

Bioassays of
Cape Coral Reverse Osmosis Water Treatment Plant

Lee County

NPDES #FL0040088

Sampled September 29, 2003

April 2004

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Cape Coral Reverse Osmosis Water Treatment Plant, 3300 SW 20th Avenue, Cape Coral, Lee County, Florida, NPDES #FL0040088. Effluent samples for this facility were collected on September 29, 2003.

Introduction

This reverse osmosis water treatment plant has a design flow of 3.05 million gallons per day (MGD) and an average daily flow of 1.8 MGD totaling 58,300,000 gallons per month (based on flow data from August 2003). Treatment of the RO plant wastewater includes chlorination and aeration to remove hydrogen sulfide and to increase dissolved oxygen. Treated wastewater is discharged into Lake Finnistere, a Class III marine surface water, which is part of the man-made salt water canal system of Cape Coral. Lake Finnistere discharges into the Caloosahatchee River. A mixing zone (circle having a radius of 12 feet around each diffuser) has been established for fluoride in Lake Finnistere. A mixing zone, which includes Lake Finnistere and the connected saltwater canal system up to the confluence with the Caloosahatchee River, has also been established for combined radium 226 and 228 and gross alpha particle activity (facility information provided by Albert Walton, FDEP, Fort Myers).

Methods

Samples were collected from the NPDES sampling point by Albert Walton (FDEP Punta Gorda) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. The sampling point identified as "Lake" is the point of discharge for the Cape Coral RO effluent. It is located about 1.7 miles north (upstream) of the sampling point identified as "Marina", which is 0.75 miles from the open Caloosahatchee River. The "Lake" sampling location is usually a low salinity estuary; while the "Marina" sampling location, is more directly influenced by the Caloosahatchee River. Both the "Lake" and the "Marina" sampling locations are tidally influenced. All DEP SOP's are available on the web at: http://www.floridadep.org/labs/qa/sops.htm

The toxicity and algal growth potential tests discussed in this report were performed following internal DEP SOP's TA07_03,TA07_04, and TA08_01 through TA08_06. All internal DEP SOP's are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp

Toxicity Test Results

Tests were performed September 30 – October 4, 2003 on 30% effluent per the NPDES permit requirements for this facility.

Americamysis bahia 96-hr acute screening bioassay – LC_{50} > 30%, 15% mortality in 30% sample at 96 hours

Menidia beryllina 96-hr acute screening bioassay – Not Toxic; LC_{50} > 30%, 0% mortality in 30% sample at 96 hours

See Table 1 for bioassay bench sheets.

Algal Growth Potential

The effluent AGP was 3.43 mg dry wt/L of *Dunaliella tertiolecta*. Raschke and Shultz found that Algal Growth Potential (AGP) values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4 1987).
See Table 2 for AGP results.

Chemistry Results

Total residual chlorine was not detected in the bioassay sample in the laboratory. Total ammonia was detected in the bioassay sample at a concentration of 1.610 mg/L. The calculated unionized ammonia concentration was 0.06mg/L. The bioassay samples were preserved in ice and were not acidified as was the sample collected specifically for ammonia analyses. The total ammonia

concentration in the preserved sample was 1.5 mg/L. The unionized ammonia concentration for the preserved sample was calculated based on the temperature and pH of the sample when it was collected. The calculated unionized ammonia concentration for the preserved sample was 0.01 mg/L.

Iron was detected in the effluent (136 µg/L) at a level that complied with the Class III Marine Water Quality Criterion (≤ 300 µg/L, 62-302.530(39) F.A.C.). Copper was also detected in the effluent (0.13 µg/L), but only at a level that was above than the method detection limit and below the practical quantitation limit.

See Table 3 for results of analytes detected in the effluent.
See Appendix 1 for a complete list of chemical analyses performed.

Conclusion

The effluent samples collected from this facility on September 29, 2003 did not show unacceptable acute toxicity to either test species during the 96-hour bioassay tests. The effluent AGP result was less than the "problem" threshold for marine receiving waters.

Literature Cited

Maloney, T. E., W. E. Miller, and D. T. Specht. 1974. The Marine Algal Assay Procedure: Bottle Test. National Environmental Research Center Office of Research and Development. U. S. EPA, Corvallis, Oregon. 43 p.

Miller, W. E., T. E. Maloney, and J. C. Greene. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA-600/9-78-018. U. S. EPA, Cincinnati, Ohio. 126 p.

Miller et al. 1990. *The Acute and Chronic Toxicity of Ammonia to Marine Fish and Invertebrates*, Archives of Environmental Contamination and Toxicology 19:40-48.

Raschke, R. L. and D. A. Schultz. 1987. The use of the algal growth potential test for data assessment. J. Wat. Poll. Cont. Fed. 59(4): 222-227.

Weber, C. I. 1993. Methods for measuring the acute toxicity of effluents to freshwater and marine organisms. 4th edition. EPA/600/4-90/027. U. S. EPA, Cincinnati, Ohio. 216 pp.

USEPA. 2000. Nutrient Criteria Technical Guidance Manual – River and Streams. EPA-822-B-00-002.

USEPA. 2002. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. 4th Edition. EPA-821-R-02-013.

Table 1. continued Data recorded during the 96-hour acute bioassays of a sample of effluent from Cape Coral Reverse Osmosis Plant, 3300 SW 20th Avenue, Cape Coral, Lee County, Florida, NPDES# FL0040088, performed from 30, September to 4, October 2003.

Facility:	**Cape Coral Reverse Osmosis Plant**		**NPDES#:**	**FL0040088**	Facility Type:	**Reverse Osmosos**	**Analysts:**	Joshua Ayres
Location:	3300 SW 20th Avenue, Cape Coral		Contact/District:	Albert Walton/South District		**Water Treatment Plant**		Marshall Faircloth
County:	Lee		Test type:	acute screen renewal				Christa Pierini
Sample Collection Date:	9/29/2003	Time: 1100	# tests:	2	Receiving Water:	Class III marine		
Test Beginning Date:	9/30/2003	Time: 1430	Chlorination Type:	dechlorinated		Lake Finisterre to Caloosahatchee River		
Test Ending Date:	10/4/2003	Time: 1200	FDEP SOP#:	TA07_03		**Page 1 of 4**	**Reviewer:**	Julie Espy

Organism:	***Americamysis bahia***		Life stage: 5 days		[A]Feeding: *Artemia*								Conductivity	
0 - 48 hours			Chamber size: 1000 ml		Food Batch #: 0194025G								Uncorrected	
	Sample/Diluent	**Number alive**			pH (Standard units)			[B] Temperature °C			[C] DO (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hr	24 hr	48 hr	0 hr	24 hr	48 hr	0 hr	24 hr	48 hr	0 hr	48 hr
Control A	0/500	5	5	5	8.3	8.1	8.1	24.0	24.5	24.8	7.5	6.8	5.9	14.2	15.0
Control B	0/500	5	5	5	8.3	8.1	8.1	24.0	24.7	24.8	7.4	6.8	5.8	14.4	15.1
Control C	0/500	5	5	5	8.3	8.2	8.1	24.0	25.0	24.1	7.3	6.9	5.6	14.6	15.1
Control D	0/500	5	5	5	8.3	8.2	8.1	24.0	24.9	24.0	7.3	6.9	5.6	14.7	15.1
30% A	150/350	5	5	5	7.8	8.1	8.2	24.0	24.6	24.5	7.3	7.1	5.2	14.2	14.7
30% B	150/350	5	5	5	7.8	8.1	8.2	24.0	24.6	24.2	7.4	7.1	5.4	14.2	14.6
30% C	150/350	5	5	5	7.8	8.1	8.2	24.0	24.8	24.2	7.4	7.1	5.4	14.2	14.6
30% D	150/350	5	5	5	7.8	8.1	8.2	24.0	24.5	24.4	7.4	7.2	5.4	14.2	14.7

[A] Organisms fed prior to testing and before renewal.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.

[C] DO = dissolved oxygen.

Room Temperature range for the test period was 23.0 - 24.5°C.
Incubator #3 temperature range for the test period was 24.0 - 25.0°C.

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

LIMS	
Job number:	TLH-2003-09-30-02
sample number:	705654

Data Transcription Verification
date: 12/31/03
by: Josh Ayres/James Daniels

Total Residual CL2	**mg/L**	**Method**
Field: 100% sample:	-	-
Lab: 100% sample:	<0.03	Hach

Ammonia	**Total (mg/L)**	**Unionized (mg/L)**
Control water:	<0.017	<0.017
30% Sample:	1.610	0.060

Alk & Hardness	**Alkalinity (mg/L)**	**Hardness (mg/L)**
Control water:	185	-
30% Sample:	320	-

[D] **Salinity**	**ppt**
Control water:	8
30% sample:	8

[D] Salinity based on conductivity and temperature.

Table 1. continued

Data recorded during the 96-hour acute bioassays of a sample of effluent from Cape Coral Reverse Osmosis Plant, 3300 SW 20th Avenue, Cape Coral, Lee County, Florida, NPDES# FL0040088, performed from 30, September to 4, October 2003.

Facility:	**Cape Coral Reverse Osmosis Plant**		**NPDES#:**	**FL0040088**	Facility Type:	**Reverse Osmosos**	**Analysts:**	Joshua Ayres
Location:	3300 SW 20th Avenue, Cape Coral		Contact/District:	Albert Walton/South District		**Water Treatment Plant**		Marshall Faircloth
County:	Lee		Test type:	acute screen renewal				Christa Pierini
Sample Collection Date:	9/29/2003	Time: 1100	# tests:	2	Receiving Water:	Class III marine		
Test Beginning Date:	9/30/2003	Time: 1430	Chlorination Type:	dechlorinated		Lake Finisterre to Caloosahatchee River		
Test Ending Date:	10/4/2003	Time: 1200	FDEP SOP#:	TA07_03		**Page 2 of 4**	**Reviewer:**	Julie Espy

Organism: ***Americamysis bahia*** Life stage: 5 days [A]Feeding: *Artemia*

48 - 96 hours Chamber size: 1000 ml Food Batch #: 0194025G

	Sample/Diluent	Number alive			pH (Standard units)			[B] Temperature °C			[C] DO (mg/L)			Conductivity Uncorrected mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/500	5	5	5	8.2	8.1	8.0	24.1	24.4	24.2	6.4	5.4	6.4	14.70	15.60
Control B	0/500	5	5	5	8.2	8.1	8.1	24.1	24.1	23.7	6.6	5.8	6.4	14.70	16.10
Control C	0/500	5	5	5	8.2	8.1	8.0	24.0	24.0	24.0	7.0	5.9	6.5	14.70	16.00
Control D	0/500	5	5	5	8.2	8.1	8.0	24.0	23.9	24.3	6.9	5.0	6.1	14.60	15.80
30% A	150/350	5	5	5	7.9	8.1	8.0	24.3	23.8	24.1	6.7	5.8	5.8	15.00	16.50
30% B	150/350	5	5	3	7.9	8.1	8.0	24.4	24.4	24.5	6.7	5.9	5.2	15.10	15.70
30% C	150/350	5	5	5	7.9	8.1	8.1	24.4	24.3	24.1	6.7	5.8	5.4	15.00	16.50
30% D	150/350	5	4	4	7.9	8.1	8.1	24.3	24.3	24.2	6.7	5.8	5.9	15.00	16.00

[A] Organisms fed prior to testing and before renewal.

[B] Temperatures of room and test incubator were continuously recorded on a strip cl 1`

[C] DO = dissolved oxygen.

Room Temperature range for the test period was 23.0 - 24.5°C.

Incubator #3 temperature range for the test period was 24.0 - 25.0°C.

Light Intensity during the test was 50-100 foot candles.

Photoperiod during the test was 16 hours of light : 8 hours of dark.

LIMS	
Job number:	TLH-2003-09-30-02
sample number:	705654

Data Transcription Verification
date: 12/31/03
by: Josh Ayres/James Daniels

Total Residual CL2	**mg/L**	**Method**
Field: 100% sample:	-	-
Lab: 100% sample:	<0.03	Hach

Ammonia	**Total (mg/L)**	**Unionized (mg/L)**
Control water:	<0.017	<0.017
30% Sample:	1.610	0.060

Alk & Hardness	**Alkalinity (mg/L)**	**Hardness (mg/L)**
Control water:	185	-
30% Sample:	320	-

Mortality	**Percent**
Control water:	0%
100%:	15%

[D] Salinity	**ppt**
Control water:	8
30% sample:	8

[D] Salinity based on conductivity and temperature.

Table 1. continued

Data recorded during the 96-hour acute bioassays of a sample of effluent from Cape Coral Reverse Osmosis Plant, 3300 SW 20th Avenue, Cape Coral, Lee County, Florida, NPDES# FL0040088, performed from 30, September to 4, October 2003.

Facility:	**Cape Coral Reverse Osmosis Plant**		**NPDES#:**	**FL0040088**	Facility Type:	**Reverse Osmosos**	**Analysts:** Joshua Ayres
Location:	3300 SW 20th Avenue, Cape Coral		Contact/District:	Albert Walton/South District		**Water Treatment Plant**	Marshall Faircloth
County:	Lee		Test type:	acute screen renewal			Christa Pierini
Sample Collection Date:	9/29/2003	Time: 1100	# tests:	2	Receiving Water:	Class III marine	
Test Beginning Date:	9/30/2003	Time: 1430	Chlorination Type:	dechlorinated		Lake Finisterre to Caloosahatchee River	
Test Ending Date:	10/4/2003	Time: 1200	FDEP SOP#:	TA07_04		**Page 3 of 4**	**Reviewer:** Julie Espy

Organism:	***Menidia beryllina***		Life stage: 13 days		[A]Feeding: artemia								Conductivity	
0 - 48 hours			Chamber size: 1000 ml		Food Batch #: 0194025G								Uncorrected	
	Sample/Diluent	**SURVIVAL # Alive**			pH (Standard units)			[B] Temperature C			Diss. Oxygen mg/L			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hr	24 hr	48 hr	0 hr	24 hr	48 hr	0 hr	24 hr	48 hr	0 hr	48 hr
Control A	0/500	5	5	5	8.3	8.2	8.3	24.0	24.4	24.3	8.0	6.5	6.0	14.50	15.30
Control B	0/500	5	5	5	8.3	8.2	8.3	24.0	24.3	24.5	7.6	6.6	6.3	14.60	15.30
Control C	0/500	5	5	5	8.3	8.2	8.3	24.0	24.3	24.1	7.7	6.7	6.5	14.50	15.20
Control D	0/500	5	5	5	8.3	8.2	8.3	24.0	24.9	24.0	7.6	6.5	6.5	14.50	15.10
30% A	150/350	5	5	5	7.8	8.2	8.3	24.0	24.6	24.4	7.8	6.5	6.2	14.10	15.00
30% B	150/350	5	5	5	7.8	8.1	8.3	24.1	24.8	24.2	7.8	6.5	6.4	14.20	14.90
30% C	150/350	5	5	5	7.8	8.1	8.3	24.2	24.5	24.2	7.8	6.7	6.2	14.20	14.80
30% D	150/350	5	5	5	7.8	8.1	8.3	24.0	24.6	24.0	7.8	6.7	6.3	14.20	14.80

[A] Organisms fed prior to testing and before renewal.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.

[C] DO = dissolved oxygen.

Room Temperature range for the test period was 23.0 - 24.5°C.
Incubator #3 temperature range for the test period was 24.0 - 25.0°C.

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

LIMS	
Job number:	TLH-2003-09-30-02
sample number:	705654

Data Transcription Verification
date: 12/31/04
Josh Ayres/James Daniels

Total Residual CL2	**mg/L**	**Method**
Field: 100% sample:	-	-
Lab: 100% sample:	<0.03	Hach

Ammonia	**Total (mg/L)**	**Unionized (mg/L)**
Control water:	<0.017	<0.017
30% Sample:	1.610	0.060

Alk & Hardness	**Alkalinity (mg/L)**	**Hardness (mg/L)**
Control water:	185	-
30% Sample:	320	-

[D] **Salinity**	**ppt**
Control water:	8
30% sample:	8

[D] Salinity based on conductivity and temperature.

Table 1. concluded. Data recorded during the 96-hour acute bioassays of a sample of effluent from Cape Coral Reverse Osmosis Plant, 3300 SW 20th Avenue, Cape Coral, Lee County, Florida, NPDES# FL0040088, performed from 30, September to 4, October 2003.

Facility:	**Cape Coral Reverse Osmosis Plant**		**NPDES#:**	**FL0040088**	Facility Type:	**Reverse Osmosos Water Treatment Plant**	**Analysts:** Joshua Ayres, Marshall Faircloth, Christa Pierini
Location:	3300 SW 20th Avenue, Cape Coral		Contact/District:	Albert Walton/South District			
County:	Lee		Test type:	acute screen renewal			
Sample Collection Date:	9/29/2003	Time: 1100	# tests:	2	Receiving Water:	Class III marine	
Test Beginning Date:	9/30/2003	Time: 1430	Chlorination Type:	dechlorinated		Lake Finisterre to Caloosahatchee River	
Test Ending Date:	10/4/2003	Time: 1200	FDEP SOP#:	TA07_04		**Page 4 of 4**	**Reviewer:** Julie Espy

Organism: ***Menidia beryllina*** Life stage: 13 days [A]Feeding: *Artemia*

48 - 96 hours Chamber size: 1000 ml Food Batch #: 0194025G

	Sample/Diluent	SURVIVAL # Alive			pH (Standard units)			[B] Temperature C			Diss. Oxygen mg/L			Conductivity Uncorrected mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/500	5	5	5	8.3	8.3	8.1	24.0	24.0	25.5	7.0	6.8	6.8	14.50	15.90
Control B	0/500	5	5	5	8.3	8.3	8.1	24.0	24.2	26.3	7.0	6.7	6.7	14.70	16.10
Control C	0/500	5	5	5	8.3	8.3	8.2	24.0	24.0	25.2	7.0	6.7	6.8	14.80	15.90
Control D	0/500	5	5	5	8.3	8.3	8.2	24.0	24.0	26.4	7.0	6.6	6.6	14.60	16.30
30% A	150/350	5	5	5	7.9	8.2	8.1	24.2	24.0	25.4	7.3	6.5	6.8	15.00	16.60
30% B	150/350	5	5	5	7.9	8.2	8.1	24.2	24.2	26.7	7.2	6.4	6.4	15.10	16.80
30% C	150/350	5	5	5	7.9	8.2	8.1	24.1	24.2	26.2	7.1	6.3	6.5	14.80	16.60
30% D	150/350	5	5	5	7.9	8.2	8.1	24.0	24.1	25.5	7.0	6.4	6.5	14.90	16.00

[A] Organisms fed prior to testing and before renewal.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.

[C] DO = dissolved oxygen.

Room Temperature range for the test period was 23.0 - 24.5°C.

Incubator #3 temperature range for the test period was 24.0 - 25.0°C.

Light Intensity during the test was 50-100 foot candles.

Photoperiod during the test was 16 hours of light : 8 hours of dark.

LIMS	
Job number:	TLH-2003-09-30-02
sample number:	705654

Data Transcription Verification
date: 12/31/04
Josh Ayres/James Daniels

Total Residual CL2	mg/L	Method
Field: 100% sample:	-	-
Lab: 100% sample:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.017	<0.017
30% Sample:	1.610	0.060

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	185	-
30% Sample:	320	-

Mortality	Percent
Control water:	0%
100%:	0%

[D] Salinity	ppt
Control water:	8
30% sample:	8

[D] Salinity based on conductivity and temperature.

Table 2. Measured algal growth potential (AGP) and ratios of inorganic nitrogen to ortho-phosphate and total nitrogen to total phosphorus for the Cape Coral Reverse Osmosis Plant effluent sample collected on September 29, 2003.

Location	AGP (measured)	Inorganic N:P ratio	Total N:P ratio
Effluent Sample	3.43	145.83	85

Table 3. *Effluent limits, Class III Criteria and chemical data from samples collected from the Cape Coral Reverse Osmosis Plant on September 29, 2003.*

Cape Coral Reverse Osmosis Plant	Class III Marine Stds	Effluent Limits	Effluent Samples	Lake	Marina
Metals (µg/L unless otherwise noted)					
Aluminum	≤ 1500	-	7 U	-	-
Arsenic	≤ 50	-	6 U	-	-
Cadmium	≤ 9.3	-	0.12 U	-	-
Calcium (mg/L)	-	-	356	-	-
Chromium-III	-	-	7.4 U	-	-
Copper	≤ 3.7	-	0.13 I	-	-
Iron	≤ 300	-	139	-	-
Lead	≤ 8.5	-	0.25 U	-	-
Magnesium (mg/L)	-	-	494	-	-
Nickel	≤ 8.3	-	29 U	-	-
Selenium	≤ 7.1	-	8 U	-	-
Silver	-	-	0.1 U	-	-
Zinc	≤ 86	-	12 U	-	-
Nutrients (mg/L)					
Sulfide	-	0.01	0.05 UQ	-	-
TDS	-	-	-	4150	-
Ortho-phosphate	-	-	0.012	-	-
Total Phosphorus	-	-	0.03 I	-	-
Ammonia	-	-	1.5	-	-
Unionized Ammonia	-	-	0.01	-	-
Nitrate+Nitrite	-	-	0.25 A	-	-
Total Kjeldahl Nitrogen	-	-	2.3 A	-	-
Organic Nitrogen	-	-	0.8 c	-	-
Total Nitrogen	-	-	2.55 c	-	-
Fluoride	≤ 5	5	-	1.1	-
General Physical and Chemical Parameters					
Alpha, Total (pCi/L)	≤ 15	15	-	-	14.6 U
Alpha-Counting Error (pCi/L)	-	-	-	-	9.9
Radium 226 (pCi/L)	≤ 5 d	-	-	-	1
Radium 226-Counting Error (pCi/L)	-	-	-	-	0.2
Radium 228 (pCi/L)	≤ 5 d	-	-	-	0.8 U
Radium 228-Counting Error (pCi/L)	-	-	-	-	0.5
Combined Radium 226 and 228 (pCi/L)	-	5	-	-	-
Dissolved Oxygen (mg/L)	≥ 5	4 s	7.5	-	-
pH (S.U.)	6.5 - 8.5	6.7 - 8.5	7.1	-	-
Conductivity (umhos/cm)	-	-	11853	-	-
Temperature (C)	-	-	27.5	-	-
Hardness (mg/L)	-	-	2923.2 c	-	-
AGP (mg DryWt/L)	-	-	3.43	-	-
Total Residual Chlorine (Lab)	≤ 0.01	0.01	< 0.03 U	-	-

c - calculated value.
d - Value is for combined Radium 226 and Radium 228.
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U - Material was analyzed for but not detected. The value reported is the minimum detection limit.
Q - Sample held beyond normal holding time.
s - single sample

Appendix 1. Chemical Analyses performed on the effluent from the Cape Coral RO sampled on September 29, 2003.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
9/29/2003 9:21	EQUIP BLK	BNA-Water	1,2,4,5-Tetrachlorobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	1,2,4-Trichlorobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	1,2-Dichlorobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	1,3,5-Trinitrobenzene	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	BNA-Water	1,3-Dichlorobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	1,3-Dinitrobenzene	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	1,4-Dichlorobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	1,4-Naphthoquinone	20	ug/L	U	20	80
9/29/2003 9:21	EQUIP BLK	BNA-Water	1-Naphthylamine	10	ug/L	UJ	10	40
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,3,4,6-Tetrachlorophenol	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,4,5-Trichlorophenol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,4,6-Trichlorophenol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,4-Dichlorophenol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,4-Dimethylphenol	50	ug/L	U	50	200
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	60
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,4-Dinitrotoluene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,6-Dichlorophenol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2,6-Dinitrotoluene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Acetylaminofluorene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Chloronaphthalene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Chlorophenol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Methyl-4,6-dinitrophenol	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Methylnaphthalene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Naphthylamine	10	ug/L	U	10	40
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Nitroaniline	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Nitrophenol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	2-Picoline	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	3,3'-Dichlorobenzidine	40	ug/L	U	40	160
9/29/2003 9:21	EQUIP BLK	BNA-Water	3,3'-Dimethylbenzidine	20	ug/L	UJ	20	80
9/29/2003 9:21	EQUIP BLK	BNA-Water	3-Methylcholanthrene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	3-Nitroaniline	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	4-Aminobiphenyl	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	BNA-Water	4-Bromophenyl phenyl ether	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	4-Chloro-3-methylphenol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	4-Chloroaniline	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	4-Nitroaniline	1	ug/L	UJ	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	4-Nitrophenol	15	ug/L	UJ	15	60
9/29/2003 9:21	EQUIP BLK	BNA-Water	5-Nitro-o-toluidine	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	7,12-Dimethylbenz(a)anthracene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Acenaphthene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Acenaphthylene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Acetophenone	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Aldrin	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	Aniline	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Anthracene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Azobenzene/1,2-Diphenylhydrazine	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Benzidine	100	ug/L	U	100	400
9/29/2003 9:21	EQUIP BLK	BNA-Water	Benzo(a)anthracene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Benzo(a)pyrene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Benzo(b)fluoranthene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Benzo(g,h,i)perylene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Benzo(k)fluoranthene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Benzyl alcohol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Bis(2-chloroethoxy)methane	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Bis(2-chloroethyl)ether	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Bis(2-chloroisopropyl)ether	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	60
9/29/2003 9:21	EQUIP BLK	BNA-Water	Butyl benzyl phthalate	5	ug/L	U	5	20

9/29/2003 9:21	EQUIP BLK	BNA-Water	Chrysene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Di-n-butyl phthalate	5	ug/L	U	5	20
9/29/2003 9:21	EQUIP BLK	BNA-Water	Di-n-octyl phthalate	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Dibenzo(a,h)anthracene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Dibenzofuran	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	Diethyl phthalate	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Dimethyl phthalate	50	ug/L	U	50	200
9/29/2003 9:21	EQUIP BLK	BNA-Water	Dimethylaminoazobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Dinoseb	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	BNA-Water	Diphenylamine	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	Endosulfan I	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	BNA-Water	Endosulfan II	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	Endrin	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	Endrin aldehyde	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	BNA-Water	Ethyl methanesulfonate	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Fluoranthene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Fluorene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	Hexachlorobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Hexachlorobutadiene	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	Hexachlorocyclopentadiene	3	ug/L	UJ	3	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	Hexachloroethane	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	Hexachloropropene	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	Indeno(1,2,3-cd)pyrene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Isophorone	1	ug/L	UJ	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Isosafrole	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Methapyrilene	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	BNA-Water	Methyl methanesulfonate	1	ug/L	UJ	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosodi-n-butylamine	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosodiethylamine	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosodiphenylamine	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosomethylethylamine	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosomorpholine	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosopiperidine	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	N-Nitrosopyrrolidine	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	Naphthalene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Nitrobenzene	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	Nitroquinoline-1-oxide	20	ug/L	U	20	80
9/29/2003 9:21	EQUIP BLK	BNA-Water	Pentachlorobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Pentachloroethane	50	ug/L	U	50	200
9/29/2003 9:21	EQUIP BLK	BNA-Water	Pentachloronitrobenzene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Pentachlorophenol	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	Phenacetin	4	ug/L	U	4	12
9/29/2003 9:21	EQUIP BLK	BNA-Water	Phenanthrene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Phenol	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Pyrene	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	Pyridine	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	BNA-Water	Safrole	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	6
9/29/2003 9:21	EQUIP BLK	BNA-Water	m,p-Cresols	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	o-Cresol	2	ug/L	U	2	8
9/29/2003 9:21	EQUIP BLK	BNA-Water	o-Toluidine	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	GC-Water	Alachlor	0.6	ug/L	U	0.6	2.4
9/29/2003 9:21	EQUIP BLK	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	GC-Water	Atrazine	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	GC-Water	Azinphos Methyl	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
9/29/2003 9:21	EQUIP BLK	GC-Water	Butylate	0.2	ug/L	U	0.2	0.8

9/29/2003 9:21	EQUIP BLK	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
9/29/2003 9:21	EQUIP BLK	GC-Water	Diazinon	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
9/29/2003 9:21	EQUIP BLK	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
9/29/2003 9:21	EQUIP BLK	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
9/29/2003 9:21	EQUIP BLK	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
9/29/2003 9:21	EQUIP BLK	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
9/29/2003 9:21	EQUIP BLK	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
9/29/2003 9:21	EQUIP BLK	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
9/29/2003 9:21	EQUIP BLK	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
9/29/2003 9:21	EQUIP BLK	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
9/29/2003 9:21	EQUIP BLK	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
9/29/2003 9:21	EQUIP BLK	GC-Water	Norflurazon	0.1	ug/L	U	0.1	0.4
9/29/2003 9:21	EQUIP BLK	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
9/29/2003 9:21	EQUIP BLK	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
9/29/2003 9:21	EQUIP BLK	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
9/29/2003 9:21	EQUIP BLK	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	Metals-Water	Aluminum	7	ug/L	U	7	28
9/29/2003 9:21	EQUIP BLK	Metals-Water	Arsenic	6	ug/L	U	6	24
9/29/2003 9:21	EQUIP BLK	Metals-Water	Cadmium	0.025	ug/L	U	0.025	0.1
9/29/2003 9:21	EQUIP BLK	Metals-Water	Calcium	0.05	mg/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	Metals-Water	Chromium	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	Metals-Water	Copper	0.1	ug/L	U	0.1	0.4
9/29/2003 9:21	EQUIP BLK	Metals-Water	Iron	15	ug/L	U	15	60
9/29/2003 9:21	EQUIP BLK	Metals-Water	Lead	0.05	ug/L	U	0.05	0.2
9/29/2003 9:21	EQUIP BLK	Metals-Water	Magnesium	0.02	mg/L	U	0.02	0.08
9/29/2003 9:21	EQUIP BLK	Metals-Water	Nickel	3	ug/L	U	3	12
9/29/2003 9:21	EQUIP BLK	Metals-Water	Selenium	1	ug/L	U	1	4
9/29/2003 9:21	EQUIP BLK	Metals-Water	Silver	0.02	ug/L	U	0.02	0.08
9/29/2003 9:21	EQUIP BLK	Metals-Water	Zinc	4	ug/L	U	4	16
9/29/2003 9:21	EQUIP BLK	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
9/29/2003 9:21	EQUIP BLK	Nutrients-Liquid	Fluoride	0.05	mg F/L	U	0.05	0.1
9/29/2003 9:21	EQUIP BLK	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
9/29/2003 9:21	EQUIP BLK	Nutrients-Liquid	N_KJEL_TOT	0.06	mg N/L	U	0.06	0.2
9/29/2003 9:21	EQUIP BLK	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
9/29/2003 9:21	EQUIP BLK	Nutrients-Liquid	Sulfide	0.05	mg S/L	UQ	0.05	0.2
9/29/2003 9:21	EQUIP BLK	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
9/29/2003 9:21	EQUIP BLK	Overflow	Alpha, Total	0.5	pCi/L	U		
9/29/2003 9:21	EQUIP BLK	Overflow	Alpha-Counting Error	0.3	pCi/L			
9/29/2003 9:21	EQUIP BLK	Overflow	Radium 226	0.1	pCi/L			
9/29/2003 9:21	EQUIP BLK	Overflow	Radium 226-Counting Error	0.1	pCi/L			
9/29/2003 9:21	EQUIP BLK	Overflow	Radium 228	0.9	pCi/L	U		
9/29/2003 9:21	EQUIP BLK	Overflow	Radium 228-Counting Error	0.6	pCi/L			
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1,2,4,5-Tetrachlorobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1,3,5-Trinitrobenzene	3.8	ug/L	U	3.8	15
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1,3-Dinitrobenzene	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1,4-Naphthoquinone	19	ug/L	U	19	77
9/29/2003 11:00	IW-092903-1 E	BNA-Water	1-Naphthylamine	9.6	ug/L	UJ	9.6	38
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,3,4,6-Tetrachlorophenol	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,4,5-Trichlorophenol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	58
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,6-Dichlorophenol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Acetylaminofluorene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8

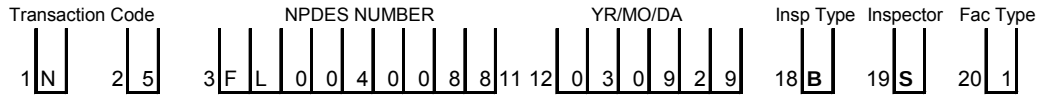
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Methylnaphthalene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Naphthylamine	9.6	ug/L	U	9.6	38
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Nitroaniline	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Nitrophenol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	2-Picoline	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
9/29/2003 11:00	IW-092903-1 E	BNA-Water	3,3'-Dimethylbenzidine	19	ug/L	UJ	19	77
9/29/2003 11:00	IW-092903-1 E	BNA-Water	3-Methylcholanthrene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	3-Nitroaniline	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4-Aminobiphenyl	3.8	ug/L	U	3.8	15
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4-Chloroaniline	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4-Nitroaniline	0.96	ug/L	UJ	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	4-Nitrophenol	14	ug/L	UJ	14	58
9/29/2003 11:00	IW-092903-1 E	BNA-Water	5-Nitro-o-toluidine	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	7,12-Dimethylbenz(a)anthracene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Acetophenone	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Aniline	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Azobenzene/1,2-Diphenylhydrazine	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Benzidine	96	ug/L	U	96	380
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Benzyl alcohol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	58
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Dibenzofuran	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Dimethylaminoazobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Dinoseb	3.8	ug/L	U	3.8	15
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Diphenylamine	2.9	ug/L	U	2.9	12
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Ethyl methanesulfonate	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	UJ	2.9	12

9/29/2003 11:00	IW-092903-1 E	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Hexachloropropene	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Isophorone	0.96	ug/L	UJ	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Isosafrole	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Methapyrilene	3.8	ug/L	U	3.8	15
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Methyl methanesulfonate	0.96	ug/L	UJ	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosodi-n-butylamine	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosodiethylamine	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosomethylethylamine	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosomorpholine	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosopiperidine	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	N-Nitrosopyrrolidine	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Nitroquinoline-1-oxide	19	ug/L	U	19	77
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Pentachlorobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Pentachloroethane	48	ug/L	U	48	190
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Pentachloronitrobenzene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Phenacetin	3.8	ug/L	U	3.8	12
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Pyridine	3.8	ug/L	U	3.8	15
9/29/2003 11:00	IW-092903-1 E	BNA-Water	Safrole	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8
9/29/2003 11:00	IW-092903-1 E	BNA-Water	m,p-Cresols	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	o-Cresol	1.9	ug/L	U	1.9	7.7
9/29/2003 11:00	IW-092903-1 E	BNA-Water	o-Toluidine	0.96	ug/L	U	0.96	3.8
9/29/2003 11:00	IW-092903-1 E	Bio-AGP/LimNut	Algal Growth Potential	3.43	mg DryWt/L		0.1	0.3
9/29/2003 11:00	IW-092903-1 E	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
9/29/2003 11:00	IW-092903-1 E	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
9/29/2003 11:00	IW-092903-1 E	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
9/29/2003 11:00	IW-092903-1 E	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
9/29/2003 11:00	IW-092903-1 E	GC-Water	Alachlor	0.58	ug/L	U	0.58	2.32
9/29/2003 11:00	IW-092903-1 E	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.192
9/29/2003 11:00	IW-092903-1 E	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.192
9/29/2003 11:00	IW-092903-1 E	GC-Water	Azinphos Methyl	0.048	ug/L	U	0.048	0.192
9/29/2003 11:00	IW-092903-1 E	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
9/29/2003 11:00	IW-092903-1 E	GC-Water	Butylate	0.19	ug/L	U	0.19	0.76
9/29/2003 11:00	IW-092903-1 E	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.192
9/29/2003 11:00	IW-092903-1 E	GC-Water	Chlorpyrifos Methyl	0.096	ug/L	U	0.096	0.384
9/29/2003 11:00	IW-092903-1 E	GC-Water	Diazinon	0.048	ug/L	U	0.048	0.192
9/29/2003 11:00	IW-092903-1 E	GC-Water	Ethion	0.048	ug/L	U	0.048	0.192
9/29/2003 11:00	IW-092903-1 E	GC-Water	Ethoprop	0.096	ug/L	U	0.096	0.384
9/29/2003 11:00	IW-092903-1 E	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
9/29/2003 11:00	IW-092903-1 E	GC-Water	Fonofos	0.096	ug/L	U	0.096	0.384
9/29/2003 11:00	IW-092903-1 E	GC-Water	Hexazinone	0.096	ug/L	U	0.096	0.384
9/29/2003 11:00	IW-092903-1 E	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
9/29/2003 11:00	IW-092903-1 E	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
9/29/2003 11:00	IW-092903-1 E	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.92
9/29/2003 11:00	IW-092903-1 E	GC-Water	Metribuzin	0.096	ug/L	U	0.096	0.384
9/29/2003 11:00	IW-092903-1 E	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
9/29/2003 11:00	IW-092903-1 E	GC-Water	Naled	0.77	ug/L	U	0.77	3.08
9/29/2003 11:00	IW-092903-1 E	GC-Water	Norflurazon	0.096	ug/L	U	0.096	0.384
9/29/2003 11:00	IW-092903-1 E	GC-Water	Parathion Ethyl	0.14	ug/L	U	0.14	0.56
9/29/2003 11:00	IW-092903-1 E	GC-Water	Parathion Methyl	0.096	ug/L	U	0.096	0.384
9/29/2003 11:00	IW-092903-1 E	GC-Water	Phorate	0.048	ug/L	U	0.048	0.192
9/29/2003 11:00	IW-092903-1 E	GC-Water	Prometryn	0.14	ug/L	U	0.14	0.56

9/29/2003 11:00	IW-092903-1 E	GC-Water	Simazine	0.048	ug/L	U	0.048	0.192
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Aluminum	7	ug/L	U	7	28
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Arsenic	6	ug/L	U	6	24
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Cadmium	0.12	ug/L	U	0.12	0.5
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Calcium	356	mg/L		1	4
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Chromium	7.4	ug/L	U	3	12
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Copper	0.13	ug/L	I	0.1	0.4
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Iron	139	ug/L		15	60
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Lead	0.25	ug/L	U	0.25	1
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Magnesium	494	mg/L		0.4	1.6
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Nickel	29	ug/L	U	3	12
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Selenium	8	ug/L	U	8	32
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Silver	0.1	ug/L	U	0.1	0.4
9/29/2003 11:00	IW-092903-1 E	Metals-Water	Zinc	12	ug/L	U	4	16
9/29/2003 11:00	IW-092903-1 E	Nutrients-Liquid	Ammonia-N	1.5	mg N/L		0.2	0.4
9/29/2003 11:00	IW-092903-1 E	Nutrients-Liquid	NO2NO3-N	0.25	mg N/L	A	0.008	0.02
9/29/2003 11:00	IW-092903-1 E	Nutrients-Liquid	N_KJEL_TOT	2.3	mg N/L	A	0.06	0.2
9/29/2003 11:00	IW-092903-1 E	Nutrients-Liquid	O-Phosphate-P	0.012	mg P/L		0.004	0.01
9/29/2003 11:00	IW-092903-1 E	Nutrients-Liquid	Sulfide	0.05	mg S/L	UQ	0.05	0.2
9/29/2003 11:00	IW-092903-1 E	Nutrients-Liquid	Total-P	0.03	mg P/L	I	0.02	0.06
9/29/2003 12:35	IW-092903-3E	Nutrients-Liquid	Fluoride	1.1	mg F/L		0.05	0.1
9/29/2003 12:35	IW-092903-3E	Nutrients-Liquid	TDS	4.15E+03	mg/L		15	60
9/29/2003 12:55	IW-092903-04 E	Overflow	Alpha, Total	14.6	pCi/L	U		
9/29/2003 12:55	IW-092903-04 E	Overflow	Alpha-Counting Error	9.9	pCi/L			
9/29/2003 12:55	IW-092903-04 E	Overflow	Radium 226	1	pCi/L			
9/29/2003 12:55	IW-092903-04 E	Overflow	Radium 226-Counting Error	0.2	pCi/L			
9/29/2003 12:55	IW-092903-04 E	Overflow	Radium 228	0.8	pCi/L	U		
9/29/2003 12:55	IW-092903-04 E	Overflow	Radium 228-Counting Error	0.5	pCi/L			

The Bioassay of Cape Coral Reverse Osmosis Plant effluent sampled on 29 September 2003, NPDES #FL0040088.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)





The Priority Pollutants Analysis for Bioassay of Cape Coral Reverse Osmosis Plant effluent sampled on 29 September 2003, NPDES #FL0040088.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

