

*Protecting Our Water Environment*



*Metropolitan Water Reclamation District of Greater Chicago*

***MONITORING AND RESEARCH  
DEPARTMENT***

*REPORT NO. 25-04*

*RESULTS OF ACUTE TOXICITY TESTING WITH Ceriodaphnia dubia  
AND Pimephales promelas ON A MARCH 2025 EFFLUENT SAMPLE  
FROM THE JOHN E. EGAN WATER RECLAMATION PLANT OF THE  
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER  
CHICAGO*

*April 2025*

**Metropolitan Water Reclamation District of Greater Chicago**  
100 East Erie Street Chicago, Illinois 60611-2803 (312) 751-5600

**RESULTS OF ACUTE TOXICITY TESTING WITH *Ceriodaphnia dubia* AND  
*Pimephales promelas* ON A MARCH 2025 EFFLUENT SAMPLE FROM THE JOHN  
E. EGAN WATER RECLAMATION PLANT OF THE METROPOLITAN WATER  
RECLAMATION DISTRICT OF GREATER CHICAGO**

By

**EnviroScience, Incorporated  
5070 Stow Road  
Stow, Ohio 44224**

*Protecting Our Water Environment*

**Metropolitan Water Reclamation District of Greater Chicago**

CECIL LUE-HING RESEARCH AND DEVELOPMENT COMPLEX  
6001 WEST PERSHING ROAD CICERO, ILLINOIS 60804-4112

**Edward W. Podczerwinski, P.E.**

Director of Monitoring and Research

**BOARD OF COMMISSIONERS**

Kari K. Steele  
*President*  
Patricia Theresa Flynn  
*Vice President*  
Marcelino Garcia  
*Chairman of Finance*  
Precious Brady-Davis  
Yumeka Brown  
Cameron Davis  
Beth McElroy Kirkwood  
Eira L. Corral Sepúlveda  
Sharon Waller

April 7, 2025

Illinois Environmental Protection Agency  
Compliance Assurance Section CAS # 19  
2520 W. Iles Ave.  
P.O. Box 19276  
Springfield, IL 62794-9276

Dear Sir or Madam:

Subject: Biomonitoring Report for 2025 – Acute Toxicity Test Results for the  
John E. Egan Water Reclamation Plant, National Pollutant Discharge  
Elimination System Permit Number IL0036340

The subject biomonitoring report including Acute Whole Effluent Toxicity test results for *Pimephales promelas* and *Ceriodaphnia dubia* is submitted in compliance with National Pollutant Discharge Elimination System Permit Number IL0036340, Special Condition 11. The report covers the monitoring done for samples collected in the ninth month before the expiration of the permit.

The subject report prepared by EnviroScience, Inc., includes copies of all bench sheets, chain-of-custody forms, sample receipt, preparation forms, a summary of final results and test information, quality assurance record, and water quality results.

If you have any questions concerning this report, please contact Mr. Thomas Minarik, Principal Environmental Scientist, at (708) 588-4223.

Very truly yours,

*Albert Cox / Heng Zhang*

Albert Cox  
Environmental Monitoring and Research Manager  
Monitoring and Research Department

AC:TM:NK:ek  
Enclosure  
cc: E. Podczerwinski  
E. Staudacher  
H. Zhang  
T. Minarik  
N. Kollias  
Via electronic mail

## RESULTS OF ACUTE TOXICITY TESTS

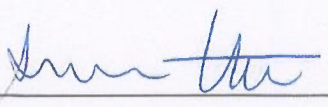
48 Hour - *Ceriodaphnia dubia* (water flea)  
96 Hour - *Pimephales promelas* (fathead minnow)

Testing period: March 5-9, 2025  
Sample collection dates: March 3-4, 2025  
Report date: March 16, 2025

Conducted For:  
JOHN E. EGAN WRP  
550 South Meacham Road  
Schaumburg, IL 60193  
**Permit #: IL0036340**

Conducted and Prepared By:  
ENVIROSCIENCE, INCORPORATED  
5070 Stow Rd.  
Stow, OH 44224



, Aquatic Biologist

March 16, 2025

Mr. Nicholas Kollias  
John E. Egan WRP  
550 South Meacham Road  
Schaumburg, IL 60193

Re: John E. Egan WRP

Dear Mr. Kollias:

Enclosed is a copy of EnviroScience's report for the following whole effluent toxicity (WET) tests that were initiated on March 5, 2025 with effluent collected from outfall 001:

- (1) 48-hour static acute bioassay using *Ceriodaphnia dubia* (water flea) and
- (1) 96-hour static acute bioassay using *Pimephales promelas* (fathead minnow).

The effluent sample was not shown to be toxic to either species. Acute Toxicity Units (TUa) are listed below.

**WET test endpoints for John E. Egan WRP, 03/2025**  
sample collection period 03/03-04/25

|                                           |                                                                |
|-------------------------------------------|----------------------------------------------------------------|
| <i>Ceriodaphnia dubia</i><br>(water flea) | 48HR LC <sub>50</sub> = >100% effluent; TU <sub>a</sub> = <1.0 |
|-------------------------------------------|----------------------------------------------------------------|

|                                                |                                                                |
|------------------------------------------------|----------------------------------------------------------------|
| <i>Pimephales promelas</i><br>(fathead minnow) | 96HR LC <sub>50</sub> = >100% effluent; TU <sub>a</sub> = <1.0 |
|------------------------------------------------|----------------------------------------------------------------|

(TU<sub>a</sub> = 100/LC<sub>50</sub>)

Please call me if you have any questions.

Sincerely,



Alexandria M. Tite, Aquatic Biologist

enclosures



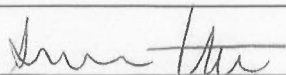
5070 Stow Road  
Stow, OH 44224

# BIOMONITORING REPORT FORM FOR NPDES PERMIT REQUIREMENTS

---

Table 1. General Information

1. Facility: John E. Egan WRP
2. Address: 550 South Meacham Road, Schaumburg, IL 60193
3. NPDES Permit No.: IL0036340
4. Facility Contact: Nicholas Kollias 5. Phone No.: 708-588-4074
6. Testing Lab: EnviroScience, Inc., 5070 Stow Rd., Stow, OH 44224
7. Laboratory Contact: Alex Tite 8. Phone No.: 330-688-0111
9. Receiving Water(s) of Discharge: Salt Creek
10. Outfall(s) Tested: 001
11. Test Species/Type: #1 Ceriodaphnia dubia (water flea) 48-hour definitive, static, non-renewal  
#2 Pimephales promelas (fathead minnow) 96-hour definitive, static, non-renewal
12. Dechlorination?: no Original Chlorine Conc.: <0.02 mg/l
13. Report Contents:
- General information.....Table 1
  - Sampling information .....Table 2
  - Test dates and times.....Table 3
  - Initial chemistry .....Table 4
  - Test conditions.....Table 5
  - Test results Untreated Plant Effluent.....Table 6
  - Additional Information .....Table 7
  - Attachments
    - Chain-of-Custody, bench sheets/data analysis
    - SRT control charts

  
 Signature of preparer

03/16/25  
 Date

Alexandria M. Tite  
 Name (typed or printed)

Aquatic Biologist  
 Title

**Table 2. Sampling summary.**

| Outfall | Sample Type | Volume Collected | Sample Collection   |                           | Flow MGD |
|---------|-------------|------------------|---------------------|---------------------------|----------|
|         |             |                  | Begin MM/DD/YY-Time | End or Grab MM/DD/YY-Time |          |
| 001     | composite   | 2 gallons        | 03/03/25-0600       | 03/04/25-0600             |          |

**Table 3. Testing periods.**

| <i>Ceriodaphnia dubia</i> (water flea) |          | <i>Pimephales promelas</i> (fathead minnow) |          |
|----------------------------------------|----------|---------------------------------------------|----------|
| Start Date: MM/DD/YY                   | 03/05/25 | Start Date: MM/DD/YY                        | 03/05/25 |
| Start Time:                            | 1430 hrs | Start Time:                                 | 1320 hrs |
| End Date: MM/DD/YY                     | 03/07/25 | End Date: MM/DD/YY                          | 03/09/25 |
| End Time:                              | 1350 hrs | End Time:                                   | 1220 hrs |

Notes: Sample receipt: 03/05/25-1305; 0.9°C.

**Table 4. Initial chemistry. DO = dissolved oxygen. TRC = total residual chlorine.**

| sample #<br>(Plant Effluent) | collection date | DO<br>mg/L | pH<br>s.u. | conductivity<br>µmho/cm | alkalinity<br>mg/L CaCO <sub>3</sub> | hardness<br>mg/L CaCO <sub>3</sub> | TRC<br>mg/L | Ammonia<br>mg/l |
|------------------------------|-----------------|------------|------------|-------------------------|--------------------------------------|------------------------------------|-------------|-----------------|
| 001                          | 03/03-04/25     | 8.6        | 6.6        | 1529                    | 116                                  | 300                                | <0.02       | 0.19            |

**Methods or Instrumentation used in chemical analysis:**

Dissolved Oxygen: APHA (1998, 20<sup>th</sup> ed.) 4500-O G., OX 4100L

pH: APHA (1998, 20<sup>th</sup> ed.) 4500-H<sup>+</sup> B., Orion Star A211

Conductivity: APHA (1998, 20<sup>th</sup> ed.) 2510 B., Orion Star A212

Total Alkalinity: APHA (1998, 20<sup>th</sup> ed.) 2320 B.

Total Hardness: APHA (1998, 20<sup>th</sup> ed.) 2340 C.

Total Residual Chlorine: APHA (1998, 20<sup>th</sup> ed.) 4500-Cl D., TitraLab AT1000

Ammonia nitrogen: APHA (1992, 18<sup>th</sup> ed.) 4500-NH<sub>3</sub> C., HI 95715

**Table 5.** Summary of toxicity test conditions for testing with *Ceriodaphnia dubia* and *Pimephales promelas*.

|                                                                                           | <i>Ceriodaphnia dubia</i>                                                                                                               | <i>Pimephales promelas</i>                                                                                                              |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1. Test dates:                                                                            | 03/05/25-1430 to 03/07/25-1350                                                                                                          | 03/05/25-1320 to 03/09/25-1220                                                                                                          |
| 2. Test type and duration:                                                                | static, non-renewal, 48 hours                                                                                                           | static, non-renewal, 96-hours                                                                                                           |
| 3. Age and source of organisms:                                                           | <24 hours, EnviroScience<br>03/04/25-1600                                                                                               | 7 days, ES 02/25/25-1600                                                                                                                |
| 4. Photoperiod/<br>Light quality:                                                         | 16 hours light / 8 hours dark<br>fluorescent light, 50-100fc                                                                            | 16 hours light / 8 hours dark<br>fluorescent light, 50-100fc                                                                            |
| 5. Test temperature:                                                                      | 25±1 °C                                                                                                                                 | 25±1 °C                                                                                                                                 |
| 6. Feeding regime:                                                                        | fed alga <i>Selenastrum capricornutum</i> and YAT prior to test only                                                                    | fed <500 brine shrimp/vessel at 48-hours                                                                                                |
| 7. Size of test vessel:                                                                   | 30 ml plastic cup                                                                                                                       | 600 ml glass beaker                                                                                                                     |
| 8. Volume and depth of test solutions:                                                    | 15 ml and 24 mm                                                                                                                         | 250 ml and 42 mm                                                                                                                        |
| 9. No. of test organisms per vessel:                                                      | 5                                                                                                                                       | 10, unless otherwise noted                                                                                                              |
| 10. No. of vessels per solution:                                                          | 4                                                                                                                                       | 2                                                                                                                                       |
| 11. Total no. of organisms per test level:                                                | 20                                                                                                                                      | 20, unless otherwise noted                                                                                                              |
| 12. Test concentrations as % effluent:                                                    | 6.25, 12.5, 25, 50, and 100                                                                                                             | 6.25, 12.5, 25, 50, and 100                                                                                                             |
| 13. Dilution and primary control water:                                                   | moderately hard reconstituted water, MHRW                                                                                               | moderately hard reconstituted water, MHRW                                                                                               |
| 14. Secondary control:                                                                    | moderately hard dilute mineral water, DMW                                                                                               | moderately hard dilute mineral water, DMW                                                                                               |
| 15. Aeration:                                                                             | none                                                                                                                                    | none                                                                                                                                    |
| 16. Endpoints:                                                                            | mortality - no movement with gentle prodding (LC <sub>50</sub> ); plus behavioral effects such as atypical swimming (EC <sub>50</sub> ) | mortality - no movement with gentle prodding (LC <sub>50</sub> ); plus behavioral effects such as atypical swimming (EC <sub>50</sub> ) |
| 17. No. of consecutive tests conducted with an alternate source of primary control water: | NA                                                                                                                                      | NA                                                                                                                                      |

**Table 6.** Percent cumulative mortality, LC<sub>50</sub>, EC<sub>50</sub>, and 95% confidence intervals for acute toxicity tests using *Ceriodaphnia dubia* and *Pimephales promelas* using effluent collected from **Outfall 001**.

| Concentration                              | <i>C. dubia</i> (water flea)<br>03/05/25 to 03/07/25 |                            | <i>P. promelas</i> (fathead minnow)<br>03/05/25 to 03/09/25 |                            |                            |                            |
|--------------------------------------------|------------------------------------------------------|----------------------------|-------------------------------------------------------------|----------------------------|----------------------------|----------------------------|
|                                            | 24-hours<br>%<br>mortality                           | 48-hours<br>%<br>mortality | 24-hours<br>%<br>mortality                                  | 48-hours<br>%<br>mortality | 72-hours<br>%<br>mortality | 96-hours<br>%<br>mortality |
| MHRW lab water, diluent                    | 0                                                    | 0                          | 0                                                           | 0                          | 0                          | 5                          |
| DMW lab water                              | 0                                                    | 5                          | 0                                                           | 0                          | 0                          | 10                         |
| 6.25% effluent                             | 0                                                    | 0                          | 0                                                           | 0                          | 0                          | 0                          |
| 12.5% effluent                             | 0                                                    | 0                          | 0                                                           | 0                          | 10                         | 10                         |
| 25% effluent                               | 0                                                    | 0                          | 0                                                           | 0                          | 5                          | 10                         |
| 50% effluent                               | 0                                                    | 0                          | 0                                                           | 0                          | 0                          | 10                         |
| 100% effluent                              | 0                                                    | 0                          | 0                                                           | 0                          | 0                          | 0                          |
| LC <sub>50</sub>                           | >100%<br>effluent                                    | >100%<br>effluent          | >100%<br>effluent                                           | >100%<br>effluent          | >100%<br>effluent          | >100%<br>effluent          |
| 95% C.I.                                   |                                                      |                            |                                                             |                            |                            |                            |
| EC <sub>50</sub>                           | >100%<br>effluent                                    | >100%<br>effluent          | >100%<br>effluent                                           | >100%<br>effluent          | >100%<br>effluent          | >100%<br>effluent          |
| 95% C.I.                                   |                                                      |                            |                                                             |                            |                            |                            |
| TU <sub>a</sub><br>(100+LC <sub>50</sub> ) |                                                      | <1.0                       |                                                             |                            |                            | <1.0                       |
| Methods:                                   | Cetis 2.1.5 TU <sub>a</sub> = 100/LC <sub>50</sub> . |                            |                                                             |                            |                            |                            |

Table 7. Additional Information:

Indicate below any other relevant information that may aid in the evaluation of this report. Include any deviations from current SOP that were necessary. Attach additional pages as needed.

7.1 Deviations/relevant information.

7.2 Terms.

$LC_{50}$  = median lethal concentration. A mathematical estimate of the effluent concentration that would kill 50% of the exposed specimens during the specified exposure period.

$TU_a$  = Acute Toxicity Unit;  $TU_a = 100 \div LC_{50}$  (usually 48-hour  $LC_{50}$  for water fleas and 96-hour  $LC_{50}$  for FHM)

# ATTACHMENTS

Chain-of-Custody/Sample Submission  
Bench sheets  
Standard Reference Toxicant Control Charts



**EnviroScience**  
Excellence In Any Environment

EnviroScience, Inc.  
5070 Stow Road  
Stow, OH 44224  
Phone (330) 688-0111  
Fax (330) 688-3858  
1-800-940-4025

Client: John E. Egan WRP  
Address: 6001 West Pershing Road SS South Meacham Rd.  
Cicero, IL 60804 Schaumburg, IL 60193  
Contact: Nicholas Kollias  
Phone: 708-588-4074  
Permit #: IL

**SAMPLE SUBMISSION AND CHAIN OF CUSTODY FORM**

**Test(s) to be performed:**

- ( ) Chronic Definitive  
( ) Acute Definitive  
( ) 48 hr. Screening  
( ) 24 hr. Stormwater  
( ) Pass/Fail
- Test Species**  
(x) P. promelas and C. dubia  
( ) P. promelas  
( ) C. dubia  
( ) D. magna  
( )

Wastewater Type (Circle One)  
Industrial Other  
Municipal  
Other

When listing a composite sample in the table below, please provide the start and end time of the composite period.

| Start                       |                         | End    |      | Station No. | Sample Site                | Sample Type |      | Number of Subsamples | Chemistry |      |     |          |     |
|-----------------------------|-------------------------|--------|------|-------------|----------------------------|-------------|------|----------------------|-----------|------|-----|----------|-----|
| Date                        | Time                    | Date   | Time |             |                            | Comp        | Grab |                      | TRC       | Cond | pH  | Temp. °C |     |
| 2/3/25<br><del>2/4/25</del> | 9:25<br><del>9:25</del> | 3/4/25 | 0600 | 0600        | Egan WRP<br>Final Effluent | X           |      | 2                    | 0         | 457  | 8.6 | 7.02     | 5.6 |
|                             |                         |        |      |             |                            |             |      |                      |           |      |     |          |     |
|                             |                         |        |      |             |                            |             |      |                      |           |      |     |          |     |
|                             |                         |        |      |             |                            |             |      |                      |           |      |     |          |     |
|                             |                         |        |      |             |                            |             |      |                      |           |      |     |          |     |

Comp. = Composite, D.O. = Dissolved Oxygen measured in mg/L, pH measured in s.u., Conductivity measured in uohm/cm

**Sampling Collector's Information: please check all appropriate boxes**

**EnviroScience Personnel Only**

|                                              |                                   |                       |  |
|----------------------------------------------|-----------------------------------|-----------------------|--|
| <input checked="" type="checkbox"/> Effluent | Collectors Name: Nick Kollias     | Collected By:         |  |
| <input type="checkbox"/> Upstream            | Collectors Signature: [Signature] | Collectors Signature: |  |
| <input type="checkbox"/> Near Field          | M.G.D. = 30 million               |                       |  |
| <input type="checkbox"/> Far Field           | Weather Conditions:               |                       |  |

Plume Determined By What Method?

Comments:

|                       |                          |              |            |                                            |                                      |
|-----------------------|--------------------------|--------------|------------|--------------------------------------------|--------------------------------------|
| Received from: MWRDCL | Received by: [Signature] | Date: 030575 | Time: 1305 | Shipping Information: Date Shipped: 3/4/25 | EnviroScience Use Only: Client: JDEG |
|                       |                          |              |            | Time Shipped: 10:30                        | Sample ID's: JDEG1030325 EKH         |
|                       |                          |              |            | Method Shipped: FEDEX                      | Cond. Of Container: [Signature]      |
|                       |                          |              |            | ES Vehicle                                 | Temp. °C: 9.9°C                      |

EnviroScience, Inc. Cooler Receipt Form (Form 7050-5 rev. 03/30/22)

Client John E. Egan

ES Sample ID JOEG 030525 EFF

Cooler Received by: MS

Date Cooler Received and Opened 030525

Received from: FedEx ☒ UPS ☐ Client Drop Off ☐ ES Courier ☐

1. Were custody seals on the outside of cooler? Yes ☐ No ☒  
Were custody seals signed, dated and intact? Yes ☐ No ☒
2. Did Chain of Custody (COC) accompany the samples? Yes ☒ No ☐
3. Were the COC's signed in the appropriate places? Yes ☒ No ☐  
If No explain \_\_\_\_\_
4. Was the sample time and date filled in correctly? Yes ☒ No ☐
5. Sample Temperature upon receipt 0.9 °C
6. Did all sample container labels match the samples written on the COC? Yes ☒ No ☐  
Were the sample containers in good condition? Yes ☒ No ☐
7. Was sufficient quantity received to perform indicated tests? Yes ☒ No ☐
8. Was this sample received within required holding time? Yes ☒ No ☐
9. EPA method code: 1000.0: ☐ 1002.0: ☐ 2000.0: ☒ 2002.0: ☒

Explain any discrepancies or client notifications that occurred regarding this sample: \_\_\_\_\_



5070 Stow Road  
Stow, Ohio 44224  
Phone (330) 688-0111; 1-800-940-4025  
Fax (330) 688-3858



Acute, 48-hour, non-renewal Bioassay:

Project: JOEG

No.: 10030340

Start Date: 030525 Time: 1430

End Date: 030725 Time: 1350

Organism: C. dubia

Source: BB022325A

Hatch/Age: 030425 1600, ~24 hrs

Diluent: MHR

Sample #: JOEG 030525 EFF

| test levels | Biological Parameters |   |                 |       | Chemistry and Physical Parameters |      |      |                         |    |      |                   |    |      |                         |    |      |
|-------------|-----------------------|---|-----------------|-------|-----------------------------------|------|------|-------------------------|----|------|-------------------|----|------|-------------------------|----|------|
|             | Rep                   | n | Dead / Affected |       | Temperature (Celsius)             |      |      | Dissolved Oxygen (mg/L) |    |      | pH (s.u.)         |    |      | Conductivity (µmhos/cm) |    |      |
|             |                       |   | 24 hr           | 48 hr | 0                                 | 24   | 48   | 0                       | 24 | 48   | 0                 | 24 | 48   | 0                       | 24 | 48   |
| MAR         | A                     | 5 | 0/0             | 0/0   | 25.1                              | 24.0 | 24.3 | 8.6                     |    | 8.6  | 7.7               |    | 7.3  | 285                     |    | 409  |
|             | B                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | C                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | D                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
| PMW         | A                     | 5 | 0/0             | 0/0   | 25.1                              | 25.1 | 24.2 | 8.6                     |    | 8.6  | 7.4               |    | 7.5  | 318                     |    | 429  |
|             | B                     | 5 | 0/0             | 1/1   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | C                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | D                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
| 6.25        | A                     | 5 | 0/0             | 0/0   | 24.8                              | 25.0 | 24.3 | 8.6                     |    | 8.6  | 7.0               |    | 7.4  | 361                     |    | 431  |
|             | B                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | C                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | D                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
| 12.5        | A                     | 5 | 0/0             | 0/0   | 24.7                              | 25.0 | 24.4 | 8.4                     |    | 8.6  | 7.0               |    | 7.4  | 446                     |    | 504  |
|             | B                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | C                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | D                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
| 25          | A                     | 5 | 0/0             | 0/0   | 24.5                              | 25.0 | 24.7 | 8.3                     |    | 8.6  | 7.0               |    | 7.4  | 598                     |    | 676  |
|             | B                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | C                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | D                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
| 50          | A                     | 5 | 0/0             | 0/0   | 25.1                              | 24.8 | 24.6 | 8.3                     |    | 8.6  | 6.9               |    | 7.6  | 920                     |    | 1031 |
|             | B                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | C                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | D                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
| 100         | A                     | 5 | 0/0             | 0/0   | 25.1                              | 24.6 | 24.3 | 8.3                     |    | 8.6  | 6.8               |    | 7.8  | 1531                    |    | 1754 |
|             | B                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | C                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
|             | D                     | 5 | 0/0             | 0/0   |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |
| Time        | 1430                  |   | 1325            | 1350  | 1430                              | 1325 | 135  | 1330                    |    | 1435 | 1336              |    | 1320 | 1330                    |    | 1435 |
| Tech        | JM                    |   | HD              | UB    | JM                                | HD   | UB   | HD                      |    | TM   | HD                |    | TM   | HD                      |    | TM   |
|             |                       |   |                 |       | 1                                 | 11   | 11   | OX 4100L                |    |      | Orion Star A211 A |    |      | Orion Star A212         |    |      |
|             |                       |   |                 |       | ID or ✓ instrument used           |      |      | ✓                       |    | ✓    | ✓                 |    | ✓    |                         |    | ✓    |
|             |                       |   |                 |       |                                   |      |      | Other:                  |    |      | Orion Star A211 B |    |      | Other:                  |    |      |
|             |                       |   |                 |       |                                   |      |      |                         |    |      |                   |    |      |                         |    |      |

USEPA Method: 2002.0

Form 8010-5 rev. 01/09/25

JAT

## CETIS Analytical Report

 Report Date: 14 Mar-25 12:49 (p 1 of 2)  
 Test Code/ID: 5955B7F1 / 14-9878-9873

## Ceriodaphnia 48-h Acute Survival Test

EnviroScience

|                               |                                            |                                     |
|-------------------------------|--------------------------------------------|-------------------------------------|
| Analysis ID: 19-6270-6346     | Endpoint: 48h Survival Rate                | CETIS Version: CETIS v2.1.6         |
| Analyzed: 14 Mar-25 12:49     | Analysis: Linear Interpolation (ICPIN)     | Status Level: 1                     |
| Edit Date: 14 Mar-25 0:00     | MD5 Hash: 68E117461239090AA7E1427F0F536296 | Editor ID: 007-869-049-5            |
| Batch ID: 01-0993-0562        | Test Type: Survival (48h)                  | Analyst:                            |
| Start Date: 05 Mar-25 14:30   | Protocol: EPA/821/R-02-012 (2002)          | Diluent: Upstream of Discharge      |
| Ending Date: 07 Mar-25 13:50  | Species: Ceriodaphnia dubia                | Brine:                              |
| Test Length: 47h              | Taxon: Branchiopoda                        | Source: In-House Culture      Age:  |
| Sample ID: 09-5169-5804       | Code: 38B9B9BC                             | Project:                            |
| Sample Date: 04 Mar-25 06:00  | Material: POTW Effluent                    | Source: Discharge Monitoring Report |
| Receipt Date: 05 Mar-25 13:05 | CAS (PC):                                  | Station: 001                        |
| Sample Age: 32h               | Client: John E Egan                        |                                     |

## Linear Interpolation Options

| X Transform | Y Transform | Seed   | Resamples | Exp 95% CL | Method                  |
|-------------|-------------|--------|-----------|------------|-------------------------|
| Linear      | Linear      | 573098 | 1000      | Yes        | Two-Point Interpolation |

## Test Acceptability Criteria

## TAC Limits

| Attribute    | Test Stat | Lower | Upper | Overlap | Decision        |
|--------------|-----------|-------|-------|---------|-----------------|
| Control Resp | 1         | 0.9   | >>    | Yes     | Passes Criteria |

## Point Estimates

| Level | %    | 95% LCL | 95% UCL | Tox Units | 95% LCL | 95% UCL |
|-------|------|---------|---------|-----------|---------|---------|
| LC50  | >100 | ---     | ---     | <1        | ---     | ---     |

## 48h Survival Rate Summary

## Calculated Variate(A/B)

## Isotonic Variate

| Conc-% | Code | Count | Mean   | Median | Min    | Max    | CV%   | %Effect | ΣA/ΣB | Mean   | %Effect |
|--------|------|-------|--------|--------|--------|--------|-------|---------|-------|--------|---------|
| 0      | U    | 4     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.00% | 0.00%   | 20/20 | 1.0000 | 0.00%   |
| 6.25   |      | 4     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.00% | 0.00%   | 20/20 | 1.0000 | 0.00%   |
| 12.5   |      | 4     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.00% | 0.00%   | 20/20 | 1.0000 | 0.00%   |
| 25     |      | 4     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.00% | 0.00%   | 20/20 | 1.0000 | 0.00%   |
| 50     |      | 4     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.00% | 0.00%   | 20/20 | 1.0000 | 0.00%   |
| 100    |      | 4     | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.00% | 0.00%   | 20/20 | 1.0000 | 0.00%   |

## 48h Survival Rate Detail

| Conc-% | Code | Rep 1  | Rep 2  | Rep 3  | Rep 4  |
|--------|------|--------|--------|--------|--------|
| 0      | U    | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 6.25   |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 12.5   |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 25     |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 50     |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 100    |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## 48h Survival Rate Binomials

| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 |
|--------|------|-------|-------|-------|-------|
| 0      | U    | 5/5   | 5/5   | 5/5   | 5/5   |
| 6.25   |      | 5/5   | 5/5   | 5/5   | 5/5   |
| 12.5   |      | 5/5   | 5/5   | 5/5   | 5/5   |
| 25     |      | 5/5   | 5/5   | 5/5   | 5/5   |
| 50     |      | 5/5   | 5/5   | 5/5   | 5/5   |
| 100    |      | 5/5   | 5/5   | 5/5   | 5/5   |

# CETIS Analytical Report

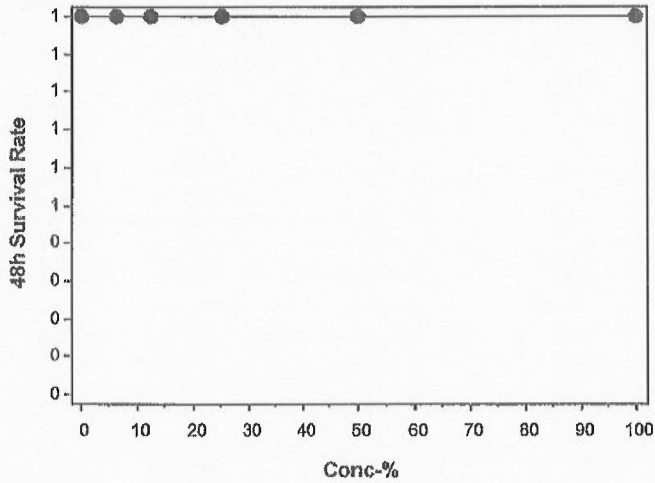
Report Date: 14 Mar-25 12:49 (p 2 of 2)  
Test Code/ID: 5955B7F1 / 14-9878-9873

## Ceriodaphnia 48-h Acute Survival Test

EnviroScience

|                           |                                            |                             |
|---------------------------|--------------------------------------------|-----------------------------|
| Analysis ID: 19-6270-6346 | Endpoint: 48h Survival Rate                | CETIS Version: CETIS v2.1.6 |
| Analyzed: 14 Mar-25 12:49 | Analysis: Linear Interpolation (ICPIN)     | Status Level: 1             |
| Edit Date: 14 Mar-25 0:00 | MD5 Hash: 68E117461239090AA7E1427F0F536296 | Editor ID: 007-869-049-5    |

### Graphics





## ACUTE, 96 HOUR, NON- RENEWAL BIOASSAY:

Project: JOEG

No.: 110036340

Start Date: 030525

Time: 1320

End Date: 030925

Time: 134120

Organism: Pimephales promelas (FHM)

Source: ES cultures

Hatch/Age: 022525 1435 / 7 days

Diluent: MHR

Sample #: JOEG 030525 EFF

## Biological Parameters: # Mortalities / # Affected

| test levels →  |      |      | MHR | DMW | 6.25 | 12.5 | 25  | 50  | 100 |
|----------------|------|------|-----|-----|------|------|-----|-----|-----|
| 0 hours set-up | Tech | DA   | n   | A   | 10   | 10   | 10  | 10  | 10  |
|                | Time | 1320 | n   | B   | 10   | 10   | 10  | 10  | 10  |
| 24 hours       | Tech | MJ   | A   |     | 0/0  | 0/0  | 0/0 | 0/0 | 0/0 |
|                | Time | 1215 | B   |     | 0/0  | 0/0  | 0/0 | 0/0 | 0/0 |
| 48 hours       | Tech | MJ   | A   |     | 0/0  | 0/0  | 0/0 | 0/0 | 0/0 |
|                | Time | 1350 | B   |     | 0/0  | 0/0  | 0/0 | 0/0 | 0/0 |
| 72 hours       | Tech | DA   | A   |     | 0/0  | 0/0  | 0/0 | 1/1 | 0/0 |
|                | Time | 1340 | B   |     | 0/0  | 0/0  | 2/2 | 0/0 | 0/0 |
| 96 hours       | Tech | JM   | A   |     | 1/1  | 1/1  | 0/0 | 0/0 | 0/0 |
|                | Time | 1220 | B   |     | 0/0  | 1/1  | 0/0 | 2/2 | 0/0 |

## Chemical and Physical Data

|                   | Tech  | Time | Instr.# | MHR      | DMW  | 6.25 | 12.5 | 25   | 50   | 100  |
|-------------------|-------|------|---------|----------|------|------|------|------|------|------|
| Temp.<br>°C       | 0 hr  | DA   | 1320    | 6        | 24.0 | 24.0 | 24.0 | 24.0 | 24.4 | 25.1 |
|                   | 24 hr | MJ   | 1215    | 6        | 24.9 | 25.0 | 24.9 | 25.1 | 24.9 | 24.5 |
|                   | 48 hr | MJ   | 1350    | 6        | 24.8 | 24.9 | 25.0 | 24.7 | 24.7 | 24.9 |
|                   | 72 hr | DA   | 1340    | 10       | 24.2 | 24.9 | 24.2 | 24.8 | 24.3 | 24.4 |
|                   | 96 hr | JM   | 1220    | 11       | 24.4 | 24.8 | 24.7 | 24.3 | 24.4 | 25.0 |
| cond.<br>µmhos/cm | 0 hr  | HD   | 1330    | A212     | 285  | 318  | 361  | 446  | 598  | 920  |
|                   | 24 hr | PL   | 1145    | A212     | 317  | 342  | 395  | 474  | 639  | 958  |
|                   | 48 hr | TJ   | 0910    | A212     | 305  | 354  | 403  | 484  | 647  | 939  |
|                   | 72 hr | HD   | 1310    | A212     | 327  | 352  | 408  | 487  | 658  | 1015 |
|                   | 96 hr | PL   | 0920    | A212     | 317  | 383  | 410  | 585  | 676  | 960  |
| DO<br>mg/L        | 0 hr  | HD   | 1330    | OX 4100L | 8.6  | 8.6  | 8.6  | 8.4  | 8.3  | 8.3  |
|                   | 24 hr | PL   | 1145    | OX 4100L | 8.6  | 8.6  | 8.6  | 8.5  | 8.3  | 8.2  |
|                   | 48 hr | TJ   | 0910    | OX 4100L | 8.6  | 8.6  | 8.6  | 8.6  | 8.6  | 8.6  |
|                   | 72 hr | HD   | 1310    | OX 4100L | 8.6  | 8.6  | 8.2  | 8.6  | 8.4  | 8.2  |
|                   | 96 hr | PL   | 0920    | OX 4100L | 8.4  | 8.4  | 8.3  | 8.3  | 8.2  | 8.2  |
| pH<br>s.u.        | 0 hr  | HD   | 1330    | A211A    | 7.7  | 7.4  | 7.0  | 7.0  | 6.87 | 6.8  |
|                   | 24 hr | PL   | 1145    | A211A    | 7.1  | 7.2  | 7.2  | 7.1  | 7.2  | 7.3  |
|                   | 48 hr | TJ   | 0910    | A211A    | 7.1  | 7.2  | 7.1  | 7.1  | 7.1  | 7.3  |
|                   | 72 hr | HD   | 1310    | A211B    | 7.4  | 7.5  | 7.4  | 7.3  | 7.2  | 7.3  |
|                   | 96 hr | PL   | 0920    | A211A    | 7.4  | 7.4  | 7.3  | 7.3  | 7.4  | 7.4  |

USEPA method 2000.0

Form 8040-6 rev. 01/09/2025

✓M

640  
3-5

# CETIS Analytical Report

Report Date: 14 Mar-25 12:53 (p 1 of 2)  
Test Code/ID: 5B292822 / 15-2942-3906

## Fathead Minnow 96-h Acute Survival Test

EnviroScience

|                               |                                            |                                     |
|-------------------------------|--------------------------------------------|-------------------------------------|
| Analysis ID: 19-5715-0063     | Endpoint: 96h Survival Rate                | CETIS Version: CETIS v2.1.6         |
| Analyzed: 14 Mar-25 12:52     | Analysis: Linear Interpolation (ICPIN)     | Status Level: 1                     |
| Edit Date: 14 Mar-25 0:00     | MD5 Hash: B38D41DB3F39911F706C19CB83460E0B | Editor ID: 007-869-049-5            |
| Batch ID: 04-5841-3705        | Test Type: Survival (96h)                  | Analyst:                            |
| Start Date: 05 Mar-25 13:20   | Protocol: EPA/821/R-02-012 (2002)          | Diluent: Upstream of Discharge      |
| Ending Date: 09 Mar-25 12:30  | Species: Pimephales promelas               | Brine:                              |
| Test Length: 95h              | Taxon: Actinopterygii                      | Source: In-House Culture Age:       |
| Sample ID: 11-8504-8307       | Code: 46A266F3                             | Project:                            |
| Sample Date: 04 Mar-25 06:00  | Material: POTW Effluent                    | Source: Discharge Monitoring Report |
| Receipt Date: 05 Mar-25 13:05 | CAS (PC):                                  | Station: 001                        |
| Sample Age: 31h               | Client: John E Egan                        |                                     |

## Linear Interpolation Options

| X Transform | Y Transform | Seed   | Resamples | Exp 95% CL | Method                  |
|-------------|-------------|--------|-----------|------------|-------------------------|
| Linear      | Linear      | 962556 | 1000      | Yes        | Two-Point Interpolation |

## Test Acceptability Criteria

| Attribute    | Test Stat | Lower | Upper | Overlap | Decision        |
|--------------|-----------|-------|-------|---------|-----------------|
| Control Resp | 0.95      | 0.9   | >>    | Yes     | Passes Criteria |

## Point Estimates

| Level | %    | 95% LCL | 95% UCL | Tox Units | 95% LCL | 95% UCL |
|-------|------|---------|---------|-----------|---------|---------|
| LC50  | >100 | ---     | ---     | <1        | ---     | ---     |

## 96h Survival Rate Summary

|        |      |       | Calculated Variate(A/B) |        |        |        |        |         |       | Isotonic Variate |         |
|--------|------|-------|-------------------------|--------|--------|--------|--------|---------|-------|------------------|---------|
| Conc-% | Code | Count | Mean                    | Median | Min    | Max    | CV%    | %Effect | ΣA/ΣB | Mean             | %Effect |
| 0      | U    | 2     | 0.9500                  | 0.9500 | 0.9000 | 1.0000 | 7.44%  | 0.00%   | 19/20 | 0.9750           | 0.00%   |
| 6.25   |      | 2     | 1.0000                  | 1.0000 | 1.0000 | 1.0000 | 0.00%  | -5.26%  | 20/20 | 0.9750           | 0.00%   |
| 12.5   |      | 2     | 0.9000                  | 0.9000 | 0.8000 | 1.0000 | 15.71% | 5.26%   | 18/20 | 0.9250           | 5.13%   |
| 25     |      | 2     | 0.9000                  | 0.9000 | 0.8000 | 1.0000 | 15.71% | 5.26%   | 18/20 | 0.9250           | 5.13%   |
| 50     |      | 2     | 0.9000                  | 0.9000 | 0.8000 | 1.0000 | 15.71% | 5.26%   | 18/20 | 0.9250           | 5.13%   |
| 100    |      | 2     | 1.0000                  | 1.0000 | 1.0000 | 1.0000 | 0.00%  | -5.26%  | 20/20 | 0.9250           | 5.13%   |

## 96h Survival Rate Detail

| Conc-% | Code | Rep 1  | Rep 2  |
|--------|------|--------|--------|
| 0      | U    | 0.9000 | 1.0000 |
| 6.25   |      | 1.0000 | 1.0000 |
| 12.5   |      | 1.0000 | 0.8000 |
| 25     |      | 0.8000 | 1.0000 |
| 50     |      | 1.0000 | 0.8000 |
| 100    |      | 1.0000 | 1.0000 |

## 96h Survival Rate Binomials

| Conc-% | Code | Rep 1 | Rep 2 |
|--------|------|-------|-------|
| 0      | U    | 9/10  | 10/10 |
| 6.25   |      | 10/10 | 10/10 |
| 12.5   |      | 10/10 | 8/10  |
| 25     |      | 8/10  | 10/10 |
| 50     |      | 10/10 | 8/10  |
| 100    |      | 10/10 | 10/10 |

✓ M

# CETIS Analytical Report

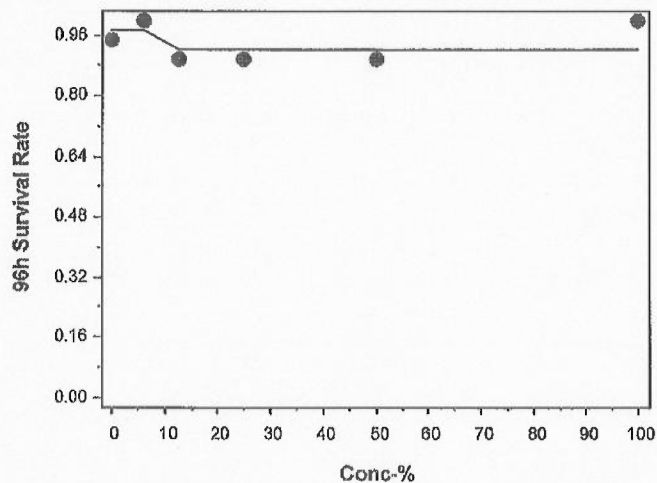
Report Date: 14 Mar-25 12:53 (p 2 of 2)  
Test Code/ID: 5B292822 / 15-2942-3906

## Fathead Minnow 96-h Acute Survival Test

EnviroScience

|              |                 |           |                                  |                |               |
|--------------|-----------------|-----------|----------------------------------|----------------|---------------|
| Analysis ID: | 19-5715-0063    | Endpoint: | 96h Survival Rate                | CETIS Version: | CETIS v2.1.6  |
| Analyzed:    | 14 Mar-25 12:52 | Analysis: | Linear Interpolation (ICPIN)     | Status Level:  | 1             |
| Edit Date:   | 14 Mar-25 0:00  | MD5 Hash: | B38D41DB3F39911F706C19CB83460E0B | Editor ID:     | 007-869-049-5 |

### Graphics





# Acute, Static Bioassay:

Initial Water Quality Checks (DO, pH, conductivity, chlorine, alkalinity, hardness) and Dilution Record

Client: JOEG

Permit No.: 110036340

Date: 030525

Form 5000 rev. 01/09/25

## Initial Water Quality Data:

| Sample Id          | D. Oxygen<br>(mg/L-%sat)<br>>4 &<br><100%? | pH (s.u)<br>6-9? | Conductivity<br>(µmhos/cm) | TRC <sub>i</sub><br>(mg/L)<br><0.02? | TRC <sub>A</sub><br>(mg/L) | Alkalinity<br>(mg/L CaCO <sub>3</sub> )<br>MDL = 20 mg/l | Hardness-EDTA<br>(mg/L CaCO <sub>3</sub> )<br>MDL = 5 mg/l |
|--------------------|--------------------------------------------|------------------|----------------------------|--------------------------------------|----------------------------|----------------------------------------------------------|------------------------------------------------------------|
| MHRW batch# 030425 | 8.6                                        | 7.7              | 285                        | 10.02                                | NA                         | (2.6)56                                                  | (2.4)96                                                    |
| JOEG 030525 GFS    | 8.6                                        | 6.6              | 1529                       | 10.02                                | —                          | (58)116                                                  | (7.5)300                                                   |
|                    |                                            |                  |                            |                                      |                            |                                                          |                                                            |
|                    |                                            |                  |                            |                                      |                            |                                                          |                                                            |
|                    |                                            |                  |                            |                                      |                            |                                                          |                                                            |
| INITIALS →         | HD                                         | HD               | HD                         | HD                                   | HD                         | HD                                                       | HD                                                         |

## Dilution Record:

| SAMPLE ID                                                                                                                                                                                                                                                                                                     | Composited<br><input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No | 60µm<br>Filtered<br><input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No | % DILUTION         | INITIATION                                                                   |               | RENEWAL <input type="checkbox"/> No                               |               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------|---------------|
|                                                                                                                                                                                                                                                                                                               |                                                                                      |                                                                                            |                    | Effluent<br>(mL)                                                             | Final<br>(mL) | Effluent<br>(mL)                                                  | Final<br>(mL) |
| JOEG 030525 GFS                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No               | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No                     |                    |                                                                              |               |                                                                   |               |
|                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No               | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No                     | 6.25               | 67.5                                                                         | 1000          |                                                                   |               |
|                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No               | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No                     | 12.5               | 125                                                                          | ↓             |                                                                   |               |
| Comments:<br>Ammonia: 0.19                                                                                                                                                                                                                                                                                    |                                                                                      |                                                                                            | 25                 | 250                                                                          | ↓             |                                                                   |               |
|                                                                                                                                                                                                                                                                                                               |                                                                                      |                                                                                            | 50                 | 500                                                                          |               |                                                                   |               |
| Methods/Instrumentation :<br>DO: APHA (1998) 4500-O G, OX4100L<br>pH: APHA (1998) 4500-H B, Star A211<br>Conductivity: APHA (1998) 2510-B, Orion Star A212<br>Hardness: APHA (1998) 2340-C<br>Alkalinity: APHA (1998) 2320-B<br>TRC: APHA (1998) 4500-Cl D, TitraLab AT 1000<br>USEPA Methods: 2000.0; 2002.0 |                                                                                      |                                                                                            | Dilution<br>Water: | <input type="checkbox"/> Upstream<br><input checked="" type="checkbox"/> MHR |               | <input type="checkbox"/> Upstream<br><input type="checkbox"/> MHR |               |
|                                                                                                                                                                                                                                                                                                               |                                                                                      |                                                                                            | MHR<br>Batch:      | MHR 030525                                                                   |               |                                                                   |               |

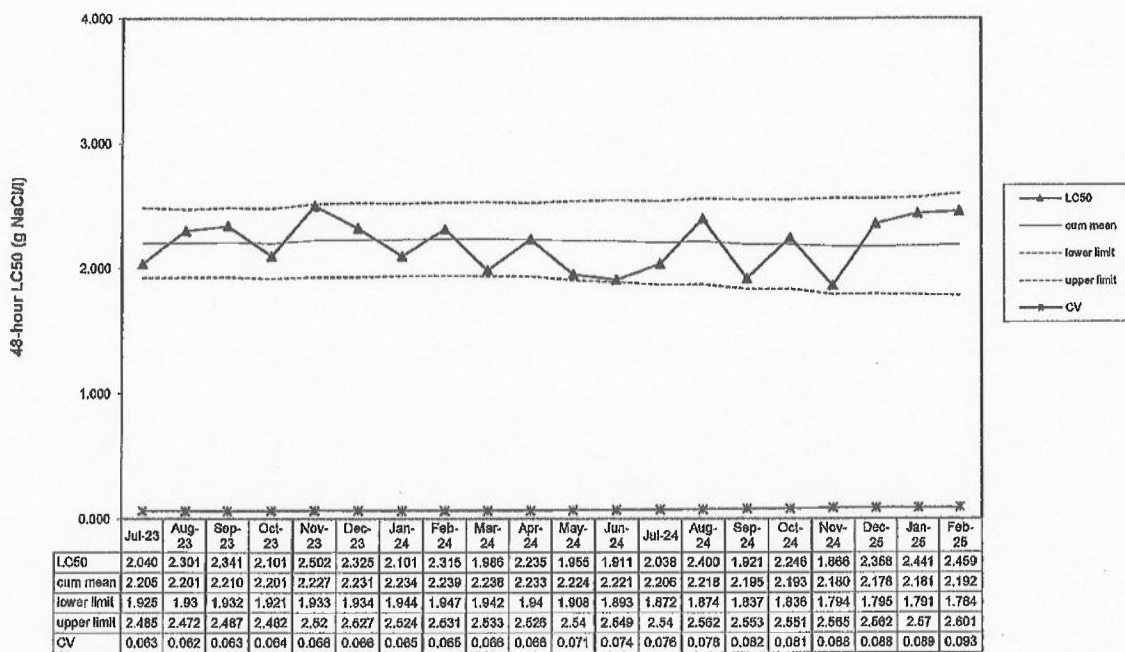
TRC<sub>i</sub> = total residual chlorine, initial value

TRC<sub>A</sub> = total residual chlorine, after dechlorination

JK

Dechlorination procedure: Sodium thiosulfate is used to reduce Total Residual Chlorine by dosing with 6.7 mg Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> per mg TRC. A 6.7 mg/ml Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> solution is used; dose mL = X mg/L \* liters in sample container being treated.

EnviroScience QC Chart - *Ceriodaphnia dubia*  
Acute Toxicity endpoint - 25 C

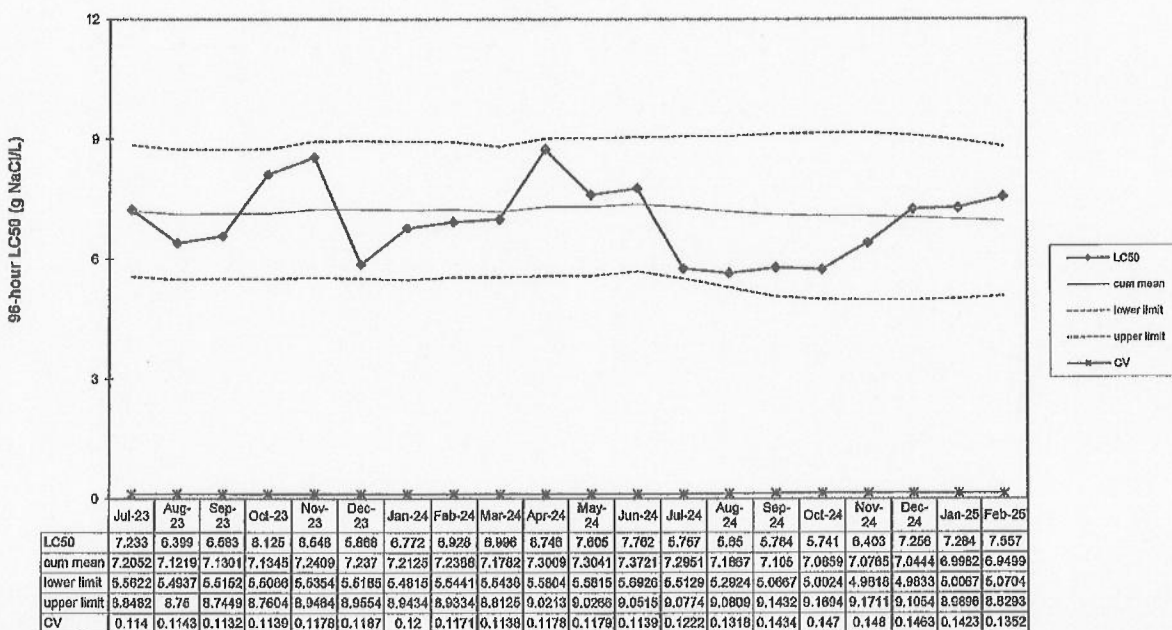


Test Date (MM.YY)

Tests conducted at Stow, OH facility

EnviroScience QC/SRT Chart rev. 02/28/25

EnviroScience QC Chart - *Pimephales promelas*  
Acute Toxicity endpoint - 25 C



Test Date (MM.YY)

Tests conducted at Stow, OH facility

EnviroScience QC/SRT Chart rev. 01/29/25

## The WET Sample Chain-of-Custody

| SAMPLE COLLECTION |      |                    | SAMPLE TYPE | SAMPLE LOCATION | SAMPLE Temp °C | ON-SITE SAMPLE STORAGE (0.1-6 °C) | PRINT NAME & SIGNATURE |
|-------------------|------|--------------------|-------------|-----------------|----------------|-----------------------------------|------------------------|
| DATE              | TIME | PERSONNEL INITIALS |             |                 |                |                                   |                        |
| 3/3/2025          | 0600 | TK                 | Grab        | outfall         | 13.0           | YES/NO                            | Timothy K. Olson       |
| 3/3/2025          | 1200 | KR                 | Grab        | OUTFALL         | 13.0           | YES/NO                            | Kathryn Kuno           |
| 3/3/2025          | 1800 | HR                 | Grab        | OUTFALL         | 14.0           | YES/NO                            | H. Robinson            |
| 3/4/2025          | 0000 | MS                 | Grab        | OUTFALL         | 13.5           | YES/NO                            | MARLON SILER           |
| 3/4/2025          | 0600 | TK                 | Grab        | outfall         | 14.0           | YES/NO                            | Timothy K. Olson       |

Note: Sample container should be rinsed and should be filled completely leaving no air space between contents & lid. Preserve samples on ice or refrigerator (0.1-6°C) immediately after collection. Transport samples in ice-packed coolers to the WET Laboratory. The WET laboratory is located in Room LE-100, Luc-Hing R&D Complex.

Indicate if the final effluent was chlorinated/dechlorinated: Yes / NO / NA.

SAMPLES RELINQUISHED BY: Name Tony Bata Signature: Tony Bata Date/Time: 3/4/25 6:35am

SAMPLES TRANSPORTED TO WET LAB. BY Name Michael Ross Signature: Michael Ross Date/Time: 3/4/25 7:10am

FOR WET LABORATORY USE ONLY:

Sample Received by: Name Carleen Mear Signature Carleen Mear Date/Time 3/4/25 8:30

1. Samples received with prescribed holding time (within 4 h of collection)? (Not Applicable, if chronic test)
2. Samples logged in by ME Date 3/4/25 Time 8:30
3. Each sample container labeled with a unique ID?
4. Were collection times for effluent and receiving water within 1 h of each other?
5. Did samples have sufficient volume for analysis?
6. Samples accepted

Special Observations \_\_\_\_\_

| LIMS #  | Sample Type/ID | Temp °C    | pH  | Residual Chlorine (mg/L) Initials | Sodium-thio-sulfate Added YES/NO | Sample Custodian Signature                                                                                                               |
|---------|----------------|------------|-----|-----------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 9771273 | 9729756-A      | BMOUT JE A | 2.1 | 7.02                              | 0                                | Indicate Total ml of 5% Sodium-thio-sulfate added. Initial _____<br>Final Residual Cl <sub>2</sub> reading = _____ mg/l<br>Initial _____ |
| 9771273 | 9729756-B      | BMOUT JE B | 2.0 | 7.04                              |                                  |                                                                                                                                          |
| 9771273 | 9729756-C      | BMOUT JE C | 2.1 | 7.09                              |                                  |                                                                                                                                          |
| 9771273 | 9729756-D      | BMOUT JE D | 1.8 | 7.08                              |                                  |                                                                                                                                          |
| 9771273 | 9729756-E      | BMOUT JE E | 3.1 | 7.15                              | < 0.300                          |                                                                                                                                          |

Note: Set aside one cubitainer for metals and chemical analyses

Sample Release for Disposal

Sample released for disposal following analysis on (Date) 3/5/25 by do-felt

Samples Discarded by sp-felt Date/Time 3/5/25 10:00

Metropolitan Water Reclamation District of Greater Chicago  
OCAL CHAIN OF CUSTODY RECORD

From: Nick Kollias Office Location: Stickney

To: **ORGANIC COMPOUNDS ANALYTICAL LABORATORY, EGAN WRP**

| COLLECTED |                    |                            | SAMPLE<br>SOURCE/LOCATION | PARAMETER or<br>CFR CATEGORY | LIMS ID | # of<br>CONTAINERS |         |        |       | LAB<br>ID<br>(Lab Use<br>Only) |
|-----------|--------------------|----------------------------|---------------------------|------------------------------|---------|--------------------|---------|--------|-------|--------------------------------|
| DATE      | TIME<br>(Military) | BY<br>FULL NAME<br>(PRINT) |                           |                              |         | Vials              | Gallons | Quarts | Pints |                                |
| 3/4/25    | 0940               | Nick Kollias               | BMOUT JE                  |                              | 9771273 | 3                  | 1       |        |       |                                |
| 3/4/25    | 0940               | Nick Kollias               | Trip Blanks               |                              |         | 2                  |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |
|           |                    |                            |                           |                              |         |                    |         |        |       |                                |

Samples listed above were stored on site at 0.1 - 6°C immediately after collection, and remained in custody of collector(s) until relinquished.

| Container Type (specify<br>vial, gallon, pint, or quart) | Case ID<br>(copy from case label) |
|----------------------------------------------------------|-----------------------------------|
| Gallon                                                   | 24-1096r                          |
| Vials                                                    | 24-089V                           |

| Container Type (specify<br>vial, gallon, pint, or quart) | Case ID<br>(copy from case label) |
|----------------------------------------------------------|-----------------------------------|
|                                                          |                                   |
|                                                          |                                   |

| ITEMS<br>TRANSFERRED | RELINQUISHED BY        |              |                    | RECEIVED BY            |        |                    |
|----------------------|------------------------|--------------|--------------------|------------------------|--------|--------------------|
|                      | FULL NAME or<br>COOLER | DATE         | TIME<br>(Military) | FULL NAME or<br>COOLER | DATE   | TIME<br>(Military) |
| Indicated above      | CAMERON MCCoy          | 3/4/25       | 1000               | Cooler D               | 3/4/25 | 1000               |
| Indicated above      | Cooler D               | 3/4/25<br>en | 1000<br>en         |                        |        |                    |
| Indicated above      |                        |              |                    |                        |        |                    |
| Indicated above      |                        |              |                    |                        |        |                    |
| Indicated above      |                        |              |                    |                        |        |                    |

## \\hawk\M&amp;R\120 EM&amp;R Division\126 Aquatic Ecology\126 Biologists\WET Testing\2025\Egan\ALD COCs



Additional Comments:

**Metropolitan Water Reclamation District of Greater Chicago**  
Custody Transfer Record for Environmental Monitoring and Research Division Samples  
(STFORMSR)

To: EAL

Year: 2025

Collection Date: 3/4/2025  
Collected By: Nick Kollias  
Preparation Date: 3/4/2025

From: Nick Kollias  
Project Number/Support Request#: 4652-126-1, SR 06-25  
Sample Type (grab/composite): Composite

Prepared By: Nick Kollias

For Lab Use Only

COC Prepared By: Nick Kollias

[illegible]

Thawing process of samples started immediately after collection. Y N

| Relinquished By | Date   | Time | Received By | Date   | Time |
|-----------------|--------|------|-------------|--------|------|
| CAMERON MCCOY   | 3/4/25 | 1002 | COLEK D     | 3/4/25 | 1002 |
|                 |        |      |             |        |      |
|                 |        |      |             |        |      |

he relinquisher has read and fully understands the M&R Departments-Environmental Monitoring and Research Division's "Ethical and Legal Responsibilities - Version 1, dated March 13, 2019"

Additional Comments

**TABLE 8: WATER QUALITY RESULTS OF A JOHN E. EGAN WATER RECLAMATION PLANT FINAL EFFLUENT COMPOSITE  
SAMPLE COLLECTED MARCH 3 - MARCH 4, 2025, USED FOR WHOLE EFFLUENT TOXICITY TESTING**

| Sampling point | Analysis                  | Units | Result   |
|----------------|---------------------------|-------|----------|
| BMOUTJE        | Ag                        | mg/L  | <0.00400 |
| BMOUTJE        | As                        | mg/L  | <0.00200 |
| BMOUTJE        | Ba                        | mg/L  | 0.02937  |
| BMOUTJE        | Be                        | mg/L  | <0.00200 |
| BMOUTJE        | Cd                        | mg/L  | <0.00200 |
| BMOUTJE        | Co                        | mg/L  | <0.00200 |
| BMOUTJE        | Cr                        | mg/L  | <0.00400 |
| BMOUTJE        | Cu                        | mg/L  | 0.00581  |
| BMOUTJE        | Fe                        | mg/L  | 0.05527  |
| BMOUTJE        | Mn                        | mg/L  | 0.02689  |
| BMOUTJE        | Mo                        | mg/L  | 0.00316  |
| BMOUTJE        | Ni                        | mg/L  | 0.00242  |
| BMOUTJE        | Pb                        | mg/L  | <0.00200 |
| BMOUTJE        | Sb                        | mg/L  | <0.00200 |
| BMOUTJE        | Se                        | mg/L  | <0.00400 |
| BMOUTJE        | Zn                        | mg/L  | 0.02286  |
| BMOUTJE        | NH3_N                     | mg/L  | <0.300   |
| BMOUTJE        | Al                        | mg/L  | <1.00    |
| BMOUTJE        | Ca                        | mg/L  | 74.36    |
| BMOUTJE        | Hardness                  | mg/L  | 302      |
| BMOUTJE        | Mg                        | mg/L  | 28.27    |
| BMOUTJE        | CN                        | mg/L  | <0.0050  |
| BMOUTJE        | ALKALINITY                | mg/L  | 129.2    |
| BMOUTJE        | Cl                        | mg/L  | 298.485  |
| BMOUTJE        | Final Hg                  | ug/L  | <0.500   |
| BMOUTJE        | 1,1,1-Trichloroethane     | ug/L  | <5.000   |
| BMOUTJE        | 1,1,2,2-Tetrachloroethane | ug/L  | <5.000   |
| BMOUTJE        | 1,1,2-Trichloroethane     | ug/L  | <5.000   |
| BMOUTJE        | 1,1-Dichloroethane        | ug/L  | <5.000   |
| BMOUTJE        | 1,1-Dichloroethylene      | ug/L  | <5.000   |
| BMOUTJE        | 1,2,4-Trichlorobenzene    | ug/L  | <5.000   |
| BMOUTJE        | 1,2-Dichlorobenzene       | ug/L  | <5.000   |
| BMOUTJE        | 1,2-Dichloroethane        | ug/L  | <5.000   |
| BMOUTJE        | 1,2-Dichloropropane       | ug/L  | <5.000   |
| BMOUTJE        | 1,2-Diphenylhydrazine     | ug/L  | <5.000   |
| BMOUTJE        | 1,3-Dichlorobenzene       | ug/L  | <5.000   |
| BMOUTJE        | 1,3-Dichloropropylene     | ug/L  | <5.000   |
| BMOUTJE        | 1,4-Dichlorobenzene       | ug/L  | <5.000   |
| BMOUTJE        | 2,4,6-Trichlorophenol     | ug/L  | <10.000  |
| BMOUTJE        | 2,4-Dichlorophenol        | ug/L  | <5.000   |
| BMOUTJE        | 2,4-Dimethylphenol        | ug/L  | <10.000  |
| BMOUTJE        | 2,4-Dinitrophenol         | ug/L  | <40.000  |
| BMOUTJE        | 2,4-Dinitrotoluene        | ug/L  | <10.000  |
| BMOUTJE        | 2,6-Dinitrotoluene        | ug/L  | <5.000   |
| BMOUTJE        | 2-Chloroethyl vinyl ether | ug/L  | <5.000   |

**TABLE 8: WATER QUALITY RESULTS OF A JOHN E. EGAN WATER RECLAMATION PLANT FINAL EFFLUENT COMPOSITE  
SAMPLE COLLECTED MARCH 3 - MARCH 4, 2025, USED FOR WHOLE EFFLUENT TOXICITY TESTING**

| Sampling point | Analysis                      | Units | Result  |
|----------------|-------------------------------|-------|---------|
| BMOUTJE        | 2-Chloronaphthalene           | ug/L  | <5.000  |
| BMOUTJE        | 2-Chlorophenol                | ug/L  | <10.000 |
| BMOUTJE        | 2-Nitrophenol                 | ug/L  | <10.000 |
| BMOUTJE        | 3,3'-Dichlorobenzidine        | ug/L  | <15.000 |
| BMOUTJE        | 3,4-Benzofluoranthene         | ug/L  | <10.000 |
| BMOUTJE        | 4,4'-DDD                      | ug/L  | <0.050  |
| BMOUTJE        | 4,4'-DDE                      | ug/L  | <0.130  |
| BMOUTJE        | 4,4'-DDT                      | ug/L  | <0.050  |
| BMOUTJE        | 4,6-Dinitro-o-cresol          | ug/L  | <25.000 |
| BMOUTJE        | 4-Bromophenyl phenyl ether    | ug/L  | <5.000  |
| BMOUTJE        | 4-Chlorophenyl phenyl ether   | ug/L  | <5.000  |
| BMOUTJE        | 4-Nitrophenol                 | ug/L  | <20.000 |
| BMOUTJE        | Acenaphthene                  | ug/L  | <5.000  |
| BMOUTJE        | Acenaphthylene                | ug/L  | <5.000  |
| BMOUTJE        | Acrolein                      | ug/L  | <50.000 |
| BMOUTJE        | Acrylonitrile                 | ug/L  | <10.000 |
| BMOUTJE        | Aldrin                        | ug/L  | <0.050  |
| BMOUTJE        | Anthracene                    | ug/L  | <5.000  |
| BMOUTJE        | Benzene                       | ug/L  | <2.000  |
| BMOUTJE        | Benzo(a)anthracene            | ug/L  | <5.000  |
| BMOUTJE        | Benzo(a)pyrene                | ug/L  | <10.000 |
| BMOUTJE        | Benzo(g,h,i)perylene          | ug/L  | <10.000 |
| BMOUTJE        | Benzo(k)fluoranthene          | ug/L  | <5.000  |
| BMOUTJE        | Bis(2-chloro-iso-propyl)ether | ug/L  | <10.000 |
| BMOUTJE        | Bis(2-chloroethoxy)methane    | ug/L  | <10.000 |
| BMOUTJE        | Bis(2-chloroethyl)ether       | ug/L  | <10.000 |
| BMOUTJE        | Bis(2-ethylhexyl)phthalate    | ug/L  | <18.000 |
| BMOUTJE        | Bromoform                     | ug/L  | <5.000  |
| BMOUTJE        | Butyl benzyl phthalate        | ug/L  | <10.000 |
| BMOUTJE        | Carbon tetrachloride          | ug/L  | <5.000  |
| BMOUTJE        | Chlorobenzene                 | ug/L  | <5.000  |
| BMOUTJE        | Chlorodibromomethane          | ug/L  | <2.000  |
| BMOUTJE        | Chloroethane                  | ug/L  | <5.000  |
| BMOUTJE        | Chloroform                    | ug/L  | <2.000  |
| BMOUTJE        | Chrysene                      | ug/L  | <5.000  |
| BMOUTJE        | Di-n-butyl phthalate          | ug/L  | <10.000 |
| BMOUTJE        | Di-n-octyl phthalate          | ug/L  | <15.000 |
| BMOUTJE        | Dibenzo(a,h)anthracene        | ug/L  | <15.000 |
| BMOUTJE        | Dichlorobromomethane          | ug/L  | <2.000  |
| BMOUTJE        | Dieldrin                      | ug/L  | <0.050  |
| BMOUTJE        | Diethyl phthalate             | ug/L  | <10.000 |
| BMOUTJE        | Dimethyl phthalate            | ug/L  | <5.000  |
| BMOUTJE        | Endosulfan I                  | ug/L  | <0.050  |
| BMOUTJE        | Endosulfan II                 | ug/L  | <0.050  |
| BMOUTJE        | Endosulfan sulfate            | ug/L  | <0.050  |

**TABLE 8: WATER QUALITY RESULTS OF A JOHN E. EGAN WATER RECLAMATION PLANT FINAL EFFLUENT COMPOSITE  
SAMPLE COLLECTED MARCH 3 - MARCH 4, 2025, USED FOR WHOLE EFFLUENT TOXICITY TESTING**

| Sampling point | Analysis                   | Units | Result  |
|----------------|----------------------------|-------|---------|
| BMOUTJE        | Endrin                     | ug/L  | <0.050  |
| BMOUTJE        | Endrin aldehyde            | ug/L  | <0.050  |
| BMOUTJE        | Ethylbenzene               | ug/L  | <2.000  |
| BMOUTJE        | Fluoranthene               | ug/L  | <5.000  |
| BMOUTJE        | Fluorene                   | ug/L  | <5.000  |
| BMOUTJE        | Heptachlor                 | ug/L  | <0.070  |
| BMOUTJE        | Heptachlor epoxide         | ug/L  | <0.050  |
| BMOUTJE        | Hexachlorobenzene          | ug/L  | <5.000  |
| BMOUTJE        | Hexachlorobutadiene        | ug/L  | <5.000  |
| BMOUTJE        | Hexachlorocyclopentadiene  | ug/L  | <25.000 |
| BMOUTJE        | Hexachloroethane           | ug/L  | <10.000 |
| BMOUTJE        | Indeno(1,2,3-cd)pyrene     | ug/L  | <15.000 |
| BMOUTJE        | Isophorone                 | ug/L  | <10.000 |
| BMOUTJE        | Methyl bromide             | ug/L  | <5.000  |
| BMOUTJE        | Methyl chloride            | ug/L  | <5.000  |
| BMOUTJE        | Methylene chloride         | ug/L  | <5.000  |
| BMOUTJE        | N-Nitrosodi-n-propylamine  | ug/L  | <10.000 |
| BMOUTJE        | N-Nitrosodimethylamine     | ug/L  | <5.000  |
| BMOUTJE        | N-Nitrosodiphenylamine     | ug/L  | <5.000  |
| BMOUTJE        | Naphthalene                | ug/L  | <5.000  |
| BMOUTJE        | Nitrobenzene               | ug/L  | <10.000 |
| BMOUTJE        | PCB-1016                   | ug/L  | <0.800  |
| BMOUTJE        | PCB-1221                   | ug/L  | <0.800  |
| BMOUTJE        | PCB-1232                   | ug/L  | <0.800  |
| BMOUTJE        | PCB-1242                   | ug/L  | <0.800  |
| BMOUTJE        | PCB-1248                   | ug/L  | <0.800  |
| BMOUTJE        | PCB-1254                   | ug/L  | <0.800  |
| BMOUTJE        | PCB-1260                   | ug/L  | <1.160  |
| BMOUTJE        | Pentachlorophenol          | ug/L  | <30.000 |
| BMOUTJE        | Phenanthrene               | ug/L  | <5.000  |
| BMOUTJE        | Phenol                     | ug/L  | <5.000  |
| BMOUTJE        | Pyrene                     | ug/L  | <5.000  |
| BMOUTJE        | Technical chlordane        | ug/L  | <0.500  |
| BMOUTJE        | Tetrachloroethylene        | ug/L  | <5.000  |
| BMOUTJE        | Toluene                    | ug/L  | <2.000  |
| BMOUTJE        | Toxaphene                  | ug/L  | <1.000  |
| BMOUTJE        | Trichloroethylene          | ug/L  | <5.000  |
| BMOUTJE        | Trichlorofluoromethane     | ug/L  | <5.000  |
| BMOUTJE        | Vinyl chloride             | ug/L  | <5.000  |
| BMOUTJE        | alpha-BHC                  | ug/L  | <0.050  |
| BMOUTJE        | beta-BHC                   | ug/L  | <0.070  |
| BMOUTJE        | delta-BHC                  | ug/L  | <0.050  |
| BMOUTJE        | gamma-BHC (lindane)        | ug/L  | <0.050  |
| BMOUTJE        | p-Chloro-m-cresol          | ug/L  | <5.000  |
| BMOUTJE        | trans-1,2-Dichloroethylene | ug/L  | <5.000  |