kg	<1	<1
Endosulfan Sulfate	µg/kg	<2	<2
Endosulfan-I	µg/kg	<5	<1
Endosulfan-II	µg/kg	<5	<5
Endrin	µg/kg	<5	<5
Endrin Aldehyde	µg/kg	<10	<10
Heptachlor	µg/kg	<2	<2
Heptachlor Epoxide	µg/kg	<2	<5
Methoxychlor	µg/kg	<5	<5
Mirex	µg/kg		<5
Toxaphene	µg/kg	<10	<10
Aroclor 1016	µg/kg	<10	<10
Aroclor 1221	µg/kg	<10	<10
Aroclor 1232	µg/kg	<10	<10
Aroclor 1242	µg/kg	<10	<10
Aroclor 1248	µg/kg	<10	<10
Aroclor 1254	µg/kg	<10	<10
Aroclor 1260	µg/kg	<10	<10

STATION 2 (continued)

EPA 8321 (PAH)	Units	Event 5	Event 11
		11/5/98	5/5/99
Acenaphthene	µg/kg	<200	<200
Acenaphthylene	µg/kg	<200	<200
Anthracene	µg/kg	<200	<200
Benzo(a)anthracene	µg/kg	<10	<10
Benzo(a)pyrene	µg/kg	2	3
Benzo(b)fluoranthene	µg/kg	<5	<5
Benzo(g,h,I)perylene	µg/kg	<10	<10
Benzo(k)fluoranthene	µg/kg	<2	1
Chrysene	µg/kg	<30	<30
Dibenzo(a,h)anthracene	µg/kg	<20	<20
Fluoranthene	µg/kg	<300	<300
Fluorene	µg/kg	<20	<20
Indeno(1,2,3-cd)pyrene	µg/kg	<70	<70
Naphthalene	µg/kg	<200	<200
Phenanthrene	µg/kg	<200	<200
Pyrene	µg/kg	<70	<70

STATION 5

SEDIMENT CHEMISTRY			
Constituent			
EPA 8081 - Chlorinated Pesticides	**Units**	**Event 5**	**Event 11**
		11/5/98	5/5/99
2,4-DDD	µg/kg	<1	<1
2,4-DDE	µg/kg	<1	1.1
2,4-DDT	µg/kg	3.6	3
4,4-DDD	µg/kg	1	4.9
4,4-DDE	µg/kg	23.4	33.3
4,4-DDT	µg/kg	7.4	20.1
Aldrin	µg/kg	<2	<1
BHC-alpha	µg/kg	<2	<2
BHC-beta	µg/kg	<2	<2
BHC-delta	µg/kg	<2	<2
BHC-gamma	µg/kg	<2	<2
Chlordane-alpha	µg/kg	<1	<2
Chlordane-gamma	µg/kg	<1	<2
Dieldrin	µg/kg	<1	<1
Endosulfan Sulfate	µg/kg	<2	<2
Endosulfan-I	µg/kg	<5	5.6
Endosulfan-II	µg/kg	<5	<5
Endrin	µg/kg	<5	<5
Endrin Aldehyde	µg/kg	<10	<10
Heptachlor	µg/kg	<2	<2
Heptachlor Epoxide	µg/kg	<2	<5
Methoxychlor	µg/kg	<5	<5
Mirex	µg/kg		<5
Toxaphene	µg/kg	<10	<10
Aroclor 1016	µg/kg	<10	<10
Aroclor 1221	µg/kg	<10	<10
Aroclor 1232	µg/kg	<10	<10
Aroclor 1242	µg/kg	<10	<10
Aroclor 1248	µg/kg	<10	<10
Aroclor 1254	µg/kg	<10	<10
Aroclor 1260	µg/kg	<10	<10

STATION 5 (continued)

EPA 8321 (PAH)	Units	Event 5	Event 11
		11/5/98	5/5/99
Acenaphthene	µg/kg	<200	<200
Acenaphthylene	µg/kg	<200	<200
Anthracene	µg/kg	<200	<200
Benzo(a)anthracene	µg/kg	<10	<10
Benzo(a)pyrene	µg/kg	<2	3
Benzo(b)fluoranthene	µg/kg	<5	<5
Benzo(g,h,I)perylene	µg/kg	<10	<10
Benzo(k)fluoranthene	µg/kg	<2	1
Chrysene	µg/kg	<30	<30
Dibenzo(a,h)anthracene	µg/kg	<20	<20
Fluoranthene	µg/kg	<300	<300
Fluorene	µg/kg	<20	<20
Indeno(1,2,3-cd)pyrene	µg/kg	<70	<70
Naphthalene	µg/kg	<200	<200
Phenanthrene	µg/kg	<200	<200
Pyrene	µg/kg	<70	<70

STATION 5 (continued)

EPA 1613 (Dioxins)	Units	Event 5	Event 11
		11/5/98	5/5/99
2,3,7,8-TCDD	ng/kg	0.14	<0.1
1,2,3,7,8-PeCDD	ng/kg	<0.1	0.11
1,2,3,4,7,8-HxCDD	ng/kg	0.12	0.19
1,2,3,6,7,8-HxCDD	ng/kg	0.99	0.48
1,2,3,7,8,9-HxCDD	ng/kg	1.17	<0.1
1,2,3,4,6,7,8-HpCDD	ng/kg	7.44	12
OCDD	ng/kg	104	110
2,3,7,8-TCDF	ng/kg	0.32	0.13
1,2,3,7,8-PeCDF	ng/kg	0.26	<0.1
2,3,4,7,8-PeCDF	ng/kg	0.16	<0.1
1,2,3,4,7,8-HxCDF	ng/kg	0.36	0.22
1,2,3,6,7,8-HxCDF	ng/kg	0.32	0.17
1,2,3,7,8,9-HxCDF	ng/kg	1.49	0.18
2,3,4,6,7,8-HxCDF	ng/kg	0.35	0.19
1,2,3,4,6,7,8-HpCDF	ng/kg	20.7	3.21
1,2,3,4,7,8,9-HpCDF	ng/kg	0.28	0.19
OCDF	ng/kg	199	14.1
Total Tetra-Dioxins	ng/kg	5.92	6.05
Total Penta-Dioxins	ng/kg	1.36	0.52
Total Hexa-Dioxins	ng/kg	4.44	2.98
Total Hepta-Dioxins	ng/kg	18.3	28.2
Total Tetra-Furans	ng/kg	36.5	1.26
Total Penta-Furans	ng/kg	4.27	2.55
Total Hexa-Furans	ng/kg	7.16	3.34
Total Hepta-Furans	ng/kg	43.2	6.96
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	1.36	0.57
2,3,7,8-TCDD TEQs ND = 0	ng/kg	1.33	0.49

STATION 6

SEDIMENT CHEMISTRY			
Constituent			
EPA 8081 - Chlorinated Pesticides	**Units**	**Event 5**	**Event 11**
		11/5/98	5/5/99
2,4-DDD	µg/kg	<1	1.3
2,4-DDE	µg/kg	<1	1.2
2,4-DDT	µg/kg	<1	3.2
4,4-DDD	µg/kg	<1	4.1
4,4-DDE	µg/kg	13.5	38.8
4,4-DDT	µg/kg	<1	15.9
Aldrin	µg/kg	<2	<1
BHC-alpha	µg/kg	<2	<2
BHC-beta	µg/kg	<2	<2
BHC-delta	µg/kg	<2	<2
BHC-gamma	µg/kg	<2	<2
Chlordane-alpha	µg/kg	<1	<2
Chlordane-gamma	µg/kg	<1	<2
Dieldrin	µg/kg	<1	<1
Endosulfan Sulfate	µg/kg	<2	<2
Endosulfan-I	µg/kg	<5	<1
Endosulfan-II	µg/kg	<5	<5
Endrin	µg/kg	<5	<5
Endrin Aldehyde	µg/kg	<10	<10
Heptachlor	µg/kg	<2	<2
Heptachlor Epoxide	µg/kg	<2	<5
Methoxychlor	µg/kg	<5	<5
Mirex	µg/kg		<5
Toxaphene	µg/kg	<10	<10
Aroclor 1016	µg/kg	<10	<10
Aroclor 1221	µg/kg	<10	<10
Aroclor 1232	µg/kg	<10	<10
Aroclor 1242	µg/kg	<10	<10
Aroclor 1248	µg/kg	<10	<10
Aroclor 1254	µg/kg	<10	<10
Aroclor 1260	µg/kg	<10	<10

STATION 6 (continued)

EPA 8321 (PAH)	Units	Event 5	Event 11
		11/5/98	5/5/99
Acenaphthene	µg/kg	<200	<200
Acenaphthylene	µg/kg	<200	<200
Anthracene	µg/kg	<200	<200
Benzo(a)anthracene	µg/kg	<10	<10
Benzo(a)pyrene	µg/kg	<2	1
Benzo(b)fluoranthene	µg/kg	<5	<5
Benzo(g,h,I)perylene	µg/kg	<10	<10
Benzo(k)fluoranthene	µg/kg	<2	1
Chrysene	µg/kg	<30	<30
Dibenzo(a,h)anthracene	µg/kg	<20	<20
Fluoranthene	µg/kg	<300	<300
Fluorene	µg/kg	<20	<20
Indeno(1,2,3-cd)pyrene	µg/kg	<70	<70
Naphthalene	µg/kg	<200	<200
Phenanthrene	µg/kg	<200	<200
Pyrene	µg/kg	<70	<70

STATION 7

SEDIMENT CHEMISTRY			
Constituent			
EPA 8081 - Chlorinated Pesticides	**Units**	**Event 5**	**Event 11**
		11/5/98	5/5/99
2,4-DDD	µg/kg	1.3	2.8
2,4-DDE	µg/kg	<1	1.3
2,4-DDT	µg/kg	2	8
4,4-DDD	µg/kg	4.3	<1
4,4-DDE	µg/kg	24.3	62.1
4,4-DDT	µg/kg	<1	<1
Aldrin	µg/kg	<2	<1
BHC-alpha	µg/kg	<2	<2
BHC-beta	µg/kg	<2	<2
BHC-delta	µg/kg	<2	<2
BHC-gamma	µg/kg	<2	<2
Chlordane-alpha	µg/kg	<1	<2
Chlordane-gamma	µg/kg	<1	<2
Dieldrin	µg/kg	<1	<1
Endosulfan Sulfate	µg/kg	<2	<2
Endosulfan-I	µg/kg	<5	<1
Endosulfan-II	µg/kg	<5	<5
Endrin	µg/kg	<5	<5
Endrin Aldehyde	µg/kg	<10	<10
Heptachlor	µg/kg	<2	<2
Heptachlor Epoxide	µg/kg	<2	<5
Methoxychlor	µg/kg	<5	<5
Mirex	µg/kg		<5
Toxaphene	µg/kg	<10	<10
Aroclor 1016	µg/kg	<10	<10
Aroclor 1221	µg/kg	<10	<10
Aroclor 1232	µg/kg	<10	<10
Aroclor 1242	µg/kg	<10	<10
Aroclor 1248	µg/kg	<10	<10
Aroclor 1254	µg/kg	<10	<10
Aroclor 1260	µg/kg	<10	<10

STATION 7 (continued)

EPA 8321 (PAH)	Units	Event 5	Event 11
		11/5/98	5/5/99
Acenaphthene	µg/kg	<200	<200
Acenaphthylene	µg/kg	<200	<200
Anthracene	µg/kg	<200	<200
Benzo(a)anthracene	µg/kg	<10	<10
Benzo(a)pyrene	µg/kg	<2	2
Benzo(b)fluoranthene	µg/kg	<5	<5
Benzo(g,h,I)perylene	µg/kg	<10	<10
Benzo(k)fluoranthene	µg/kg	<2	1
Chrysene	µg/kg	<30	<30
Dibenzo(a,h)anthracene	µg/kg	<20	<20
Fluoranthene	µg/kg	<300	<300
Fluorene	µg/kg	<20	<20
Indeno(1,2,3-cd)pyrene	µg/kg	<70	<70
Naphthalene	µg/kg	<200	<200
Phenanthrene	µg/kg	<200	<200
Pyrene	µg/kg	<70	<70

STATION 7 (continued)

EPA 1613 (Dioxins)	Units	Event 5	Event 11
		11/5/98	5/5/99
2,3,7,8-TCDD	ng/kg	<0.1	<0.1
1,2,3,7,8-PeCDD	ng/kg	0.16	0.23
1,2,3,4,7,8-HxCDD	ng/kg	0.16	0.43
1,2,3,6,7,8-HxCDD	ng/kg	0.73	1.08
1,2,3,7,8,9-HxCDD	ng/kg	0.56	0.94
1,2,3,4,6,7,8-HpCDD	ng/kg	11.9	46.5
OCDD	ng/kg	107	176
2,3,7,8-TCDF	ng/kg	0.24	0.3
1,2,3,7,8-PeCDF	ng/kg	0.12	<0.1
2,3,4,7,8-PeCDF	ng/kg	0.18	<0.1
1,2,3,4,7,8-HxCDF	ng/kg	0.51	0.62
1,2,3,6,7,8-HxCDF	ng/kg	0.24	0.4
1,2,3,7,8,9-HxCDF	ng/kg	0.32	0.27
2,3,4,6,7,8-HxCDF	ng/kg	<0.16	0.45
1,2,3,4,6,7,8-HpCDF	ng/kg	5.14	7.31
1,2,3,4,7,8,9-HpCDF	ng/kg	0.39	0.72
OCDF	ng/kg	27.1	31.9
Total Tetra-Dioxins	ng/kg	1.89	2.65
Total Penta-Dioxins	ng/kg	0.42	0.66
Total Hexa-Dioxins	ng/kg	4.15	6.4
Total Hepta-Dioxins	ng/kg	25	46.5
Total Tetra-Furans	ng/kg	2.99	2.98
Total Penta-Furans	ng/kg	5.01	4.57
Total Hexa-Furans	ng/kg	6.68	8.81
Total Hepta-Furans	ng/kg	12.3	17.9
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	0.82	1.39
2,3,7,8-TCDD TEQs ND = 0	ng/kg	0.76	1.32

STATION 10

SEDIMENT CHEMISTRY			
Constituent			
EPA 8081 - Chlorinated Pesticides	**Units**	**Event 5**	**Event 11**
		11/5/98	5/5/99
2,4-DDD	µg/kg	<1	<1
2,4-DDE	µg/kg	<1	<1
2,4-DDT	µg/kg	<1	<1
4,4-DDD	µg/kg	<1	<1
4,4-DDE	µg/kg	3.7	1.7
4,4-DDT	µg/kg	<1	<1
Aldrin	µg/kg	<2	<1
BHC-alpha	µg/kg	<2	<2
BHC-beta	µg/kg	<2	<2
BHC-delta	µg/kg	<2	<2
BHC-gamma	µg/kg	<2	<2
Chlordane-alpha	µg/kg	3.4	<2
Chlordane-gamma	µg/kg	2.5	<2
Dieldrin	µg/kg	<1	<1
Endosulfan Sulfate	µg/kg	<2	<2
Endosulfan-I	µg/kg	<5	<1
Endosulfan-II	µg/kg	<5	<5
Endrin	µg/kg	<5	<5
Endrin Aldehyde	µg/kg	<10	<10
Heptachlor	µg/kg	<2	<2
Heptachlor Epoxide	µg/kg	<2	<5
Methoxychlor	µg/kg	<5	<5
Mirex	µg/kg		<5
Toxaphene	µg/kg	<10	<10
Aroclor 1016	µg/kg	<10	<10
Aroclor 1221	µg/kg	<10	<10
Aroclor 1232	µg/kg	<10	<10
Aroclor 1242	µg/kg	<10	<10
Aroclor 1248	µg/kg	<10	<10
Aroclor 1254	µg/kg	<10	<10
Aroclor 1260	µg/kg	<10	<10

STATION 10 (continued)

EPA 8321 (PAH)	Units	Event 5	Event 11
		11/5/98	5/5/99
Acenaphthene	µg/kg	<200	<200
Acenaphthylene	µg/kg	<200	<200
Anthracene	µg/kg	<200	<200
Benzo(a)anthracene	µg/kg	<10	10
Benzo(a)pyrene	µg/kg	6	5
Benzo(b)fluoranthene	µg/kg	5	5
Benzo(g,h,I)perylene	µg/kg	10	10
Benzo(k)fluoranthene	µg/kg	4	2
Chrysene	µg/kg	<30	<30
Dibenzo(a,h)anthracene	µg/kg	<20	<20
Fluoranthene	µg/kg	<300	<300
Fluorene	µg/kg	<20	<20
Indeno(1,2,3-cd)pyrene	µg/kg	<70	<70
Naphthalene	µg/kg	<200	<200
Phenanthrene	µg/kg	<200	<200
Pyrene	µg/kg	<70	<70

STATION 12

SEDIMENT CHEMISTRY			
Constituent			
EPA 8081 - Chlorinated Pesticides	**Units**	**Event 5**	**Event 11**
		11/5/98	5/5/99
2,4-DDD	µg/kg	<1	6.7
2,4-DDE	µg/kg	<1	4.3
2,4-DDT	µg/kg	3.1	14.9
4,4-DDD	µg/kg	1.2	9.9
4,4-DDE	µg/kg	11.7	179
4,4-DDT	µg/kg	<1	29.8
Aldrin	µg/kg	<2	<1
BHC-alpha	µg/kg	<2	<2
BHC-beta	µg/kg	<2	<2
BHC-delta	µg/kg	<2	<2
BHC-gamma	µg/kg	<2	<2
Chlordane-alpha	µg/kg	<1	2.2
Chlordane-gamma	µg/kg	<1	2
Dieldrin	µg/kg	<1	<1
Endosulfan Sulfate	µg/kg	<2	<2
Endosulfan-I	µg/kg	<5	19.4
Endosulfan-II	µg/kg	<5	<5
Endrin	µg/kg	<5	<5
Endrin Aldehyde	µg/kg	<10	<10
Heptachlor	µg/kg	<2	<2
Heptachlor Epoxide	µg/kg	<2	<5
Methoxychlor	µg/kg	<5	<5
Mirex	µg/kg		<5
Toxaphene	µg/kg	<10	<10
Aroclor 1016	µg/kg	<10	<10
Aroclor 1221	µg/kg	<10	<10
Aroclor 1232	µg/kg	<10	<10
Aroclor 1242	µg/kg	<10	<10
Aroclor 1248	µg/kg	<10	<10
Aroclor 1254	µg/kg	<10	<10
Aroclor 1260	µg/kg	<10	<10

STATION 12 (continued)

EPA 8321 (PAH)	Units	Event 5	Event 11
		11/5/98	5/5/99
Acenaphthene	µg/kg	<200	<200
Acenaphthylene	µg/kg	<200	<200
Anthracene	µg/kg	<200	<200
Benzo(a)anthracene	µg/kg	12	<10
Benzo(a)pyrene	µg/kg	10	5
Benzo(b)fluoranthene	µg/kg	8	<5
Benzo(g,h,I)perylene	µg/kg	12	<10
Benzo(k)fluoranthene	µg/kg	9	<2
Chrysene	µg/kg	<30	<30
Dibenzo(a,h)anthracene	µg/kg	<20	<20
Fluoranthene	µg/kg	<300	<300
Fluorene	µg/kg	<20	<20
Indeno(1,2,3-cd)pyrene	µg/kg	<70	70
Naphthalene	µg/kg	<200	<200
Phenanthrene	µg/kg	<200	<200
Pyrene	µg/kg	<70	<70

STATION 12 (continued)

EPA 1613 (Dioxins)	Units	Event 5	Event 11
		11/5/98	5/5/99
2,3,7,8-TCDD	ng/kg	0.15	<0.1
1,2,3,7,8-PeCDD	ng/kg	0.13	0.28
1,2,3,4,7,8-HxCDD	ng/kg	<0.1	0.31
1,2,3,6,7,8-HxCDD	ng/kg	0.35	0.82
1,2,3,7,8,9-HxCDD	ng/kg	0.3	0.73
1,2,3,4,6,7,8-HpCDD	ng/kg	7.02	14.6
OCDD	ng/kg	84	157
2,3,7,8-TCDF	ng/kg	0.23	0.42
1,2,3,7,8-PeCDF	ng/kg	<0.1	0.21
2,3,4,7,8-PeCDF	ng/kg	0.14	0.29
1,2,3,4,7,8-HxCDF	ng/kg	0.23	0.49
1,2,3,6,7,8-HxCDF	ng/kg	0.12	0.35
1,2,3,7,8,9-HxCDF	ng/kg	<0.1	0.33
2,3,4,6,7,8-HxCDF	ng/kg	0.15	0.32
1,2,3,4,6,7,8-HpCDF	ng/kg	<0.11	<0.13
1,2,3,4,7,8,9-HpCDF	ng/kg	<0.11	0.42
OCDF	ng/kg	22.8	27
Total Tetra-Dioxins	ng/kg	4.71	11.5
Total Penta-Dioxins	ng/kg	0.61	1.37
Total Hexa-Dioxins	ng/kg	2.15	4.39
Total Hepta-Dioxins	ng/kg	14.1	29.4
Total Tetra-Furans	ng/kg	3.31	5.18
Total Penta-Furans	ng/kg	3.76	5.16
Total Hexa-Furans	ng/kg	3.14	5.14
Total Hepta-Furans	ng/kg	3.37	5.77
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	0.61	1.06
2,3,7,8-TCDD TEQs ND = 0	ng/kg	0.6	1.01

STATION 13

SEDIMENT CHEMISTRY			
Constituent			
EPA 8081 - Chlorinated Pesticides	**Units**	**Event 5**	**Event 11**
		11/5/98	5/5/99
2,4-DDD	µg/kg	3.7	9.4
2,4-DDE	µg/kg	2	3.6
2,4-DDT	µg/kg	6.1	92.7
4,4-DDD	µg/kg	10.4	8.8
4,4-DDE	µg/kg	92.2	184
4,4-DDT	µg/kg	9.5	193
Aldrin	µg/kg	<2	<1
BHC-alpha	µg/kg	<2	<2
BHC-beta	µg/kg	<2	<2
BHC-delta	µg/kg	<2	<2
BHC-gamma	µg/kg	<2	<2
Chlordane-alpha	µg/kg	1.9	3.8
Chlordane-gamma	µg/kg	3.3	3.9
Dieldrin	µg/kg	<1	4.9
Endosulfan Sulfate	µg/kg	<2	<2
Endosulfan-I	µg/kg	<5	4.6
Endosulfan-II	µg/kg	<5	<5
Endrin	µg/kg	<5	<5
Endrin Aldehyde	µg/kg	<10	<10
Heptachlor	µg/kg	<2	<2
Heptachlor Epoxide	µg/kg	<2	<5
Methoxychlor	µg/kg	<5	<5
Mirex	µg/kg		<5
Toxaphene	µg/kg	<10	<10
Aroclor 1016	µg/kg	<10	<10
Aroclor 1221	µg/kg	<10	<10
Aroclor 1232	µg/kg	<10	<10
Aroclor 1242	µg/kg	<10	<10
Aroclor 1248	µg/kg	<10	<10
Aroclor 1254	µg/kg	<10	<10
Aroclor 1260	µg/kg	<10	<10

STATION 13 (continued)

EPA 8321 (PAH)	Units	Event 5	Event 11
		11/5/98	5/5/99
Acenaphthene	µg/kg	<200	<200
Acenaphthylene	µg/kg	<200	<200
Anthracene	µg/kg	<200	<200
Benzo(a)anthracene	µg/kg	<10	<10
Benzo(a)pyrene	µg/kg	<2	3
Benzo(b)fluoranthene	µg/kg	<5	<5
Benzo(g,h,I)perylene	µg/kg	<10	<10
Benzo(k)fluoranthene	µg/kg	<2	1
Chrysene	µg/kg	<30	<30
Dibenzo(a,h)anthracene	µg/kg	<20	<20
Fluoranthene	µg/kg	<300	<300
Fluorene	µg/kg	<20	<20
Indeno(1,2,3-cd)pyrene	µg/kg	<70	<70
Naphthalene	µg/kg	<200	<200
Phenanthrene	µg/kg	<200	<200
Pyrene	µg/kg	<70	<70

STATION 13 (continued)

EPA 1613 (Dioxins)	Units	Event 5	Event 11
		11/5/98	5/5/99
2,3,7,8-TCDD	ng/kg	0.23	<0.1
1,2,3,7,8-PeCDD	ng/kg	<0.1	0.19
1,2,3,4,7,8-HxCDD	ng/kg	0.5	<0.1
1,2,3,6,7,8-HxCDD	ng/kg	1.5	0.84
1,2,3,7,8,9-HxCDD	ng/kg	1.37	0.85
1,2,3,4,6,7,8-HpCDD	ng/kg	35.1	19
OCDD	ng/kg	428	178
2,3,7,8-TCDF	ng/kg	0.63	0.27
1,2,3,7,8-PeCDF	ng/kg	0.19	0.1
2,3,4,7,8-PeCDF	ng/kg	0.32	0.15
1,2,3,4,7,8-HxCDF	ng/kg	0.69	0.37
1,2,3,6,7,8-HxCDF	ng/kg	0.69	0.38
1,2,3,7,8,9-HxCDF	ng/kg	0.47	0.17
2,3,4,6,7,8-HxCDF	ng/kg	1.04	0.47
1,2,3,4,6,7,8-HpCDF	ng/kg	24.6	8.37
1,2,3,4,7,8,9-HpCDF	ng/kg	1.08	<0.1
OCDF	ng/kg	203	41.3
Total Tetra-Dioxins	ng/kg	9.1	1.87
Total Penta-Dioxins	ng/kg	1.38	0.75
Total Hexa-Dioxins	ng/kg	11.8	5.46
Total Hepta-Dioxins	ng/kg	81.7	42.5
Total Tetra-Furans	ng/kg	11.6	3.77
Total Penta-Furans	ng/kg	14.7	6.4
Total Hexa-Furans	ng/kg	19.2	8.71
Total Hepta-Furans	ng/kg	55.8	18.4
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	2.35	1.06
2,3,7,8-TCDD TEQs ND = 0	ng/kg	2.33	1

APPENDIX G - APPENDIX L

Receiving Water Summary Statistics

Appendix G:
Receiving Water General Water Quality Constituents
Summary Statistics

STATION 1

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	16	35	4	132	0.97	12	12	100%
Boron	mg/L	0.94	0.21	0.99	1.2	0.4	12	12	100%
Calcium	mg/L	210	45	230	250	84	12	12	100%
Hardness	mg/L	820	190	880	1000	310	11	11	100%
Iron	mg/L	0.9	1.8	0.34	6.7	0.06	12	12	100%
Magnesium	mg/L	73	18	78	95	25	12	12	100%
Manganese	mg/L	0.073 (a)	0.043 (a)	0.08	0.14	<0.03	12	11	92%
Potassium	mg/L	6.2	0.55	6	7	5	12	12	100%
Silica	mg/L	33	4.2	33	37	24	12	12	100%
Sodium	mg/L	160	39	170	210	62	12	12	100%
Alkalinity	mg/L	260	24	270	294	208	12	12	100%
Chloride	mg/L	140	31	150	168	50.8	12	12	100%
TSS	mg/L	35	47	22	187	4.02	12	12	100%
TDS	mg/L	1700	370	1900	2072	657	12	12	100%
Sulfate	mg/L	790	210	880	1058	270	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	0.34 (a)	0.046 (a)	0.34 (a)	0.4	<1	12	4	33%
Nitrate as NO3	mg/L	19	5	19	26.01	5.49	12	12	100%
Nitrite as NO2	mg/L	0.22	0.12	0.23	0.528	0.066	12	12	100%
Organic Nitrogen	mg/L	0.37 (a)	0.87 (a)	0.37 (a)	2.1	<1	12	4	33%
Total Phosphorus	mg/L	0.11	0.12	0.061	0.496	0.025	12	12	100%
Ortho Phosphate as Phosphate	mg/L	0.083 (a)	0.12 (a)	0.083 (a)	0.34	<0.3	10	7	70%
ORGANIC CARBON									
TOC	mg/L	7.8	9.4	4.6	39	4.2	12	12	100%
DOC	mg/L	7.4	8.6	4.6	35.9	4.1	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	31000	48000	65000	160000	1300	12	12	100%
Fecal Coliform	MPN/100mL	5800	6600	2700	17000	500	12	12	100%

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present
(b) There is insufficient detected data to compute this value.

STATION 3

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	7	6	4.7	20.2	2.08	12	12	100%
Boron	mg/L	0.75	0.14	0.75	0.9	0.4	12	12	100%
Calcium	mg/L	130	19	130	150	73	12	12	100%
Hardness	mg/L	510	81	530	590	280	11	11	100%
Iron	mg/L	1.8	4.3	0.45	16	0.15	12	12	100%
Magnesium	mg/L	48	8	50	56	23	12	12	100%
Manganese	mg/L	0.11	0.066	0.11	0.31	0.04	12	12	100%
Potassium	mg/L	9.4	1.1	9.5	11	7	12	12	100%
Silica	mg/L	27	2.1	27	31	24	12	12	100%
Sodium	mg/L	140	28	150	170	65	12	12	100%
Alkalinity	mg/L	240	27	250	275	165	12	12	100%
Chloride	mg/L	140	24	150	153	58.8	12	12	100%
TSS	mg/L	61	120	21	470	12	12	12	100%
TDS	mg/L	1200	200	1200	1340	549	12	12	100%
Sulfate	mg/L	480	110	500	677	180	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	9.2	3.7	11	14.7	3.51	12	12	100%
Nitrate as NO3	mg/L	14	4.6	13	23.5	4.455	12	12	100%
Nitrite as NO2	mg/L	2.3	1.6	2.3	5.6	0.2937	12	12	100%
Organic Nitrogen	mg/L	0.79 (a)	0.83 (a)	1	1.6	<1	12	10	83%
Total Phosphorus	mg/L	1.3	0.22	1.3	1.8	1.04	12	12	100%
Ortho Phosphate as Phosphate	mg/L	1.3	0.69	1	2.7	0.47	11	11	100%
ORGANIC CARBON									
TOC	mg/L	7.2	2.2	6.5	14.3	5.7	12	12	100%
DOC	mg/L	7.1	2.1	6.5	13.6	5.5	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	9400	10000	4000	30000	700	12	12	100%
Fecal Coliform	MPN/100mL	1200	2200	300	8000	20	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 4

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	14	20	3.9	66	1.8	12	12	100%
Boron	mg/L	0.8	0.37	0.71	2	0.5	12	12	100%
Calcium	mg/L	160	78	150	410	88	12	12	100%
Hardness	mg/L	620	340	540	1700	330	12	12	100%
Iron	mg/L	1.9	2.9	0.73	9.4	0.12	12	12	100%
Magnesium	mg/L	53	36	44	170	26	12	12	100%
Manganese	mg/L	0.058(a)	0.056(a)	0.04	0.2	<0.03	12	11	92%
Potassium	mg/L	7	1.3	7	10	5	12	12	100%
Silica	mg/L	32	2	33	35	28	12	12	100%
Sodium	mg/L	150	65	140	360	82	12	12	100%
Alkalinity	mg/L	240	31	230	320	200	12	12	100%
Chloride	mg/L	150	21	150	160	84	12	12	100%
TSS	mg/L	28(a)	130(a)	20	320	<10	12	9	75%
TDS	mg/L	1200	170	1200	1390	680	12	12	100%
Sulfate	mg/L	460	66	470	531	260	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	4.1	2.4	3.9	9.4	0.9	12	12	100%
Nitrate as NO3	mg/L	55	11	58	76.6	37	12	12	100%
Nitrite as NO2	mg/L	1.6	0.77	1.6	3.3	0.6	12	12	100%
Organic Nitrogen	mg/L	1.2(a)	2(a)	0.7	5.8	<1.5	12	8	67%
Total Phosphorus	mg/L	0.92	0.44	0.85	1.9	0.1	12	12	100%
Ortho Phosphate as Phosphate	mg/L	1.3(a)	0.65 (a)	1.3	2.7	<0.3	12	11	92%
ORGANIC CARBON									
TOC	mg/L	5.4	0.7	5.2	6.9	4.2	12	12	100%
DOC	mg/L	5.4	0.7	5.3	6.8	4.4	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	32000	42000	21000	160000	1600	12	12	100%
Fecal Coliform	MPN/100mL	14000	44000	270	160000	70	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 7

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	8	5	7	24	3.4	12	12	100%
Boron	mg/L	1.2	0.38	1.2	1.9	0.72	12	12	100%
Calcium	mg/L	200	50	220	270	100	12	12	100%
Hardness	mg/L	1400	560	1400	2800	770	12	12	100%
Iron	mg/L	0.85	0.4	0.79	1.9	0.18	12	12	100%
Magnesium	mg/L	220	110	190	510	96	12	12	100%
Manganese	mg/L	0.072	0.017	0.07	0.1	0.04	12	12	100%
Potassium	mg/L	62	39	59	170	22	12	12	100%
Silica	mg/L	28	3.4	30	32	21	12	12	100%
Sodium	mg/L	1400	860	1200	3500	490	12	12	100%
Alkalinity	mg/L	220	27	220	270	150	12	12	100%
Chloride	mg/L	2900	2300	2300	9400	830	12	12	100%
TSS	mg/L	21 (a)	12 (a)	20	50	<10	12	10	83%
TDS	mg/L	6200	3500	5400	15000	2500	12	12	100%
Sulfate	mg/L	930	310	910	1500	510	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	0.26 (a)	1.3 (a)	0.218 (a)	2.3	<0.2	12	6	50%
Nitrate as NO3	mg/L	93	28	91	138	29	12	12	100%
Nitrite as NO2	mg/L	(b)	(b)	(b)	3.7	<15	12	2	17%
Organic Nitrogen	mg/L	0.9 (a)	0.78 (a)	0.7	3.5	<0.5	12	10	83%
Total Phosphorus	mg/L	0.86	0.41	0.8	1.9	0.2	12	12	100%
Ortho Phosphate as Phosphate	mg/L	1.2 (a)	0.45 (a)	1.2	1.8	<1.5	12	8	67%
ORGANIC CARBON									
TOC	mg/L	5.6	1.4	5.3	7.4	2.8	12	12	100%
DOC	mg/L	5.9	3	5.2	15	3.1	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	47000	55000	27000	160000	1600	12	12	100%
Fecal Coliform	MPN/100mL	1700	2800	900	11000	230	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 8

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	3.2	3.9	1.3	14	0.6	12	12	100%
Boron	mg/L	0.19	0.044	0.19	0.3	0.1	12	12	100%
Calcium	mg/L	69	11	72	83	43	12	12	100%
Hardness	mg/L	350	60	380	420	220	12	12	100%
Iron	mg/L	0.38	0.47	0.19	1.8	0.07	12	12	100%
Magnesium	mg/L	43	7.6	47	52	28	12	12	100%
Manganese	mg/L	0.001 (a)	0.017 (a)	0.006 (a)	0.03	<0.03	12	4	33%
Potassium	mg/L	3.5	0.76	3.5	5	2	12	12	100%
Silica	mg/L	45	7	48	55	35	12	12	100%
Sodium	mg/L	64	11	62	88	50	12	12	100%
Alkalinity	mg/L	240	32	260	280	190	12	12	100%
Chloride	mg/L	110	17	110	130	70	12	12	100%
TSS	mg/L	4.7 (a)	9.7 (a)	6.94 (a)	20	<10	12	3	25%
TDS	mg/L	670	96	710	780	460	12	12	100%
Sulfate	mg/L	150	26	150	190	98	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	0.12 (a)	0.22 (a)	0.17 (a)	0.5	<0.2	12	5	42%
Nitrate as NO3	mg/L	8.8	4	9.1	14	2	12	12	100%
Nitrite as NO2	mg/L	(b)	(b)	(b)	<0.3	<0.3	12	0	0%
Organic Nitrogen	mg/L	0.55 (a)	0.23 (a)	0.6	1	<0.5	12	7	58%
Total Phosphorus	mg/L	0.45	0.13	0.45	0.7	0.2	12	12	100%
Ortho Phosphate as Phosphate	mg/L	0.84 (a)	0.52 (a)	0.75	1.8	<0.3	12	11	92%
ORGANIC CARBON									
TOC	mg/L	3.7	1	3.5	6.3	2.4	12	12	100%
DOC	mg/L	3.8	1.2	3.5	6.7	2.3	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	21000	43000	7000	160000	300	12	12	100%
Fecal Coliform	MPN/100mL	820	910	400	3000	30	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 9

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	2.6	3.6	1.5	14	0.4	12	12	100%
Boron	mg/L	0.18	0.042	0.19	0.25	0.09	12	12	100%
Calcium	mg/L	120	22	130	150	74	12	12	100%
Hardness	mg/L	650	130	690	800	360	12	12	100%
Iron	mg/L	0.35	0.34	0.21	1.2	0.06	12	12	100%
Magnesium	mg/L	84	18	91	100	43	12	12	100%
Manganese	mg/L	0.015 (a)	0.041 (a)	0.015	0.1	<0.03	12	7	58%
Potassium	mg/L	2.4	0.64	2	4	2	12	12	100%
Silica	mg/L	32	4.7	32	39	25	12	12	100%
Sodium	mg/L	95	18	99	110	51	12	12	100%
Alkalinity	mg/L	300	44	300	360	200	12	12	100%
Chloride	mg/L	170	33	180	200	94	12	12	100%
TSS	mg/L	4.7 (a)	9.7 (a)	6.94 (a)	20	<10	12	3	25%
TDS	mg/L	1200	210	1300	1400	640	12	12	100%
Sulfate	mg/L	400	79	430	480	200	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	0.18 (a)	0.082 (a)	.19 (a)	0.3	<2	12	4	33%
Nitrate as NO3	mg/L	6.2	1.7	6.1	8.5	3.5	12	12	100%
Nitrite as NO2	mg/L	(b)	(b)	(b)	<0.3	<0.3	12	0	0%
Organic Nitrogen	mg/L	0.62 (a)	0.21 (a)	0.6	0.9	<0.5	12	9	75%
Total Phosphorus	mg/L	0.061 (a)	0.048 (a)	0.047 (a)	0.2	<0.1	12	3	25%
Ortho Phosphate as Phosphate	mg/L	(b)	(b)	(b)	<0.3	<0.3	12	0	0%
ORGANIC CARBON									
TOC	mg/L	4.8	2	3.6	8	3.2	12	12	100%
DOC	mg/L	4.8	2	3.6	8.2	3.2	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	22000	44000	5000	160000	500	12	12	100%
Fecal Coliform	MPN/100mL	5600	14000	500	50000	50	12	12	100%

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present
(b) There is insufficient detected data to compute this value.

STATION 10

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	1.5	1	1.3	4.4	0.6	12	12	100%
Boron	mg/L	0.37	0.042	0.37	0.46	0.3	12	12	100%
Calcium	mg/L	77	9	78	93	58	12	12	100%
Hardness	mg/L	390	54	390	490	270	12	12	100%
Iron	mg/L	0.2	0.08	0.21	0.38	0.08	12	12	100%
Magnesium	mg/L	47	8.1	47	63	31	12	12	100%
Manganese	mg/L	0.03 (a)	0.011 (a)	0.03	0.05	<0.03	12	11	92%
Potassium	mg/L	8.3	1.5	8	11	5	12	12	100%
Silica	mg/L	26	2.2	26	29	22	12	12	100%
Sodium	mg/L	95	10	98	110	76	12	12	100%
Alkalinity	mg/L	220	20	230	260	180	12	12	100%
Chloride	mg/L	140	19	150	160	100	12	12	100%
TSS	mg/L	(b)	(b)	(b)	10	<10	12	2	17%
TDS	mg/L	820	78	830	930	610	12	12	100%
Sulfate	mg/L	250	32	250	291	190	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	10	4	11	16	1.3	12	12	100%
Nitrate as NO3	mg/L	8.3	7.2	5.4	27.6	3.7	12	12	100%
Nitrite as NO2	mg/L	1.1 (a)	0.87 (a)	0.95	2.9	<0.3	12	10	83%
Organic Nitrogen	mg/L	1.7 (a)	1.5 (a)	1.3 (a)	6	<4	12	3	25%
Total Phosphorus	mg/L	0.82	0.48	0.7	1.9	0.2	12	12	100%
Ortho Phosphate as Phosphate	mg/L	1.5 (a)	1.4 (a)	1.2	4.2	<0.3	12	11	92%
ORGANIC CARBON									
TOC	mg/L	7.3	0.8	7.4	8.9	6.1	12	12	100%
DOC	mg/L	7.2	0.8	7.2	8.9	6	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	32000	67000	4000	240000	1600	12	12	100%
Fecal Coliform	MPN/100mL	640	760	240	2400	50	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 11

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	8.3	6.4	7.5	26.3	1.3	12	12	100%
Boron	mg/L	0.35	0.051	0.37	0.43	0.24	12	12	100%
Calcium	mg/L	73	9	75	90	56	12	12	100%
Hardness	mg/L	370	51	380	480	270	12	12	100%
Iron	mg/L	0.47	0.24	0.41	1	0.13	12	12	100%
Magnesium	mg/L	46	7.3	46	62	32	12	12	100%
Manganese	mg/L	0.081	0.022	0.085	0.13	0.04	12	12	100%
Potassium	mg/L	7.8	0.99	8	9	6	12	12	100%
Silica	mg/L	27	3.6	27	34	22	12	12	100%
Sodium	mg/L	92	12	92	110	66	12	12	100%
Alkalinity	mg/L	210	18	210	230	170	12	12	100%
Chloride	mg/L	140	20	150	170	100	12	12	100%
TSS	mg/L	12 (a)	5.8 (a)	12	22.6	<10	12	11	92%
TDS	mg/L	810	95	820	1000	600	12	12	100%
Sulfate	mg/L	230	40	240	280	162	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	8	3.1	8.3	11.9	0.18	12	12	100%
Nitrate as NO3	mg/L	23	7.6	21	38.7	12.6	12	12	100%
Nitrite as NO2	mg/L	2.4	1.1	2.5	3.8	0.396	12	12	100%
Organic Nitrogen	mg/L	0.92 (a)	0.64 (a)	0.6	2.6	<2.5	12	9	75%
Total Phosphorus	mg/L	0.82	0.41	0.6	1.6	0.3	12	12	100%
Ortho Phosphate as Phosphate	mg/L	1.5 (a)	0.88	1.4	2.8	<0.3	12	11	92%
ORGANIC CARBON									
TOC	mg/L	6.7	0.9	6.6	9	5.5	12	12	100%
DOC	mg/L	6.7	0.9	6.5	9.1	5.4	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	3100	2500	2700	9000	300	12	12	100%
Fecal Coliform	MPN/100mL	300	180	240	700	80	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 12

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	21	30	7.7	103	2.4	12	12	100%
Boron	mg/L	0.38	0.043	0.38	0.46	0.28	12	12	100%
Calcium	mg/L	74	10	76	95	56	12	12	100%
Hardness	mg/L	370	59	380	500	270	12	12	100%
Iron	mg/L	1	1.4	0.52	5.6	0.16	12	12	100%
Magnesium	mg/L	45	8.7	45	64	31	12	12	100%
Manganese	mg/L	0.064	0.033	0.06	0.15	0.03	12	12	100%
Potassium	mg/L	8.8	1.7	8.5	13	7	12	12	100%
Silica	mg/L	27	2.7	28	31	22	12	12	100%
Sodium	mg/L	100	15	110	130	77	12	12	100%
Alkalinity	mg/L	190	22	190	230	150	12	12	100%
Chloride	mg/L	150	19	160	170	105	12	12	100%
TSS	mg/L	24	29	14	114	2	12	12	100%
TDS	mg/L	850	100	870	990	645	12	12	100%
Sulfate	mg/L	250	32	260	302	178	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	5.1	2.2	5	8.8	0.28	12	12	100%
Nitrate as NO3	mg/L	45	9.7	43	64.8	33.3	12	12	100%
Nitrite as NO2	mg/L	1.4	0.81	1.5	2.7	0.26	12	12	100%
Organic Nitrogen	mg/L	1.1 (a)	0.66 (a)	1.3	2.7	<1	12	11	92%
Total Phosphorus	mg/L	1.3	0.63	1.1	3.2	0.7	12	12	100%
Ortho Phosphate as Phosphate	mg/L	2.9 (a)	0.99 (a)	2.9	5.1	<0.3	12	11	92%
ORGANIC CARBON									
TOC	mg/L	7	1	6.9	9.1	5.5	12	12	100%
DOC	mg/L	7	1.1	7	9.3	5.6	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	3700	4300	2400	16000	500	12	12	100%
Fecal Coliform	MPN/100mL	460	520	140	1600	40	12	12	100%

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present
(b) There is insufficient detected data to compute this value.

STATION 13

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	14	32	1.9	120	1.4	12	12	100%
Boron	mg/L	1.5	0.47	1.7	2.1	0.4	12	12	100%
Calcium	mg/L	320	100	350	430	100	12	12	100%
Hardness	mg/L	1300	430	1500	1800	390	12	12	100%
Iron	mg/L	2.1	4.5	0.47	17	0.039	12	12	100%
Magnesium	mg/L	130	44	150	170	34	12	12	100%
Manganese	mg/L	0.1	0.089	0.085	0.36	0.02	12	12	100%
Potassium	mg/L	5.8	1.5	5	9	4	12	12	100%
Silica	mg/L	36	4.4	37	41	27	12	12	100%
Sodium	mg/L	310	110	370	420	78	12	12	100%
Alkalinity	mg/L	260	62	280	330	110	12	12	100%
Chloride	mg/L	180	85	170	430	50	12	12	100%
TSS	mg/L	7 (a)	140 (a)	25	370	<10	12	8	67%
TDS	mg/L	3300	850	3600	3900	770	12	12	100%
Sulfate	mg/L	1700	450	1900	2100	380	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	0.2 (a)	0.2 (a)	0.15	0.7	<0.2	12	8	67%
Nitrate as NO3	mg/L	210	80	210	420	49	12	12	100%
Nitrite as NO2	mg/L	0.61 (a)	0.79 (a)	0.6	2.4	<3	12	8	67%
Organic Nitrogen	mg/L	0.7 (a)	0.5 (a)	0.75	1.6	<0.5	12	8	67%
Total Phosphorus	mg/L	0.18 (a)	0.61 (a)	0.2	1.8	<0.1	12	9	75%
Ortho Phosphate as Phosphate	mg/L	(b)	(b)	(b)	<0.3	<6	12	0	0%
ORGANIC CARBON									
TOC	mg/L	7	3.2	5.8	14.9	4.5	12	12	100%
DOC	mg/L	6.3	2.4	5.5	13	4.4	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	64000	60000	40000	160000	1600	12	12	100%
Fecal Coliform	MPN/100mL	1400	1700	550	5000	130	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 14

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	17	24	8.9	92	3.2	12	12	100%
Boron	mg/L	1.5	0.28	1.5	2	0.8	12	12	100%
Calcium	mg/L	400	73	410	500	200	12	12	100%
Hardness	mg/L	1500	260	1500	1800	730	12	12	100%
Iron	mg/L	3.2	6	1.3	23	0.39	12	12	100%
Magnesium	mg/L	110	20	110	140	56	12	12	100%
Manganese	mg/L	0.13	0.15	0.095	0.63	0.05	12	12	100%
Potassium	mg/L	9	2.6	8.5	16	6	12	12	100%
Silica	mg/L	34	4.7	34	47	29	12	12	100%
Sodium	mg/L	240	52	230	320	120	12	12	100%
Alkalinity	mg/L	300	41	310	340	180	12	12	100%
Chloride	mg/L	150	29	150	200	100	12	12	100%
TSS	mg/L	58 (a)	120 (a)	30	520	<10	12	11	92%
TDS	mg/L	3100	580	3200	3700	1400	12	12	100%
Sulfate	mg/L	1500	300	1600	1800	640	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	0.009 (a)	1.9 (a)	0.3	5.6	<0.2	12	8	67%
Nitrate as NO3	mg/L	250	57	270	330	97	12	12	100%
Nitrite as NO2	mg/L	0.5 (a)	0.28 (a)	0.45	0.9	<3	12	8	67%
Organic Nitrogen	mg/L	0.65 (a)	0.65 (a)	0.5	1.7	<1.5	12	7	58%
Total Phosphorus	mg/L	0.54	0.78	0.3	3.1	0.1	12	12	100%
Ortho Phosphate as Phosphate	mg/L	(b)	(b)	(b)	0.6	<3	12	2	17%
ORGANIC CARBON									
TOC	mg/L	8.6	5.8	6.2	27	5.5	12	12	100%
DOC	mg/L	7.1	2	6.1	11	5.3	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	90000	71000	95000	160000	1600	12	12	100%
Fecal Coliform	MPN/100mL	2000	2300	1600	9000	110	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 15

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	6	4.9	4.6	20	2.7	10	10	100%
Boron	mg/L	2	0.46	1.8	2.8	1.1	10	10	100%
Calcium	mg/L	260	57	270	339	130	10	10	100%
Hardness	mg/L	2600	750	2500	4300	1500	10	10	100%
Iron	mg/L	0.84	0.3	0.83	1.5	0.22	10	10	100%
Magnesium	mg/L	480	160	420	860	290	10	10	100%
Manganese	mg/L	0.07	0.019	0.07	0.1	0.04	10	10	100%
Potassium	mg/L	160	45	140	240	100	10	10	100%
Silica	mg/L	22	4.9	24	30	14	10	10	100%
Sodium	mg/L	3400	1200	2900	6000	2000	10	10	100%
Alkalinity	mg/L	190	43	200	250	90	10	10	100%
Chloride	mg/L	7200	2900	5800	14000	4400	10	10	100%
TSS	mg/L	7.2 (a)	9.8 (a)	10	30	<10	10	6	60%
TDS	mg/L	14000	4700	12000	23000	7800	10	10	100%
Sulfate	mg/L	1400	370	1500	1900	690	10	10	100%
NUTRIENTS									
Total Ammonia	mg/L	0.34 (a)	0.87 (a)	0.3	1.7	<0.2	10	6	60%
Nitrate as NO3	mg/L	82	34	81	140	27	10	10	100%
Nitrite as NO2	mg/L	(b)	(b)	(b)	4.4	<30	10	2	20%
Organic Nitrogen	mg/L	0.61 (a)	0.17 (a)	0.6	0.9	<0.5	10	9	90%
Total Phosphorus	mg/L	0.49 (a)	0.21 (a)	0.5	0.8	<0.1	10	9	90%
Ortho Phosphate as Phosphate	mg/L	0.88 (a)	0.36 (a)	0.85 (a)	1.3	<3	10	4	40%
ORGANIC CARBON									
TOC	mg/L	3.7	1	3.7	5.7	2	10	10	100%
DOC	mg/L	3.5	1	3.5	5.1	1.8	10	10	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	53000	56000	30000	160000	800	10	10	100%
Fecal Coliform	MPN/100mL	2400	4000	700	14000	80	10	10	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

Appendix H:
Receiving Water Metals
Summary Statistics

STATION 1

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	1.7	0.54	1.5	2.6	1.2	4	4	100%
Cadmium, TR	µg/L	0.36	0.18	0.29	0.65	0.21	4	4	100%
Chromium, TR	µg/L	2	0.7	2	3	1.2	4	4	100%
Copper, TR	µg/L	5.1	3	4	10	2.2	4	4	100%
Lead, TR	µg/L	0.32	0.21	0.32	0.55	0.073	4	4	100%
Mercury, TR	µg/L	0.0014	0.00019	0.0014	0.00158	0.00109	4	4	100%
Nickel, TR	µg/L	10	7	9	20	2.6	4	4	100%
Selenium, TR	µg/L	1.6	0.08	1.6	1.7	1.5	4	4	100%
Zinc, TR	µg/L	7.8	5.4	5.1	17	3.9	4	4	100%
Arsenic, D	µg/L	1.5	0.55	1.4	2.4	0.9	4	4	100%
Cadmium, D	µg/L	0.12	0.06	0.12	0.19	0.038	4	4	100%
Chromium, D	µg/L	1.4	1.1	1.1	3.2	0.36	4	4	100%
Copper, D	µg/L	2.2	0.45	2	2.9	1.8	4	4	100%
Lead, D	µg/L	0.18	0.19	0.09	0.51	0.041	4	4	100%
Nickel, D	µg/L	3	0.91	2.6	4.6	2.4	4	4	100%
Selenium, D	µg/L	1.5	0.13	1.4	1.7	1.4	4	4	100%
Zinc, D	µg/L	3	2.2	2.7	6.1	0.92	4	4	100%

STATION 3

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	3.4	0.54	3.7	3.9	2.5	4	4	100%
Cadmium, TR	µg/L	0.26	0.069	0.27	0.33	0.15	4	4	100%
Chromium, TR	µg/L	1	0.7	1	2.5	0.66	4	4	100%
Copper, TR	µg/L	8.8	8.8	4	24	3.1	4	4	100%
Lead, TR	µg/L	2.3	2.7	0.78	6.9	0.57	4	4	100%
Mercury, TR	µg/L	0.0025	0.00075	0.0024	0.0036	0.00158	4	4	100%
Nickel, TR	µg/L	8	4.1	7	14	3.5	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	1.8	<0.8	4	2	50%
Zinc, TR	µg/L	11	3.1	12	15	6.7	4	4	100%
Arsenic, D	µg/L	2.8	0.52	2.8	3.4	2.1	4	4	100%
Cadmium, D	µg/L	0.2	0.06	0.22	0.24	0.1	4	4	100%
Chromium, D	µg/L	1.1	1	0.7	2.8	0.22	4	4	100%
Copper, D	µg/L	2.8	0.72	2.7	3.7	2	4	4	100%
Lead, D	µg/L	0.19	0.071	0.18	0.3	0.11	4	4	100%
Nickel, D	µg/L	4.1	1	3.8	5.7	3	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	1.4	<0.8	4	2	50%
Zinc, D	µg/L	12	5.6	12	19	6.6	4	4	100%

Notes
(a) A statistical distribution method was used to compute the summary statistics when NDs were present
(b) There is insufficient detected data to compute this value.

STATION 4

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	3	0.55	2.9	3.8	2.3	4	4	100%
Cadmium, TR	µg/L	0.38	0.13	0.4	0.53	0.19	4	4	100%
Chromium, TR	µg/L	2	1.4	2	4.1	0.65	4	4	100%
Copper, TR	µg/L	3.5	0.97	3.5	4.8	2.2	4	4	100%
Lead, TR	µg/L	0.72	0.44	0.75	1.2	0.18	4	4	100%
Mercury, TR	µg/L	0.0029	0.0014	0.0025	0.005	0.00157	4	4	100%
Nickel, TR	µg/L	9	3.6	8	14	4.4	4	4	100%
Selenium, TR	µg/L	1.1 (a)	0.065 (a)	1.2 (a)	1.2	<0.8	4	3	75%
Zinc, TR	µg/L	11	3.5	12	14	5	4	4	100%
Arsenic, D	µg/L	2.2	0.91	2.5	3.2	0.76	4	4	100%
Cadmium, D	µg/L	0.21	0.08	0.21	0.3	0.13	4	4	100%
Chromium, D	µg/L	1.2	0.8	1.1	2.3	0.49	4	4	100%
Copper, D	µg/L	1.7	0.56	1.7	2.5	0.92	4	4	100%
Lead, D	µg/L	0.19	0.13	0.2	0.32	0.032	4	4	100%
Nickel, D	µg/L	3.9	2.2	4.4	6.4	0.4	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	0.9	<0.8	4	2	50%
Zinc, D	µg/L	7	3	6.9	11	4.2	4	4	100%

STATION 7

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	3.7	0.76	3.5	4.9	2.9	4	4	100%
Cadmium, TR	µg/L	0.59	0.12	0.6	0.73	0.42	4	4	100%
Chromium, TR	µg/L	8	4.4	8	14	1.6	4	4	100%
Copper, TR	µg/L	4.4	1	4.3	5.9	3	4	4	100%
Lead, TR	µg/L	0.79	0.42	0.71	1.4	0.34	4	4	100%
Mercury, TR	µg/L	0.0018	0.00057	0.002	0.00225	0.00078	4	4	100%
Nickel, TR	µg/L	11	5.2	10	18	4.9	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, TR	µg/L	12	3.5	12	18	8.4	4	4	100%
Arsenic, D	µg/L	2.7	0.63	2.9	3.4	1.7	4	4	100%
Cadmium, D	µg/L	0.34	0.09	0.37	0.42	0.19	4	4	100%
Chromium, D	µg/L	4.7	5	2.6	13	0.72	4	4	100%
Copper, D	µg/L	3.8	1.1	3.8	5.3	2.3	4	4	100%
Lead, D	µg/L	0.45	0.053	0.46	0.51	0.39	4	4	100%
Nickel, D	µg/L	5.2	0.95	5.1	6.5	4	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, D	µg/L	15	7.9	16	25	5.6	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 8

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	5.3	0.6	5.3	6	4.5	4	4	100%
Cadmium, TR	µg/L	0.24	0.13	0.22	0.45	0.088	4	4	100%
Chromium, TR	µg/L	2	0.9	1	3.2	1	4	4	100%
Copper, TR	µg/L	8.6	10	2.9	26	2.5	4	4	100%
Lead, TR	µg/L	0.28	0.16	0.21	0.55	0.14	4	4	100%
Mercury, TR	µg/L	0.0009	0.00041	0.0009	0.00142	0.00028	4	4	100%
Nickel, TR	µg/L	5	1.9	4	7.8	2.9	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	1.1	<0.8	4	2	50%
Zinc, TR	µg/L	5.1	1.7	5	7.6	2.8	4	4	100%
Arsenic, D	µg/L	4.8	0.69	4.8	5.7	4.1	4	4	100%
Cadmium, D	µg/L	0.12	0.08	0.09	0.26	0.047	4	4	100%
Chromium, D	µg/L	1.1	0.6	1.1	1.9	0.42	4	4	100%
Copper, D	µg/L	2.1	0.78	1.9	3.4	1.3	4	4	100%
Lead, D	µg/L	0.11	0.045	0.11	0.17	0.054	4	4	100%
Nickel, D	µg/L	3.9	3	2.4	9.1	1.8	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	1.1	<0.8	4	2	50%
Zinc, D	µg/L	10	7.3	10	19	1.1	4	4	100%

STATION 9

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	2.7	0.83	2.4	4	1.8	4	4	100%
Cadmium, TR	µg/L	0.24	0.14	0.23	0.39	0.093	4	4	100%
Chromium, TR	µg/L	1	0.6	1	2.1	0.71	4	4	100%
Copper, TR	µg/L	2.3	0.41	2.3	2.9	1.8	4	4	100%
Lead, TR	µg/L	0.37	0.25	0.26	0.8	0.17	4	4	100%
Mercury, TR	µg/L	0.0029	0.0015	0.0021	0.00557	0.00178	4	4	100%
Nickel, TR	µg/L	6	4.8	5	14	1.9	4	4	100%
Selenium, TR	µg/L	1.3	0.1	1.3	1.4	1.2	4	4	100%
Zinc, TR	µg/L	5.5	2.4	5.4	9.1	2.2	4	4	100%
Arsenic, D	µg/L	2.6	0.76	2.5	3.8	1.7	4	4	100%
Cadmium, D	µg/L	0.14	0.1	0.11	0.3	0.049	4	4	100%
Chromium, D	µg/L	1.1	0.7	1.2	1.9	0.29	4	4	100%
Copper, D	µg/L	1.4	0.13	1.5	1.5	1.2	4	4	100%
Lead, D	µg/L	0.23	0.28	0.08	0.72	0.032	4	4	100%
Nickel, D	µg/L	2.6	1.2	2.2	4.5	1.6	4	4	100%
Selenium, D	µg/L	1.3	0.09	1.3	1.3	1.1	4	4	100%
Zinc, D	µg/L	6	3.3	5.9	11	2.1	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 10

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	2.8	0.61	2.5	3.8	2.3	4	4	100%
Cadmium, TR	µg/L	0.14	0.026	0.14	0.18	0.11	4	4	100%
Chromium, TR	µg/L	2	0.5	2	2.1	0.8	4	4	100%
Copper, TR	µg/L	2.6	0.42	2.5	3.1	2.1	4	4	100%
Lead, TR	µg/L	0.49	0.15	0.47	0.7	0.3	4	4	100%
Mercury, TR	µg/L	0.0028	0.00061	0.0028	0.00344	0.00204	4	4	100%
Nickel, TR	µg/L	5	2.2	4	8	2.3	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, TR	µg/L	20	7.5	16	33	15	4	4	100%
Arsenic, D	µg/L	2.5	0.51	2.3	3.4	2.1	4	4	100%
Cadmium, D	µg/L	0.11	0.02	0.11	0.14	0.078	4	4	100%
Chromium, D	µg/L	1.6	1.3	1.3	3.5	0.25	4	4	100%
Copper, D	µg/L	2.5	1	2.2	4.1	1.3	4	4	100%
Lead, D	µg/L	0.36	0.14	0.36	0.54	0.18	4	4	100%
Nickel, D	µg/L	4.7	3.7	2.9	11	2.1	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, D	µg/L	16	2.8	15	21	14	4	4	100%

STATION 11

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	3.5	0.43	3.5	4.1	3	4	4	100%
Cadmium, TR	µg/L	0.27	0.1	0.22	0.44	0.19	4	4	100%
Chromium, TR	µg/L	2	1	1	3.1	0.62	4	4	100%
Copper, TR	µg/L	2.5	0.52	2.3	3.3	1.9	4	4	100%
Lead, TR	µg/L	0.43	0.13	0.44	0.61	0.24	4	4	100%
Mercury, TR	µg/L	0.0026	0.00077	0.0027	0.0036	0.00158	4	4	100%
Nickel, TR	µg/L	6	2.3	6	9.1	3.1	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	1	<0.8	4	1	25%
Zinc, TR	µg/L	15	2.1	16	17	12	4	4	100%
Arsenic, D	µg/L	3.3	0.41	3.3	3.9	2.8	4	4	100%
Cadmium, D	µg/L	0.15	0.03	0.17	0.18	0.1	4	4	100%
Chromium, D	µg/L	1.2	0.9	0.9	2.6	0.29	4	4	100%
Copper, D	µg/L	1.8	0.22	1.9	2.1	1.5	4	4	100%
Lead, D	µg/L	0.32	0.092	0.35	0.41	0.17	4	4	100%
Nickel, D	µg/L	3.9	0.57	3.6	4.8	3.4	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, D	µg/L	18	6.8	17	28	11	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 12

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	3.5	0.46	3.5	4.2	2.9	4	4	100%
Cadmium, TR	µg/L	0.19	0.045	0.18	0.25	0.13	4	4	100%
Chromium, TR	µg/L	2	0.9	2	3	0.89	4	4	100%
Copper, TR	µg/L	3.4	0.58	3.3	4.2	2.7	4	4	100%
Lead, TR	µg/L	0.72	0.22	0.73	0.97	0.45	4	4	100%
Mercury, TR	µg/L	0.0042	0.00044	0.004	0.0049	0.00374	4	4	100%
Nickel, TR	µg/L	6	2.1	6	8.3	3	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, TR	µg/L	19	5.9	19	26	12	4	4	100%
Arsenic, D	µg/L	3.2	0.6	3	4.2	2.7	4	4	100%
Cadmium, D	µg/L	0.15	0.01	0.15	0.16	0.13	4	4	100%
Chromium, D	µg/L	1.2	0.9	1	2.6	0.25	4	4	100%
Copper, D	µg/L	2.5	0.62	2.8	2.9	1.4	4	4	100%
Lead, D	µg/L	0.33	0.18	0.26	0.64	0.16	4	4	100%
Nickel, D	µg/L	3.8	0.6	3.8	4.6	3.1	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	0.8	<0.8	4	1	25%
Zinc, D	µg/L	20	8.8	18	34	12	4	4	100%

STATION 13

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	2.7	0.61	2.8	3.5	1.8	4	4	100%
Cadmium, TR	µg/L	0.4	0.032	0.4	0.43	0.35	4	4	100%
Chromium, TR	µg/L	3	1.1	3	4.3	1.7	4	4	100%
Copper, TR	µg/L	6.5	2.6	7.5	8.7	2.2	4	4	100%
Lead, TR	µg/L	0.81	0.6	0.83	1.5	0.094	4	4	100%
Mercury, TR	µg/L	0.0025	0.0014	0.0024	0.00432	0.00098	4	4	100%
Nickel, TR	µg/L	15	10	14	29	2.7	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	0.94	<0.8	4	2	50%
Zinc, TR	µg/L	10	5	11	15	3.4	4	4	100%
Arsenic, D	µg/L	2.3	0.49	2.3	3	1.6	4	4	100%
Cadmium, D	µg/L	0.21	0.11	0.19	0.37	0.1	4	4	100%
Chromium, D	µg/L	1.5	1.2	1	3.5	0.38	4	4	100%
Copper, D	µg/L	2.5	1	2.3	4.2	1.3	4	4	100%
Lead, D	µg/L	0.09	0.047	0.09	0.14	0.039	4	4	100%
Nickel, D	µg/L	3	0.69	3.2	3.7	2	4	4	100%
Selenium, D	µg/L	0.81 (a)	0.057 (a)	0.8	0.88	<0.8	4	3	75%
Zinc, D	µg/L	7	6	3.3	17	2.9	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

STATION 14

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	1.8	0.19	1.7	2.1	1.6	4	4	100%
Cadmium, TR	µg/L	0.5	0.13	0.49	0.66	0.34	4	4	100%
Chromium, TR	µg/L	3	1.6	3	5	0.72	4	4	100%
Copper, TR	µg/L	8	2.2	7.8	11	5.3	4	4	100%
Lead, TR	µg/L	1.2	0.57	1.3	2	0.39	4	4	100%
Mercury, TR	µg/L	0.0032	0.00069	0.0031	0.00427	0.00237	4	4	100%
Nickel, TR	µg/L	20	16	16	43	4.7	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	0.86	<0.8	4	1	25%
Zinc, TR	µg/L	11	3.7	12	16	5.6	4	4	100%
Arsenic, D	µg/L	1.4	0.09	1.3	1.5	1.3	4	4	100%
Cadmium, D	µg/L	0.26	0.19	0.19	0.56	0.089	4	4	100%
Chromium, D	µg/L	1.4	1.3	1	3.5	0.14	4	4	100%
Copper, D	µg/L	4.6	0.46	4.7	5.1	3.9	4	4	100%
Lead, D	µg/L	0.14 (a)	0.13 (a)	0.14	0.33	<0.04	4	4	100%
Nickel, D	µg/L	5.8	1.3	5.8	7.4	4.4	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, D	µg/L	8	2.9	8.6	11	3.6	4	4	100%

STATION 15

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	2.8	0.53	2.8	3.5	2.2	3	3	100%
Cadmium, TR	µg/L	0.41	0.029	0.41	0.44	0.37	3	3	100%
Chromium, TR	µg/L	13	6.5	11	22	6.6	3	3	100%
Copper, TR	µg/L	4.3	1	4.6	5.4	3	3	3	100%
Lead, TR	µg/L	0.6	0.33	0.59	1	0.2	3	3	100%
Mercury, TR	µg/L	0.0019	0.00098	0.0016	0.00316	0.00081	3	3	100%
Nickel, TR	µg/L	11	5.6	15	15	3.2	3	3	100%
Selenium, TR	µg/L	(b)	(b)	(b)	0.82	<0.8	3	1	33%
Zinc, TR	µg/L	9.3	3.3	7.2	14	6.8	3	3	100%
Arsenic, D	µg/L	2.6	0.41	2.5	3.1	2.1	3	3	100%
Cadmium, D	µg/L	0.27	0.14	0.26	0.45	0.097	3	3	100%
Chromium, D	µg/L	7.9	6.7	5.4	17	1.2	3	3	100%
Copper, D	µg/L	2.6	0.42	2.9	2.9	2	3	3	100%
Lead, D	µg/L	0.14	0.04	0.12	0.2	0.11	3	3	100%
Nickel, D	µg/L	4.2	0.97	3.8	5.5	3.2	3	3	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	3	0	0%
Zinc, D	µg/L	11	5.3	8.4	18	5.6	3	3	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) There is insufficient detected data to compute this value.

Appendix I:
Receiving Water Organics
Summary Statistics

STATION 3

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Diazinon	µg/L	0.091	0.018	0.092	0.11	0	4	3	75%
EPA 8080									
BHC-gamma	ng/L	3.6	2.9	3	7.2	<2	4	3	75%

STATION 4

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8080									
BHC-gamma	ng/L	2.3	0.6	2.3	2.9	<2	4	3	75%

STATION 7

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8080									
4,4-DDD	ng/L	0.98	0.33	0.9	1.4	<1	4	3	75%
4,4-DDE	ng/L	6	2.3	5.7	9.4	3.1	4	4	100%
BHC-gamma	ng/L	2.3	1	2.3	3.5	<2	4	3	75%

Station 11

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Diazinon	µg/L	0.095	0.073	0.1	0.17	0	4	3	75%
EPA 8080									
BHC-gamma	ng/L	3.9	3.6	3.3	8	<2	4	3	75%

STATION 12

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8080									
4,4-DDE	ng/L	3.3	9	2.7	14.8	<1	4	3	75%

STATION 13

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8080									
2,4-DDT	ng/L	1.8	6.8	1.2	10.7	<1	4	3	75%
4,4-DDD	ng/L	2.1	3.1	2.1	5.5	<1	4	3	75%
4,4-DDE	ng/L	15	11	11	30.6	4.7	4	4	100%
4,4-DDT	ng/L	8.4	61	3.6	88.4	<1	4	3	75%

STATION 14

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Chlorpyrifos	µg/L	0.1	0.035	0.1	0.15	0	4	3	75%
EPA 8080									
2,4-DDD	ng/L	1.3	1.3	1.4	2.7	<1	4	3	75%
4,4-DDD	ng/L	3.5	6.1	3.2	11	<1	4	3	75%
4,4-DDE	ng/L	13	6.5	13	21.9	4.4	4	4	100%
4,4-DDT	ng/L	17	18	16	40.3	<1	4	3	75%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present

(b) Only constituents with 3 or more detects and at least 20% detected are listed

Appendix J:
Receiving Water Toxicity
Summary Statistics

STATION 2

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality NOEC	4	6	67%
Ceriodaphnia mortality IC25	4	6	67%
Ceriodaphnia mortality IC50	4	6	67%
Ceriodaphnia reproduction NOEC	5	6	83%
Ceriodaphnia reproduction IC25	6	6	100%
Ceriodaphnia reproduction IC50	4	6	67%
Pimephales mortality NOEC	5	6	83%
Pimephales mortality IC25	5	6	83%
Pimephales mortality IC50	5	6	83%
Pimephales growth NOEC	5	6	83%
Pimephales growth IC25	5	6	83%
Pimephales growth IC50	5	6	83%

STATION 5

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality NOEC	1	6	17%
Ceriodaphnia mortality IC25	1	6	17%
Ceriodaphnia mortality IC50	1	6	17%
Ceriodaphnia reproduction NOEC	2	6	33%
Ceriodaphnia reproduction IC25	3	6	50%
Ceriodaphnia reproduction IC50	1	6	17%
Pimephales mortality NOEC	0	6	0%
Pimephales mortality IC25	0	6	0%
Pimephales mortality IC50	0	6	0%
Pimephales growth NOEC	0	6	0%
Pimephales growth IC25	0	6	0%
Pimephales growth IC50	0	6	0%

STATION 6

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality NOEC	1	6	17%
Ceriodaphnia mortality IC25	1	6	17%
Ceriodaphnia mortality IC50	1	6	17%
Ceriodaphnia reproduction NOEC	1	6	17%
Ceriodaphnia reproduction IC25	1	6	17%
Ceriodaphnia reproduction IC50	1	6	17%
Pimephales mortality NOEC	0	6	0%
Pimephales mortality IC25	0	6	0%
Pimephales mortality IC50	0	6	0%
Pimephales growth NOEC	0	6	0%
Pimephales growth IC25	0	6	0%
Pimephales growth IC50	0	6	0%

STATION 10

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality NOEC	2	6	33%
Ceriodaphnia mortality IC25	2	6	33%
Ceriodaphnia mortality IC50	2	6	33%
Ceriodaphnia reproduction NOEC	4	6	67%
Ceriodaphnia reproduction IC25	4	6	67%
Ceriodaphnia reproduction IC50	4	6	67%
Pimephales mortality NOEC	3	6	50%
Pimephales mortality IC25	3	6	50%
Pimephales mortality IC50	3	6	50%
Pimephales growth NOEC	4	6	67%
Pimephales growth IC25	3	6	50%
Pimephales growth IC50	3	6	50%

STATION 12

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality NOEC	0	6	0%
Ceriodaphnia mortality IC25	0	6	0%
Ceriodaphnia mortality IC50	0	6	0%
Ceriodaphnia reproduction NOEC	0	6	0%
Ceriodaphnia reproduction IC25	0	6	0%
Ceriodaphnia reproduction IC50	0	6	0%
Pimephales mortality NOEC	0	6	0%
Pimephales mortality IC25	0	6	0%
Pimephales mortality IC50	0	6	0%
Pimephales growth NOEC	1	6	17%
Pimephales growth IC25	0	6	0%
Pimephales growth IC50	0	6	0%

Appendix K:
Receiving Water Sediment Toxicity
Summary Statistics

STATION 2

Sediment Toxicity	Toxicity	Samples	% Toxic
Hyalella mortality-sediment NOEC	1	2	50%
Hyalella mortality-sediment IC25	1	2	50%
Hyalella mortality-sediment IC50	1	2	50%
Ceriodaphnia reproduction NOEC	1	2	50%
Ceriodaphnia reproduction IC25	1	2	50%
Ceriodaphnia reproduction IC50	1	2	50%
Ceriodaphnia mortality NOEC	1	2	50%
Ceriodaphnia mortality IC25	1	2	50%
Ceriodaphnia mortality IC50	1	2	50%

STATION 5

Sediment Toxicity	Toxicity	Samples	% Toxic
Hyalella mortality-sediment NOEC	1	2	50%
Hyalella mortality-sediment IC25	1	2	50%
Hyalella mortality-sediment IC50	1	2	50%
Ceriodaphnia reproduction NOEC	1	2	50%
Ceriodaphnia reproduction IC25	1	2	50%
Ceriodaphnia reproduction IC50	1	2	50%
Ceriodaphnia mortality NOEC	0	2	0%
Ceriodaphnia mortality IC25	1	2	50%
Ceriodaphnia mortality IC50	0	2	0%

STATION 6

Sediment Toxicity	Toxicity	Samples	% Toxic
Hyalella mortality-sediment NOEC	1	2	50%
Hyalella mortality-sediment IC25	1	2	50%
Hyalella mortality-sediment IC50	1	2	50%
Ceriodaphnia reproduction NOEC	1	2	50%
Ceriodaphnia reproduction IC25	1	2	50%
Ceriodaphnia reproduction IC50	0	2	0%
Ceriodaphnia mortality NOEC	1	2	50%
Ceriodaphnia mortality IC25	2	2	100%
Ceriodaphnia mortality IC50	0	2	0%

STATION 7

Sediment Toxicity	Toxicity	Samples	% Toxic
Hyalella mortality-sediment NOEC	1	2	50%
Hyalella mortality-sediment IC25	1	2	50%
Hyalella mortality-sediment IC50	1	2	50%
Ceriodaphnia reproduction NOEC	1	2	50%
Ceriodaphnia reproduction IC25	1	2	50%
Ceriodaphnia reproduction IC50	1	2	50%
Ceriodaphnia mortality NOEC	1	2	50%
Ceriodaphnia mortality IC25	1	2	50%
Ceriodaphnia mortality IC50	1	2	50%

STATION 10

Sediment Toxicity	Toxicity	Samples	% Toxic
Hyalella mortality-sediment NOEC	1	2	50%
Hyalella mortality-sediment IC25	1	2	50%
Hyalella mortality-sediment IC50	1	2	50%
Ceriodaphnia reproduction NOEC	0	2	0%
Ceriodaphnia reproduction IC25	0	2	0%
Ceriodaphnia reproduction IC50	0	2	0%
Ceriodaphnia mortality NOEC	1	2	50%
Ceriodaphnia mortality IC25	1	2	50%
Ceriodaphnia mortality IC50	1	2	50%

STATION 12

Sediment Toxicity	Toxicity	Samples	% Toxic
Hyalella mortality-sediment NOEC	1	2	50%
Hyalella mortality-sediment IC25	1	2	50%
Hyalella mortality-sediment IC50	1	2	50%
Ceriodaphnia reproduction NOEC	1	2	50%
Ceriodaphnia reproduction IC25	1	2	50%
Ceriodaphnia reproduction IC50	0	2	0%
Ceriodaphnia mortality NOEC	0	2	0%
Ceriodaphnia mortality IC25	1	2	50%
Ceriodaphnia mortality IC50	0	2	0%

STATION 13

Sediment Toxicity	Toxicity	Samples	% Toxic
Hyalella mortality-sediment NOEC	2	2	100%
Hyalella mortality-sediment IC25	2	2	100%
Hyalella mortality-sediment IC50	2	2	100%
Ceriodaphnia reproduction NOEC	1	2	50%
Ceriodaphnia reproduction IC25	1	2	50%
Ceriodaphnia reproduction IC50	1	2	50%
Ceriodaphnia mortality NOEC	1	2	50%
Ceriodaphnia mortality IC25	1	2	50%
Ceriodaphnia mortality IC50	0	2	0%

Appendix L:
Receiving Water Sediment Chemistry
Summary Statistics

STATION 2

Sediment Chemistry (a)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
4,4-DDE	µg/kg	1.6	0.1	1.6	1.7	1.5	2	2	100%
EPA 8321 (PAH)									
Benzo(a)pyrene	µg/kg	2.5	0.5	2.5	3	2	2	2	100%

STATION 5

Sediment Chemistry (a)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
2,4-DDT	µg/kg	3.3	0.3	3.3	3.6	3	2	2	100%
4,4-DDD	µg/kg	2.95	1.95	2.95	4.9	1	2	2	100%
4,4-DDE	µg/kg	28.35	4.95	28.35	33.3	23.4	2	2	100%
4,4-DDT	µg/kg	13.75	6.35	13.75	20.1	7.4	2	2	100%
EPA 1613 (DIOXINS)									
1,2,3,4,7,8-HxCDD	ng/kg	0.155	0.035	0.155	0.19	0.12	2	2	100%
1,2,3,6,7,8-HxCDD	ng/kg	0.735	0.255	0.735	0.99	0.48	2	2	100%
1,2,3,4,6,7,8-HpCDD	ng/kg	9.72	2.28	9.72	12	7.44	2	2	100%
OCDD	ng/kg	107	3	107	110	104	2	2	100%
2,3,7,8-TCDF	ng/kg	0.225	0.095	0.225	0.32	0.13	2	2	100%
1,2,3,4,7,8-HxCDF	ng/kg	0.29	0.07	0.29	0.36	0.22	2	2	100%
1,2,3,6,7,8-HxCDF	ng/kg	0.245	0.075	0.245	0.32	0.17	2	2	100%
1,2,3,7,8,9-HxCDF	ng/kg	0.835	0.655	0.835	1.49	0.18	2	2	100%
2,3,4,6,7,8-HxCDF	ng/kg	0.27	0.08	0.27	0.35	0.19	2	2	100%
1,2,3,4,6,7,8-HpCDF	ng/kg	11.955	8.745	11.955	20.7	3.21	2	2	100%
1,2,3,4,7,8,9-HpCDF	ng/kg	0.235	0.045	0.235	0.28	0.19	2	2	100%
OCDF	ng/kg	106.55	92.45	106.55	199	14.1	2	2	100%
Total Tetra-Dioxins	ng/kg	5.985	0.065	5.985	6.05	5.92	2	2	100%
Total Penta-Dioxins	ng/kg	0.94	0.42	0.94	1.36	0.52	2	2	100%
Total Hexa-Dioxins	ng/kg	3.71	0.73	3.71	4.44	2.98	2	2	100%
Total Hepta-Dioxins	ng/kg	23.25	4.95	23.25	28.2	18.3	2	2	100%
Total Tetra-Furans	ng/kg	18.88	17.62	18.88	36.5	1.26	2	2	100%
Total Penta-Furans	ng/kg	3.41	0.86	3.41	4.27	2.55	2	2	100%
Total Hexa-Furans	ng/kg	5.25	1.91	5.25	7.16	3.34	2	2	100%
Total Hepta-Furans	ng/kg	25.08	18.12	25.08	43.2	6.96	2	2	100%
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	0.965	0.395	0.965	1.36	0.57	2	2	100%
2,3,7,8-TCDD TEQs ND = 0	ng/kg	0.91	0.42	0.91	1.33	0.49	2	2	100%

Notes

(a) Only constituents with 3 or more detects and at least 20% detected are listed

STATION 6

Sediment Chemistry (a)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
4,4-DDE	µg/kg	26.15	12.65	26.15	38.8	13.5	2	2	100%

STATION 7

Sediment Chemistry (a)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
2,4-DDD	µg/kg	2.05	0.75	2.05	2.8	1.3	2	2	100%
2,4-DDT	µg/kg	5	3	5	8	2	2	2	100%
4,4-DDE	µg/kg	43.2	18.9	43.2	62.1	24.3	2	2	100%
EPA 1613 (DIOXINS)									
1,2,3,7,8-PeCDD	ng/kg	0.195	0.035	0.195	0.23	0.16	2	2	100%
1,2,3,4,7,8-HxCDD	ng/kg	0.295	0.135	0.295	0.43	0.16	2	2	100%
1,2,3,6,7,8-HxCDD	ng/kg	0.905	0.175	0.905	1.08	0.73	2	2	100%
1,2,3,7,8,9-HxCDD	ng/kg	0.75	0.19	0.75	0.94	0.56	2	2	100%
1,2,3,4,6,7,8-HpCDD	ng/kg	29.2	17.3	29.2	46.5	11.9	2	2	100%
OCDD	ng/kg	141.5	34.5	141.5	176	107	2	2	100%
2,3,7,8-TCDF	ng/kg	0.27	0.03	0.27	0.3	0.24	2	2	100%
1,2,3,4,7,8-HxCDF	ng/kg	0.565	0.055	0.565	0.62	0.51	2	2	100%
1,2,3,6,7,8-HxCDF	ng/kg	0.32	0.08	0.32	0.4	0.24	2	2	100%
1,2,3,7,8,9-HxCDF	ng/kg	0.295	0.025	0.295	0.32	0.27	2	2	100%
1,2,3,4,6,7,8-HpCDF	ng/kg	6.225	1.085	6.225	7.31	5.14	2	2	100%
1,2,3,4,7,8,9-HpCDF	ng/kg	0.555	0.165	0.555	0.72	0.39	2	2	100%
OCDF	ng/kg	29.5	2.4	29.5	31.9	27.1	2	2	100%
Total Tetra-Dioxins	ng/kg	2.27	0.38	2.27	2.65	1.89	2	2	100%
Total Penta-Dioxins	ng/kg	0.54	0.12	0.54	0.66	0.42	2	2	100%
Total Hexa-Dioxins	ng/kg	5.275	1.125	5.275	6.4	4.15	2	2	100%
Total Hepta-Dioxins	ng/kg	35.75	10.75	35.75	46.5	25	2	2	100%
Total Tetra-Furans	ng/kg	2.985	0.005	2.985	2.99	2.98	2	2	100%
Total Penta-Furans	ng/kg	4.79	0.22	4.79	5.01	4.57	2	2	100%
Total Hexa-Furans	ng/kg	7.745	1.065	7.745	8.81	6.68	2	2	100%
Total Hepta-Furans	ng/kg	15.1	2.8	15.1	17.9	12.3	2	2	100%
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	1.105	0.285	1.105	1.39	0.82	2	2	100%
2,3,7,8-TCDD TEQs ND = 0	ng/kg	1.04	0.28	1.04	1.32	0.76	2	2	100%

Notes

(a) Only constituents with 3 or more detects and at least 20% detected are listed

STATION 10

Sediment Chemistry (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
4,4-DDE	µg/kg	2.7	1	2.7	3.7	1.7	2	2	100%
EPA 8321 (PAH)									
Benzo(a)pyrene	µg/kg	5.5	0.5	5.5	6	5	2	2	100%
Benzo(b)fluoranthene	µg/kg	5	0	5	5	5	2	2	100%
Benzo(g,h,I)perylene	µg/kg	10	0	10	10	10	2	2	100%
Benzo(k)fluoranthene	µg/kg	3	1	3	4	2	2	2	100%

STATION 12

Sediment Chemistry (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
2,4-DDT	µg/kg	9	5.9	9	14.9	3.1	2	2	100%
4,4-DDD	µg/kg	5.55	4.35	5.55	9.9	1.2	2	2	100%
4,4-DDE	µg/kg	95.35	83.65	95.35	179	11.7	2	2	100%
EPA 8321 (PAH)									
Benzo(a)pyrene	µg/kg	7.5	2.5	7.5	10	5	2	2	100%
EPA 1613 (DIOXINS)									
1,2,3,7,8-PeCDD	ng/kg	0.205	0.075	0.205	0.28	0.13	2	2	100%
1,2,3,6,7,8-HxCDD	ng/kg	0.585	0.235	0.585	0.82	0.35	2	2	100%
1,2,3,7,8,9-HxCDD	ng/kg	0.515	0.215	0.515	0.73	0.3	2	2	100%
1,2,3,4,6,7,8-HpCDD	ng/kg	10.81	3.79	10.81	14.6	7.02	2	2	100%
OCDD	ng/kg	120.5	36.5	120.5	157	84	2	2	100%
2,3,7,8-TCDF	ng/kg	0.325	0.095	0.325	0.42	0.23	2	2	100%
2,3,4,7,8-PeCDF	ng/kg	0.215	0.075	0.215	0.29	0.14	2	2	100%
1,2,3,4,7,8-HxCDF	ng/kg	0.36	0.13	0.36	0.49	0.23	2	2	100%
1,2,3,6,7,8-HxCDF	ng/kg	0.235	0.115	0.235	0.35	0.12	2	2	100%
2,3,4,6,7,8-HxCDF	ng/kg	0.235	0.085	0.235	0.32	0.15	2	2	100%
OCDF	ng/kg	24.9	2.1	24.9	27	22.8	2	2	100%
Total Tetra-Dioxins	ng/kg	8.105	3.395	8.105	11.5	4.71	2	2	100%
Total Penta-Dioxins	ng/kg	0.99	0.38	0.99	1.37	0.61	2	2	100%
Total Hexa-Dioxins	ng/kg	3.27	1.12	3.27	4.39	2.15	2	2	100%
Total Hepta-Dioxins	ng/kg	21.75	7.65	21.75	29.4	14.1	2	2	100%
Total Tetra-Furans	ng/kg	4.245	0.935	4.245	5.18	3.31	2	2	100%
Total Penta-Furans	ng/kg	4.46	0.7	4.46	5.16	3.76	2	2	100%
Total Hexa-Furans	ng/kg	4.14	1	4.14	5.14	3.14	2	2	100%
Total Hepta-Furans	ng/kg	4.57	1.2	4.57	5.77	3.37	2	2	100%
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	0.835	0.225	0.835	1.06	0.61	2	2	100%
2,3,7,8-TCDD TEQs ND = 0	ng/kg	0.805	0.205	0.805	1.01	0.6	2	2	100%

Notes

(a) Only constituents with 3 or more detects and at least 20% detected are listed

STATION 13

Sediment Chemistry (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8081 - CHLORINATED PESTICIDES									
2,4-DDD	µg/kg	6.55	2.85	6.55	9.4	3.7	2	2	100%
2,4-DDE	µg/kg	2.8	0.8	2.8	3.6	2	2	2	100%
2,4-DDT	µg/kg	49.4	43.3	49.4	92.7	6.1	2	2	100%
4,4-DDD	µg/kg	9.6	0.8	9.6	10.4	8.8	2	2	100%
4,4-DDE	µg/kg	138.1	45.9	138.1	184	92.2	2	2	100%
4,4-DDT	µg/kg	101.25	91.75	101.25	193	9.5	2	2	100%
Chlordane-alpha	µg/kg	2.85	0.95	2.85	3.8	1.9	2	2	100%
Chlordane-gamma	µg/kg	3.6	0.3	3.6	3.9	3.3	2	2	100%
EPA 1613 (DIOXINS)									
1,2,3,6,7,8-HxCDD	ng/kg	1.17	0.33	1.17	1.5	0.84	2	2	100%
1,2,3,7,8,9-HxCDD	ng/kg	1.11	0.26	1.11	1.37	0.85	2	2	100%
1,2,3,4,6,7,8-HpCDD	ng/kg	27.05	8.05	27.05	35.1	19	2	2	100%
OCDD	ng/kg	303	125	303	428	178	2	2	100%
2,3,7,8-TCDF	ng/kg	0.45	0.18	0.45	0.63	0.27	2	2	100%
1,2,3,7,8-PeCDF	ng/kg	0.145	0.045	0.145	0.19	0.1	2	2	100%
2,3,4,7,8-PeCDF	ng/kg	0.235	0.085	0.235	0.32	0.15	2	2	100%
1,2,3,4,7,8-HxCDF	ng/kg	0.53	0.16	0.53	0.69	0.37	2	2	100%
1,2,3,6,7,8-HxCDF	ng/kg	0.535	0.155	0.535	0.69	0.38	2	2	100%
1,2,3,7,8,9-HxCDF	ng/kg	0.32	0.15	0.32	0.47	0.17	2	2	100%
2,3,4,6,7,8-HxCDF	ng/kg	0.755	0.285	0.755	1.04	0.47	2	2	100%
1,2,3,4,6,7,8-HpCDF	ng/kg	16.485	8.115	16.485	24.6	8.37	2	2	100%
OCDF	ng/kg	122.15	80.85	122.15	203	41.3	2	2	100%
Total Tetra-Dioxins	ng/kg	5.485	3.615	5.485	9.1	1.87	2	2	100%
Total Penta-Dioxins	ng/kg	1.065	0.315	1.065	1.38	0.75	2	2	100%
Total Hexa-Dioxins	ng/kg	8.63	3.17	8.63	11.8	5.46	2	2	100%
Total Hepta-Dioxins	ng/kg	62.1	19.6	62.1	81.7	42.5	2	2	100%
Total Tetra-Furans	ng/kg	7.685	3.915	7.685	11.6	3.77	2	2	100%
Total Penta-Furans	ng/kg	10.55	4.15	10.55	14.7	6.4	2	2	100%
Total Hexa-Furans	ng/kg	13.955	5.245	13.955	19.2	8.71	2	2	100%
Total Hepta-Furans	ng/kg	37.1	18.7	37.1	55.8	18.4	2	2	100%
2,3,7,8-TCDD TEQs ND = 1/2 DL	ng/kg	1.705	0.645	1.705	2.35	1.06	2	2	100%
2,3,7,8-TCDD TEQs ND = 0	ng/kg	1.665	0.665	1.665	2.33	1	2	2	100%

Notes

(a) Only constituents with 3 or more detects and at least 20% detected are listed

APPENDIX M - APPENDIX P

Effluent Results

Appendix M:
Effluent General Water Quality Constituents
Monitoring Results

STATION A

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	1.6	1	1.22	1.2	0.78	1.59	1.7	1.2	1.7		1.35	1
Boron	mg/L	0.6	0.6	0.6	0.53	0.57	0.55	0.58	0.59	0.6	0.7	0.53	0.7
Calcium	mg/L	60	63	57	0.54	61	57	62	63	71	65	72	66
Hardness	mg/L	260	260	240	230	250	240	260	260	290	270		272
Iron	mg/L	0.11	0.06	0.1	0.13	0.15	0.09	0.17	0.17	0.19	0.15	0.16	0.11
Magnesium	mg/L	26	26	24	23	25	23	25	25	28	25	29	26
Manganese	mg/L	0.09	0.04	0.04	0.02	0.04	0.03	0.04	0.04	0.05	0.04	0.04	0.04
Potassium	mg/L	12	12	11	13	16	13	13	12	13	14	12	12
Silica	mg/L	19	19	19	18	18	19	19	18	18	19	20	20
Sodium	mg/L	120	110	110	88	110	97	110	100	170	120	100	104
Alkalinity	mg/L	236	207	240	194	248	254	258	251	260		265	250
Chloride	mg/L	119	122	117	120	115	111	114	113	113		114	116
TSS	mg/L	7	4.6	1.3	1.85	<4	1.55	2.8	<4	<4		1.75	1.8
TDS	mg/L	728	743	649	674	702	648	711	694	691		762	730
Sulfate	mg/L	253	184	181	204	210	227	223	234	243		232	237
NUTRIENTS													
Total Ammonia	mg/L	26.3	18.1	26.9	14.2	27.6	26.4	27.1	26.3	27.2		28.6	25.7
Nitrate as NO3	mg/L	13.1	5.5	8.28	11.4	0.63	11.5	8.7	12.195	4.68		3.69	7.11
Nitrite as NO2	mg/L	<0.033	1.782	1.089	2.4915	0.99	1.485	1.023	1.089	0.429		0.759	0.264
Organic Nitrogen	mg/L	2.2	1.7	1.56	1.61	1.34	1.31	1.8	1.9	1.9		2	1.5
Total Phosphorus	mg/L	2.57	2.9	2.94	3.27	2.92	2.26	2.1	2.25	1.9		1.96	2.01
Ortho Phosphate as Phosphate	mg/L		3.04	2.8	3	5.5	2.18	1.86	3.6	1.61		1.86	1.98
ORGANIC CARBON													
TOC	mg/L	10	9.5	9.3	9.3	9.6	9.8	11	12	12	9.3	9.8	9.9
DOC	mg/L	9.9	9.1	9.3	9.1	10	9.9	12	12	12	9.5	9.8	9.5
MICROBIOLOGICAL													
Total Coliform	MPN/100ml	<2	<2	<2	<2	<2	<2	<2	<2	<2		<2	<2
Fecal Coliform	MPN/100ml	<2	<2	<2	<2	<2	<2	<2	<2	<2		<2	<2

STATION B

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	0.43	0.43	3.74	0.36	0.282	0.14	0.45	0.36	0.3	0.226	0.531	0.25
Boron	mg/L	0.9	0.8	0.8	0.7	0.85	0.83	0.82	0.8	0.81	0.9	0.69	0.8
Calcium	mg/L	220	220	210	200	220	190	200	210	210	200	210	204
Hardness	mg/L	860	860	810	800	870	770	810	830	820	780		801
Iron	mg/L	0.09	<0.05	0.11	0.21	0.2	0.14	0.21	0.19	0.19	0.03	0.2	0.41
Magnesium	mg/L	75	74	71	71	77	70	73	74	73	69	71	71
Manganese	mg/L	0.03	<0.03	<0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Potassium	mg/L	4	4	4	4	6	5	5	5	5	5	5	5
Silica	mg/L	44	44	44	42	43	42	42	42	41	44	43	42
Sodium	mg/L	150	150	150	130	150	140	160	170	150	140	130	134
Alkalinity	mg/L	277	282	301	271	278	280	276	279	279	278	280	274
Chloride	mg/L	129	128	131	159	134	126	131	133	131	129	132	136
TSS	mg/L	6.8	9.2	5.2	8.4	6.6	9.6	7.8	11.2	8.6	8.8	1.31	7.8
TDS	mg/L	1676	1648	1665	1579	1677	1580	1639	1629	1611	1635	1633	1633
Sulfate	mg/L	944	760	657	718	721	1070	772	765	728	743	690	630
NUTRIENTS													
Total Ammonia	mg/L	<0.05	0.2	0.44	<1	<1	<1	<1	<1	<1	0.2	<1	<1
Nitrate as NO3	mg/L	15.9	14.5	15.2	15.3	18.6	20.2	17.5	19.215	18	10.665	15.885	17.19
Nitrite as NO2	mg/L	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.03	0.0297	0.0594	0.033
Organic Nitrogen	mg/L	<1	<1	<1	<1	<1	<1	1	<1	<1	0.5	<1	0.1
Total Phosphorus	mg/L	0.053	0.047	0.04	0.04	0.03	0.11	0.03	0.05	0.05	0.028	0.06	0.064
Ortho Phosphate as Phosphate	mg/L		0.2	0.2	0.036	<0.3	0.08	0.06	<0.3	0.02	0.063	0.04	0.22
ORGANIC CARBON													
TOC	mg/L	1.2	1.4	1.3	1.5	1.4	1.4	1.7	<0.5	1.7	1.5	1.6	1.9
DOC	mg/L	1.2	1.3	1.3	1.6	1.7	1.7	2	<0.5	2	2	1.6	1.9
MICROBIOLOGICAL													
Total Coliform	MPN/100ml	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Fecal Coliform	MPN/100ml	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

STATION C

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	3.5	1.8			6.7		2.4		1.8			
Boron	mg/L	0.5	0.6			0.45		0.5		0.51			
Calcium	mg/L	40	41			36		38		45			
Hardness	mg/L	160	160			140		160		180			
Iron	mg/L	0.22	0.24			0.15		0.1		0.1			
Magnesium	mg/L	15	15			13		15		17			
Manganese	mg/L	<0.03	<0.03			0.01		0.02		0.02			
Potassium	mg/L	14	14			15		14		15			
Silica	mg/L	18	16			16		17		16			
Sodium	mg/L	130	130			100		120		170			
Alkalinity	mg/L	140	130			420		180		150			
Chloride	mg/L	120	120			100		130		170			
TSS	mg/L	<10	<10			10		<10		<10			
TDS	mg/L	710	680			690		700		800			
Sulfate	mg/L	240	270			220		200		260			
NUTRIENTS													
Total Ammonia	mg/L	32	23			28		29		26			
Nitrate as NO3	mg/L	<0.4	<0.4			<0.4		0.6		1			
Nitrite as NO2	mg/L	<0.3	<0.3			<0.3		<0.3		<0.3			
Organic Nitrogen	mg/L	<5	5			<4		<5		<4.1			
Total Phosphorus	mg/L	<0.1	<0.1			0.1		1.8		<0.1			
Ortho Phosphate as Phosphate	mg/L	<0.3	<0.3			<1.5		<0.3		<1.5			
ORGANIC CARBON													
TOC	mg/L	17	11			19		21		17			
DOC	mg/L	15	11			18		16		16			
MICROBIOLOGICAL													
Total Coliform	MPN/100ml	<2	<2			<2		<2		<2			
Fecal Coliform	MPN/100mL									<2			

STATION E

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	0.9	1	1.8	0.7	0.9	1.1	1.2	2	1.3	0.8	0.6	0.9
Boron	mg/L	0.6	0.6	0.5	0.49	0.51	0.56	0.53	0.55	0.51	0.6	0.65	0.61
Calcium	mg/L	36	35	34	35	38	34	37	38	40	37	41	37
Hardness	mg/L	150	150	140	140	160	140	150	160	170	150	170	154
Iron	mg/L	<0.05	<0.05	<0.05	0.07	0.07	<0.05	0.06	0.08	0.05	0.06	0.07	<0.05
Magnesium	mg/L	15	14	14	14	15	14	15	15	16	15	16	15
Manganese	mg/L	<0.03	<0.03	0.02	0.01	0.01	<0.01	0.01	0.02	0.01	<0.01	<0.01	<0.01
Potassium	mg/L	12	11	11	13	14	14	12	13	13	14	13	12
Silica	mg/L	20	20	18	18	17	18	16	18	17	20	19	18
Sodium	mg/L	94	88	86	82	90	110	140	110	110	110	99	86
Alkalinity	mg/L	70	60	80	60	50	170	100	170	150	150	140	150
Chloride	mg/L	110	110	110	120	110	100	110	96	97	100	94	99
TSS	mg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TDS	mg/L	550	480	490	520	480	600	560	540	570	560	590	570
Sulfate	mg/L	150	160	160	170	150	160	170	140	150	180	180	140
NUTRIENTS													
Total Ammonia	mg/L	6.2	0.8	6.2	1.2	1.9	7.5	3.1	7.2	3.1	1.2	0.6	0.8
Nitrate as NO3	mg/L	1.2	32	12	2.3	13	0.7	0.8	0.5	2.7	7.2	36	23.8
Nitrite as NO2	mg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Organic Nitrogen	mg/L	1.7	0.9	2	1	1	<2.5	1.5	2	1.6	1.5	1.1	2.1
Total Phosphorus	mg/L	2.2	0.9	1.3	2.2	1.5	2.5	1.7	2.5	2.5	2.7	2.1	2.9
Ortho Phosphate as Phosphate	mg/L	4.8	1.6	2.8	5.8	0.5	4.5	0.8	6.4	3.8	4.3	5.4	3.3
ORGANIC CARBON													
TOC	mg/L	7.7	7.4	9.7	7.9	18	9.7	9.3	11	11	8.3	7.9	8.2
DOC	mg/L	7.4	7.2	8.8	7.5	17	9.3	8.3	11	10	8.5	7.5	7.8
MICROBIOLOGICAL													
Total Coliform	MPN/100ml	<2	<2	<2	<2	<2	<2	<2	4	<2	2	<2	4
Fecal Coliform	MPN/100mL								<2	<2	<2	<2	<2

STATION F

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	1.4	1.2	1.5	1.1	1.1	1.4	2	1.1	0.7	0.8	1.1	1.9
Boron	mg/L	0.5	0.5	0.5	0.43	0.45	0.47	0.47	0.49	0.45	0.6	0.58	0.61
Calcium	mg/L	53	49	47	45	51	45	46	50	50	47	51	51
Hardness	mg/L	230	220	200	190	210	190	200	210	210	200	210	210
Iron	mg/L	0.12	<0.05	<0.05	0.12	0.18	0.11	0.16	0.19	0.15	0.14	0.15	0.13
Magnesium	mg/L	24	23	20	19	21	19	20	21	21	19	21	20
Manganese	mg/L	<0.03	<0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.02
Potassium	mg/L	12	12	11	13	16	13	13	12	13	14	12	12
Silica	mg/L	22	21	20	19	19	20	19	19	18	20	19	19
Sodium	mg/L	97	98	90	75	94	82	90	92	97	90	89	89
Alkalinity	mg/L	200	180	170	190	150	190	180	180	180	230	160	90
Chloride	mg/L	120	130	130	130	110	120	120	130	110	110	110	104
TSS	mg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TDS	mg/L	610	650	590	550	590	580	550	560	580	580	590	600
Sulfate	mg/L	160	170	160	170	170	170	150	160	160	170	180	185
NUTRIENTS													
Total Ammonia	mg/L	22	25	22	23	14	22	24	24	23	27	12	2.8
Nitrate as NO3	mg/L	0.7	0.6	0.8	1.4	6.8	1.9	3	1.7	2.5	4	33	46.3
Nitrite as NO2	mg/L	<0.3	<0.3	<0.3	0.8	1.7	0.7	1.7	<0.3	0.9	4.1	4.7	1.1
Organic Nitrogen	mg/L	<5	<3	<5	<2.7	<2.5	<3	<2.5	<2.5	<6	<4	12	5
Total Phosphorus	mg/L	2.4	2.2	1.9	1.2	3	1.1	0.8	0.8	0.7	0.6	0.6	0.7
Ortho Phosphate as Phosphate	mg/L	5.6	6.1	3.2	3.1	3.9	1.4	0.3	1.1	0.7	0.8	1.4	0.6
ORGANIC CARBON													
TOC	mg/L	9.4	9.9	11	9.9	20	11	12	11	10	9.3	9.6	10.6
DOC	mg/L	8.7	9.6	10	9.2	20	10	10	11	9.6	9.3	9.2	10.1
MICROBIOLOGICAL													
Total Coliform	MPN/100ml	<2	23	13	<2	<2	4	8	<2	<2	2	<2	<2
Fecal Coliform	MPN/100mL		<2	2			<2	<2	<2	<2	<2	<2	<2

STATION G

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	1.4	1.5	1.8	3.6	8.6	5.5	2.8	3	3	2.5	3.5	3
Boron	mg/L	0.5	0.5	0.5	0.47	0.44	0.51	0.51	0.51	0.5	0.6	0.45	0.57
Calcium	mg/L	66	60	57	54	57	62	61	71	71	59	78	71
Hardness	mg/L	260	240	220	210	230	240	240	270	280	240	300	276
Iron	mg/L	0.08	<0.05	<0.05	0.14	0.13	0.13	0.09	0.13	0.11	0.16	0.15	0.14
Magnesium	mg/L	22	21	20	19	20	21	22	23	25	22	26	24
Manganese	mg/L	<0.03	<0.03	<0.01	0.01	0.02	<0.01	0.02	0.02	0.02	0.01	0.01	0.02
Potassium	mg/L	14	12	13	15	16	16	16	15	16	16	16	16
Silica	mg/L	31	30	29	26	26	30	26	27	25	28	31	29
Sodium	mg/L	130	130	120	100	120	130	140	130	150	140	140	122
Alkalinity	mg/L	100	90	110	80	70	110	130	80	90	<10	60	50
Chloride	mg/L	150	155	147	144	142	142	155	170	172	190	167	177
TSS	mg/L	<10	2.4	5.1	7.8	14	6.7	29.8	8.2	7.9	6.5	6.1	8
TDS	mg/L	900	866	836	776	776	864	839	930	886	916	986	946
Sulfate	mg/L	210	215	208	198	208	224	217	242	236	261	300	284
NUTRIENTS													
Total Ammonia	mg/L	2.1	2.57	1.46	1.36	2	1.57	5.35	1.98	1.16	1.7	1.86	2.21
Nitrate as NO3	mg/L	120	122	111	120	138	120.15	128	137	137.7	139.5	142.2	122.85
Nitrite as NO2	mg/L	<0.3	0.03	2.2	2	<0.033	1.914	0.76	<0.033	0.99	<0.033	<0.033	<0.033
Organic Nitrogen	mg/L	1.1	2.9	1.9	1.7	2.4	1.89	3.1	3.3	1	1.6	2.2	1.9
Total Phosphorus	mg/L	4.9	1.2	4.28	4.58	4.54	3.62	2.34	4	2.56	3.6	3.8	3.31
Ortho Phosphate as Phosphate	mg/L	12	9.9	12	12	7.9	12	12	8.8	12	13	14	5.9
ORGANIC CARBON													
TOC	mg/L	10	8.5	8.1	9.2	16	11	15	12	12	10	11	9.2
DOC	mg/L	9.8	8.3	7.7	8.6	15	10	13	12	11	11	10	10
MICROBIOLOGICAL													
Total Coliform	MPN/100ml	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Fecal Coliform	MPN/100mL		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

STATION H

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	8.1	5	90						8.6	23	5.3	34.5
Boron	mg/L	0.4	0.4	0.3						0.72	0.3	0.76	0.69
Calcium	mg/L	110	87	93						210	86	170	150
Hardness	mg/L	390	340	370						800	310	660	584
Iron	mg/L	1.1	1.2	13						1.7	1.7	0.55	4.11
Magnesium	mg/L	30	31	34						68	23	57	51
Manganese	mg/L	<0.03	<0.03	0.27						0.03	0.07	0.03	0.08
Potassium	mg/L	11	6	12						23	14	13	12
Silica	mg/L	29	26	27						21	11	16	24
Sodium	mg/L	83	79	86						140	54	100	81
Alkalinity	mg/L	200	190	110						210	70	210	210
Chloride	mg/L	45	50	55						110	56	74	62
TSS	mg/L	20	40	340						30	20	10	120
TDS	mg/L	790	820	820						1700	680	1300	1160
Sulfate	mg/L	280	320	330						670	230	570	573
NUTRIENTS													
Total Ammonia	mg/L	1	<0.1	0.4						10	0.5	0.3	1.9
Nitrate as NO3	mg/L	36	15	8						160	110	87	48.8
Nitrite as NO2	mg/L	1	<0.3	<0.3						1.5	1.2	0.9	1.3
Organic Nitrogen	mg/L	1.2	1	<0.5						<3	1.1	1.5	4.1
Total Phosphorus	mg/L	0.7	0.3	2.7						3.7	2.3	0.7	0.9
Ortho Phosphate as Phosphate	mg/L	1.3	<0.3	0.7						7.3	4	1.1	<0.3
ORGANIC CARBON													
TOC	mg/L	2.6	3.2	4.2						6.5	12	5.8	5.6
DOC	mg/L	2.8	2.9	3.8						6.5	11	5	5.2
MICROBIOLOGICAL													
Total Coliform	MPN/100ml	1600	50000	160000						160000	160000	160000	160000
Fecal Coliform	MPN/100ml	500	2300	17000						140	1700	300	900

STATION I

Constituent	Units	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12
		7/1/98	8/5/98	9/2/98	10/7/98	11/5/98	12/2/98	1/6/99	2/3/99	3/3/99	4/7/99	5/5/99	6/2/99
Turbidity	NTU	4.7	21	2.6	8.2	1.9	16	4.3	7.8	20	13	6.2	3.6
Boron	mg/L	1.2	1	1.3	1.1	0.88	0.58	1	0.95	0.86	1.2	1.1	0.93
Calcium	mg/L	350	300	390	330	290	170	320	270	320	340	360	295
Hardness	mg/L	1400	1100	1500	1400	1100	650	1200	1100	1300	1300	1400	1230
Iron	mg/L	0.64	2.5	0.33	1.2	0.35	0.79	0.64	0.94	7.1	3.2	1.1	0.62
Magnesium	mg/L	120	98	120	130	93	57	100	94	130	110	120	121
Manganese	mg/L	0.27	0.39	0.69	0.2	0.43	0.26	0.26	0.37	0.39	0.29	0.27	0.17
Potassium	mg/L	6	8	7	5	8	12	7	7	5	8	7	4
Silica	mg/L	48	45	49	56	45	31	42	46	57	53	49	48
Sodium	mg/L	370	250	350	290	260	140	280	280	300	340	310	270
Alkalinity	mg/L	390	340	380	380	330	210	330	350	400	390	400	440
Chloride	mg/L	310	250	280	280	240	140	230	270	300	280	270	300
TSS	mg/L	<10	90	10	20	<10	10	<10	20	190	100	30	20
TDS	mg/L	3400	2800	3100	2900	2700	1500	2600	2600	3000	3000	3000	2950
Sulfate	mg/L	1400	1200	1500	1200	1200	590	1100	1100	1200	1300	1400	1240
NUTRIENTS													
Total Ammonia	mg/L	0.2	<0.1	0.2	<0.22	<0.2	1.3	1.3	0.4	0.2	0.2	1.1	<0.2
Nitrate as NO3	mg/L	150	99	170	170	130	97	130	120	160	160	160	173
Nitrite as NO2	mg/L	0.7	0.6	1.7	0.4	<3	1.1	0.6	0.3	<0.3	0.3	0.9	0.8
Organic Nitrogen	mg/L	1.4	<0.5	0.7	0.9	<0.8	<0.5	<0.5	<0.5	0.9	0.9	3.3	0.7
Total Phosphorus	mg/L	0.7	0.9	0.7	0.4	0.7	1.8	0.7	0.7	1	0.8	0.4	0.4
Ortho Phosphate as Phosphate	mg/L	1	0.5	1.1	0.4	0.7	3.6	0.4	0.5	<0.3	<0.3	0.5	<0.3
ORGANIC CARBON													
TOC	mg/L	6.6	6.7	7.1	5.1	6.7	9.4	6	6.6	5.6	6.9	7.7	5.4
DOC	mg/L	6.8	6.6	6.9	5	6.7	9.7	5.8	6.8	5.4	7.2	7.8	5.4
MICROBIOLOGICAL													
Total Coliform	MPN/100ml	1600	50000	160000	30000	35000	28000	16000	90000	90000	50000	160000	24000
Fecal Coliform	MPN/100ml	130	7000	900	1700	2200	2400	240	700	300	500	130	240

Appendix N:
Effluent Metals
Monitoring Results

STATION A

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	1.1	1.1	1.2	1.3
Cadmium, TR	µg/L	0.08	0.036	0.05	0.077
Chromium, TR	µg/L	0.72	0.36	1.7	1.2
Copper, TR	µg/L	2.2	2.9	5.2	2.8
Lead, TR	µg/L	0.28	0.45	0.43	0.23
Mercury, TR	µg/L	0.0042	0.0046	0.0046	0.00442
Nickel, TR	µg/L	2	7.1	3.5	1.5
Selenium, TR	µg/L	<0.8	<0.8	<0.8	0.86
Zinc, TR	µg/L	18	14	17	14
Arsenic, D	µg/L	1.1	0.92	0.96	1.2
Cadmium, D	µg/L	0.068	0.026	0.054	0.07
Chromium, D	µg/L	0.3	0.3	1.8	1
Copper, D	µg/L	1.2	2.8	2.9	4.4
Lead, D	µg/L	0.2	0.3	0.41	0.22
Nickel, D	µg/L	1.8	3	3.1	2.2
Selenium, D	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, D	µg/L	14	10	17	14

STATION B

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	0.76	0.72	0.84	0.78
Cadmium, TR	µg/L	0.26	0.15	0.17	0.12
Chromium, TR	µg/L	1.3	1.3	3.9	1.8
Copper, TR	µg/L	4.3	8.4	4.5	6.7
Lead, TR	µg/L	1.1	1.1	0.65	0.58
Mercury, TR	µg/L	0.0021	0.00065	0.00032	0.00096
Nickel, TR	µg/L	1.1	16	6.6	0.43
Selenium, TR	µg/L	<0.8	<0.8	2.5	0.92
Zinc, TR	µg/L	5.3	0.14	8.3	50
Arsenic, D	µg/L	0.66	0.66	0.72	0.76
Cadmium, D	µg/L	0.074	0.038	0.15	0.14
Chromium, D	µg/L	0.29	0.81	3.5	1.6
Copper, D	µg/L	1.6	3.4	1.5	0.92
Lead, D	µg/L	0.086	0.2	0.28	0.032
Nickel, D	µg/L	0.8	0.79	1.1	0.4
Selenium, D	µg/L	<0.8	<0.8	0.88	<0.8
Zinc, D	µg/L	4.9	4.6	18	4.3

STATION C

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	<0.5	<0.5		
Cadmium, TR	µg/L	0.02	0.095		
Chromium, TR	µg/L	0.22	0.52		
Copper, TR	µg/L	0.59	1.6		
Lead, TR	µg/L	0.089	0.79		
Mercury, TR	µg/L	0.006	0.02748		
Nickel, TR	µg/L	0.05	4.5		
Selenium, TR	µg/L	<0.8	1.7		
Zinc, TR	µg/L	5.6	9.9		
Arsenic, D	µg/L	<0.5	<0.5		
Cadmium, D	µg/L	<0.01	0.032		
Chromium, D	µg/L	0.17	0.38		
Copper, D	µg/L	0.51	1.5		
Lead, D	µg/L	0.071	1		
Nickel, D	µg/L	1.7	3.3		
Selenium, D	µg/L	<0.8	<0.8		
Zinc, D	µg/L	5.3	63		

STATION E

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	1.2	0.8	1.2	1.4
Cadmium, TR	µg/L	0.094	0.073	0.073	0.11
Chromium, TR	µg/L	0.39	1	1.7	1
Copper, TR	µg/L	6	9.5	5.5	6.1
Lead, TR	µg/L	0.47	0.72	0.5	0.63
Mercury, TR	µg/L	0.00246	0.00433	0.00372	0.00289
Nickel, TR	µg/L	1.6	3.8	1.2	0.8
Selenium, TR	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, TR	µg/L	49	46	40	34
Arsenic, D	µg/L	1.1	0.8	1	1.3
Cadmium, D	µg/L	0.079	0.072	0.099	0.11
Chromium, D	µg/L	0.29	0.59	1.6	0.99
Copper, D	µg/L	4.1	8.2	4.9	6.1
Lead, D	µg/L	0.44	0.43	1.6	0.37
Nickel, D	µg/L	1.3	1.1	1.7	0.78
Selenium, D	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, D	µg/L	38	37	39	29

STATION F

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	1.2	2	3.1	2.9
Cadmium, TR	µg/L	0.13	0.14	0.27	0.64
Chromium, TR	µg/L	0.35	0.42	2.6	1.4
Copper, TR	µg/L	1.8	3.3	2.1	2.2
Lead, TR	µg/L	0.58	0.63	0.53	0.37
Mercury, TR	µg/L	0.00277	0.00766	0.0023	0.00243
Nickel, TR	µg/L	2.5	6.1	3.4	9
Selenium, TR	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, TR	µg/L	31	29	22	22
Arsenic, D	µg/L	1.2	1.8	2.3	2.9
Cadmium, D	µg/L	0.13	0.088	0.042	0.095
Chromium, D	µg/L	0.34	0.32	2.3	1.4
Copper, D	µg/L	1.7	1.7	4.1	2.1
Lead, D	µg/L	0.56	0.36	0.31	0.34
Nickel, D	µg/L	2.1	2	9.1	2.3
Selenium, D	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, D	µg/L	30	28	18	17

STATION G

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	2.4	2.1	6.6	3
Cadmium, TR	µg/L	0.09	0.092	0.14	0.15
Chromium, TR	µg/L	0.59	0.98	1.9	2.3
Copper, TR	µg/L	4.1	11	9.6	7.3
Lead, TR	µg/L	0.62	0.82	0.82	0.5
Mercury, TR	µg/L	0.00723	0.02047	0.00953	0.00831
Nickel, TR	µg/L	2.6	7.2	6.1	1.8
Selenium, TR	µg/L	<0.8	<0.8	1.3	<0.8
Zinc, TR	µg/L	32	67	67	32
Arsenic, D	µg/L	2.3	2.2	6.2	2.9
Cadmium, D	µg/L	0.051	0.094	0.062	0.15
Chromium, D	µg/L	0.51	0.96	1.7	2.7
Copper, D	µg/L	3.5	10	8.1	7.2
Lead, D	µg/L	0.51	0.69	0.51	0.38
Nickel, D	µg/L	2.3	4.1	3.4	1.7
Selenium, D	µg/L	<0.8	<0.8	<0.8	<0.8
Zinc, D	µg/L	29	66	52	26

STATION H

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	1.4			
Cadmium, TR	µg/L	0.54			
Chromium, TR	µg/L	3.5			
Copper, TR	µg/L	9.4			
Lead, TR	µg/L	1.5			
Mercury, TR	µg/L	0.00453			0.00268
Nickel, TR	µg/L	4.7			
Selenium, TR	µg/L	<0.8			
Zinc, TR	µg/L	250			
Arsenic, D	µg/L	1.1			
Cadmium, D	µg/L	0.15			
Chromium, D	µg/L	0.22			
Copper, D	µg/L	2.4			
Lead, D	µg/L	0.2			
Nickel, D	µg/L	1.3			
Selenium, D	µg/L	<0.8			
Zinc, D	µg/L	1.2			

STATION I

METALS					
Constituent	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Arsenic, TR	µg/L	9.7	6.7	7.6	6.9
Cadmium, TR	µg/L	0.56	0.42	0.87	0.54
Chromium, TR	µg/L	6.2	0.22	5.2	3.4
Copper, TR	µg/L	25	5.9	6.5	2.8
Lead, TR	µg/L	1.9	0.19	0.76	0.43
Mercury, TR	µg/L	0.00519	0.0012	0.00186	0.00228
Nickel, TR	µg/L	41	29	24	5.6
Selenium, TR	µg/L	<0.8	1	<0.8	<0.8
Zinc, TR	µg/L	170	4.7	9	4.1
Arsenic, D	µg/L	9	6.6	7.5	6.5
Cadmium, D	µg/L	0.3	0.078	0.55	0.52
Chromium, D	µg/L	0.27	0.12	4.3	2.1
Copper, D	µg/L	3	1.1	3.2	2.3
Lead, D	µg/L	0.028	0.049	0.14	0.057
Nickel, D	µg/L	4.4	2.4	9	5.3
Selenium, D	µg/L	<0.8	0.92	<0.8	<0.8
Zinc, D	µg/L	1.5	0.42	7.1	3.7

Appendix O:
Effluent Organics
Monitoring Results

STATION A

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	0.14	0.25	<0.05	0.25
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L	<0.1	<0.1	<0.1	<0.1
Disulfoton	µg/L				<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION A (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	0.6	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	<1	<1
4,4-DDE	ng/L	5	<0.5	<1	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	8.8	<2	<2	9.2
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION B

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	<0.05	<0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION B (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	0.7	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.4	<0.5	<1	<1
4,4-DDE	ng/L	9.8	<0.5	<1	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	<2	<2	9	<2
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	12	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION C

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1		
Bolstar	µg/L	<0.1	<0.1		
Chlorpyrifos	µg/L	<0.05	<0.05		
Coumaphos	µg/L	<0.2	<0.2		
Def	µg/L	<0.1	<0.1		
Demeton-s	µg/L	<0.2	<0.2		
Diazinon	µg/L	0.11	0.17		
Dichlorvos	µg/L	<0.2	<0.2		
Dimethoate	µg/L	<0.1	<0.1		
Diphenamid	µg/L				
Disulfoton	µg/L	<0.1	<0.1		
EPN	µg/L	<0.1	<0.1		
EPTC	µg/L	<0.1	<0.1		
Ethion	µg/L	<0.1	<0.1		
Ethoprop	µg/L	<0.1	<0.1		
Fensulfothion	µg/L	<0.5	<0.5		
Fenthion	µg/L	<0.1	<0.1		
Malathion	µg/L	<0.1	<0.1		
Merphos	µg/L	<0.1	<0.1		
Methidathion	µg/L				
Methyl Trithion	µg/L				
Mevinphos	µg/L	<0.7	<0.7		
Naled	µg/L	<0.5	<0.5		
Parathion, ethyl	µg/L	<0.1	<0.1		
Parathion, methyl	µg/L	<0.1	<0.1		
Phorate	µg/L	<0.1	<0.1		
Phosalone	µg/L				
Phosmet	µg/L				
Prometon	µg/L				
Prowl	µg/L	<0.1	<0.1		
Ronnel	µg/L	<0.1	<0.1		
Simazine	µg/L				
Stirophos	µg/L	<0.1	<0.1		
Tokuthion	µg/L	<0.1	<0.1		
Trichloronate	µg/L	<0.1	<0.1		
Trifluralin	µg/L	<0.1	<0.1		

STATION C (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/4/94	11/4/94	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5		
2,4-DDE	ng/L	<0.5	<0.5		
2,4-DDT	ng/L	<0.5	<0.5		
4,4-DDD	ng/L	<0.5	<0.5		
4,4-DDE	ng/L	0.8	<0.5		
4,4-DDT	ng/L	<0.5	<0.5		
Aldrin	ng/L	<2	<2		
BHC-alpha	ng/L	<2	<2		
BHC-beta	ng/L	<2	<2		
BHC-delta	ng/L	<2	<2		
BHC-gamma	ng/L	2.8	<2		
Chlordane-alpha	ng/L	<1	<1		
Chlordane-gamma	ng/L	<1	<1		
Dieldrin	ng/L	<1	<1		
Endosulfan Sulfate	ng/L	<2	<2		
Endosulfan-I	ng/L	<5	<5		
Endosulfan-II	ng/L	<5	<5		
Endrin	ng/L	<5	<5		
Endrin Aldehyde	ng/L	<10	<10		
Heptachlor	ng/L	<2	<2		
Heptachlor Epoxide	ng/L	<2	<2		
Methoxychlor	ng/L	<5	<5		
Mirex	ng/L				
Toxaphene	ng/L	<10	<10		
Aroclor 1016	ng/L	<10	<10		
Aroclor 1221	ng/L	<10	<10		
Aroclor 1232	ng/L	<10	<10		
Aroclor 1242	ng/L	<10	<10		
Aroclor 1248	ng/L	<10	<10		
Aroclor 1254	ng/L	<10	<10		
Aroclor 1260	ng/L	<10	<10		

STATION E

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	0.03
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	<0.05	<0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION E (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	3	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	<1	<1
4,4-DDE	ng/L	<0.5	<0.5	35	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	7.5	6.4	49	4.7
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	4.3
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION F

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	0.09	<0.05	0.25
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION F (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	<0.5	<0.5	<1	<1
2,4-DDE	ng/L	<0.5	<0.5	<1	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	<0.5	<0.5	1.2	<1
4,4-DDE	ng/L	0.6	<0.5	<1	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	6.5	<2	8	12.8
Chlordane-alpha	ng/L	1.2	<1	<2	<2
Chlordane-gamma	ng/L	1.1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION G

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	<0.05	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.05	<0.05	<0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION G (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	1.3	<0.5	<1	<1
2,4-DDE	ng/L	16.8	<0.5	5	<1
2,4-DDT	ng/L	<0.5	<0.5	<1	<1
4,4-DDD	ng/L	6.4	<0.5	2	<1
4,4-DDE	ng/L	188	<0.5	57	<1
4,4-DDT	ng/L	<0.5	<0.5	<1	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	4.4	<2	10	13.1
Chlordane-alpha	ng/L	<1	<1	<2	<2
Chlordane-gamma	ng/L	<1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	31	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

STATION H

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1			<1
Bolstar	µg/L	<0.1			<0.1
Chlorpyrifos	µg/L	0.14			<0.05
Coumaphos	µg/L	<0.2			<0.1
Def	µg/L	<0.1			<0.1
Demeton-s	µg/L	<0.2			<0.2
Diazinon	µg/L	<0.05			<0.05
Dichlorvos	µg/L	<0.2			<0.2
Dimethoate	µg/L	<0.1			<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1			<0.1
EPN	µg/L	<0.1			
EPTC	µg/L	<0.1			
Ethion	µg/L	<0.1			<0.1
Ethoprop	µg/L	<0.1			<0.1
Fensulfothion	µg/L	<0.5			<0.2
Fenthion	µg/L	<0.1			<0.1
Malathion	µg/L	<0.1			<0.1
Merphos	µg/L	<0.1			<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7			<0.7
Naled	µg/L	<0.5			<0.5
Parathion, ethyl	µg/L	<0.1			<0.1
Parathion, methyl	µg/L	<0.1			<0.1
Phorate	µg/L	<0.1			<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1			<0.1
Ronnel	µg/L	<0.1			<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1			
Tokuthion	µg/L	<0.1			
Trichloronate	µg/L	<0.1			<0.1
Trifluralin	µg/L	<0.1			<0.1

STATION H (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	3.2			4.1
2,4-DDE	ng/L	1.1			1.6
2,4-DDT	ng/L	24.6			10.9
4,4-DDD	ng/L	8.6			5.6
4,4-DDE	ng/L	42.5			31.2
4,4-DDT	ng/L	137			14.6
Aldrin	ng/L	1.6			<1
BHC-alpha	ng/L	<2			<2
BHC-beta	ng/L	<2			<2
BHC-delta	ng/L	<2			<2
BHC-gamma	ng/L	<2			3
Chlordane-alpha	ng/L	<1			<2
Chlordane-gamma	ng/L	<1			<2
Dieldrin	ng/L	6.6			6.5
Endosulfan Sulfate	ng/L	5.1			3.7
Endosulfan-I	ng/L	<5			<1
Endosulfan-II	ng/L	<5			<5
Endrin	ng/L	<5			<5
Endrin Aldehyde	ng/L	7.7			<10
Heptachlor	ng/L	<2			<2
Heptachlor Epoxide	ng/L	<2			<5
Methoxychlor	ng/L	<5			<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10			<10
Aroclor 1016	ng/L	<10			<10
Aroclor 1221	ng/L	<10			<10
Aroclor 1232	ng/L	<10			<10
Aroclor 1242	ng/L	<10			<10
Aroclor 1248	ng/L	<10			<10
Aroclor 1254	ng/L	<10			<10
Aroclor 1260	ng/L	<10			<10

STATION I

ORGANICS IN WATER					
Constituent					
EPA 8141	**Units**	**Event 2**	**Event 5**	**Event 8**	**Event 11**
		8/5/98	11/5/98	2/3/99	5/5/99
Azinphosmethyl	µg/L	<1	<1	<1	<1
Bolstar	µg/L	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	µg/L	<0.05	<0.05	0.06	<0.05
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.1
Def	µg/L	<0.1	<0.1	<0.1	<0.1
Demeton-s	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	0.1	0.06	0.05	<0.05
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.1	<0.1	<0.1	<0.1
Diphenamid	µg/L				<0.1
Disulfoton	µg/L	<0.1	<0.1	<0.1	<0.1
EPN	µg/L	<0.1	<0.1	<0.1	
EPTC	µg/L	<0.1	<0.1	<0.1	
Ethion	µg/L	<0.1	<0.1	<0.1	<0.1
Ethoprop	µg/L	<0.1	<0.1	<0.1	<0.1
Fensulfothion	µg/L	<0.5	<0.5	<0.5	<0.2
Fenthion	µg/L	<0.1	<0.1	<0.1	<0.1
Malathion	µg/L	<0.1	<0.1	<0.1	<0.1
Merphos	µg/L	<0.1	<0.1	<0.1	<0.1
Methidathion	µg/L				<0.1
Methyl Trithion	µg/L				<0.2
Mevinphos	µg/L	<0.7	<0.7	<0.7	<0.7
Naled	µg/L	<0.5	<0.5	<0.5	<0.5
Parathion, ethyl	µg/L	<0.1	<0.1	<0.1	<0.1
Parathion, methyl	µg/L	<0.1	<0.1	<0.1	<0.1
Phorate	µg/L	<0.1	<0.1	<0.1	<0.1
Phosalone	µg/L				<0.1
Phosmet	µg/L				<1
Prometon	µg/L				<0.1
Prowl	µg/L	<0.1	<0.1	<0.1	<0.1
Ronnel	µg/L	<0.1	<0.1	<0.1	<0.1
Simazine	µg/L				<0.5
Stirophos	µg/L	<0.1	<0.1	<0.1	
Tokuthion	µg/L	<0.1	<0.1	<0.1	
Trichloronate	µg/L	<0.1	<0.1	<0.1	<0.1
Trifluralin	µg/L	<0.1	<0.1	<0.1	<0.1

STATION I (continued)

EPA 8080	Units	Event 2	Event 5	Event 8	Event 11
		8/5/98	11/5/98	2/3/99	5/5/99
2,4-DDD	ng/L	3.4	<0.5	2	3.1
2,4-DDE	ng/L	0.6	<0.5	<1	1.1
2,4-DDT	ng/L	<0.5	<0.5	2	7.4
4,4-DDD	ng/L	4.7	<0.5	3	<1
4,4-DDE	ng/L	18.2	2.9	11	20.9
4,4-DDT	ng/L	50.7	<0.5	6	<1
Aldrin	ng/L	<2	<2	<1	<1
BHC-alpha	ng/L	<2	<2	<2	<2
BHC-beta	ng/L	<2	<2	<2	<2
BHC-delta	ng/L	<2	<2	<2	<2
BHC-gamma	ng/L	3.5	<2	21	<2
Chlordane-alpha	ng/L	1.2	<1	<2	<2
Chlordane-gamma	ng/L	1	<1	<2	<2
Dieldrin	ng/L	<1	<1	<1	<1
Endosulfan Sulfate	ng/L	<2	<2	<2	<2
Endosulfan-I	ng/L	<5	<5	<1	<1
Endosulfan-II	ng/L	<5	<5	<5	<5
Endrin	ng/L	<5	<5	<5	<5
Endrin Aldehyde	ng/L	<10	<10	<10	<10
Heptachlor	ng/L	<2	<2	<2	<2
Heptachlor Epoxide	ng/L	<2	<2	<5	<5
Methoxychlor	ng/L	<5	<5	<5	<5
Mirex	ng/L				<5
Toxaphene	ng/L	<10	<10	<10	<10
Aroclor 1016	ng/L	<10	<10	<10	<10
Aroclor 1221	ng/L	<10	<10	<10	<10
Aroclor 1232	ng/L	<10	<10	<10	<10
Aroclor 1242	ng/L	<10	<10	<10	<10
Aroclor 1248	ng/L	<10	<10	<10	<10
Aroclor 1254	ng/L	<10	<10	<10	<10
Aroclor 1260	ng/L	<10	<10	<10	<10

Appendix P:
Effluent Water Toxicity
Monitoring Results

STATION A

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Pimephales mortality	56.00%	56.00%	32.00%	<100.00%	32.00%	32.00%
IC25	70.19%	77.83%	40.97%	5.49%	37.22%	29.60%
IC50	85.97%	100.00%	49.94%	13.64%	43.48%	37.60%
Pimephales growth	32.00%	56.00%	32.00%	<100.00%	32.00%	18.00%
IC25	56.07%	73.77%	33.32%	4.89%	36.60%	30.04%
IC50	73.64%	96.45%	44.44%	9.78%	43.07%	39.08%

STATION B

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality	100.00%	100.00%	100.00%	<100.00%	100.00%	100.00%
IC25	100.00%	100.00%	<100.00%	<100.00%	100.00%	<100.00%
IC50	100.00%	100.00%	100.00%	<100.00%	100.00%	100.00%
Ceriodaphnia reproduction	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%
IC25	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%
IC50	<100.00%	<100.00%	<100.00%	<100.00%	100.00%	100.00%
Pimephales mortality	100.00%	100.00%	<100.00%	100.00%	100.00%	100.00%
IC25	100.00%	100.00%	100.00%	<100.00%	100.00%	100.00%
IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth	<100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
IC25	<100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

STATION C

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Pimephales mortality	18.00%	10.00%	<10.00%	32.00%		
IC25	20.86%	13.28%	<10.00%	34.28%		
IC50	26.29%	21.26%	<10.00%	41.52%		
Pimephales growth	18.00%	<10.00%	<10.00%	32.00%		
IC25	22.47%	5.78%	<10.00%	32.68%		
IC50	26.94%	11.90%	<10.00%	40.46%		

STATION E

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Ceriodaphnia growth	100.00%	100.00%	100.00%	75.00%	56.00%	100.00%
IC25	100.00%	100.00%	100.00%	77.83%	68.94%	100.00%
IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

STATION F

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality	42.00%	100.00%	100.00%	75.00%	56.00%	100.00%
IC25	28.07%	100.00%	100.00%	78.77%	67.88%	100.00%
IC50	64.10%	100.00%	100.00%	89.73%	83.33%	100.00%
Ceriodaphnia reproduction	<32.00%	75.00%	56.00%	56.00%	56.00%	100.00%
IC25	11.03%	86.40%	53.79%	50.59%	58.88%	95.00%
IC50	22.06%	100.00%	80.40%	67.42%	66.82%	100.00%

STATION G

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality	100.00%	100.00%	100.00%	100.00%	100.00%	32.00%
IC25	100.00%	100.00%	100.00%	100.00%	100.00%	36.67%
IC50	100.00%	100.00%	100.00%	100.00%	100.00%	43.11%
Ceriodaphnia growth	100.00%	100.00%	18.00%	100.00%	100.00%	32.00%
IC25	100.00%	100.00%	14.83%	100.00%	100.00%	36.00%
IC50	100.00%	100.00%	26.35%	100.00%	100.00%	58.10%

STATION H

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality	100.00%					100.00%
IC25	100.00%					100.00%
IC50	100.00%					100.00%
Ceriodaphnia reproduction	100.00%					100.00%
IC25	100.00%					<100.00%
IC50	100.00%					100.00%
Pimephales mortality	100.00%					100.00%
IC25	100.00%					100.00%
IC50	100.00%					100.00%
Pimephales growth	100.00%					100.00%
IC25	100.00%					100.00%
IC50	100.00%					100.00%

STATION I

WATER TOXICITY						
	Event 2	**Event 4**	**Event 5**	**Event 7**	**Event 8**	**Event 11**
	8/5/98	10/7/98	11/5/98	1/6/99	2/3/99	5/5/99
Ceriodaphnia mortality	100.00%	100.00%	100.00%	<100.00%	100.00%	100.00%
IC25	<100.00%	<100.00%	100.00%	<100.00%	<100.00%	100.00%
IC50	100.00%	100.00%	100.00%	<100.00%	100.00%	100.00%
Ceriodaphnia reproduction	<100.00%	<100.00%	100.00%	<100.00%	<100.00%	100.00%
IC25	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%	<100.00%
IC50	<100.00%	<100.00%	100.00%	<100.00%	<100.00%	<100.00%
Pimephales mortality	100.00%	<100.00%	100.00%	100.00%	100.00%	100.00%
IC25	100.00%	100.00%	100.00%	<100.00%	100.00%	100.00%
IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pimephales growth	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
IC25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
IC50	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

APPENDIX Q - APPENDIX T

Effluent Summary Statistics

Appendix Q:
Effluent General Water Quality Constituents
Summary Statistics

STATION A

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	1.3	0.3	1.2	1.7	0.78	11	11	100%
Boron	mg/L	0.6	0.053	0.6	0.7	0.53	12	12	100%
Calcium	mg/L	58	18	63	72	0.54	12	12	100%
Hardness	mg/L	260	16	260	290	230	11	11	100%
Iron	mg/L	0.13	0.037	0.14	0.19	0.06	12	12	100%
Magnesium	mg/L	25	1.7	25	29	23	12	12	100%
Manganese	mg/L	0.043	0.016	0.04	0.09	0.02	12	12	100%
Potassium	mg/L	13	1.2	13	16	11	12	12	100%
Silica	mg/L	19	0.69	19	20	18	12	12	100%
Sodium	mg/L	110	20	110	170	88	12	12	100%
Alkalinity	mg/L	240	21	250	265	194	11	11	100%
Chloride	mg/L	120	3.2	120	122	111	11	11	100%
TSS	mg/L	2.63 (a)	1.66 (a)	2.24 (a)	7	<4	11	8	73%
TDS	mg/L	700	35	700	762	648	11	11	100%
Sulfate	mg/L	220	22	230	253	181	11	11	100%
NUTRIENTS									
Total Ammonia	mg/L	25	4.3	26	28.6	14.2	11	11	100%
Nitrate as NO3	mg/L	7.9	3.8	8.3	13.1	0.63	11	11	100%
Nitrite as NO2	mg/L	1.02 (a)	0.74 (a)	0.851 (a)	2.4915	<0.033	11	10	91%
Organic Nitrogen	mg/L	1.7	0.27	1.7	2.2	1.31	11	11	100%
Total Phosphorus	mg/L	2.5	0.46	2.3	3.27	1.9	11	11	100%
Ortho Phosphate as Phosphate	mg/L	2.7	1.1	2.5	5.5	1.61	10	10	100%
ORGANIC CARBON									
TOC	mg/L	10	0.95	9.8	12	9.3	12	12	100%
DOC	mg/L	10	1.1	9.9	12	9.1	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	11	0	0%
Fecal Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	11	0	0%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION B

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	0.62	0.95	0.36	3.74	0.14	12	12	100%
Boron	mg/L	0.81	0.061	0.81	0.9	0.69	12	12	100%
Calcium	mg/L	210	9	210	220	190	12	12	100%
Hardness	mg/L	820	31	810	870	770	11	12	109%
Iron	mg/L	0.17 (a)	0.099 (a)	0.14 (a)	0.41	<0.05	12	11	92%
Magnesium	mg/L	72	2.2	72	77	69	12	12	100%
Manganese	mg/L	0.028 (a)	0.002 (a)	0.028 (a)	0.03	<0.03	12	10	83%
Potassium	mg/L	4.8	0.6	5	6	4	12	12	100%
Silica	mg/L	43	1	43	44	41	12	12	100%
Sodium	mg/L	150	11	150	170	130	12	12	100%
Alkalinity	mg/L	280	7	280	301	271	12	12	100%
Chloride	mg/L	130	8.2	130	159	126	12	12	100%
TSS	mg/L	7.6	2.4	8.1	11.2	1.31	12	12	100%
TDS	mg/L	1600	31	1600	1677	1579	12	12	100%
Sulfate	mg/L	770	120	740	1070	630	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	0.22 (a)	0.17 (a)	0.21 (a)	0.44	<1	12	3	25%
Nitrate as NO3	mg/L	17	2.4	17	20.2	10.665	12	12	100%
Nitrite as NO2	mg/L	0.029 (a)	0.013 (a)	0.030 (a)	0.0594	<0.033	12	3	25%
Organic Nitrogen	mg/L	0.35 (a)	0.36 (a)	0.23 (a)	1	<1	12	3	25%
Total Phosphorus	mg/L	0.05	0.021	0.049	0.11	0.028	12	12	100%
Ortho Phosphate as Phosphate	mg/L	0.10 (a)	0.074 (a)	0.075 (a)	0.22	<0.3	11	9	82%
ORGANIC CARBON									
TOC	mg/L	1.5 (a)	0.23 (a)	1.5 (a)	1.9	<0.5	12	11	92%
DOC	mg/L	1.6 (a)	0.33 (a)	1.6 (a)	2	<0.5	12	11	92%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	12	0	0%
Fecal Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	12	0	0%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION C

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	3.2	1.8	2.4	6.7	1.8	5	5	100%
Boron	mg/L	0.51	0.049	0.5	0.6	0.45	5	5	100%
Calcium	mg/L	40	3	40	45	36	5	5	100%
Hardness	mg/L	160	13	160	180	140	5	5	100%
Iron	mg/L	0.16	0.059	0.15	0.24	0.1	5	5	100%
Magnesium	mg/L	15	1.3	15	17	13	5	5	100%
Manganese	mg/L	0.017 (a)	0.005 (a)	0.016 (a)	0.02	<0.03	5	3	60%
Potassium	mg/L	14	0.49	14	15	14	5	5	100%
Silica	mg/L	17	0.8	16	18	16	5	5	100%
Sodium	mg/L	130	23	130	170	100	5	5	100%
Alkalinity	mg/L	200	110	150	420	130	5	5	100%
Chloride	mg/L	130	23	120	170	100	5	5	100%
TSS	mg/L	(b)	(b)	(b)	10	<10	5	1	20%
TDS	mg/L	720	43	700	800	680	5	5	100%
Sulfate	mg/L	240	26	240	270	200	5	5	100%
NUTRIENTS									
Total Ammonia	mg/L	28	3	28	32	23	5	5	100%
Nitrate as NO3	mg/L	(b)	(b)	(b)	1	<0.4	5	2	40%
Nitrite as NO2	mg/L	(b)	(b)	(b)	<0.3	<0.3	5	0	0%
Organic Nitrogen	mg/L	(b)	(b)	(b)	5	<5	5	1	20%
Total Phosphorus	mg/L	(b)	(b)	(b)	1.8	<0.1	5	2	40%
Ortho Phosphate as Phosphate	mg/L	(b)	(b)	(b)	<0.3	<1.5	5	0	0%
ORGANIC CARBON									
TOC	mg/L	17	3.3	17	21	11	5	5	100%
DOC	mg/L	15	2.3	16	18	11	5	5	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	5	0	0%
Fecal Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	1	0	0%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION E

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	1.1	0.41	0.95	2	0.6	12	12	100%
Boron	mg/L	0.56	0.05	0.56	0.65	0.49	12	12	100%
Calcium	mg/L	37	2.1	37	41	34	12	12	100%
Hardness	mg/L	150	10	150	170	140	12	12	100%
Iron	mg/L	0.056 (a)	0.014 (a)	0.056 (a)	0.08	<0.05	12	7	58%
Magnesium	mg/L	15	0.69	15	16	14	12	12	100%
Manganese	mg/L	0.009 (a)	0.007 (a)	0.009 (a)	0.02	<0.03	12	6	50%
Potassium	mg/L	13	1	13	14	11	12	12	100%
Silica	mg/L	18	1.2	18	20	16	12	12	100%
Sodium	mg/L	100	16	97	140	82	12	12	100%
Alkalinity	mg/L	110	45	120	170	50	12	12	100%
Chloride	mg/L	100	7.6	110	120	94	12	12	100%
TSS	mg/L	(b)	(b)	(b)	<10	<10	12	0	0%
TDS	mg/L	540	40	560	600	480	12	12	100%
Sulfate	mg/L	160	13	160	180	140	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	3.3	2.6	2.5	7.5	0.6	12	12	100%
Nitrate as NO3	mg/L	11	12	5	36	0.5	12	12	100%
Nitrite as NO2	mg/L	(b)	(b)	(b)	<0.3	<0.3	12	0	0%
Organic Nitrogen	mg/L	1.5 (a)	0.43 (a)	1.4 (a)	2.1	<2.5	12	11	92%
Total Phosphorus	mg/L	2.1	0.58	2.2	2.9	0.9	12	12	100%
Ortho Phosphate as Phosphate	mg/L	3.7	1.8	4.1	6.4	0.5	12	12	100%
ORGANIC CARBON									
TOC	mg/L	9.7	2.8	8.8	18	7.4	12	12	100%
DOC	mg/L	9.2	2.6	8.4	17	7.2	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	(b)	(b)	(b)	4	<2	12	2	17%
Fecal Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	5	0	0%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION F

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	1.3	0.37	1.2	2	0.7	12	12	100%
Boron	mg/L	0.5	0.058	0.5	0.61	0.43	12	12	100%
Calcium	mg/L	49	2.6	50	53	45	12	12	100%
Hardness	mg/L	210	11	210	230	190	12	12	100%
Iron	mg/L	0.14 (a)	0.033 (a)	0.13 (a)	0.19	<0.05	12	10	83%
Magnesium	mg/L	21	1.5	21	24	19	12	12	100%
Manganese	mg/L	0.022 (a)	0.003 (a)	0.022 (a)	0.03	<0.03	12	10	83%
Potassium	mg/L	13	1.2	13	16	11	12	12	100%
Silica	mg/L	20	1	19	22	18	12	12	100%
Sodium	mg/L	90	6.3	90	98	75	12	12	100%
Alkalinity	mg/L	180	32	180	230	90	12	12	100%
Chloride	mg/L	120	9.3	120	130	104	12	12	100%
TSS	mg/L	(b)	(b)	(b)	<10	<10	12	0	0%
TDS	mg/L	590	26	590	650	550	12	12	100%
Sulfate	mg/L	170	9.2	170	185	150	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	20	6.7	23	27	2.8	12	12	100%
Nitrate as NO3	mg/L	8.6	14	2.2	46.3	0.6	12	12	100%
Nitrite as NO2	mg/L	0.83 (a)	2.1 (a)	0.89 (a)	4.7	<0.3	12	8	67%
Organic Nitrogen	mg/L	(b)	(b)	(b)	12	<6	12	3	25%
Total Phosphorus	mg/L	1.3	0.79	0.95	3	0.6	12	12	100%
Ortho Phosphate as Phosphate	mg/L	2.4	1.9	1.4	6.1	0.3	12	12	100%
ORGANIC CARBON									
TOC	mg/L	11	2.8	10	20	9.3	12	12	100%
DOC	mg/L	11	2.9	9.8	20	8.7	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	4.4 (a)	6.8 (a)	0.62 (a)	23	<2	12	5	42%
Fecal Coliform	MPN/100mL	(b)	(b)	(b)	2	<2	9	1	11%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION G

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	3.4	1.9	3	8.6	1.4	12	12	100%
Boron	mg/L	0.51	0.043	0.5	0.6	0.44	12	12	100%
Calcium	mg/L	64	7.1	62	78	54	12	12	100%
Hardness	mg/L	250	26	240	300	210	12	12	100%
Iron	mg/L	0.12 (a)	0.03 (a)	0.12 (a)	0.16	<0.05	12	10	83%
Magnesium	mg/L	22	2	22	26	19	12	12	100%
Manganese	mg/L	0.015 (a)	0.005 (a)	0.014 (a)	0.02	<0.03	12	8	67%
Potassium	mg/L	15	1.3	16	16	12	12	12	100%
Silica	mg/L	28	2	29	31	25	12	12	100%
Sodium	mg/L	130	12	130	150	100	12	12	100%
Alkalinity	mg/L	84 (a)	27 (a)	81 (a)	130	<10	12	11	92%
Chloride	mg/L	160	15	160	190	142	12	12	100%
TSS	mg/L	9.2 (a)	5.9 (a)	7.6 (a)	29.8	<10	12	11	92%
TDS	mg/L	880	62	880	986	776	12	12	100%
Sulfate	mg/L	230	31	220	300	198	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	2.1	1	1.9	5.35	1.16	12	12	100%
Nitrate as NO3	mg/L	130	9.8	130	142.2	111	12	12	100%
Nitrite as NO2	mg/L	0.61 (a)	1.1 (a)	0.22 (a)	2.2	<0.3	12	6	50%
Organic Nitrogen	mg/L	2.1	0.7	1.9	3.3	1	12	12	100%
Total Phosphorus	mg/L	3.6	1	3.7	4.9	1.2	12	12	100%
Ortho Phosphate as Phosphate	mg/L	11	2.2	12	14	5.9	12	12	100%
ORGANIC CARBON									
TOC	mg/L	11	2.3	11	16	8.1	12	12	100%
DOC	mg/L	11	2	10	15	7.7	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	12	0	0%
Fecal Coliform	MPN/100mL	(b)	(b)	(b)	<2	<2	11	0	0%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION H

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	25	28	8.6	90	5	7	7	100%
Boron	mg/L	0.51	0.19	0.4	0.76	0.3	7	7	100%
Calcium	mg/L	130	45	110	210	86	7	7	100%
Hardness	mg/L	490	170	390	800	310	7	7	100%
Iron	mg/L	3.3	4.1	1.7	13	0.55	7	7	100%
Magnesium	mg/L	42	15	34	68	23	7	7	100%
Manganese	mg/L	0.039 (a)	.13 (a)	0.039 (a)	0.27	<0.03	7	5	71%
Potassium	mg/L	13	4.7	12	23	6	7	7	100%
Silica	mg/L	22	6	24	29	11	7	7	100%
Sodium	mg/L	89	24	83	140	54	7	7	100%
Alkalinity	mg/L	170	53	200	210	70	7	7	100%
Chloride	mg/L	65	20	56	110	45	7	7	100%
TSS	mg/L	83	110	30	340	10	7	7	100%
TDS	mg/L	1000	340	820	1700	680	7	7	100%
Sulfate	mg/L	420	160	330	670	230	7	7	100%
NUTRIENTS									
Total Ammonia	mg/L	1.4 (a)	3.8 (a)	0.7 (a)	10	<0.1	7	6	86%
Nitrate as NO3	mg/L	66	51	49	160	8	7	7	100%
Nitrite as NO2	mg/L	1.0 (a)	0.33 (a)	1.0 (a)	1.5	<0.3	7	5	71%
Organic Nitrogen	mg/L	1.3 (a)	1.4 (a)	1.2 (a)	4.1	<3	7	5	71%
Total Phosphorus	mg/L	1.6	1.2	0.9	3.7	0.3	7	7	100%
Ortho Phosphate as Phosphate	mg/L	1.2 (a)	3.8 (a)	1.1 (a)	7.3	<0.3	7	5	71%
ORGANIC CARBON									
TOC	mg/L	5.7	2.9	5.6	12	2.6	7	7	100%
DOC	mg/L	5.3	2.6	5	11	2.8	7	7	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	120000	62000	160000	160000	1600	7	7	100%
Fecal Coliform	MPN/100mL	3300	5700	900	17000	140	7	7	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION I

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
Turbidity	NTU	9.1	6.5	7	21	1.9	12	12	100%
Boron	mg/L	1	0.18	1	1.3	0.58	12	12	100%
Calcium	mg/L	310	53	320	390	170	12	12	100%
Hardness	mg/L	1200	220	1300	1500	650	12	12	100%
Iron	mg/L	1.6	1.9	0.87	7.1	0.33	12	12	100%
Magnesium	mg/L	110	20	120	130	57	12	12	100%
Manganese	mg/L	0.33	0.13	0.28	0.69	0.17	12	12	100%
Potassium	mg/L	7	2	7	12	4	12	12	100%
Silica	mg/L	47	6.6	48	57	31	12	12	100%
Sodium	mg/L	290	57	290	370	140	12	12	100%
Alkalinity	mg/L	360	56	380	440	210	12	12	100%
Chloride	mg/L	260	44	280	310	140	12	12	100%
TSS	mg/L	23 (a)	77 (a)	18 (a)	190	<10	12	9	75%
TDS	mg/L	2800	450	2900	3400	1500	12	12	100%
Sulfate	mg/L	1200	220	1200	1500	590	12	12	100%
NUTRIENTS									
Total Ammonia	mg/L	0.29 (a)	0.66 (a)	0.25 (a)	1.3	<0.22	12	8	67%
Nitrate as NO3	mg/L	140	26	160	173	97	12	12	100%
Nitrite as NO2	mg/L	0.66 (a)	0.48 (a)	0.59 (a)	1.7	<3	12	10	83%
Organic Nitrogen	mg/L	0.46 (a)	1.2 (a)	0.65 (a)	3.3	<0.8	12	7	58%
Total Phosphorus	mg/L	0.77	0.36	0.7	1.8	0.4	12	12	100%
Ortho Phosphate as Phosphate	mg/L	0.50 (a)	1.2 (a)	0.50 (a)	3.6	<0.3	12	9	75%
ORGANIC CARBON									
TOC	mg/L	6.7	1.1	6.7	9.4	5.1	12	12	100%
DOC	mg/L	6.7	1.2	6.8	9.7	5	12	12	100%
MICROBIOLOGICAL									
Total Coliform	MPN/100mL	61000	51000	43000	160000	1600	12	12	100%
Fecal Coliform	MPN/100mL	1400	1900	600	7000	130	12	12	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

Appendix R:
Effluent Metals
Summary Statistics

STATION A

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	1.2	0.083	1.2	1.3	1.1	4	4	100%
Cadmium, TR	µg/L	0.061	0.018	0.064	0.08	0.036	4	4	100%
Chromium, TR	µg/L	1	0.5	0.96	1.7	0.36	4	4	100%
Copper, TR	µg/L	3.3	1.1	2.9	5.2	2.2	4	4	100%
Lead, TR	µg/L	0.35	0.094	0.36	0.45	0.23	4	4	100%
Mercury, TR	µg/L	0.0044	0.00016	0.0045	0.0046	0.00418	4	4	100%
Nickel, TR	µg/L	3.5	2.2	2.8	7.1	1.5	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	0.86	<0.8	4	1	25%
Zinc, TR	µg/L	16	1.8	16	18	14	4	4	100%
Arsenic, D	µg/L	1	0.11	1	1.2	0.92	4	4	100%
Cadmium, D	µg/L	0.055	0.018	0.061	0.07	0.026	4	4	100%
Chromium, D	µg/L	0.85	0.62	0.65	1.8	0.3	4	4	100%
Copper, D	µg/L	2.8	1.1	2.9	4.4	1.2	4	4	100%
Lead, D	µg/L	0.28	0.083	0.26	0.41	0.2	4	4	100%
Nickel, D	µg/L	2.5	0.54	2.6	3.1	1.8	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, D	µg/L	14	2.5	14	17	10	4	4	100%

STATION B

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	0.78	0.043	0.77	0.84	0.72	4	4	100%
Cadmium, TR	µg/L	0.18	0.052	0.16	0.26	0.12	4	4	100%
Chromium, TR	µg/L	2.1	1.1	1.6	3.9	1.3	4	4	100%
Copper, TR	µg/L	6	1.7	5.6	8.4	4.3	4	4	100%
Lead, TR	µg/L	0.86	0.24	0.88	1.1	0.58	4	4	100%
Mercury, TR	µg/L	0.001	0.00067	0.00081	0.0021	0.00032	4	4	100%
Nickel, TR	µg/L	6	6.2	3.9	16	0.43	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	2.5	<0.8	4	2	50%
Zinc, TR	µg/L	16	20	6.8	50	0.14	4	4	100%
Arsenic, D	µg/L	0.7	0.042	0.69	0.76	0.66	4	4	100%
Cadmium, D	µg/L	0.1	0.046	0.11	0.15	0.038	4	4	100%
Chromium, D	µg/L	1.6	1.2	1.2	3.5	0.29	4	4	100%
Copper, D	µg/L	1.9	0.93	1.6	3.4	0.92	4	4	100%
Lead, D	µg/L	0.15	0.097	0.14	0.28	0.032	4	4	100%
Nickel, D	µg/L	0.77	0.25	0.8	1.1	0.4	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	0.88	<0.8	4	1	25%
Zinc, D	µg/L	8	5.8	4.8	18	4.3	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION C

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	(b)	(b)	(b)	<0.5	<0.5	2	0	0%
Cadmium, TR	µg/L	0.058	0.038	0.058	0.095	0.02	2	2	100%
Chromium, TR	µg/L	0.37	0.15	0.37	0.52	0.22	2	2	100%
Copper, TR	µg/L	1.1	0.51	1.1	1.6	0.59	2	2	100%
Lead, TR	µg/L	0.44	0.35	0.44	0.79	0.089	2	2	100%
Mercury, TR	µg/L	0.017	0.011	0.017	0.02748	0.00597	2	2	100%
Nickel, TR	µg/L	2.3	2.2	2.3	4.5	0.05	2	2	100%
Selenium, TR	µg/L	(b)	(b)	(b)	1.7	<0.8	2	1	50%
Zinc, TR	µg/L	7.8	2.2	7.8	9.9	5.6	2	2	100%
Arsenic, D	µg/L	(b)	(b)	(b)	<0.5	<0.5	2	0	0%
Cadmium, D	µg/L	(b)	(b)	(b)	0.032	<0.01	2	1	50%
Chromium, D	µg/L	0.28	0.11	0.28	0.38	0.17	2	2	100%
Copper, D	µg/L	1	0.5	1	1.5	0.51	2	2	100%
Lead, D	µg/L	0.54	0.46	0.54	1	0.071	2	2	100%
Nickel, D	µg/L	2.5	0.8	2.5	3.3	1.7	2	2	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	2	0	0%
Zinc, D	µg/L	34	29	34	63	5.3	2	2	100%

STATION E

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	1.2	0.22	1.2	1.4	0.8	4	4	100%
Cadmium, TR	µg/L	0.088	0.016	0.084	0.11	0.073	4	4	100%
Chromium, TR	µg/L	1	0.46	1	1.7	0.39	4	4	100%
Copper, TR	µg/L	6.8	1.6	6.1	9.5	5.5	4	4	100%
Lead, TR	µg/L	0.58	0.1	0.57	0.72	0.47	4	4	100%
Mercury, TR	µg/L	0.0034	0.00072	0.0033	0.00433	0.00246	4	4	100%
Nickel, TR	µg/L	1.9	1.2	1.4	3.8	0.8	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, TR	µg/L	42	5.8	43	49	34	4	4	100%
Arsenic, D	µg/L	1.1	0.18	1.1	1.3	0.8	4	4	100%
Cadmium, D	µg/L	0.09	0.015	0.089	0.11	0.072	4	4	100%
Chromium, D	µg/L	0.87	0.49	0.79	1.6	0.29	4	4	100%
Copper, D	µg/L	5.8	1.5	5.5	8.2	4.1	4	4	100%
Lead, D	µg/L	0.71	0.51	0.44	1.6	0.37	4	4	100%
Nickel, D	µg/L	1.2	0.33	1.2	1.7	0.78	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, D	µg/L	36	4	38	39	29	4	4	100%

STATION F

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	2.3	0.76	2.5	3.1	1.2	4	4	100%
Cadmium, TR	µg/L	0.3	0.21	0.21	0.64	0.13	4	4	100%
Chromium, TR	µg/L	1.2	0.91	0.91	2.6	0.35	4	4	100%
Copper, TR	µg/L	2.4	0.57	2.2	3.3	1.8	4	4	100%
Lead, TR	µg/L	0.53	0.098	0.56	0.63	0.37	4	4	100%
Mercury, TR	µg/L	0.0038	0.0022	0.0026	0.00766	0.00234	4	4	100%
Nickel, TR	µg/L	5.3	2.5	4.8	9	2.5	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, TR	µg/L	26	4.1	26	31	22	4	4	100%
Arsenic, D	µg/L	2.1	0.63	2.1	2.9	1.2	4	4	100%
Cadmium, D	µg/L	0.089	0.031	0.092	0.13	0.042	4	4	100%
Chromium, D	µg/L	1.1	0.82	0.87	2.3	0.32	4	4	100%
Copper, D	µg/L	2.4	0.99	1.9	4.1	1.7	4	4	100%
Lead, D	µg/L	0.39	0.098	0.35	0.56	0.31	4	4	100%
Nickel, D	µg/L	3.9	3	2.2	9.1	2	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, D	µg/L	23	5.8	23	30	17	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

STATION G

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	3.5	1.8	2.7	6.6	2.1	4	4	100%
Cadmium, TR	µg/L	0.12	0.027	0.12	0.15	0.09	4	4	100%
Chromium, TR	µg/L	1.4	0.69	1.4	2.3	0.59	4	4	100%
Copper, TR	µg/L	8	2.6	8.5	11	4.1	4	4	100%
Lead, TR	µg/L	0.69	0.14	0.72	0.82	0.5	4	4	100%
Mercury, TR	µg/L	0.011	0.0053	0.0089	0.02047	0.00723	4	4	100%
Nickel, TR	µg/L	4.4	2.3	4.4	7.2	1.8	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	1.3	<0.8	4	1	25%
Zinc, TR	µg/L	50	18	50	67	32	4	4	100%
Arsenic, D	µg/L	3.4	1.6	2.6	6.2	2.2	4	4	100%
Cadmium, D	µg/L	0.089	0.038	0.078	0.15	0.051	4	4	100%
Chromium, D	µg/L	1.5	0.83	1.3	2.7	0.51	4	4	100%
Copper, D	µg/L	7.2	2.4	7.7	10	3.5	4	4	100%
Lead, D	µg/L	0.52	0.11	0.51	0.69	0.38	4	4	100%
Nickel, D	µg/L	2.9	0.93	2.9	4.1	1.7	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	4	0	0%
Zinc, D	µg/L	43	17	41	66	26	4	4	100%

STATION H

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	(b)	(b)	(b)	1.4	1.4	1	1	100%
Cadmium, TR	µg/L	(b)	(b)	(b)	0.54	0.54	1	1	100%
Chromium, TR	µg/L	(b)	(b)	(b)	3.5	3.5	1	1	100%
Copper, TR	µg/L	(b)	(b)	(b)	9.4	9.4	1	1	100%
Lead, TR	µg/L	(b)	(b)	(b)	1.5	1.5	1	1	100%
Mercury, TR	µg/L	0.0036	0.00093	0.0036	0.00453	0.00268	2	2	100%
Nickel, TR	µg/L	(b)	(b)	(b)	4.7	4.7	1	1	100%
Selenium, TR	µg/L	(b)	(b)	(b)	<0.8	<0.8	1	0	0%
Zinc, TR	µg/L	(b)	(b)	(b)	250	250	1	1	100%
Arsenic, D	µg/L	(b)	(b)	(b)	1.1	1.1	1	1	100%
Cadmium, D	µg/L	(b)	(b)	(b)	0.15	0.15	1	1	100%
Chromium, D	µg/L	(b)	(b)	(b)	0.22	0.22	1	1	100%
Copper, D	µg/L	(b)	(b)	(b)	2.4	2.4	1	1	100%
Lead, D	µg/L	(b)	(b)	(b)	0.2	0.2	1	1	100%
Nickel, D	µg/L	(b)	(b)	(b)	1.3	1.3	1	1	100%
Selenium, D	µg/L	(b)	(b)	(b)	<0.8	<0.8	1	0	0%
Zinc, D	µg/L	(b)	(b)	(b)	1.2	1.2	1	1	100%

STATION I

Constituent	Units	Mean	SD	Median	Max	Min	Samples	Detects	% Detected
METALS									
Arsenic, TR	µg/L	7.7	1.2	7.3	9.7	6.7	4	4	100%
Cadmium, TR	µg/L	0.6	0.17	0.55	0.87	0.42	4	4	100%
Chromium, TR	µg/L	3.8	2.3	4.3	6.2	0.22	4	4	100%
Copper, TR	µg/L	10	8.7	6.2	25	2.8	4	4	100%
Lead, TR	µg/L	0.82	0.66	0.6	1.9	0.19	4	4	100%
Mercury, TR	µg/L	0.0026	0.0015	0.0021	0.00519	0.0012	4	4	100%
Nickel, TR	µg/L	25	13	27	41	5.6	4	4	100%
Selenium, TR	µg/L	(b)	(b)	(b)	1	<0.8	4	1	25%
Zinc, TR	µg/L	47	71	6.9	170	4.1	4	4	100%
Arsenic, D	µg/L	7.4	1	7.1	9	6.5	4	4	100%
Cadmium, D	µg/L	0.36	0.19	0.41	0.55	0.078	4	4	100%
Chromium, D	µg/L	1.7	1.7	1.2	4.3	0.12	4	4	100%
Copper, D	µg/L	2.4	0.82	2.7	3.2	1.1	4	4	100%
Lead, D	µg/L	0.069	0.043	0.053	0.14	0.028	4	4	100%
Nickel, D	µg/L	5.3	2.4	4.9	9	2.4	4	4	100%
Selenium, D	µg/L	(b)	(b)	(b)	0.92	<0.8	4	1	25%
Zinc, D	µg/L	3.2	2.6	2.6	7.1	0.42	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) There is insufficient detected data to compute this value.

Appendix S:
Effluent Organics
Summary Statistics

STATION A

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Diazinon	µg/L	0.186 (a)	0.071 (a)	0.178 (a)	0.25	<0.05	4	3	75%

STATION C

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Diazinon	µg/L	0.14	0.03	0.14	0.17	0.11	2	2	100%

STATION E

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8080									
BHC-gamma	ng/L	17	19	7	49	4.7	4	4	100%

STATION F

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8080									
BHC-gamma	ng/L	7.4 (a)	4.4 (a)	7.3 (a)	12.8	<2	4	3	75%

STATION G

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8080									
BHC-gamma	ng/L	6.9 (a)	5.8 (a)	6.3 (a)	13.1	<2	4	3	75%

STATION H

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8080									
2,4-DDD	ng/L	3.7	0.45	3.7	4.1	3.2	2	2	100%
2,4-DDE	ng/L	1.4	0.25	1.4	1.6	1.1	2	2	100%
2,4-DDT	ng/L	18	6.9	18	24.6	10.9	2	2	100%
4,4-DDD	ng/L	7.1	1.5	7.1	8.6	5.6	2	2	100%
4,4-DDE	ng/L	37	5.7	37	42.5	31.2	2	2	100%
4,4-DDT	ng/L	76	61	76	137	14.6	2	2	100%
Dieldrin	ng/L	6.6	0.05	6.6	6.6	6.5	2	2	100%
Endosulfan Sulfate	ng/L	4.4	0.7	4.4	5.1	3.7	2	2	100%

STATION H

Organics in Water (b)	Units	Mean	SD	Median	Max	Min	n	detects	% detected
EPA 8141									
Diazinon	µg/L	0.057 (a)	0.035 (a)	0.056 (a)	0.1	<0.05	4	3	75%
EPA 8080									
2,4-DDD	µg/L	2.5 (a)	0.92 (a)	2.4 (a)	3.4	<0.5	4	3	75%
4,4-DDE	µg/L	13.25	7	14.6	20.9	2.9	4	4	100%

Notes

(a) A statistical distribution method was used to compute the summary statistics when NDs were present.

(b) Only constituents with 3 or more detects and at least 20% detected are listed

Appendix T:
Effluent Water Toxicity
Summary Statistics

STATION A

Toxicity (Water)	Toxicity	Samples	% Toxic
Pimephales mortality	6	6	100%
IC25	6	6	100%
IC50	6	5	83%
Pimephales growth	6	6	100%
IC25	6	6	100%
IC50	6	6	100%

STATION B

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality	6	1	17%
IC25	6	3	50%
IC50	6	1	17%
Ceriodaphnia reproduction	6	6	100%
IC25	6	6	100%
IC50	6	4	67%
Pimephales mortality	6	1	17%
IC25	6	1	17%
IC50	6	0	0%
Pimephales growth	6	1	17%
IC25	6	1	17%
IC50	6	0	0%

STATION C

Toxicity (Water)	Toxicity	Samples	% Toxic
Pimephales mortality	4	4	100%
IC25	4	4	100%
IC50	4	4	100%
Pimephales growth	4	4	100%
IC25	4	4	100%
IC50	4	4	100%

STATION E

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality	6	0	0%
IC25	6	0	0%
IC50	6	0	0%
Ceriodaphnia growth	6	2	33%
IC25	6	2	33%
IC50	6	0	0%

STATION F

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality	6	3	50%
IC25	6	3	50%
IC50	6	3	50%
Ceriodaphnia reproduction	6	5	83%
IC25	6	6	100%
IC50	6	4	67%

STATION G

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality	6	1	17%
IC25	6	1	17%
IC50	6	1	17%
Ceriodaphnia growth	6	2	33%
IC25	6	2	33%
IC50	6	2	33%

STATION H

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality	2	0	0%
IC25	2	0	0%
IC50	2	0	0%
Ceriodaphnia reproduction	2	0	0%
IC25	2	1	50%
IC50	2	0	0%
Pimephales mortality	2	0	0%
IC25	2	0	0%
IC50	2	0	0%
Pimephales growth	2	0	0%
IC25	2	0	0%
IC50	2	0	0%

STATION I

Toxicity (Water)	Toxicity	Samples	% Toxic
Ceriodaphnia mortality	6	1	17%
IC25	6	4	67%
IC50	6	1	17%
Ceriodaphnia reproduction	6	4	67%
IC25	6	6	100%
IC50	6	5	83%
Pimephales mortality	6	1	17%
IC25	6	1	17%
IC50	6	0	0%
Pimephales growth	6	0	0%
IC25	6	0	0%
IC50	6	0	0%