

# Arkansas Analytical, Inc.

## Toxicity Test Results

**Jonesboro City Water & Light  
Eastside Wastewater Treatment Plant  
NPDES Permit AR0043401  
Third Quarter 2020**

*Ceriodaphnia dubia*, Survival and Reproduction Test  
Test 1002.0

Prepared for: **Whitney Young  
Jonesboro City Water & Light  
400 East Monroe  
Jonesboro AR, 72403**

Prepared by: Arkansas Analytical, Inc.  
8100 National Drive  
Little Rock, Arkansas 72209  
**Lab Number K2009011**

Monday, October 19, 2020

## Plant Location

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The plant is located as follows: 5205 Ingels Road, Jonesboro, AR 72404, approximately one mile west of the intersection of AR Hwy 463 and Ingels Road in Craighead County, Arkansas.

## Test Methods

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EPA Method 1002.0 *Ceriodaphnia dubia*, Survival and reproduction test

- Test chambers: 30 mL plastic cups
- Test solution volume: 15 mL
- Number of test organisms per chamber: 1
- Number of replicates per concentration: 10
- Test temperature 25°C ± 1°C
- Test concentrations: 0%, 32%, 42%, 56%, 80%, 100%
- Dilution water: Moderately hard synthetic
- No deviation from method

## Reference Toxicant Data

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### REFERENCE TOXICANT (Potassium Chloride)

| <i>Ceriodaphnia dubia</i> 8/25/20-9/1/20 |              | <i>Pimephales promelas</i> 8/25/20-9/1/20 |              |
|--|--------------|---|--------------|
| NOEC Survival:                           | 500 ppm KCl  | NOEC Survival:                            | 500 ppm KCl  |
| LOEC Survival:                           | 1000 ppm KCl | LOEC Survival:                            | 1000 ppm KCl |
| NOEC Reproduction:                       | 250 ppm KCl  | NOEC Growth:                              | 500 ppm KCl  |
| LOEC Reproduction:                       | 500 ppm KCl  | LOEC Growth:                              | 1000 ppm KCl |

## Summary of Results

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### Jonesboro City Water and Light Eastside Wastewater Treatment Plant

| <i>Ceriodaphnia dubia</i>                         |       |
|---|-------|
| NOEC Survival<br>Parameter: <b>TOP3B</b>          | 100%  |
| Pass/Fail Survival<br>Parameter: <b>TLP3B</b>     | Pass  |
| NOEC Reproduction<br>Parameter: <b>TPP3B</b>      | 100%  |
| Pass/Fail Reproduction<br>Parameter: <b>TGP3B</b> | Pass  |
| %CV Reproduction<br>Parameter: <b>TQP3B</b>       | 37.0% |
| PMSD Reproduction                                 | 44.8% |

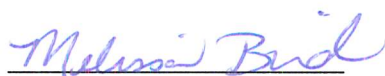
## Conclusion

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*Ceriodaphnia dubia*, (Method 1002.0): The permit issued to the Jonesboro City Water and Light, specifies the **critical dilution is 100% effluent**. The effluent samples **did not** exhibit lethal or sublethal effects at the critical dilution, and, as such, **passed** both portions of the test.

Biomonitoring Analysts: Melissa Bird, Emily Nichols, Jettie Parnell

Reviewed by:



Melissa Bird

## Appendices

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|                 |   |
|-----------------|---|
| Appendix A..... | Chains of custody                           |
| Appendix B..... | <i>Ceriodaphnia dubia</i> data & statistics |
| Appendix C..... | Water chemistry data                        |
| Appendix D..... | Reference toxicant control charts           |





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# CHAIN OF CUSTODY RECORD

| CLIENT INFORMATION                                   |                         | Project Description                      |      | Turnaround Time                                 |                   | Preservation Codes:  |                                    |  |                 |  |                           |
|--|-------------------------|--|------|---|-------------------|--|------------------------------------|--|-----------------|--|---------------------------|
| CWL of the City of Jonesboro                         |                         | Chronic Toxicity                         |      | 1 Day (100%)                                    |                   | 1. Cool, 6 Degrees Centigrade  |                                    |  |                 |  |                           |
| Westside WWTP  |                         | Eastside WWTP                            |      | 2 Day (50%)                                     |                   | 2. Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> ), pH < 2                                 |                                    |  |                 |  |                           |
| 400 East Monroe                                      |                         | Reporting Information                    |      | 3 Day (25%)                                     |                   | 3. Nitric Acid (HNO <sub>3</sub> ), pH < 2   |                                    |  |                 |  |                           |
| Jonesboro, AR 72403                                  |                         | Telephone: 870-935-5581, x-494           |      | 5 Day (Routine)                                 |                   | 4. Thiosulfate for Dechlorination  |                                    |  |                 |  |                           |
| Attn: Whitney Young                                  |                         | Fax: 870-931-9846                        |      | Preservative Code:                              |                   | 5. Hydrochloric Acid(HCl)  |                                    |  |                 |  |                           |
| Email: wyoung@jonesborocwl.org                       |                         | Bottle Type:                             |      | 1   |                   | 6. Sodium Hydroxide (NaOH), pH > 12  |                                    |  |                 |  |                           |
| Sampler(s) Signature: <i>Whitney Young</i>           |                         | Sampler(s) Printed: <i>Whitney Young</i> |      | Chronic Toxicity (Ceriodaphnia Only)            |                   | Arkansas Analytical Work Order Number: <i>K2009011 B</i>                                   |                                    |  |                 |  |                           |
| Field Number   | SAMPLE COLLECTION Dates | Time/s                                   | Grab | Comp  | Number of Bottles | Sample Matrix  | SAMPLE IDENTIFICATION/ DESCRIPTION |  | TEST PARAMETERS |  | REMARKS / SAMPLE COMMENTS |
|  | 9/29-20/20              | 10:00 AM - 12:38 PM                      |      | X   | 2                 | Water  | Eastside WWTP -- Day 2             |  | X               |  |                           |
| 1. Relinquished by: (Signature) <i>Whitney Young</i> |                         | Date/Time: 9-23-20                       |      | 2. Received by: (Signature) <i>Sammy Riddle</i> |                   | SAMPLE CONDITION UPON RECEIPT IN LAB   |                                    |  |                 |  |                           |
| 3. Relinquished by: (Signature)                      |                         | Date/Time                                |      | 4. Received by lab: (Signature)                 |                   | 1. CUSTODY SEALS: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>      |                                    |  |                 |  |                           |
|  |                         |  |      |   |                   | 2. CONTAINERS CORRECT: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |                                    |  |                 |  |                           |
|  |                         |  |      |   |                   | 3. COC/LABELS AGREE: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>   |                                    |  |                 |  |                           |
|  |                         |  |      |   |                   | 4. RECEIVED ON ICE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>    |                                    |  |                 |  |                           |
|  |                         |  |      |   |                   | 5. TEMPERATURE ON RECEIPT: 1 °C  |                                    |  |                 |  |                           |
|  |                         |  |      |   |                   | 6. TEMPERATURE GUN ID: HHT# 2  |                                    |  |                 |  |                           |
| FOR COMPLETION BY LAB ONLY                           |                         |  |      |   |                   |  |                                    |  |                 |  |                           |



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# CHAIN OF CUSTODY RECORD

| CLIENT INFORMATION              |                                | Project Description            |      | Turnaround Time                 |               | Preservation Codes:   |  |   |  |  |  |
|---------------------------------|--------------------------------|--------------------------------|------|---------------------------------|---------------|---|--|---|--|--|--|
| CWL of the City of Jonesboro    |                                | Chronic Toxicity               |      | 1 Day (100%)                    |               | 1. Cool, 6 Degrees Centigrade   |  |   |  |  |  |
| Westside WWTP - Eastside WWTP   |                                | Eastside Westside WWTP         |      | 2 Day (50%)                     |               | 2. Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> ), pH < 2            |  |   |  |  |  |
| 400 East Monroe                 |                                | Reporting Information          |      | 3 Day (25%)                     |               | 3. Nitric Acid (HNO <sub>3</sub> ), pH < 2                            |  |   |  |  |  |
| Jonesboro, AR 72403             |                                | Telephone: 870-935-5581, x-494 |      | 5 Day (routine)                 |               | 6. Sodium Hydroxide (NaOH), pH > 12                                   |  |   |  |  |  |
| Attn: Whitney Young             |                                | Fax: 870-931-9846              |      | Preservative Code:              |               | TEST PARAMETERS   |  |   |  |  |  |
|                                 |                                | Email: wyoung@jonesborocwl.org |      | Bottle Type:                    |               | G = Glass, P = Plastic<br>V = Septum, A = Amber                       |  |   |  |  |  |
| Sampler(s) Signature            |                                | Sampler(s) Printed             |      | SAMPLE                          |               | Chronic Toxicity (Ceriodaphnia Only)                                  |  |   |  |  |  |
| Field Number                    | SAMPLE COLLECTION Dates/ Times | Grab                           | Comp | Number of Bottles               | Sample Matrix | IDENTIFICATION/ DESCRIPTION   |  |   |  |  |  |
|                                 | 9/24-25/20 10:00-9:00 AM       |                                | X    | 4                               | Water         | Westside WWTP -- Day 3  |  |   |  |  |  |
| 1. Relinquished by: (Signature) |                                | Date/Time                      |      | 2. Received by: (Signature)     |               | SAMPLE CONDITION UPON RECEIPT IN LAB                                  |  | REMARKS / SAMPLE COMMENTS                       |  |  |  |
| [Signature]                     |                                | 9/25/20 9:05 AM                |      | [Signature]                     |               | 1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes ___ No      |  |   |  |  |  |
| 3. Relinquished by: (Signature) |                                | Date/Time                      |      | 4. Received by lab: (Signature) |               | 2. CONTAINERS CORRECT: <input checked="" type="checkbox"/> Yes ___ No |  |   |  |  |  |
| [Signature]                     |                                | 9/25/20 12:15 PM               |      | [Signature]                     |               | 3. COC/LABELS AGREE: <input checked="" type="checkbox"/> Yes ___ No   |  |   |  |  |  |
|                                 |                                |                                |      |                                 |               | 4. RECEIVED ON ICE: <input checked="" type="checkbox"/> Yes ___ No    |  |   |  |  |  |
|                                 |                                |                                |      |                                 |               | 5. TEMPERATURE ON RECEIPT: 1 °C                                       |  |   |  |  |  |
|                                 |                                |                                |      |                                 |               | 6. TEMPERATURE GUN ID: HHT# 2   |  |   |  |  |  |
|                                 |                                |                                |      |                                 |               | FOR COMPLETION BY LAB ONLY  |  |   |  |  |  |
|                                 |                                |                                |      |                                 |               |   |  | Arkansas Analytical Work Order Number: K2009011 |  |  |  |

**CETIS Summary Report**

Report Date: 19 Oct-20 12:52 (p 1 of 2)  
 Test Code/ID: K2009011CD / 17-2260-0649

**Ceriodaphnia 7-d Survival and Reproduction Test**

Arkansas Analytical

|                               |                                       |  |
|-------------------------------|---------------------------------------|--|
| Batch ID: 17-5414-4363        | Test Type: Reproduction-Survival (7d) | Analyst: Emily Nichols                     |
| Start Date: 22 Sep-20 09:15   | Protocol: EPA/821/R-02-013 (2002)     | Diluent: Mod-Hard Synthetic Water          |
| Ending Date: 28 Sep-20 10:42  | Species: Ceriodaphnia dubia           | Brine: Not Applicable                      |
| Test Length: 6d 1h            | Taxon: Branchiopoda                   | Source: In-House Culture Age: <24          |
| Sample ID: 12-4872-9472       | Code: K2009011CD                      | Project: WET Monthly Compliance Test (SEP) |
| Sample Date: 21 Sep-20 09:00  | Material: POTW Effluent               | Source: Jonesboro (AR0037907)              |
| Receipt Date: 21 Sep-20 12:24 | CAS (PC):                             | Station: AR0043401                         |
| Sample Age: 24h (1 °C)        | Client: Jonesboro                     |  |

**Sample Renewals**

| Renewal | Sample Code | Sample Date     | Receive Date    | Renewal Date    | Temp °C |
|---------|-------------|-----------------|-----------------|-----------------|---------|
| 1       | K2009011B   | 23 Sep-20 09:00 | 23 Sep-20 12:38 | 24 Sep-20 00:00 | 1       |
| 2       | K2009011C   | 25 Sep-20 09:00 | 25 Sep-20 12:15 | 26 Sep-20 00:00 | 1       |

**Multiple Comparison Summary**

| Analysis ID  | Endpoint         | Comparison Method                 | ✓ NOEL | LOEL | TOEL | TU | PMSD  | S |
|--------------|------------------|-----------------------------------|--------|------|------|----|-------|---|
| 13-6193-7709 | 7d Survival Rate | Fisher Exact/Bonferroni-Holm Test | 100    | >100 | n/a  | 1  | n/a   | 1 |
| 13-6060-9596 | Reproduction     | Dunnett Multiple Comparison Test  | 100    | >100 | n/a  | 1  | 44.8% | 1 |

**Test Acceptability**

| Analysis ID  | Endpoint         | Attribute    | Test Stat | TAC Limits |       |     | Overlap         | Decision |
|--------------|------------------|--------------|-----------|------------|-------|-----|-----------------|----------|
|              |                  |              |           | Lower      | Upper |     |                 |          |
| 13-6193-7709 | 7d Survival Rate | Control Resp | 1         | 0.8        | >>    | Yes | Passes Criteria |          |
| 13-6060-9596 | Reproduction     | Control Resp | 15.8      | 15         | >>    | Yes | Passes Criteria |          |
| 13-6060-9596 | Reproduction     | PMSD         | 0.4485    | 0.13       | 0.47  | Yes | Passes Criteria |          |

**7d Survival Rate Summary**

| Conc-% | Code | Count | Mean   | 95% LCL | 95% UCL | Min    | Max    | Std Err | Std Dev | CV%   | %Effect |
|--------|------|-------|--------|---------|---------|--------|--------|---------|---------|-------|---------|
| 0      | L    | 10    | 1.0000 | 1.0000  | 1.0000  | 1.0000 | 1.0000 | 0.0000  | 0.0000  | 0.00% | 0.00%   |
| 32     |      | 10    | 1.0000 | 1.0000  | 1.0000  | 1.0000 | 1.0000 | 0.0000  | 0.0000  | 0.00% | 0.00%   |
| 42     |      | 10    | 1.0000 | 1.0000  | 1.0000  | 1.0000 | 1.0000 | 0.0000  | 0.0000  | 0.00% | 0.00%   |
| 56     |      | 10    | 1.0000 | 1.0000  | 1.0000  | 1.0000 | 1.0000 | 0.0000  | 0.0000  | 0.00% | 0.00%   |
| 80     |      | 10    | 1.0000 | 1.0000  | 1.0000  | 1.0000 | 1.0000 | 0.0000  | 0.0000  | 0.00% | 0.00%   |
| 100    |      | 10    | 1.0000 | 1.0000  | 1.0000  | 1.0000 | 1.0000 | 0.0000  | 0.0000  | 0.00% | 0.00%   |

**Reproduction Summary**

| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Min | Max | Std Err | Std Dev | CV%    | %Effect |
|--------|------|-------|------|---------|---------|-----|-----|---------|---------|--------|---------|
| 0      | L    | 10    | 15.8 | 11.62   | 19.98   | 6   | 27  | 1.849   | 5.846   | 37.00% | 0.00%   |
| 32     |      | 10    | 22.2 | 17.18   | 27.22   | 9   | 29  | 2.22    | 7.021   | 31.62% | -40.51% |
| 42     |      | 10    | 19.7 | 15.49   | 23.91   | 10  | 28  | 1.862   | 5.889   | 29.89% | -24.68% |
| 56     |      | 10    | 24.1 | 19.78   | 28.42   | 12  | 31  | 1.912   | 6.045   | 25.08% | -52.53% |
| 80     |      | 10    | 24   | 19.03   | 28.97   | 12  | 34  | 2.196   | 6.944   | 28.93% | -51.90% |
| 100    |      | 10    | 26.5 | 19.92   | 33.08   | 12  | 40  | 2.907   | 9.192   | 34.69% | -67.72% |



**CETIS Summary Report**

Report Date: 19 Oct-20 12:52 (p 2 of 2)  
 Test Code/ID: K2009011CD / 17-2260-0649

**Ceriodaphnia 7-d Survival and Reproduction Test**

Arkansas Analytical

**7d Survival Rate Detail**

| Conc-% | Code | Rep 1  | Rep 2  | Rep 3  | Rep 4  | Rep 5  | Rep 6  | Rep 7  | Rep 8  | Rep 9  | Rep 10 |
|--------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0      | L    | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 32     |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 42     |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 56     |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 80     |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 100    |      | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

**Reproduction Detail**

| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | Rep 6 | Rep 7 | Rep 8 | Rep 9 | Rep 10 |
|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0      | L    | 17    | 20    | 6     | 15    | 27    | 21    | 11    | 13    | 13    | 15     |
| 32     |      | 23    | 29    | 23    | 29    | 12    | 19    | 23    | 29    | 26    | 9      |
| 42     |      | 22    | 19    | 18    | 13    | 21    | 10    | 27    | 28    | 24    | 15     |
| 56     |      | 26    | 25    | 31    | 27    | 30    | 16    | 26    | 27    | 21    | 12     |
| 80     |      | 27    | 28    | 29    | 34    | 21    | 12    | 27    | 28    | 19    | 15     |
| 100    |      | 30    | 12    | 32    | 40    | 37    | 19    | 23    | 32    | 24    | 16     |

**7d Survival Rate Binomials**

| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | Rep 6 | Rep 7 | Rep 8 | Rep 9 | Rep 10 |
|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0      | L    | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1    |
| 32     |      | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1    |
| 42     |      | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1    |
| 56     |      | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1    |
| 80     |      | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1    |
| 100    |      | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1   | 1/1    |

CHEMICAL DATA SHEET FOR CHRONIC TOXICITY TESTING

Ceriodaphnia Dubia

Lab # / Sample ID K2009011

Test Start (Date/Time) 9-22-2020/0915

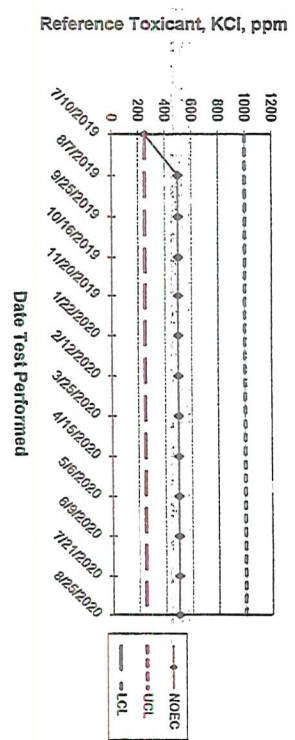
Client: Jonesboro

Test End (Date/Time) 9-28-2020/1042

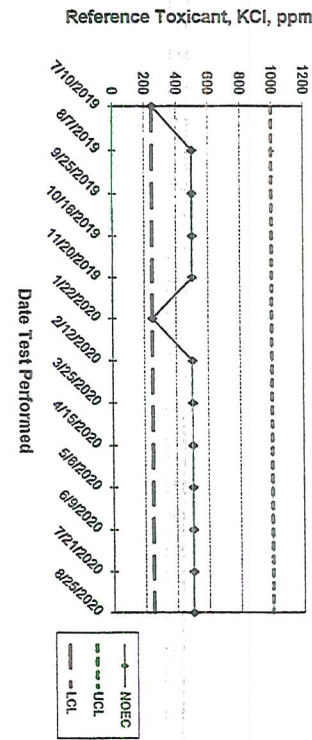
|                         |         | Day of Test |      |       |      |       |      |      | notes/remarks |
|-------------------------|---------|-------------|------|-------|------|-------|------|------|---------------|
|                         |         | 1           | 2    | 3     | 4    | 5     | 6    | 7    |               |
| <b>Control</b>          | MHS 084 | 9/22        | 9/23 | 9/24  | 9/25 | 9/26  | 9/27 | 9/28 |               |
| D.O. (mg/L)             | INITIAL | 8.1         | 7.9  | 8.3   | 8.2  | 8.4   | 7.0  | 8.2  |               |
|                         | FINAL   | 8.2         | 8.9  | 8.1   | 7.98 | 6.95  | 5.84 | —    |               |
| pH (s.u.)               | INITIAL | 8.1         | 8.0  | 8.2   | 7.9  | 8.2   | 6.4  | 8.1  |               |
|                         | FINAL   | 8.3         | 8.4  | 7.6   | 7.5  | 8.2   | 8.23 | —    |               |
| temp (C)                | INITIAL | 22          | 23   | 23    | 23   | 22    | 22   | 20   |               |
|                         | FINAL   | 25          | 25   | 25    | 25   | 25    | 25   | —    |               |
| ALKALINITY (mg/L)       |         | 62          |      |       |      |       |      |      |               |
| HARDNESS (mg/L)         |         | 92          |      |       |      |       |      |      |               |
| CONDUCTIVITY (umhos/cm) |         | 320         |      |       |      |       |      |      |               |
| CHLORINE (mg/L)         |         | 40.05       |      |       |      |       |      |      |               |
| <b>CONC: 321.</b>       |         |             |      |       |      |       |      |      |               |
| D.O. (mg/L)             | INITIAL | 8.0         | 8.0  | 8.5   | 8.1  | 8.6   | 7.5  | 8.0  |               |
|                         | FINAL   | 8.2         | 8.9  | 8.4   | 7.24 | 7.08  | 6.19 | —    |               |
| pH (s.u.)               | INITIAL | 8.2         | 8.3  | 8.1   | 8.2  | 8.1   | 7.8  | 8.1  |               |
|                         | FINAL   | 8.3         | 8.5  | 8.0   | 8.1  | 8.2   | 8.2  | —    |               |
| temp (C)                | INITIAL | 22          | 22   | 22    | 23   | 22    | 22   | 20   |               |
|                         | FINAL   | 25          | 25   | 25    | 25   | 25    | 25   | —    |               |
| <b>CONC: 421.</b>       |         |             |      |       |      |       |      |      |               |
| D.O. (mg/L)             | INITIAL | 8.0         | 8.0  | 8.5   | 8.3  | 8.7   | 8.7  | 8.2  |               |
|                         | FINAL   | 8.2         | 8.9  | 8.4   | 7.95 | 7.17  | 5.95 | —    |               |
| pH (mg/L)               | INITIAL | 8.2         | 8.2  | 8.1   | 8.3  | 8.0   | 7.9  | 8.2  |               |
|                         | FINAL   | 8.5         | 8.5  | 8.1   | 8.1  | 8.2   | 8.2  | —    |               |
| temp (C)                | INITIAL | 22          | 22   | 23    | 23   | 22    | 22   | 20   |               |
|                         | FINAL   | 25          | 25   | 25    | 25   | 25    | 25   | —    |               |
| <b>CONC: 561.</b>       |         |             |      |       |      |       |      |      |               |
| D.O. (mg/L)             | INITIAL | 8.2         | 8.1  | 8.5   | 8.4  | 8.8   | 8.7  | 8.3  |               |
|                         | FINAL   | 8.2         | 9.0  | 8.4   | 6.67 | 6.95  | 6.15 | —    |               |
| pH (s.u.)               | INITIAL | 8.2         | 8.3  | 8.1   | 8.3  | 8.0   | 8.0  | 8.2  |               |
|                         | FINAL   | 8.6         | 8.6  | 8.2   | 8.3  | 8.3   | 8.28 | —    |               |
| temp (C)                | INITIAL | 22          | 21   | 22    | 23   | 21    | 22   | 20   |               |
|                         | FINAL   | 25          | 25   | 25    | 25   | 25    | 25   | —    |               |
| <b>CONC: 801</b>        |         |             |      |       |      |       |      |      |               |
| D.O. (mg/L)             | INITIAL | 8.3         | 8.1  | 8.5   | 8.5  | 8.8   | 9.0  | 8.3  |               |
|                         | FINAL   | 8.3         | 9.0  | 8.9   | 7.37 | 7.17  | 6.05 | —    |               |
| pH (s.u.)               | INITIAL | 8.2         | 8.4  | 8.1   | 8.3  | 7.9   | 8.0  | 8.3  |               |
|                         | FINAL   | 8.6         | 8.6  | 8.3   | 8.4  | 8.3   | 8.3  | —    |               |
| temp (C)                | INITIAL | 22          | 21   | 23    | 23   | 21    | 22   | 20   |               |
|                         | FINAL   | 25          | 25   | 25    | 25   | 25    | 25   | —    |               |
| <b>CONC: 1001.</b>      |         |             |      |       |      |       |      |      |               |
| D.O. (mg/L)             | INITIAL | 8.5         | 8.1  | 8.7   | 8.5  | 8.9   | 9.1  | 8.5  |               |
|                         | FINAL   | 8.3         | 9.0  | 9.0   | 7.06 | 7.29  | 6.22 | —    |               |
| pH (s.u.)               | INITIAL | 8.1         | 8.2  | 8.0   | 8.3  | 7.8   | 7.9  | 7.9  |               |
|                         | FINAL   | 8.6         | 8.6  | 8.3   | 8.4  | 8.4   | 8.3  | —    |               |
| temp (C)                | INITIAL | 22          | 21   | 24    | 23   | 21    | 22   | 20   |               |
|                         | FINAL   | 25          | 25   | 25    | 25   | 25    | 25   | —    |               |
| <b>CONC: 1001.</b>      |         | A           | A    | B     | B    | C     | C    | C    |               |
| ALKALINITY (mg/L)       |         | 178         |      | 152   |      | 126   |      |      |               |
| HARDNESS (mg/L)         |         | 138         |      | 144   |      | 132   |      |      |               |
| CONDUCTIVITY (umhos/cm) |         | 762         |      | 777   |      | 637   |      |      |               |
| CHLORINE (mg/L)         |         | 40.05       |      | 40.05 |      | 40.05 |      |      |               |

\*ALA 09128120

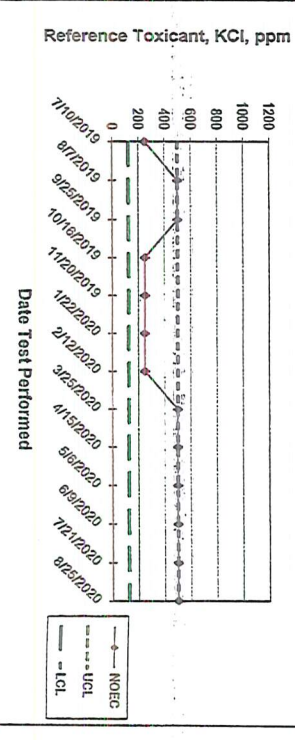
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