


Bioassays of

# Beverly Beach Wastewater Treatment Facility

Beverly Beach, Flagler County, Florida

NPDES #FL0039756

Sampled 12/9/02

April 2003

**Biology Section**

**Division of Resource Assessment & Management**

Comprehensive Quality Assurance Plan #870346G

Bioassays of

# Beverly Beach Wastewater Treatment Facility

Beverly Beach, Flagler County, Florida

NPDES #FL0039756

**Biology Section**
**Bureau of Laboratories**
**April 2003**

Beverly Beach Wastewater Treatment Facility (Ocean City Utilities), Highway A1A, Beverly Beach, Flagler County, Florida, NPDES #FL0039756, tests performed on 10 to 12 December 2002.

## Introduction

This facility has a permitted capacity of 0.215 MGD annual average daily flow (AADF) and an annual average flow of 0.036 MGD (September-November, 2002). The facility consists of three plants. Plant Number One having a 0.030 MGD (AADF) design capacity, and Plant Number Two, having a 0.035 MGD (AADF) design capacity, both utilize the extended-aeration activated-sludge treatment process, which includes influent screening, aeration, and secondary clarification. Plant Number Three is a 0.150 MGD (AADF) design capacity contact stabilization plant. The final treated effluent from all three plants is combined then filtered, chlorinated, and dechlorinated, prior to discharge into the Intracoastal Waterway (Class III marine waters) approximately one mile north of the intersection of SR100 and A1A. The Beverly Beach outfall line is approximately 15 feet in length, and discharges at a depth of approximately 2.5 feet (facility information provided by Jessica Weatherby, FDEP, Jacksonville).

## Methods

Samples were collected by Patrick O'Connor following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOP's are available on the web at: http://www.floridadep.org/labs/qa/sops.htm

At the request of FDEP Northeast District Personnel, both freshwater and saltwater bioassays were performed on samples of effluent collected from this facility on 9 December 2002.

The toxicity tests discussed in this report were performed following internal DEP SOP's TA07-01, TA07-02, TA07-03 and TA07-04. All internal DEP SOP's are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

An aliquot of sample was dechlorinated for bioassay testing using 1.9 mL of sodium thiosulfate per liter of sample. The sample was salinity adjusted to 20 ppt using 40 Fathoms® artificial sea salts for the saltwater bioassays.

## Toxicity Test Results

*Ceriodaphnia dubia* 48-hr acute screen – 100% effluent - Not Toxic
*Ceriodaphnia dubia* 48-hr acute screen – dechlorinated effluent - Not Toxic
*Cyprinella leedsi* 48-hr acute screen – 100% effluent –Toxic (100% mortality)
*Cyprinella leedsi* 48-hr acute screen – dechlorinated effluent – Toxic (50% mortality)

*Americamysis bahia* 48-hr acute screen - 100% effluent – Toxic (70% mortality)
*Americamysis bahia* 48-hr acute screen - dechlorinated effluent – Toxic (50% mortality)
*Menidia beryllina* 48-hr acute screen – 100% effluent - Toxic (100% mortality)
*Menidia beryllina* 48-hr acute screen - dechlorinated effluent – Toxic (90% mortality)

See Tables 1 and 2 for bioassay bench sheets.

## Chemistry Results

Total residual chlorine was detected in the bioassay sample at a concentration of 1.75 mg/L in the laboratory. Total ammonia and unionized ammonia were detected in the bioassay sample at concentrations of 16.95 mg/L and 1.090 mg/L, respectively.

See Table 3 for chemicals detected in the analytical chemistry samples.

The concentration of copper (4.6 µg/L) in the sample submitted for chemical analysis exceeded the Class III marine water quality standard for copper (≤ 2.9 ug/L) (FAC 62-302.530).

See Table 4 for a complete list of chemical analyses performed.

## Conclusion

The sample of effluent collected from this facility on December 9, 2002, did not show toxicity to the *C. dubia* test organisms; however, the sample was acutely toxic to *C. leedsi*, *A. bahia,* and *M. beryllina* during the 48-hour bioassay tests. Toxicity is partially attributed to the concentrations of total chlorine and ammonia in the sample. Additionally, copper was detected at a concentration exceeding the water quality standards and may have contributed to the toxicity observed; however, unidentified constituents in the sample cannot be ruled out as contributing to the observed mortality.

**Table 1.** Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Beverly Beach Wastewater Treatment Facility (Ocean City Utilities), Highway A1A, Beverly Beach, Flagler County, Florida, NPDES# FL0039756, performed from 10 to 12 December 2002.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Facility: | **Beverly Beach WWTF (Ocean City Utilities)** | **NPDES #:** | **FL0039756** | Facility Type: | **WWTF** | **Analysts:** | Jacquelyn Brynda |
| Location: | Highway A1A, Beverly Beach | Contact/District: | O'Connor/NE | | | | Joshua Ayres |
| County: | Flagler | Test type: | static acute screen | | | | James Daniels |
| Sample Collection Date: | 12/9/2002 Time: 1505 | # tests: | 4 | Receiving Water: | Intracostal Waterway | | Marshall Faircloth |
| Test Beginning Date: | 12/10/2002 Time: 1500 | Chlorination Type: | dechlorinated | | Class III Marine | | Christa Pierini |
| Test Ending Date: | 12/12/2002 Time: 1400 | | | | **Page 1 of 2** | **Reviewer:** | David Whiting |

Organism: ***Ceriodaphnia dubia*** Life stage: <24 hours

| | Sample/Diluent | SURVIVAL # Alive | | | pH | | | Temperature[A] | | | Dissolved Oxygen | | | Conductivity Uncorrected µmhos/cm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Concentrations | Volume(mL) | 0 hr | 24 hr | 48 hr | 0 hour | 24 hour | 48 hour | 0 hour | 24 hour | 48 hour | 0 hour | 24 hour | 48 hour | 0 hour | 48 hour |
| Control A | 0/20 | 5 | 5 | 5 | 8.1 | - | 8.3 | 24.2 | - | 23.9 | 6.7 | - | 7.9 | 170 | 205 |
| Control B | 0/20 | 5 | 5 | 5 | - | - | 8.3 | - | - | 24.1 | - | - | 7.9 | - | 200 |
| Control C | 0/20 | 5 | 5 | 5 | - | - | 8.3 | - | - | 24.2 | - | - | 7.8 | - | 200 |
| Control D | 0/20 | 5 | 5 | 5 | - | - | 8.3 | - | - | 24.4 | - | - | 7.8 | - | 195 |
| Dechlor Cntl A | 0/20 | 5 | 5 | 5 | 8.1 | - | 8.2 | 24.3 | - | 24.0 | 6.7 | - | 7.8 | 196 | 305 |
| Dechlor Cntl B | 0/20 | 5 | 5 | 5 | - | - | 8.2 | - | - | 24.1 | - | - | 7.8 | - | 240 |
| Dechlor Cntl C | 0/20 | 5 | 5 | 4 | - | - | 8.2 | - | - | 24.2 | - | - | 7.7 | - | 220 |
| Dechlor Cntl D | 0/20 | 5 | 5 | 5 | - | - | 8.2 | - | - | 24.5 | - | - | 7.7 | - | 210 |
| 100% Dechlor A | 20/0 | 5 | 5 | 5 | 8.0 | - | 8.2 | 24.5 | - | 24.2 | 6.7 | - | 7.6 | 958 | 980 |
| 100% Dechlor B | 20/0 | 5 | 5 | 5 | - | - | 8.3 | - | - | 24.2 | - | - | 7.7 | - | 990 |
| 100% Dechlor C | 20/0 | 5 | 5 | 5 | - | - | 8.3 | - | - | 24.2 | - | - | 7.7 | - | 970 |
| 100% Dechlor D | 20/0 | 5 | 5 | 5 | - | - | 8.3 | - | - | 24.5 | - | - | 7.7 | - | 970 |
| 100% A | 20/0 | 5 | 5 | 5 | 8.0 | - | 8.3 | 24.8 | - | 24.2 | 6.7 | - | 7.8 | 1351 | 1420 |
| 100% B | 20/0 | 5 | 5 | 5 | - | - | 8.3 | - | - | 24.2 | - | - | 7.8 | - | 1410 |
| 100% C | 20/0 | 5 | 5 | 5 | - | - | 8.3 | - | - | 24.3 | - | - | 7.7 | - | 1360 |
| 100% D | 20/0 | 5 | 5 | 5 | - | - | 8.4 | - | - | 24.4 | - | - | 7.7 | - | 1350 |

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 22.5-25.0°C.
Incubator #3 temperature range for the test period was 24.0-26.0°C.

| **LIMS** | |
|---|---|
| Job number: | TLH-2002-12-10-01 |
| sample number: | 641968 |

| **Data Transcription Verification** | |
|---|---|
| date: | 1/8/2003 |
| by: | Christa Pierini |
| | James Daniels |

| **Total Residual CL2** | mg/L | Method |
|---|---|---|
| Field: | 0.00 | - |
| Lab: | 1.75 | Hach |

| **Ammonia** | Total (mg/L) | Unionized (mg/L) |
|---|---|---|
| Control water (water flea): | <0.017 | <0.017 |
| 100% Sample: | 16.95 | 1.090 |

| **Alk & Hardness** | Alkalinity (mg/L) | Hardness (mg/L) |
|---|---|---|
| Control water (water flea): | 75 | 88 |
| 100% Sample: | 169 | 145 |

Continued

**Table 1.** Concluded

Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Beverly Beach Wastewater Treatment Facility (Ocean City Utilities), Highway A1A, Beverly Beach, Flagler County, Florida, NPDES# FL0039756, performed from 10 to 12 December 2002.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Facility: | **Beverly Beach WWTF (Ocean City Utilities)** | **NPDES #:** | **FL0039756** | Facility Type: | **WWTF** | **Analysts:** | Jacquelyn Brynda |
| Location: | Highway A1A, Beverly Beach | Contact/District: | O'Connor/NE | | | | Joshua Ayres |
| County: | Flagler | Test type: | static acute screen | | | | James Daniels |
| Sample Collection Date: | 12/9/2002 Time: 1505 | # tests: | 4 | Receiving Water: | Intracostal Waterway | | Marshall Faircloth |
| Test Beginning Date: | 12/10/2002 Time: 1500 | Chlorination Type: | dechlorinated | | Class III Marine | | Christa Pierini |
| Test Ending Date: | 12/12/2002 Time: 1400 | | | | **Page 2 of 2** | **Reviewer:** | David Whiting |

Organism: ***Cyprinella leedsi*** Life stage: 13 days

| | **Sample/Diluent** | **SURVIVAL # Alive** | | | pH | | | Temperature[A] | | | Dissolved Oxygen | | | Conductivity Uncorrected µmhos/cm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Concentrations | Volume(mL) | 0 hr | 24 hr | 48 hr | 0 hour | 24 hour | 48 hour | 0 hour | 24 hour | 48 hour | 0 hour | 24 hour | 48 hour | 0 hour | 48 hour |
| Control A | 0/500 | 5 | 5 | 5 | 7.6 | 8.3 | 8.5 | 24.1 | 24.5 | 25.5 | 7.8 | 7.5 | 7.6 | 258 | 290 |
| Control B | 0/500 | 5 | 5 | 5 | 7.8 | 8.3 | 8.5 | 24.1 | 24.8 | 25.8 | 7.4 | 7.6 | 7.6 | 264 | 295 |
| Control C | 0/500 | 5 | 5 | 5 | 7.9 | 8.3 | 8.5 | 23.7 | 24.5 | 25.6 | 7.8 | 7.5 | 7.7 | 260 | 280 |
| Control D | 0/500 | 5 | 5 | 5 | 7.9 | 8.3 | 8.5 | 23.8 | 24.4 | 25.5 | 7.9 | 7.5 | 7.6 | 264 | 290 |
| Dechlor Cntl A | 0/500 | 5 | 5 | 5 | 7.9 | 8.3 | 8.4 | 23.2 | 24.6 | 25.2 | 8.0 | 7.2 | 7.6 | 260 | 290 |
| Dechlor Cntl B | 0/500 | 5 | 5 | 5 | 8.0 | 8.3 | 8.4 | 23.1 | 24.4 | 25.6 | 8.0 | 7.3 | 7.4 | 260 | 300 |
| Dechlor Cntl C | 0/500 | 5 | 5 | 5 | 8.0 | 8.3 | 8.4 | 22.7 | 24.6 | 25.3 | 8.0 | 7.4 | 7.4 | 259 | 290 |
| Dechlor Cntl D | 0/500 | 5 | 5 | 5 | 8.0 | 8.3 | 8.4 | 22.7 | 24.2 | 25.5 | 8.2 | 7.4 | 7.3 | 262 | 290 |
| 100% Dechlor A | 500/0 | 5 | 4 | 3 | 7.9 | 8.1 | 8.0 | 23.4 | 24.5 | 25.5 | 8.3 | 7.5 | 4.7 | 933 | 1005 |
| 100% Dechlor B | 500/0 | 5 | 4 | 3 | 8.0 | 8.1 | 7.9 | 23.0 | 24.7 | 25.1 | 8.0 | 7.3 | 4.8 | 952 | 1020 |
| 100% Dechlor C | 500/0 | 5 | 2 | 2 | 8.0 | 8.1 | 7.9 | 22.9 | 24.4 | 25.9 | 8.1 | 7.1 | 5.1 | 953 | 1050 |
| 100% Dechlor D | 500/0 | 5 | 3 | 2 | 8.0 | 8.1 | 7.9 | 22.8 | 24.7 | 25.6 | 8.6 | 7.1 | 5.3 | 956 | 1040 |
| 100% A | 500/0 | 5 | 0 | - | 8.0 | 8.1 | - | 24.7 | 24.5 | - | 6.4 | 7.4 | - | 1317 | - |
| 100% B | 500/0 | 5 | 0 | - | 8.0 | 8.1 | - | 24.6 | 24.6 | - | 6.0 | 7.0 | - | 1370 | - |
| 100% C | 500/0 | 5 | 0 | - | 8.0 | 8.1 | - | 24.4 | 25.1 | - | 6.1 | 6.0 | - | 1354 | - |
| 100% D | 500/0 | 5 | 0 | - | 8.0 | 8.1 | - | 24.5 | 24.5 | - | 6.0 | 5.9 | - | 1368 | - |

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 22.5-25.0°C.
Incubator #3 temperature range for the test period was 24.0-26.0°C.

| **LIMS** | |
|---|---|
| Job number: | TLH-2002-12-10-01 |
| sample number: | 641968 |

| **Data Transcription Verification** | |
|---|---|
| date: | 1/8/2003 |
| by: | Christa Pierini |
| | James Daniels |

| **Total Residual CL2** | mg/L | Method |
|---|---|---|
| Field: | 0.00 | - |
| Lab: | 1.75 | Hach |

| **Ammonia** | Total (mg/L) | Unionized (mg/L) |
|---|---|---|
| Control water: | <0.017 | <0.017 |
| 100% Sample: | 16.95 | 1.090 |

| **Alk & Hardness** | Alkalinity (mg/L) | Hardness (mg/L) |
|---|---|---|
| Control water: | 136 | 132 |
| 100% Sample: | 169 | 145 |

**Table 2.** Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Beverly Beach Wastewater Treatment Facility (Ocean City Utilities), Highway A1A, Beverly Beach, Flagler County, Florida, NPDES# FL0039756, performed from 10 to 12 December 2002.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Facility: | **Beverly Beach WWTP (Ocean City Utilities)** | **NPDES #:** | **FL0039756** | Facility Type: | **WWTP** | **Analysts:** | Jacquelyn Brynda |
| Location: | Highway A1A, Beverly Beach | Contact/District: | O'Connor/NE | | | | Joshua Ayres |
| County: | Flagler | Test type: | static acute screen | | | | James Daniels |
| Sample Collection Date: | 12/9/2002 Time: 1505 | # tests: | 4 | Receiving Water: | Intracostal Waterway | | Marshall Faircloth |
| Test Beginning Date: | 12/10/2002 Time: 1500 | Chlorination Type: | dechlorinated | | Class III Marine | | Christa Pierini |
| Test Ending Date: | 12/12/2002 Time: 1400 | | | | **Page 1 of 2** | **Reviewer:** | David Whiting |

Organism: ***Americamysis bahia*** Life stage: 2 days

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Sample/Diluent** | **SURVIVAL # Alive** | | | pH | | | Temperature[A] | | | Dissolved Oxygen | | | Conductivity Uncorrected mmhos/cm | |
| | Concentrations | Volume(mL) | 0 hr | 24 hr | 48 hr | 0 hour | 24 hour | 48 hour | 0 hour | 24 hour | 48 hour | 0 hour | 24 hour | 48 hour | 0 hour | 48 hour |
| | Control A | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.2 | 23.5 | 24.0 | 24.5 | 7.2 | 7.2 | 5.2 | 30.2 | 33.8 |
| | Control B | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.2 | 23.3 | 23.9 | 24.2 | 7.3 | 7.0 | 5.2 | 30.5 | 33.0 |
| | Control C | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.2 | 23.1 | 23.8 | 24.4 | 7.4 | 7.1 | 5.2 | 30.2 | 33.2 |
| | Control D | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.2 | 23.6 | 24.2 | 24.7 | 7.6 | 7.1 | 5.2 | 30.5 | 33.8 |
| | Salt Ctrl A | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.8 | 23.7 | 24.4 | 7.8 | 7.1 | 5.7 | 29.2 | 33.5 |
| | Salt Ctrl B | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.6 | 23.5 | 24.6 | 7.3 | 7.0 | 5.6 | 30.2 | 33.5 |
| | Salt Ctrl C | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.4 | 23.9 | 25.5 | 7.3 | 7.0 | 4.9 | 30.3 | 34.6 |
| | Salt Ctrl D | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.4 | 24.0 | 24.6 | 7.5 | 7.1 | 4.6 | 30.2 | 33.1 |
| Dechlorinated | Salt Ctrl A | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.8 | 24.1 | 25.7 | 7.5 | 6.4 | 4.9 | 30.2 | 36.2 |
| Dechlorinated | Salt Ctrl B | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.7 | 24.3 | 24.9 | 7.4 | 6.3 | 4.7 | 29.9 | 34.2 |
| Dechlorinated | Salt Ctrl C | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.6 | 24.3 | 24.3 | 7.4 | 6.3 | 4.8 | 30.1 | 33.0 |
| Dechlorinated | Salt Ctrl D | 500/0 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.6 | 24.1 | 25.4 | 7.4 | 6.2 | 4.6 | 30.0 | 35.0 |
| Dechlorinated | 100% A | 500/0 | 5 | 3 | 2 | 8.2 | 8.2 | 8.2 | 23.3 | 24.8 | 25.0 | 7.4 | 6.5 | 4.8 | 30.4 | 35.1 |
| Dechlorinated | 100% B | 500/0 | 5 | 5 | 3 | 8.2 | 8.2 | 8.2 | 23.2 | 24.1 | 23.9 | 7.4 | 6.5 | 5.2 | 30.0 | 33.3 |
| Dechlorinated | 100% C | 500/0 | 5 | 4 | 3 | 8.2 | 8.2 | 8.2 | 23.2 | 24.4 | 24.8 | 7.4 | 6.5 | 5.7 | 30.2 | 34.4 |
| Dechlorinated | 100% D | 500/0 | 5 | 4 | 2 | 8.2 | 8.2 | 8.2 | 23.3 | 24.1 | 24.7 | 7.3 | 6.4 | 5.7 | 30.2 | 33.1 |
| | 100% A | 500/0 | 5 | 2 | 2 | 8.2 | 8.3 | 8.3 | 23.7 | 25.1 | 24.7 | 7.3 | 6.9 | 5.3 | 30.4 | 33.7 |
| | 100% B | 500/0 | 5 | 4 | 2 | 8.2 | 8.3 | 8.3 | 23.8 | 25.9 | 25.0 | 6.8 | 6.5 | 5.2 | 30.0 | 34.1 |
| | 100% C | 500/0 | 5 | 4 | 2 | 8.2 | 8.2 | 8.3 | 23.8 | 25.9 | 24.2 | 6.6 | 6.1 | 5.3 | 32.4 | 34.4 |
| | 100% D | 500/0 | 5 | 2 | 0 | 8.2 | 8.3 | 8.3 | 23.8 | 26.2 | 24.3 | 6.4 | 6.1 | 5.3 | 30.5 | 33.5 |

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 22.5-25.0°C.
Incubator #3 temperature range for the test period was 24.0-26.0°C.

| **LIMS** | |
|---|---|
| Job number: | TLH-2002-12-10-01 |
| Sample number: | 641968 |

| **Data Transcription Verification** | |
|---|---|
| date: | 1/8/2003 |
| by: | James Daniels |
| | Christa Pierini |

| **Total Residual CL2** | mg/L | Method |
|---|---|---|
| Field: | 0.00 | - |
| Lab: | 1.75 | Hach |

| **Ammonia** | Total (mg/L) | Unionized (mg/L) |
|---|---|---|
| ASW: | <0.017 | <0.017 |
| 100% Sample: | 16.95 | 1.090 |

| **Alk & Hardness** | Alkalinity (mg/L) | Hardness (mg/L) |
|---|---|---|
| ASW: | 248 | - |
| 100% Sample: | 169 | 145 |

| **Salinity**[C] | ppt |
|---|---|
| Mysid control: | 20 |
| Menidia control: | 20 |
| Mysid 100% sample: | 20 |
| Menidia 100% sample: | 20 |
| unadjusted 100% sample: | <1 |

[C] Salinity based on conductivity and temperature.

**Table 2.** Concluded Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Beverly Beach Wastewater Treatment Facility (Ocean City Utilities), Highway A1A, Beverly Beach, Flagler County, Florida, NPDES# FL0039756, performed from 10 to 12 December 2002.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Facility: | **Beverly Beach WWTP (Ocean City Utilities)** | **NPDES #:** | **FL0039756** | Facility Type: | **WWTP** | **Analysts:** | Jacquelyn Brynda |
| Location: | Highway A1A, Beverly Beach | Contact/District: | O'Connor/NE | | | | Joshua Ayres |
| County: | Flagler | Test type: | static acute screen | | | | James Daniels |
| Sample Collection Date: | 12/9/2002 Time: 1505 | # tests: | 4 | Receiving Water: | Intracostal Waterway | | Marshall Faircloth |
| Test Beginning Date: | 12/10/2002 Time: 1500 | Chlorination Type: | dechlorinated | | Class III Marine | | Christa Pierini |
| Test Ending Date: | 12/12/2002 Time: 1400 | | | | **Page 2 of 2** | **Reviewer:** | David Whiting |

Organism: ***Menidia beryllina*** Life stage: 13 days

| | | Sample/Diluent | SURVIVAL # Alive | | | pH | | | Temperature[A] | | | Dissolved Oxygen | | | Conductivity Uncorrected mmhos/cm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Concentrations | Volume(mL) | 0 hr | 24 hr | 48 hr | 0 hour | 24 hour | 48 hour | 0 hour | 24 hour | 48 hour | 0 hour | 24 hour | 48 hour | 0 hour | 48 hour |
| | Control A | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.1 | 23.6 | 24.3 | 24.5 | 6.8 | 6.2 | 4.0 | 30.2 | 33.0 |
| | Control B | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.1 | 23.6 | 23.6 | 24.6 | 6.7 | 6.4 | 4.1 | 31.3 | 33.5 |
| | Control C | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.1 | 23.5 | 23.7 | 24.5 | 6.8 | 6.7 | 4.3 | 31.4 | 33.7 |
| | Control D | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.2 | 23.5 | 23.7 | 24.6 | 6.9 | 6.7 | 4.2 | 31.4 | 33.1 |
| | Salt Ctrl A | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.8 | 23.9 | 24.4 | 6.9 | 6.9 | 4.8 | 30.3 | 33.1 |
| | Salt Ctrl B | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.7 | 24.3 | 24.3 | 7.2 | 6.8 | 4.7 | 29.9 | 33.4 |
| | Salt Ctrl C | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.6 | 24.0 | 24.3 | 7.2 | 6.8 | 4.5 | 30.4 | 33.2 |
| | Salt Ctrl D | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.7 | 24.5 | 24.3 | 7.3 | 6.7 | 4.8 | 30.2 | 33.7 |
| Dechlorinated | Salt Ctrl A | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.3 | 22.9 | 23.5 | 24.5 | 7.3 | 6.2 | 4.3 | 30.2 | 33.2 |
| Dechlorinated | Salt Ctrl B | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.2 | 22.7 | 23.6 | 24.4 | 7.3 | 6.3 | 4.1 | 30.4 | 33.0 |
| Dechlorinated | Salt Ctrl C | 0/500 | 5 | 5 | 5 | 8.3 | 8.3 | 8.2 | 22.6 | 23.6 | 24.4 | 6.5 | 6.4 | 4.0 | 30.2 | 33.1 |
| Dechlorinated | Salt Ctrl D | 500/0 | 5 | 5 | 5 | 8.3 | 8.3 | 8.2 | 22.7 | 23.4 | 24.4 | 6.9 | 6.4 | 4.1 | 30.7 | 34.5 |
| Dechlorinated | 100% A | 500/0 | 5 | 0 | - | 8.2 | 8.2 | - | 23.3 | 23.3 | - | 7.2 | 6.5 | - | 30.2 | - |
| Dechlorinated | 100% B | 500/0 | 5 | 1 | 1 | 8.2 | 8.2 | 8.2 | 23.2 | 23.3 | 24.4 | 7.4 | 6.2 | 4.5 | 30.3 | 33.0 |
| Dechlorinated | 100% C | 500/0 | 5 | 0 | - | 8.2 | 8.2 | - | 23.3 | 24.1 | - | 7.4 | 5.2 | - | 30.4 | - |
| Dechlorinated | 100% D | 500/0 | 5 | 2 | 1 | 8.2 | 8.2 | 8.2 | 23.3 | 23.5 | 24.4 | 7.5 | 4.9 | 4.6 | 30.3 | 33.3 |
| | 100% A | 500/0 | 5 | 0 | - | 8.2 | 8.2 | - | 23.8 | 24.3 | - | 7.6 | 6.7 | - | 30.6 | - |
| | 100% B | 500/0 | 5 | 1 | 0 | 8.2 | 8.2 | 8.2 | 23.9 | 24.1 | 24.4 | 7.1 | 6.3 | 4.8 | 30.7 | 33.4 |
| | 100% C | 500/0 | 5 | 0 | - | 8.2 | 8.2 | - | 23.9 | 24.5 | - | 6.9 | 5.0 | - | 30.7 | - |
| | 100% D | 500/0 | 5 | 0 | - | 8.2 | 8.2 | - | 23.9 | 25.0 | - | 6.5 | 5.0 | - | 30.4 | - |

| **LIMS** | |
|---|---|
| Job number: | TLH-2002-12-10-10-01 |
| Sample number: | 641968 |

| **Data Transcription Verification** | |
|---|---|
| date: | 1/8/2003 |
| by: | James Daniels |
| | Christa Pierini |

| **Total Residual CL2** | mg/L | Method |
|---|---|---|
| Field: | 0.00 | - |
| Lab: | 1.75 | Hach |

| **Ammonia** | Total (mg/L) | Unionized (mg/L) |
|---|---|---|
| ASW: | <0.017 | <0.017 |
| 100% Sample: | 16.95 | 1.090 |

| **Alk & Hardness** | Alkalinity (mg/L) | Hardness (mg/L) |
|---|---|---|
| ASW: | 248 | - |
| 100% Sample: | 169 | 145 |

| **Salinity [C]** | ppt |
|---|---|
| Mysid control: | 20 |
| Menidia control: | 20 |
| Mysid 100% sample: | 20 |
| Menidia 100% sample: | 20 |
| unadjusted 100% sample: | <1 |

[C] Salinity based on conductivity and temperature.

**Table 3. Results of chemical analyses on the effluent from Beverly Beach WWTF (Ocean City Utilities) sampled on December 9, 2002.**

### Metals

| | | | |
|---|---|---|---|
| Aluminum | 83 | ug/L | |
| Cadmium | 0.049 | ug/L | I |
| Calcium | 48.6 | mg/L | |
| Copper | 4.6 | ug/L | |
| Iron | 58 | ug/L | |
| Lead | 0.42 | ug/L | |
| Magnesium | 7.6 | mg/L | |
| Zinc | 66.7 | ug/L | |

### Pesticides and Herbicides

None detected

### Nutrients

| | | | |
|---|---|---|---|
| Ammonia-N | 16 | mg N/L | A |
| Total Kjeldahl Nitrogen | 20 | mg N/L | A |
| Nitrates and Nitrites | 13 | mg N/L | |
| Ortho-Phosphates | 5.8 | mg P/L | |
| Total Phosphorous | 5.8 | mg P/L | A |

### Base, Neutral, & Acid Extractable Organics

None detected

[A] The reported value is an average of two or more values.
[I] The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

**Table 4. Chemical Analysis performed on the effluent from Beverly Beach Wastewater Treatment Facility, sampled on December 9, 2002.**

| Date Sampled | Field ID | Analysis Group | Component | Result | Units | Remark | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1,2,4,5-Tetrachlorobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1,2,4-Trichlorobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1,2-Dichlorobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1,3,5-Trinitrobenzene | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1,3-Dichlorobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1,3-Dinitrobenzene | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1,4-Dichlorobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1,4-Naphthoquinone | 19 | ug/L | UJ | 19 | 76 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 1-Naphthylamine | 9.5 | ug/L | U | 9.5 | 38 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,3,4,6-Tetrachlorophenol | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,4,5-Trichlorophenol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,4,6-Trichlorophenol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,4-Dichlorophenol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,4-Dimethylphenol | 48 | ug/L | U | 48 | 190 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,4-Dinitrophenol | 14 | ug/L | UJ | 14 | 57 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,4-Dinitrotoluene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,6-Dichlorophenol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2,6-Dinitrotoluene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Acetylaminofluorene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Chloronaphthalene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Chlorophenol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Methyl-4,6-dinitrophenol | 2.9 | ug/L | U | 2.9 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Methylnaphthalene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Naphthylamine | 9.5 | ug/L | U | 9.5 | 38 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Nitroaniline | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Nitrophenol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 2-Picoline | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 3,3'-Dichlorobenzidine | 38 | ug/L | U | 38 | 150 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 3,3'-Dimethylbenzidine | 19 | ug/L | UJ | 19 | 76 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 3-Methylcholanthrene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 3-Nitroaniline | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4,4'-DDD | 1.4 | ug/L | U | 1.4 | 5.7 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4,4'-DDE | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4,4'-DDT | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4-Aminobiphenyl | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4-Bromophenyl phenyl ether | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4-Chloro-3-methylphenol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4-Chloroaniline | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4-Chlorophenyl phenyl ether | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4-Nitroaniline | 0.95 | ug/L | UJ | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 4-Nitrophenol | 14 | ug/L | U | 14 | 57 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 5-Nitro-o-toluidine | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | 7,12-Dimethylbenz(a)anthracene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Acenaphthene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Acenaphthylene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Acetophenone | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Aldrin | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Aniline | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Anthracene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Azobenzene/1,2-Diphenylhydrazine | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Benzidine | 95 | ug/L | UJ | 95 | 380 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Benzo(a)anthracene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Benzo(a)pyrene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Benzo(b)fluoranthene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Benzo(g,h,i)perylene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Benzo(k)fluoranthene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Benzyl alcohol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Bis(2-chloroethoxy)methane | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Bis(2-chloroethyl)ether | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Bis(2-chloroisopropyl)ether | 2.9 | ug/L | U | 2.9 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Bis(2-ethylhexyl)phthalate | 14 | ug/L | U | 14 | 57 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Butyl benzyl phthalate | 4.8 | ug/L | U | 4.8 | 19 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Chrysene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Di-n-butyl phthalate | 4.8 | ug/L | U | 4.8 | 19 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Di-n-octyl phthalate | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Dibenzo(a,h)anthracene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Dibenzofuran | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Dieldrin | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Diethyl phthalate | 0.95 | ug/L | U | 0.95 | 3.8 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Dimethyl phthalate | 48 | ug/L | U | 48 | 190 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Dimethylaminoazobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Dinoseb | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Diphenylamine | 2.9 | ug/L | U | 2.9 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Endosulfan I | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Endosulfan II | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Endosulfan sulfate | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Endrin | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Endrin aldehyde | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Ethyl methanesulfonate | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Fluoranthene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Fluorene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Heptachlor | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Heptachlor epoxide | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Hexachlorobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Hexachlorobutadiene | 2.9 | ug/L | U | 2.9 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Hexachlorocyclopentadiene | 2.9 | ug/L | U | 2.9 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Hexachloroethane | 2.9 | ug/L | U | 2.9 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Hexachloropropene | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Indeno(1,2,3-cd)pyrene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Isophorone | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Isosafrole | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Methapyrilene | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Methyl methanesulfonate | 0.95 | ug/L | UJ | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosodi-n-butylamine | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosodi-n-propylamine | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosodiethylamine | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosodimethylamine | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosodiphenylamine | 2.9 | ug/L | U | 2.9 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosomethylethylamine | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosomorpholine | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosopiperidine | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | N-Nitrosopyrrolidine | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Naphthalene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Nitrobenzene | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Nitroquinoline-1-oxide | 19 | ug/L | U | 19 | 76 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Pentachlorobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Pentachloroethane | 48 | ug/L | U | 48 | 190 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Pentachloronitrobenzene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Pentachlorophenol | 2.9 | ug/L | U | 2.9 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Phenacetin | 3.8 | ug/L | U | 3.8 | 11 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Phenanthrene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Phenol | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Pyrene | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Pyridine | 3.8 | ug/L | UJ | 3.8 | 15 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | Safrole | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | alpha-BHC | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | beta-BHC | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | delta-BHC | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | gamma-BHC | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | m,p-Cresols | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | o-Cresol | 1.9 | ug/L | U | 1.9 | 7.6 |
| 12/9/2002 15:10 | EQUIPMENT BLK | BNA-Water | o-Toluidine | 0.95 | ug/L | U | 0.95 | 3.8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Alachlor | 0.63 | ug/L | U | 0.63 | 2.52 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Ametryn | 0.053 | ug/L | U | 0.053 | 0.212 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Atrazine | 0.053 | ug/L | U | 0.053 | 0.212 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Azinphos Methyl | 0.053 | ug/L | U | 0.053 | 0.212 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Bromacil | 0.21 | ug/L | U | 0.21 | 0.84 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Butylate | 0.21 | ug/L | U | 0.21 | 0.84 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Chlorpyrifos Ethyl | 0.053 | ug/L | U | 0.053 | 0.212 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Chlorpyrifos Methyl | 0.1 | ug/L | U | 0.1 | 0.4 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Diazinon | 0.053 | ug/L | U | 0.053 | 0.212 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Ethion | 0.053 | ug/L | U | 0.053 | 0.212 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Ethoprop | 0.1 | ug/L | U | 0.1 | 0.4 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Fenamiphos | 0.21 | ug/L | U | 0.21 | 0.84 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Fonofos | 0.1 | ug/L | U | 0.1 | 0.4 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Hexazinone | 0.1 | ug/L | U | 0.1 | 0.4 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Malathion | 0.16 | ug/L | U | 0.16 | 0.64 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Metalaxyl | 0.26 | ug/L | U | 0.26 | 1.04 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Metolachlor | 0.53 | ug/L | U | 0.53 | 2.12 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Metribuzin | 0.1 | ug/L | U | 0.1 | 0.4 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Mevinphos | 0.21 | ug/L | U | 0.21 | 0.84 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Naled | 0.84 | ug/L | U | 0.84 | 3.36 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Norflurazon | 0.1 | ug/L | U | 0.1 | 0.4 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Parathion Ethyl | 0.16 | ug/L | U | 0.16 | 0.64 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Parathion Methyl | 0.1 | ug/L | U | 0.1 | 0.4 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Phorate | 0.053 | ug/L | U | 0.053 | 0.212 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Prometryn | 0.16 | ug/L | U | 0.16 | 0.64 |
| 12/9/2002 15:10 | EQUIPMENT BLK | GC-Water | Simazine | 0.053 | ug/L | U | 0.053 | 0.212 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Aluminum | 10 | ug/L | U | 10 | 40 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Arsenic | 3 | ug/L | U | 3 | 12 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Cadmium | 0.025 | ug/L | U | 0.025 | 0.1 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Calcium | 0.04 | mg/L | U | 0.04 | 0.12 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Chromium | 2 | ug/L | U | 2 | 8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Copper | 0.75 | ug/L | U | 0.75 | 3 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Iron | 7 | ug/L | U | 7 | 28 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Lead | 0.1 | ug/L | U | 0.1 | 0.4 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Magnesium | 0.01 | mg/L | U | 0.01 | 0.04 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Nickel | 2 | ug/L | U | 2 | 8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Selenium | 1 | ug/L | U | 1 | 4 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Silver | 0.02 | ug/L | U | 0.02 | 0.08 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Metals-Water | Zinc | 5 | ug/L | U | 2 | 8 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Nutrients-Liquid | Ammonia-N | 0.01 | mg N/L | U | 0.01 | 0.02 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Nutrients-Liquid | NO2NO3-N | 0.004 | mg N/L | U | 0.004 | 0.01 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Nutrients-Liquid | N_KJEL_TOT | 0.06 | mg N/L | U | 0.06 | 0.2 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Nutrients-Liquid | O-Phosphate-P | 0.004 | mg P/L | U | 0.004 | 0.01 |
| 12/9/2002 15:10 | EQUIPMENT BLK | Nutrients-Liquid | Total-P | 0.015 | mg P/L | U | 0.015 | 0.04 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1,2,4,5-Tetrachlorobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1,2,4-Trichlorobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1,2-Dichlorobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1,3,5-Trinitrobenzene | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1,3-Dichlorobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1,3-Dinitrobenzene | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1,4-Dichlorobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1,4-Naphthoquinone | 19 | ug/L | UJ | 19 | 75 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 1-Naphthylamine | 9.4 | ug/L | U | 9.4 | 38 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,3,4,6-Tetrachlorophenol | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,4,5-Trichlorophenol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,4,6-Trichlorophenol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,4-Dichlorophenol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,4-Dimethylphenol | 47 | ug/L | U | 47 | 190 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,4-Dinitrophenol | 14 | ug/L | UJ | 14 | 57 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,4-Dinitrotoluene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,6-Dichlorophenol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2,6-Dinitrotoluene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Acetylaminofluorene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Chloronaphthalene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Chlorophenol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Methyl-4,6-dinitrophenol | 2.8 | ug/L | U | 2.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Methylnaphthalene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Naphthylamine | 9.4 | ug/L | U | 9.4 | 38 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Nitroaniline | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Nitrophenol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 2-Picoline | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 3,3'-Dichlorobenzidine | 38 | ug/L | U | 38 | 150 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 3,3'-Dimethylbenzidine | 19 | ug/L | UJ | 19 | 75 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 3-Methylcholanthrene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 3-Nitroaniline | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4,4'-DDD | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4,4'-DDE | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4,4'-DDT | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4-Aminobiphenyl | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4-Bromophenyl phenyl ether | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4-Chloro-3-methylphenol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4-Chloroaniline | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4-Chlorophenyl phenyl ether | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4-Nitroaniline | 0.94 | ug/L | UJ | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 4-Nitrophenol | 14 | ug/L | U | 14 | 57 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 5-Nitro-o-toluidine | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | 7,12-Dimethylbenz(a)anthracene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Acenaphthene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Acenaphthylene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Acetophenone | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Aldrin | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Aniline | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Anthracene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Azobenzene/1,2-Diphenylhydrazine | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Benzidine | 94 | ug/L | UJ | 94 | 380 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Benzo(a)anthracene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Benzo(a)pyrene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Benzo(b)fluoranthene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Benzo(g,h,i)perylene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Benzo(k)fluoranthene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Benzyl alcohol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Bis(2-chloroethoxy)methane | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Bis(2-chloroethyl)ether | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Bis(2-chloroisopropyl)ether | 2.8 | ug/L | U | 2.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Bis(2-ethylhexyl)phthalate | 14 | ug/L | U | 14 | 57 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Butyl benzyl phthalate | 4.7 | ug/L | U | 4.7 | 19 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Chrysene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Di-n-butyl phthalate | 4.7 | ug/L | U | 4.7 | 19 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Di-n-octyl phthalate | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Dibenzo(a,h)anthracene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Dibenzofuran | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Dieldrin | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Diethyl phthalate | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Dimethyl phthalate | 47 | ug/L | U | 47 | 190 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Dimethylaminoazobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Dinoseb | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Diphenylamine | 2.8 | ug/L | U | 2.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Endosulfan I | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Endosulfan II | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Endosulfan sulfate | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Endrin | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Endrin aldehyde | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Ethyl methanesulfonate | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Fluoranthene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Fluorene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Heptachlor | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Heptachlor epoxide | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Hexachlorobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Hexachlorobutadiene | 2.8 | ug/L | U | 2.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Hexachlorocyclopentadiene | 2.8 | ug/L | U | 2.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Hexachloroethane | 2.8 | ug/L | U | 2.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Hexachloropropene | 1.9 | ug/L | U | 1.9 | 7.5 |

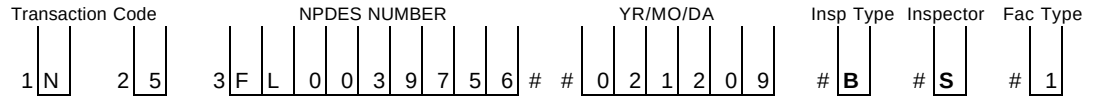
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Indeno(1,2,3-cd)pyrene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Isophorone | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Isosafrole | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Methapyrilene | 3.8 | ug/L | U | 3.8 | 15 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Methyl methanesulfonate | 0.94 | ug/L | UJ | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosodi-n-butylamine | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosodi-n-propylamine | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosodiethylamine | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosodimethylamine | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosodiphenylamine | 2.8 | ug/L | U | 2.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosomethylethylamine | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosomorpholine | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosopiperidine | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | N-Nitrosopyrrolidine | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Naphthalene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Nitrobenzene | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Nitroquinoline-1-oxide | 19 | ug/L | U | 19 | 75 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Pentachlorobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Pentachloroethane | 47 | ug/L | U | 47 | 190 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Pentachloronitrobenzene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Pentachlorophenol | 2.8 | ug/L | U | 2.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Phenacetin | 3.8 | ug/L | U | 3.8 | 11 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Phenanthrene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Phenol | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Pyrene | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Pyridine | 3.8 | ug/L | UJ | 3.8 | 15 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | Safrole | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | alpha-BHC | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | beta-BHC | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | delta-BHC | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | gamma-BHC | 1.4 | ug/L | U | 1.4 | 5.7 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | m,p-Cresols | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | o-Cresol | 1.9 | ug/L | U | 1.9 | 7.5 |
| 12/9/2002 15:05 | FINAL EFFLUENT | BNA-Water | o-Toluidine | 0.94 | ug/L | U | 0.94 | 3.8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Alachlor | 0.57 | ug/L | U | 0.57 | 2.28 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Ametryn | 0.047 | ug/L | U | 0.047 | 0.188 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Atrazine | 0.047 | ug/L | U | 0.047 | 0.188 |

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|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Azinphos Methyl | 0.047 | ug/L | U | 0.047 | 0.188 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Bromacil | 0.19 | ug/L | U | 0.19 | 0.76 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Butylate | 0.19 | ug/L | U | 0.19 | 0.76 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Chlorpyrifos Ethyl | 0.047 | ug/L | U | 0.047 | 0.188 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Chlorpyrifos Methyl | 0.094 | ug/L | U | 0.094 | 0.376 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Diazinon | 0.047 | ug/L | U | 0.047 | 0.188 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Ethion | 0.047 | ug/L | U | 0.047 | 0.188 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Ethoprop | 0.094 | ug/L | U | 0.094 | 0.376 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Fenamiphos | 0.19 | ug/L | U | 0.19 | 0.76 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Fonofos | 0.094 | ug/L | U | 0.094 | 0.376 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Hexazinone | 0.094 | ug/L | U | 0.094 | 0.376 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Malathion | 0.14 | ug/L | U | 0.14 | 0.56 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Metalaxyl | 0.24 | ug/L | U | 0.24 | 0.96 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Metolachlor | 0.47 | ug/L | U | 0.47 | 1.88 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Metribuzin | 0.094 | ug/L | U | 0.094 | 0.376 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Mevinphos | 0.19 | ug/L | U | 0.19 | 0.76 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Naled | 0.75 | ug/L | U | 0.75 | 3 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Norflurazon | 0.094 | ug/L | U | 0.094 | 0.376 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Parathion Ethyl | 0.14 | ug/L | U | 0.14 | 0.56 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Parathion Methyl | 0.094 | ug/L | U | 0.094 | 0.376 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Phorate | 0.047 | ug/L | U | 0.047 | 0.188 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Prometryn | 0.14 | ug/L | U | 0.14 | 0.56 |
| 12/9/2002 15:05 | FINAL EFFLUENT | GC-Water | Simazine | 0.047 | ug/L | U | 0.047 | 0.188 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Aluminum | 83 | ug/L | | 10 | 40 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Arsenic | 3 | ug/L | U | 3 | 12 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Cadmium | 0.049 | ug/L | I | 0.025 | 0.1 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Calcium | 48.6 | mg/L | | 0.04 | 0.12 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Chromium | 2 | ug/L | U | 2 | 8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Copper | 4.6 | ug/L | | 0.75 | 3 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Iron | 58 | ug/L | | 7 | 28 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Lead | 0.42 | ug/L | | 0.1 | 0.4 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Magnesium | 7.6 | mg/L | | 0.01 | 0.04 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Nickel | 3 | ug/L | U | 2 | 8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Selenium | 1 | ug/L | U | 1 | 4 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Silver | 0.02 | ug/L | U | 0.02 | 0.08 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Metals-Water | Zinc | 66.7 | ug/L | | 2 | 8 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Nutrients-Liquid | Ammonia-N | 16 | mg N/L | A | 0.5 | 1 |

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|---|---|---|---|---|---|---|---|---|---|
| 12/9/2002 15:05 | FINAL EFFLUENT | Nutrients-Liquid | NO2NO3-N | 13 | mg | N/L | | 0.4 | 1 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Nutrients-Liquid | N_KJEL_TOT | 20 | mg | N/L | A | 0.48 | 1.6 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Nutrients-Liquid | O-Phosphate-P | 5.8 | mg | P/L | | 0.4 | 1 |
| 12/9/2002 15:05 | FINAL EFFLUENT | Nutrients-Liquid | Total-P | 5.8 | mg | P/L | A | 0.12 | 0.32 |

## The Bioassay of Beverly Beach WWTF (Ocean City Utilities) effluent sampled on December 9, 2002, NPDES #FL0039756.

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



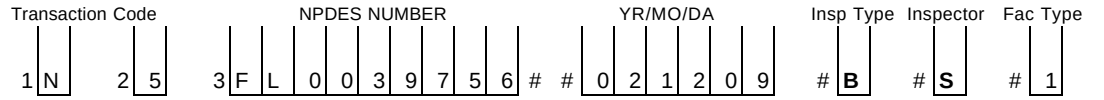

Remarks



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## The Priority Pollutants Analysis for Bioassay of Beverly Beach WWTF (Ocean City Utilities) effluent sampled on December 9, 2002, NPDES #FL0039756.

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




Remarks



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