



2269 Dr. F.E. Wright Drive, Jackson, TN 38305
Main 731.423.5330 ° Fax 731.423.5326
www.waypointanalytical.com

9/28/2021

City of Bells
Ms. Angel West
12984 HWY 79
Bells, TN, 38806

Ref: Analytical Testing
Lab Report Number: 21-256-0019
Client Project Description: Bioassay

Dear Ms. Angel West:

Waypoint Analytical Tennessee, Inc. (J) received sample(s) on 9/13/2021 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule August 2017) unless otherwise indicated.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink that reads "Billie Haynes".

Billie Haynes
Lab Manager



Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Sample Summary Table

Report Number: 21-256-0019

Client Project Description: Bioassay

Lab No	Client Sample ID	Matrix	Date Collected	Date Received	Method	Lab ID
91444	Outfall 002	Aqueous	09/13/2021 07:30	09/13/2021		
91444	Outfall 002	Aqueous	09/13/2021 07:30	09/13/2021	EPA-200.7	WP MTN
91684	Outfall 002	Aqueous	09/15/2021 07:55	09/13/2021		
91684	Outfall 002	Aqueous	09/15/2021 07:55	09/13/2021	EPA-200.7	WP MTN
91838	Outfall 002	Aqueous	09/17/2021 07:20	09/13/2021		
91838	Outfall 002	Aqueous	09/17/2021 07:20	09/13/2021	EPA-200.7	WP MTN





2269 Dr. F.E. Wright Drive, Jackson, TN 38305
 Main 731.423.5330 * Fax 731.423.5326
 www.waypointanalytical.com

00064
 City of Bells
 Ms. Angel West
 12984 HWY 79
 Bells, TN 38806

Project Bioassay

Information :

Report Date : 09/28/2021
 Received : 09/13/2021

Billie Haynes

Report Number : **21-256-0019**

REPORT OF ANALYSIS

Billie L. Haynes
 Lab Manager

Lab No : **91444**
 Sample ID : **Outfall 002**

Matrix: **Aqueous**
 Sampled: **9/13/2021 7:30**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO3)	82	mg/L	2	1	09/17/21 18:49	LKC	2320B-2011
Chlorine, Total Residual	0.080	mg/L	0.050	1	09/17/21 09:16	LKC	4500CIG-2011
Calcium	9.70	mg/L	0.500	1	09/23/21 03:22	JADS	EPA-200.7
Hardness as CaCO3(SM-2340B)	38.6	mg/L	0.100	1	09/23/21 03:22		EPA-200.7
Magnesium	3.50	mg/L	0.100	1	09/23/21 03:22	JADS	EPA-200.7

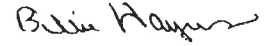
Qualifiers/Definitions	DF	Dilution Factor	L	Limit Exceeded
	MQL	Method Quantitation Limit		

00064
 City of Bells
 Ms. Angel West
 12984 HWY 79
 Bells, TN 38806

Project Bioassay

Information :

Report Date : 09/28/2021
 Received : 09/13/2021



Report Number : **21-256-0019**

REPORT OF ANALYSIS

Billie L. Haynes
 Lab Manager

Lab No : **91684**
 Sample ID : **Outfall 002**

Matrix: **Aqueous**
 Sampled: **9/15/2021 7:55**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO ₃)	86	mg/L	2	1	09/17/21 18:49	LKC	2320B-2011
Chlorine, Total Residual	0.180	mg/L	0.050	1	09/17/21 09:16	LKC	4500CIG-2011
Calcium	9.23	mg/L	0.500	1	09/20/21 20:17	JADS	EPA-200.7
Hardness as CaCO ₃ (SM-2340B)	37.6	mg/L	0.100	1	09/20/21 20:17		EPA-200.7
Magnesium	3.53	mg/L	0.100	1	09/20/21 20:17	JADS	EPA-200.7

Qualifiers/ Definitions	DF	Dilution Factor	L	Limit Exceeded
	MQL	Method Quantitation Limit		



2269 Dr. F.E. Wright Drive, Jackson, TN 38305
 Main 731.423.5330 * Fax 731.423.5326
 www.waypointanalytical.com

00064

City of Bells
 Ms. Angel West
 12984 HWY 79
 Bells , TN 38806

Project Bioassay

Information :

Report Date : 09/28/2021
 Received : 09/13/2021

Billie Haynes

Report Number : 21-256-0019

REPORT OF ANALYSIS

Billie L. Haynes
 Lab Manager

Lab No : 91838

Matrix: Aqueous

Sample ID : Outfall 002

Sampled: 9/17/2021 7:20

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO3)	88	mg/L	2	1	09/17/21 18:49	LKC	2320B-2011
Chlorine, Total Residual	0.130	mg/L	0.050	1	09/17/21 18:48	LKC	4500CIG-2011
Calcium	9.96	mg/L	0.500	1	09/24/21 05:44	JTR	EPA-200.7
Hardness as CaCO3(SM-2340B)	39.3	mg/L	0.100	1	09/24/21 05:44		EPA-200.7
Magnesium	3.50	mg/L	0.100	1	09/24/21 05:44	JTR	EPA-200.7

**Qualifiers/
 Definitions**

DF

Dilution Factor

L

Limit Exceeded

Waypoint Analytical
2269 DR. F. E. WRIGHT DRIVE
JACKSON, TN 38305

September 27, 2021

Angel West
City of Bells
P. O. Box 760
Bells, Tennessee 38006

Jim McAdoo
Cassi Savage

RE: Annual 2021, Biomonitoring Report, NPDES # TN0026247, Bells Lagoon

Dear Ms West,

Please find enclosed the above referenced report for samples submitted the week of September 14, 2021.

Results of the test indicate that the samples **passed** permit requirements for Pimephales promelas and **passed** requirements for Ceriodaphnia dubia.

EPA Methods: 1002.0 Ceriodaphnia dubia Survival and Reproduction
1000.0 Pimephales promelas Larval Survival and Growth

If you have any questions, please call. We appreciate you as a client and are always glad to be of service to you.

Sincerely,

Billie J. Haynes

Billie Haynes
Laboratory Manager

Enclosure

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

TEST SUMMARY

Listed below is a summary of results for the “Chronic Definitive Bioassay” performed on wastewater effluent from Bells Lagoon, Outfall 002.

1. The test type was “Chronic Definitive, Static, Renewal, with a 3-Brood Endpoint for the Ceriodaphnia and a “Chronic Definitive, Static, Renewal, with a 7-Day Endpoint for the Pimephales.
2. Tests were conducted on 09/14/21-9/21/21 for the Ceriodaphnia and 09/14/21-09/21/21 for the Pimephales.
3. The test method used was EPA-821-R-02-013.
4. Samples were collected on 09/13/21, 09/15/21, and 09/17/21.

TABLED SUMMARY OF TEST RESULTS

Species	Results	Permit Limit	Survival IC25	Growth IC25	Reproduction IC25
Ceriodaphnia Dubia	Pass	3.00%	>12%	-----	>12%
Pimephales Promelas	Pass	3.00%	>12%	>12%	-----

Where applicable, results were calculated by Linear Interpolation.

All QC criteria required by the above referenced method were met during this analysis.

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

TABLE OF CONTENTS

Introduction

Plant Operations

Source of Effluent, Receiving Water and Dilution Water

Test Conditions

Test Organisms

Quality Assurance

Results

Conclusions and Recommendations

Tables

Attachments

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

INTRODUCTION:

Permit Number:

TN0026247

Toxicity Testing Requirements of Permit:

3-Brood Ceriodaphnia dubia Survival and Reproduction Test and a 7-Day Pimephales promelas Survival and Growth Test. The permit limit 3.0% with an IC₂₅ endpoint. Five serial dilutions and a control are required. The dilutions are as follows:

Serial Dilutions for Whole Effluent Toxicity (WET) Testing*					
4 X PL	2 X PL	Permit Limit (PL)	0.50 X PL	0.25 X PL	Control
%effluent					
12	6	3	1.5	0.75	0

Outfall 001

Plant Location:

Bells, Crockett County, Tennessee

Name of receiving water body:

South Fork Forked Deer River Mile 36.0 (Outfall 002)

Contract Laboratory:

Waypoint Analytical
2269 Dr. F. E. Wright Drive
Jackson, Tennessee 38305
731.423.5330

2269 Dr. F. E. Wright Drive – Jackson, TN 38305 – 731.423.5330ph – 731.423.5326Fax

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

PLANT OPERATIONS:

Product(s):

Treated Municipal Wastewater

Raw Materials:

Operating Schedule:

24 Hours per day, 365 Days per year

Description of Waste Treatment:

Schematic of Waste Treatment:

Retention Time (If Applicable):

Volume of Waste Flow:

Design Flow of Treatment Facility at Time of Sampling:

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

SOURCE OF EFFLUENT, RECEIVING WATER AND DILUTION WATER:

EFFLUENT:

Sampling Point:

Effluent at Outfall 002

Sample Collection Method:

24 hour Time-proportionate composite with automatic sampler

Collection Dates and Times:

Sample 1 – 09/12/21, 0720 – 09/13/21, 0730

Sample 2 – 09/15/21, 0750 – 09/15/21, 0755

Sample 3 – 09/16/21, 0715 – 09/17/21, 0720

Physical and Chemical Data:

None Requested

Mean Daily Discharge on Sample Collection Dates:

None Given

Lapsed Time from Sample Collection to Delivery:

Sample 1 – 3.85 hrs

Sample 2 – 5.68 hrs

Sample 3 – 6.35 hrs

Sample Temperature when Received at the Laboratory:

Sample 1 – 2.0°C

Sample 2 – 2.0°C

Sample 3 – 2.0°C

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

RECEIVING WATER:

Not Applicable

DILUTION WATER:

Source:

20% Diluted Mineral Water (Perrier) Prepared by Waypoint

Collection Date(s) and Time(s):

Not Applicable

Pretreatment:

Temperature Equilibration and Aeration

Physical and Chemical Characteristics:

Batch ID	Date Tested	pH	Hardness	Alkalinity	Specific Conductance	Dissolved Oxygen
090621S3	09/07/21	8.20	99.9	92.0	163.7	8.42
090721S1	09/08/21	8.17	95.3	90.0	158.1	8.45
091121S2	09/12/21	8.15	89.2	82.0	156.3	8.03
091421S3	09/15/21	8.06	92.3	82.0	161.8	7.61

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

TEST METHODS:

Toxicity Test Method Used:

“Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms”, Fourth Edition, EPA-821-R-02-013

Endpoint of Test:

Survival and Reproduction IC₂₅ – Ceriodaphnia dubia
Survival and Growth IC₂₅ – Pimephales Promelas

Deviation(s) from Reference Method:

None

Date and Time Test Started:

Ceriodaphnia – 09/14/21, 1115
Pimephales – 09/14/21, 1415

Date and Time Test Terminated:

Ceriodaphnia – 09/21/21, 1348
Pimephales – 09/21/21, 1133

Type and Volume of Test Chambers:

Ceriodaphnia – 30 ml Plastic Cups
Pimephales – 500 ml Plastic Cups

Volume of Solution per Chamber:

Ceriodaphnia – 15 ml
Pimephales – 250 ml

Number of Organisms per Chamber:

Ceriodaphnia – 1 Neonate
Pimephales – 10 Larvae

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

Number of Replicated Test Chambers per Treatment:

Ceriodaphnia – 10
Pimephales - 4

Acclimation of Test Organisms:

Ceriodaphnia – N/A Waypoint Culture
Pimephales – 5 hrs @ 25°C +/- 1°C

Test Temperature (Mean and Range):

See Attachment 1

Specify if Aeration was Needed:

None Needed

Feeding Frequency, Amount and Type of Food:

Ceriodaphnia – 0.1ml of YTC (1.8g solids/L) and 0.1ml of Selenastrum (3.0 X 10⁷ cell/ml) Daily.
Pimephales – 0.15g Brine Shrimp, twice per day @ 6 hr intervals

pH Control Measures (if necessary):

None Needed

Waypoint Analytical

Discharger Name: Bells Lagoon

NPDES Number: TN0026247

TEST ORGANISMS:

Scientific Name:

Ceriodaphnia dubia and Pimephales promelas

Age:

Ceriodaphnia dubia - <24 hrs old all within 8 hrs of same age

Pimephales Promelas – 24-48 hrs

Life Stage:

Ceriodaphnia - Neonate

Pimephales - Larvae

Mean Length and Weight:

Ceriodaphnia – Not Applicable

Pimephales – Not Applicable

Source:

Ceriodaphnia – Waypoint Culture

Pimephales – Aquatic Biosystems, Fort Collins, Colorado

Diseases and Treatment:

Not Applicable

Taxonomic Key used for Species Identification:

Ceriodaphnia – Microscopic Examination as compared to reference material.

Pimephales – Aquatic Biosystems

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

QUALITY ASSURANCE:

Reference Toxicant used Routinely; Source:

Potassium Chloride, KCL – Fisher Scientific – Waypoint ID #: CS-316

Date and Time of Most Recent Reference Toxicant Test, Test Results, and Current Control Chart:

See Attachment 2

Dilution Water used in Reference Toxicant Test:

20% DMW – See “Dilution Water” Section

Results PMSD for Sub-lethal Endpoints Determined by Hypothesis Testing in Reference Toxicant Test:

See “Attachment 2”.

Physical and Chemical Methods used:

NPDES Approved Methods from “Standard Methods for the Examination of Water and Wastewater” Eighteenth Edition

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

RESULTS:

Tabulated Toxicity Data:

Table 1 – Survival Data for Pimephales promelas Larval Survival and Growth test

Table 2 – Weight Data Form for Pimephales promelas Larval Survival and Growth Test

Table 3 – Data for Ceriodaphnia Survival and Reproduction Test

Table 4 – Physical and Chemical Data, Chronic Toxicity

Test Endpoint Table:

Species	Results	Permit Limit	Survival IC25	Growth IC25	Reproduction IC25
Ceriodaphnia Dubia	Pass	3.00%	>12%	-----	>12%
Pimephales Promelas	Pass	3.00%	>12%	>12%	-----

Statistical Method used to Calculate Endpoints:

- Ceriodaphnia Survival – ICP (Linear Interpolation)
- Ceriodaphnia Reproduction – ICP (Linear Interpolation)
- Pimephales Survival – ICP (Linear Interpolation)
- Pimephales Growth – ICP (Linear Interpolation)

Tabulated QA Data:

See Attachment 2

PMSDs for Sub-lethal Endpoints:

Species	Endpoint	Lower PMSD Bound	Upper PMSD Bound	Result
Ceriodaphnia	Reprod.	13	47	22.092
Pimephales	Growth	12	30	19.508

Waypoint Analytical

Discharger Name: Bells Lagoon
NPDES Number: TN0026247

CONCLUSION AND RECOMMENDATIONS:

Conclusion:

Endpoints meet the permit requirements for both species tested.

Recommendation:

Report results to the appropriate regulatory agency.

Waypoint Analytical

Table 1

Survival Data for Pimephales promelas Larval Survival and Growth Test

Discharger: **Bells Lagoon**
 NPDES #: **TN0026247**
 Location: **Outfall 002**
 DII. H2O: **DMW**
 Lab ID #: **21-256-0019**
 Chamber #: **2**
 Template #: **B**
 Test Dates: **09/14/21-09/21/21**
 Analyst: **LC, FP, PS**
 Food ID #: **2070 BIO**
 Org. ID #: **2224 BIO**

Conc:	Rep. No.	No. Surviving Organisms							Remarks
		1	2	3	4	5	6	7	
Control:	1	10	10	10	10	10	10	10	
	2	10	10	10	10	10	10	10	
	3	10	10	10	10	10	10	10	
	4	10	10	10	10	10	10	10	
0.75	1	10	10	10	10	10	10	10	
	2	10	10	10	10	10	10	10	
	3	10	10	10	10	10	10	10	
	4	10	10	10	10	10	10	10	
1.50	1	10	10	10	10	10	10	10	
	2	10	10	10	10	10	10	10	
	3	10	10	10	10	10	10	10	
	4	10	10	10	10	10	10	10	
3.00	1	10	10	10	10	10	10	10	
	2	10	10	10	10	10	10	10	
	3	10	10	10	10	10	10	10	
	4	10	10	10	10	10	10	10	
6.00	1	10	10	10	10	10	10	10	
	2	10	10	10	10	10	10	10	
	3	10	10	10	10	10	10	10	
	4	10	10	10	10	10	10	10	
12.00	1	10	10	10	10	10	10	10	
	2	10	10	10	10	10	10	10	
	3	10	10	10	10	10	10	10	
	4	10	10	10	10	10	10	10	

Day	Date/Ints.	AM Feeding	PM Feeding	Renewal Time	Remarks
Setup	09/14 - FP	1030	1430		Setup - 1415
1	09/15 - FP	1045	1630	1620	
2	09/16 - FP	0855	1525	1520	
3	09/17 - LC	0814	1807	1746	
4	09/18 - PS	0718	1820	1815	
5	09/19 - PS	1747	1155	1148	
6	09/20 - LC	0930	1607	1553	
7	09/21 - LC				End Test - 1133

Waypoint Analytical

Table 2

Weight Data Form for *Pimephales promelas* Larval Survival and Growth Chronic Test.

Discharger: Bells Lagoon **Lab ID #:** 21-256-0019 **Test dates:** 09/14/21-09/21/21 **Drying Time:** 24hrs
Location: Outfall 002 **NPDES #:** TN0026247 **Weigh Date:** 09/23/21 **Temp. (C°):** 100
Analyst: LC, FP,PS

Conc. %	Replicate Number	Tare Weight (g)	Total Weight (g)	Total Dry Weight of Larvae (g)	Original Number of Larvae	Mean Dry Weight of Larvae(g)	Mean Dry Weight of Larvae (mg)
Control	1	1.11623	1.11931	0.00308	10	0.000308	0.308
	2	1.10896	1.11278	0.00382	10	0.000382	0.382
	3	1.11500	1.11852	0.00352	10	0.000352	0.352
	4	1.11482	1.11791	0.00309	10	0.000309	0.309
0.75	1	1.11080	1.11388	0.00308	10	0.000308	0.308
	2	1.11853	1.12141	0.00288	10	0.000288	0.288
	3	1.11113	1.11383	0.00270	10	0.000270	0.270
	4	1.12010	1.12317	0.00307	10	0.000307	0.307
1.50	1	1.10897	1.11168	0.00271	10	0.000271	0.271
	2	1.10350	1.10652	0.00302	10	0.000302	0.302
	3	1.09660	1.09971	0.00311	10	0.000311	0.311
	4	1.09927	1.10266	0.00339	10	0.000339	0.339
3.00	1	1.11859	1.12125	0.00266	10	0.000266	0.266
	2	1.12078	1.12365	0.00287	10	0.000287	0.287
	3	1.12197	1.12483	0.00286	10	0.000286	0.286
	4	1.12571	1.12855	0.00284	10	0.000284	0.284
6.00	1	1.11806	1.12094	0.00288	10	0.000288	0.288
	2	1.11377	1.11762	0.00385	10	0.000385	0.385
	3	1.12286	1.12552	0.00266	10	0.000266	0.266
	4	1.11294	1.11581	0.00287	10	0.000287	0.287
12.00	1	1.12668	1.13024	0.00356	10	0.000356	0.356
	2	1.12046	1.12443	0.00397	10	0.000397	0.397
	3	1.12747	1.13090	0.00343	10	0.000343	0.343
	4	1.10902	1.11156	0.00254	10	0.000254	0.254

Conc.	Replicate Number	Tare Weight (g)	Total Weight (g)	Total Dry Weight of Larvae (g)	Surviving Number of Larvae	Mean Dry Weight of Larvae(g)	Mean Dry Weight of Larvae (mg)
Control	1	1.11623	1.11931	0.00308	10	0.000308	0.308
	2	1.10896	1.11278	0.00382	10	0.000382	0.382
	3	1.11500	1.11852	0.00352	9	0.000391	0.391
	4	1.11482	1.11791	0.00309	9	0.000343	0.343

Acceptability of Test Results			
	Minimum	Result	Units
Survival	80	95.0	%
Growth	0.25	0.35611	mg

Waypoint Analytical

Table 3

Discharger: Balls Lagoon
 Test Dates: 09/14/21-09/21/21

DATE	09/14/21-09/21/21	SPECIAL CONC	INITIAL # NEONATES
EFFLUENT	Outfall 001		
DILUTION WATER	20 PERCENT PERRIER		
FOOD:	1ML VOT AND .1ML BELANASTRUM	0.00%	10
TEMP:	25 +/- 1.5	0.75%	10
TEST ORGANISM AGE:	<2days	1.50%	10
CUPS SIZE:	1 OZ PLASTIC	3.00%	10
SPECIES:	C. DUBIA	6.00%	10
		12.00%	10

Chronic 3-Brood Ceriodaphnia dubia Survival and Reproduction Test

IC25 Endpoint

RANDOMIZED REPRODUCTION DATA FOR TEMPLATE B

	04	05	06	07	08	09	70
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	7	6	8	0	7	8	2
5	14	16	10	0	12	18	13
6	18	0	0	0	0	1	23
7	0	28	25	9	14	21	2
0	57	58	60	60	61	62	63
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	6	0	0	0	0	0	0
4	0	7	0	6	8	8	8
5	16	14	9	12	11	11	13
6	24	1	0	1	0	0	0
7	1	20	0	18	18	17	23
0	60	61	62	63	64	65	66
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	4	0	0	0	0	0	0
4	0	8	7	7	0	8	8
5	10	18	18	14	0	15	11
6	0	1	0	0	0	0	22
7	0	0	21	29	0	24	1
0	43	44	46	46	47	48	49
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	3	0	4	0	0	0	0
4	0	0	1	8	8	8	8
5	11	9	17	16	18	14	11
6	17	0	28	28	17	0	0
7	1	0	2	1	1	24	1
0	38	37	38	39	40	41	42
1	0	0	0	8	0	0	0
2	0	0	0	0	0	0	0
3	0	8	8	8	0	0	0
4	0	7	0	0	3	6	6
5	0	19	9	14	0	14	14
6	0	22	0	22	11	1	28
7	0	1	0	0	17	23	1
0	29	30	31	32	33	34	35
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	2	0	0	6
4	7	5	8	8	8	0	0
5	14	9	10	15	10	0	18
6	18	16	14	8	17	0	21
7	1	4	1	3	0	0	0
0	22	23	24	25	26	27	28
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	5	0	0	8	8	0	5
4	1	0	8	0	0	8	1
5	17	0	11	13	13	14	16
6	28	0	18	24	23	20	28
7	3	0	2	1	0	0	1

RANDOMIZED MORTALITY DATA FOR TEMPLATE B

	04	05	06	07	08	09	70
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
0	57	58	60	60	61	62	63
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
0	60	61	62	63	64	65	66
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	1	0	9	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
0	43	44	46	46	47	48	49
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
0	38	37	38	39	40	41	42
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
0	29	30	31	32	33	34	35
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
0	22	23	24	25	26	27	28
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0

Waypoint Analytical

Table 3

Discharger: Balls Lagoon
 Test Dates: 08/14/01-08/21/01

	18	16	17	18	19	20	21
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	2	0	0	0	0	0	0
4	0	0	3	0	0	0	7
5	15	0	11	14	12	10	14
6	24	0	18	22	18	19	18
7	2	0	3	4	0	2	2
	8	9	10	11	12	13	14
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	5	0	0	0	0	0	0
4	1	4	0	0	4	8	4
5	14	11	0	12	8	10	11
6	24	0	0	22	21	1	18
7	1	13	0	0	2	24	1
	1	2	3	4	5	6	7
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	2	6	8	8	1	1	0
5	15	12	13	4	10	8	0
6	20	1	0	0	0	0	0
7	1	28	24	19	19	20	0

	18	16	17	18	19	20	21
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
	8	9	10	11	12	13	14
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
	1	2	3	4	5	6	7
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0

Waypoint Analytical

Table 3

Discharger: Bells Lagoon
 Test Dates: 06/14/21-06/21/21

		Derandomized Data for Template B										No of Young	No of Adults	Young per Adult	Cum Y per IA	
		replicate	1	2	3	4	5	6	7	8	9	10				
Conc	PERCENT	day														
0.00%		0	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		3	0	5	0	0	5	0	0	0	0	0	16	10	1.6	1.6
		4	5	1	3	0	0	8	6	6	2	37	10	3.7	5.3	
		5	13	14	11	13	10	14	18	15	12	131	10	13.1	18.4	
		6	1	24	18	23	14	22	26	0	23	151	10	15.1	33.5	
		7	26	1	3	0	1	0	1	24	18	2	76	10	7.6	41.1
		TOTAL	45	45	35	42	31	41	51	45	36	40	411		41.1	
0.75%		0	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		3	0	0	0	0	0	0	0	0	5	0	5	10	0.5	0.5
		4	2	4	7	6	5	3	8	7	0	8	48	10	4.8	5.3
		5	15	8	14	11	9	0	18	14	15	10	114	10	11.4	16.7
		6	20	21	16	18	16	11	17	0	24	0	143	10	14.3	31.0
		7	1	2	2	2	4	17	1	23	1	25	78	10	7.8	38.8
		TOTAL	38	35	39	37	34	31	44	44	45	41	388		38.8	
1.50%		0	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		3	0	0	4	5	0	5	0	0	0	0	14	10	1.4	1.4
		4	5	0	0	1	7	7	6	8	6	8	46	10	4.6	6.0
		5	13	12	10	16	14	19	11	11	11	16	133	10	13.3	19.3
		6	0	22	19	26	18	23	0	22	0	1	131	10	13.1	32.4
		7	24	0	2	1	1	1	1	1	17	21	69	10	6.9	39.3
		TOTAL	42	34	36	49	40	55	18	40	34	46	393		39.3	
3.00%		0	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		3	0	0	2	5	2	0	0	0	0	0	9	10	0.9	0.9
		4	5	5	0	1	5	5	8	7	6	5	47	10	4.7	5.6
		5	4	10	15	17	15	14	14	15	13	16	133	10	13.3	18.9
		6	0	1	24	26	8	1	0	0	0	0	60	10	6.0	24.9
		7	19	24	2	3	3	23	24	21	22	23	164	10	16.4	41.3
		TOTAL	28	40	43	52	33	43	46	43	41	44	413		41.3	
6.00%		0	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		3	0	0	6	5	6	0	4	0	0	0	21	10	2.1	2.1
		4	1	4	0	0	0	6	1	6	7	7	32	10	3.2	5.3
		5	10	11	12	13	16	14	17	15	14	12	134	10	13.4	18.7
		6	0	18	18	24	21	23	25	1	1	0	131	10	13.1	31.8
		7	19	1	0	1	0	1	2	0	20	14	58	10	5.8	37.6
		TOTAL	30	34	36	43	43	44	49	22	42	33	376		37.6	
12.00%		0	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	0.0
		3	0	0	8	0	0	0	3	4	0	0	13	10	1.3	1.3
		4	1	4	0	5	8	0	0	0	6	7	31	10	3.1	4.4
		5	8	11	14	14	10	0	11	10	12	14	104	9	10.4	14.8
		6	0	0	22	20	17	0	17	0	1	18	85	9	9.5	24.3
		7	20	13	4	0	0	0	1	0	19	0	57	9	5.7	30.0
		TOTAL	29	28	46	39	35	0	32	14	38	39	300		30.0	

Waypoint Analytical

**Physical and Chemical Data
Chronic Toxicity**

Table 4

Discharger: Bells Lagoon
Location: Outfall 002
Test Dates: 09/14/21-09/21/21

Lab ID #: 21-256-0019
NPDES #: TN0026247
Analyst: LC, FP, PS

Species: Pimephales promelas									Remarks
Conc: Control		Day							
		1	2	3	4	5	6	7	
Temp (C^o)	Initial	22.5	23.0	22.7	22.7	22.0	21.8	22.0	
	Final	23.6	23.6	23.3	22.5	23.2	23.7	23.6	
DO (mg/L)	Initial	7.40	7.73	8.13	7.93	8.28	8.05	8.39	
	Final	7.06	6.10	6.39	6.39	7.06	7.07	6.67	
pH (su)	Initial	8.09	8.11	8.00	8.15	8.04	8.02	8.13	
	Final	7.88	7.72	7.68	7.64	7.84	7.74	7.64	
Alkalinity (mg/L as CaCO₃)		92.0		90.0		82.0			
Hardness (mg/L as CaCO₃)		99.9		95.3		89.2			
Conductivity (umhos/cm)		163.7		158.1		156.3			
Chlorine (mg/L)		<0.05		<0.05		<0.05			
Light Intensity (ft/c)		50-100							

Species: Ceriodaphnia dubia									Remarks
Conc: Control		Day							
		1	2	3	4	5	6	7	
Temp (C^o)	Initial	22.7	22.6	22.4	21.7	20.9	22.2	23.6	
	Final	23.4	24.1	24.7	24.3	24.8	24.6	24.1	
DO (mg/L)	Initial	7.40	7.73	8.13	7.93	8.28	8.05	8.39	
	Final	8.09	6.82	8.02	8.68	7.21	8.30	7.53	
pH (su)	Initial	8.09	8.11	8.00	8.15	8.04	8.02	8.13	
	Final	8.03	7.86	7.99	8.09	7.91	7.97	7.81	
Alkalinity (mg/L as CaCO₃)		92.0		90.0		82.0			
Hardness (mg/L as CaCO₃)		99.9		95.3		89.2			
Conductivity (umhos/cm)		163.7		158.1		156.3			
Chlorine (mg/L)		<0.05		<0.05		<0.05			
Light Intensity (ft/c)		50-100							

Waypoint Analytical

**Physical and Chemical Data
Chronic Toxicity**

Table 4

Discharger: Bells Lagoon
Location: Outfall 002
Test Dates: 09/14/21-09/21/21

Lab ID #: 21-256-0019
NPDES #: TN0026247
Analyst: LC, FP, PS

Species: Pimephales promelas									Remarks
Conc: 0.75%		Day							
		1	2	3	4	5	6	7	
Temp (C^o)	Initial	23.3	23.8	22.5	22.8	22.0	22.0	22.6	
	Final	23.4	23.3	22.9	22.3	22.2	23.3	23.3	
DO (mg/L)	Initial	7.65	7.80	8.25	8.08	8.17	8.21	8.50	
	Final	6.91	6.22	6.86	6.69	6.59	7.50	7.07	
pH (su)	Initial	8.07	8.08	8.03	8.14	8.03	8.04	8.03	
	Final	7.85	7.73	7.70	7.62	7.66	7.70	7.62	
Alkalinity (mg/L as CaCO₃)									
Hardness (mg/L as CaCO₃)									
Conductivity (umhos/cm)									
Chlorine (mg/L)									
Light Intensity (ft/c)									

Species: Ceriodaphnia dubia									Remarks
Conc: 0.75%		Day							
		1	2	3	4	5	6	7	
Temp (C^o)	Initial	25.0	24.9	22.4	21.5	21.7	22.0	23.4	
	Final	23.4	24.1	24.6	24.2	24.8	24.4	23.4	
DO (mg/L)	Initial	7.65	7.80	8.25	8.08	8.17	8.21	8.50	
	Final	7.63	7.00	8.00	8.41	7.81	8.30	6.98	
pH (su)	Initial	8.07	8.08	8.03	8.14	8.03	8.04	8.03	
	Final	8.00	7.89	7.98	8.11	7.86	7.95	7.81	
Alkalinity (mg/L as CaCO₃)									
Hardness (mg/L as CaCO₃)									
Conductivity (umhos/cm)									
Chlorine (mg/L)									
Light Intensity (ft/c)									

Waypoint Analytical

**Physical and Chemical Data
Chronic Toxicity**

Table 4

Discharger: Bells Lagoon
Location: Outfall 002
Test Dates: 09/14/21-09/21/21

Lab ID #: 21-256-0019
NPDES #: TN0026247
Analyst: LC, FP, PS

Species: Pimephales promelas									Remarks
Conc: 1.50%		Day							
		1	2	3	4	5	6	7	
Temp (C°)	Initial	23.4	24.3	22.5	23.0	22.3	22.0	22.8	
	Final	23.2	23.4	22.6	22.3	22.0	23.1	23.2	
DO (mg/L)	Initial	7.73	8.25	7.56	8.38	7.81	7.99	8.33	
	Final	7.10	5.99	7.25	6.40	6.72	7.19	6.98	
pH (su)	Initial	8.06	8.06	8.03	8.12	8.03	8.02	8.00	
	Final	7.85	7.74	7.73	7.63	7.71	7.65	7.58	
Alkalinity (mg/L as CaCO₃)									
Hardness (mg/L as CaCO₃)									
Conductivity (umhos/cm)									
Chlorine (mg/L)									
Light Intensity (ft/c)									

Species: Ceriodaphnia dubia									Remarks
Conc: 1.50%		Day							
		1	2	3	4	5	6	7	
Temp (C°)	Initial	24.9	24.8	22.4	21.6	21.2	21.6	22.8	
	Final	22.4	24.3	24.6	23.8	24.5	23.9	23.4	
DO (mg/L)	Initial	7.73	8.35	7.56	8.38	7.81	7.99	8.33	
	Final	7.59	6.71	8.00	8.65	7.48	8.09	6.92	
pH (su)	Initial	8.06	8.06	8.03	8.12	8.03	8.02	8.00	
	Final	8.00	7.88	7.98	8.21	7.90	7.98	7.84	
Alkalinity (mg/L as CaCO₃)									
Hardness (mg/L as CaCO₃)									
Conductivity (umhos/cm)									
Chlorine (mg/L)									
Light Intensity (ft/c)									

Waypoint Analytical

Physical and Chemical Data
Chronic Toxicity

Table 4

Discharger: Bells Lagoon
Location: Outfall 002
Test Dates: 09/14/21-09/21/21

Lab ID #: 21-256-0019
NPDES #: TN0026247
Analyst: LC, FP, PS

Species: Pimephales promelas									Remarks
Conc: 3.00%									
		Day							
		1	2	3	4	5	6	7	
Temp (C°)	Initial	23.0	24.3	22.4	23.0	22.3	22.0	23.0	
	Final	23.3	22.9	22.5	22.4	21.9	23.0	23.1	
DO (mg/L)	Initial	8.00	8.06	7.82	8.15	8.15	7.80	8.46	
	Final	7.40	5.99	6.80	6.12	6.69	7.31	7.04	
pH (su)	Initial	8.05	8.06	8.02	8.10	8.05	8.02	7.98	
	Final	7.85	7.74	7.67	7.53	7.65	7.61	7.57	
Alkalinity (mg/L as CaCO₃)									
Hardness (mg/L as CaCO₃)									
Conductivity (umhos/cm)									
Chlorine (mg/L)									
Light Intensity (ft/c)									

Species: Ceriodaphnia dubia									Remarks
Conc: 3.00%									
		Day							
		1	2	3	4	5	6	7	
Temp (C°)	Initial	23.1	24.0	22.4	21.7	21.0	21.5	22.8	
	Final	22.9	24.5	23.9	23.9	24.4	24.2	23.3	
DO (mg/L)	Initial	8.00	8.06	7.82	8.15	8.15	7.80	8.46	
	Final	7.41	6.58	7.66	8.63	7.14	8.13	7.30	
	Initial	8.05	8.06	8.02	8.10	8.05	8.02	7.98	
	Final	7.97	7.85	7.97	8.16	7.80	7.97	7.83	
Alkalinity (mg/L as CaCO₃)									
Hardness (mg/L as CaCO₃)									
Conductivity (umhos/cm)									
Chlorine (mg/L)									
Light Intensity (ft/c)									

Waypoint Analytical

**Physical and Chemical Data
Chronic Toxicity**

Table 4

Discharger: Bells Lagoon
Location: Outfall 002
Test Dates: 09/14/21-09/21/21

Lab ID #: 21-256-0019
NPDES #: TN0026247
Analyst: LC, FP, PS

Species: Pimephales promelas									Remarks
Conc: 6.00%		Day							
		1	2	3	4	5	6	7	
Temp (C^o)	Initial	22.6	23.6	22.3	23.0	22.2	21.9	23.0	
	Final	23.3	22.9	22.2	22.3	21.9	23.9	23.2	
DO (mg/L)	Initial	7.90	9.65	8.12	8.16	7.94	7.78	7.65	
	Final	7.22	5.77	6.83	6.75	7.10	7.90	6.95	
pH (su)	Initial	8.00	8.05	7.98	8.06	7.99	7.99	7.98	
	Final	7.84	7.68	7.69	7.56	7.63	7.98	7.57	
Alkalinity (mg/L as CaCO₃)									
Hardness (mg/L as CaCO₃)									
Conductivity (umhos/cm)									
Chlorine (mg/L)									
Light Intensity (ft/c)									

Species: Ceriodaphnia dubia									Remarks
Conc: 6.00%		Day							
		1	2	3	4	5	6	7	
Temp (C^o)	Initial	22.1	22.0	22.3	21.7	21.0	21.6	22.8	
	Final	22.8	24.0	23.1	23.6	24.2	23.0	23.0	
DO (mg/L)	Initial	7.90	7.65	8.12	8.16	7.94	7.78	7.65	
	Final	7.33	6.84	7.78	8.08	7.40	7.50	7.21	
pH (su)	Initial	8.00	8.05	7.98	8.06	7.99	7.99	7.98	
	Final	7.97	7.90	7.98	7.21	7.79	7.98	7.81	
Alkalinity (mg/L as CaCO₃)									
Hardness (mg/L as CaCO₃)									
Conductivity (umhos/cm)									
Chlorine (mg/L)									
Light Intensity (ft/c)									

Waypoint Analytical

**Physical and Chemical Data
Chronic Toxicity**

Table 4

Discharger: Bells Lagoon
Location: Outfall 002
Test Dates: 09/14/21-09/21/21

Lab ID #: 21-256-0019
NPDES #: TN0026247
Analyst: LC, FP, PS

Species: Pimephales promelas		Day							Remarks
Conc: 12.00%		1	2	3	4	5	6	7	
Temp (C°)	Initial	22.3	22.5	22.0	22.8	21.8	21.5	23.0	
	Final	23.2	22.9	22.1	22.2	21.9	22.7	23.1	
DO (mg/L)	Initial	8.26	8.03	8.18	7.94	7.84	7.84	8.14	
	Final	6.73	5.69	6.31	6.23	6.98	7.06	7.71	
pH (su)	Initial	7.94	8.01	7.91	8.02	7.96	7.91	7.94	
	Final	7.86	7.68	7.63	7.59	7.62	7.73	7.77	
Alkalinity (mg/L as CaCO ₃)		82.0		86.0		88.0			100% EFFLUENT
Hardness (mg/L as CaCO ₃)		38.6		37.6		39.3			100% EFFLUENT
Conductivity (umhos/cm)		245.4		246.8		242.2			100% EFFLUENT
Chlorine (mg/L)		0.08		0.18		0.13			100% EFFLUENT
Light Intensity (ft/c)		50-100							

Species: Ceriodaphnia dubia		Day							Remarks
Conc: 12.00%		1	2	3	4	5	6	7	
Temp (C°)	Initial	22.2	21.6	22.1	22.3	21.0	21.6	23.1	
	Final	21.9	22.3	22.7	23.7	24.5	24.1	22.8	
DO (mg/L)	Initial	8.26	8.03	8.18	7.94	7.84	7.84	8.14	
	Final	7.10	6.75	7.98	7.58	7.76	7.75	7.25	
pH (su)	Initial	7.94	8.01	7.91	8.02	7.96	8.11	7.94	
	Final	7.91	7.91	8.02	8.13	7.83	7.95	7.79	
Alkalinity (mg/L as CaCO ₃)		82.0		86.0		88.0			100% EFFLUENT
Hardness (mg/L as CaCO ₃)		38.6		37.6		39.3			100% EFFLUENT
Conductivity (umhos/cm)		245.4		246.8		242.2			100% EFFLUENT
Chlorine (mg/L)		0.08		0.18		0.13			100% EFFLUENT
Light Intensity (ft/c)		50-100							

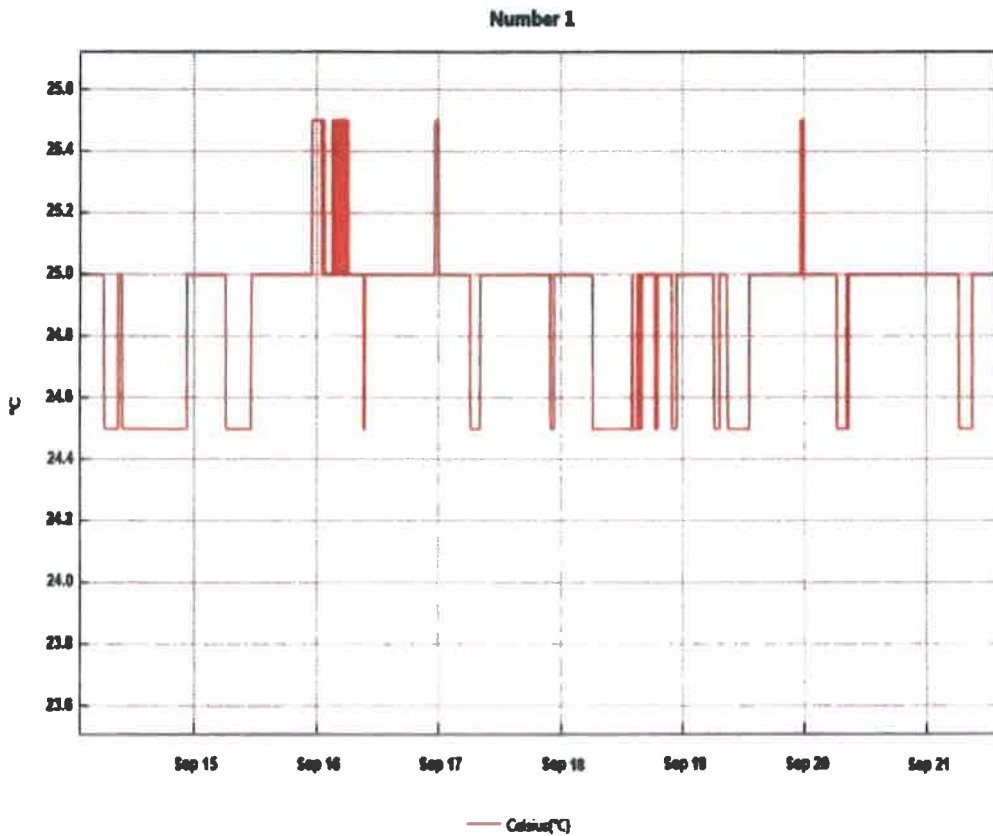
ND=None Detected

Waypoint Analytical

Attachment 1

Temperature Log for Biotoxicity Testing.

Discharger: Bells Lagoon Lab ID #: 21-256-0014 Test dates: 09/14/21-09/21/21
Location: Outfall 002 NPDES #: TN0026247 Analyst: LC, FP, PS



From: Tuesday, September 14, 2021 1:21:05 AM - To: Tuesday, September 21, 2021 2:21:14 PM

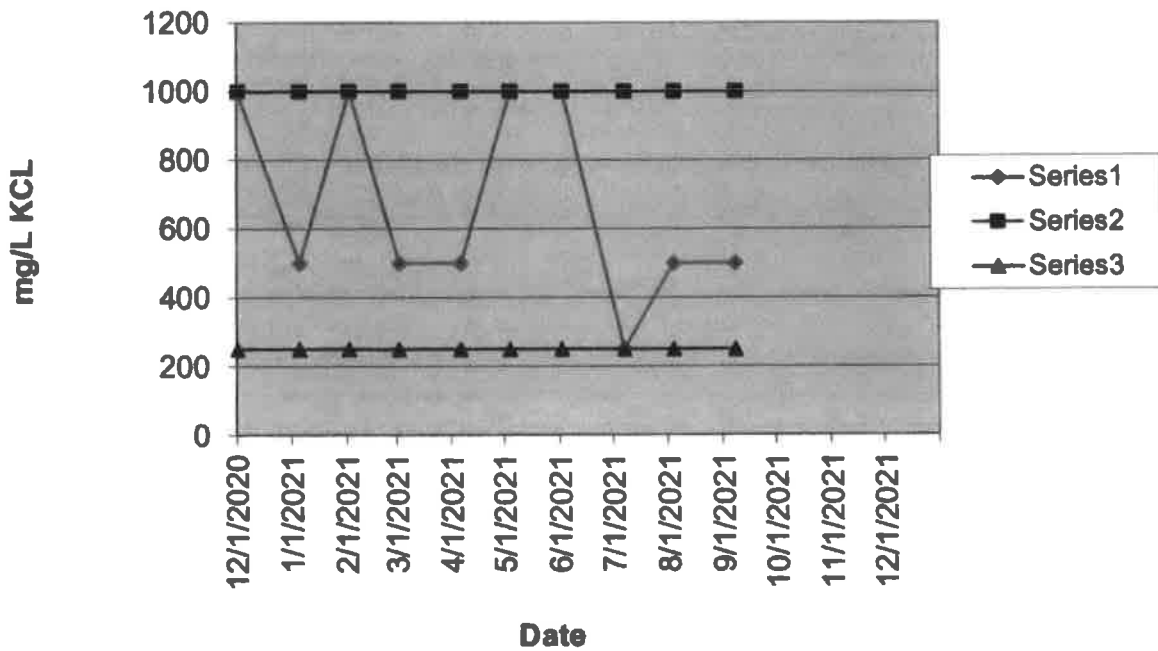
Waypoint Analytical Inc.

Attachment 2

Pimephales Chronic Reference Toxicant Data
Survival NOEC

DATE	RESULT	UCL	LCL	STDEV	CV%	MEAN
12/01/20	1000	1000	250			1000.00
01/05/21	500	1000	250	353.55	47.14	750.00
02/02/21	1000	1000	250	288.68	34.64	833.33
03/02/21	500	1000	250	288.68	38.49	750.00
04/06/21	500	1000	250	273.86	39.12	700.00
05/04/21	1000	1000	250	273.86	36.51	750.00
06/02/21	1000	1000	250	267.26	34.02	785.71
07/07/21	250	1000	250	311.61	43.35	718.75
08/04/21	500	1000	250	300.46	43.27	694.44
09/08/21	500	1000	250	289.88	42.94	675.00
		1000	250	289.88	42.94	675.00
		1000	250	289.88	42.94	675.00
		1000	250	289.88	42.94	675.00

PIMEPHALES REFERENCE TOXICANT SURVIVAL NOEC

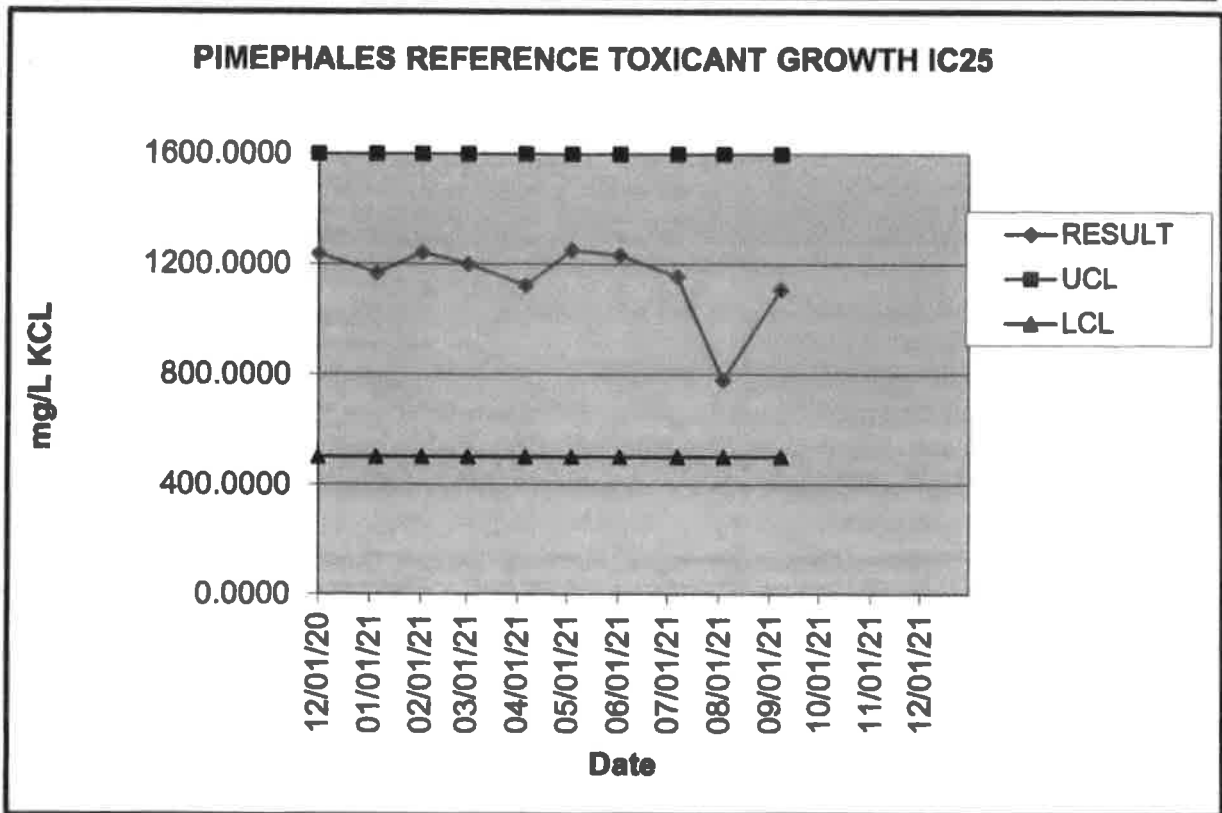


Waypoint Analytical Inc.

Attachment 2

**Pimephales Chronic Reference Toxicant Data
Growth IC25**

DATE	RESULT	UCL	LCL	STDEV	CV%	MEAN
12/01/20	1238.0100	1600.0000	500.0000		0.00	1238.01
01/05/21	1167.4000	1600.0000	500.0000	49.93	4.15	1202.71
02/02/21	1241.6300	1600.0000	500.0000	41.85	3.44	1215.68
03/02/21	1199.3700	1600.0000	500.0000	35.13	2.90	1211.60
04/06/21	1122.4200	1600.0000	500.0000	50.16	4.20	1193.77
05/04/21	1250.0000	1600.0000	500.0000	50.40	4.19	1203.14
06/02/21	1232.6900	1600.0000	500.0000	47.34	3.92	1207.36
07/07/21	1154.4600	1600.0000	500.0000	47.66	3.97	1200.75
08/04/21	779.9010	1600.0000	500.0000	147.19	12.76	1153.99
09/08/21	1108.3400	1600.0000	500.0000	139.53	12.14	1149.42
		1600.0000	500.0000	139.53	12.14	1149.42
		1600.0000	500.0000	139.53	12.14	1149.42
		1600.0000	500.0000	139.53	12.14	1149.42

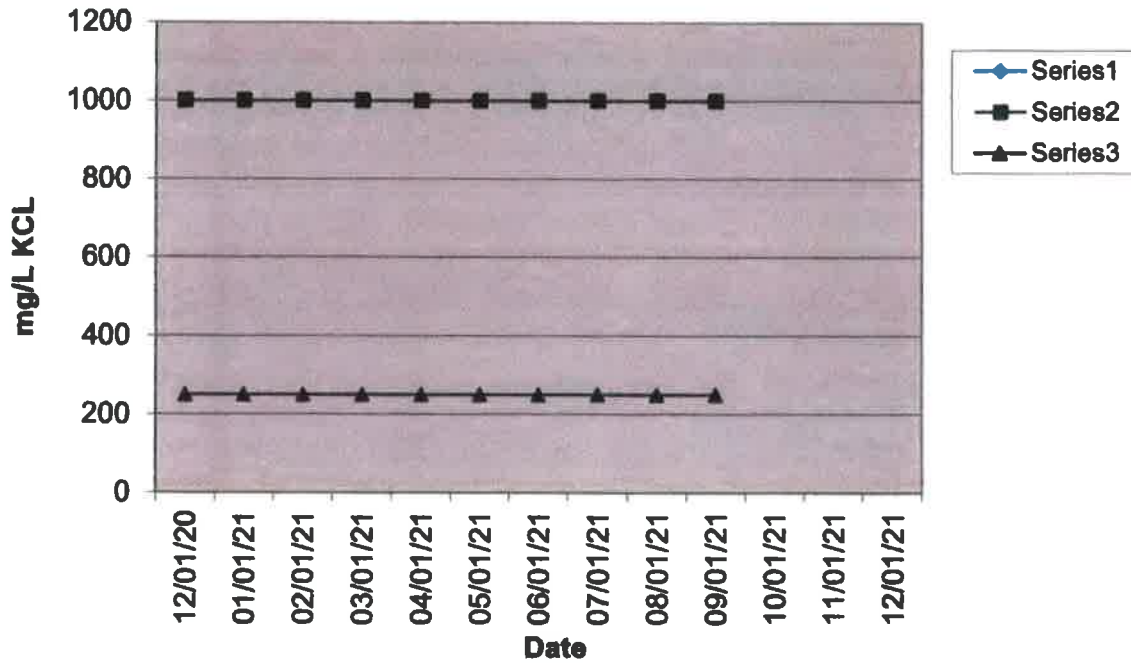


**Waypoint Analytical Inc.
Attachment 2**

***Pimephales Chronic Reference Toxicant Data
Growth NOEC***

DATE	RESULT	UCL	LCL	STDEV	CV%	PMSD	MEAN
12/01/20	1000	1000	250		0.00	15.06	1000.00
01/05/21	1000	1000	250	0.00	0.00	25.60	1000.00
02/02/21	1000	1000	250	0.00	0.00	22.31	1000.00
03/02/21	1000	1000	250	0.00	0.00	26.26	1000.00
04/06/21	1000	1000	250	0.00	0.00	15.48	1000.00
05/04/21	1000	1000	250	0.00	0.00	24.44	1000.00
06/02/21	1000	1000	250	0.00	0.00	25.89	1000.00
07/07/21	1000	1000	250	0.00	0.00	16.16	1000.00
08/04/21	1000	1000	250	0.00	0.00	19.30	1000.00
09/08/21	1000	1000	250	0.00	0.00	22.55	1000.00
		1000	250	0.00	0.00	18.90	1000.00
		1000	250	0.00	0.00	24.64	1000.00
		1000	250	0.00	0.00	23.31	1000.00

PIMEPHALES REFERENCE TOXICANT GROWTH NOEC



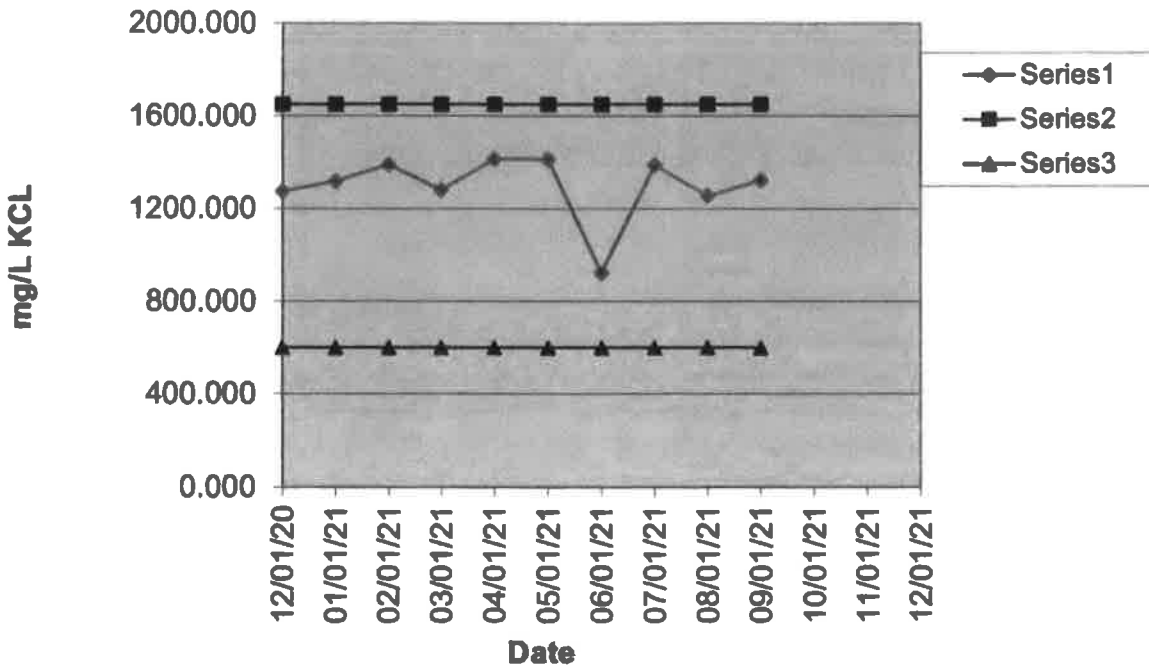
Waypoint Analytical Inc.

Attachment 2

**Pimephales Chronic Reference Toxicant Data
48Hour Survival**

DATE	RESULT	UCL	LCL	STDEV	CV%	MEAN
12/02/20	1274.560	1650.00	600.00		0.00	1274.56
01/06/21	1319.510	1650.00	600.00	31.78	2.45	1297.04
02/03/21	1389.920	1650.00	600.00	58.15	4.38	1328.00
03/03/21	1281.510	1650.00	600.00	52.86	4.02	1316.38
04/07/21	1414.210	1650.00	600.00	63.32	4.74	1335.94
05/05/21	1414.210	1650.00	600.00	65.03	4.82	1348.99
06/02/21	924.256	1650.00	600.00	171.16	13.29	1288.31
07/07/21	1389.300	1650.00	600.00	162.43	12.49	1300.93
08/04/21	1256.430	1650.00	600.00	152.67	11.78	1295.99
09/08/21	1323.030	1650.00	600.00	144.19	11.10	1298.69
		1650.00	600.00	144.19	11.10	1298.69
		1650.00	600.00	144.19	11.10	1298.69
		1650.00	600.00	144.19	11.10	1298.69

PIMEPHALES REFERENCE TOXICANT 48HOUR SURVIVAL



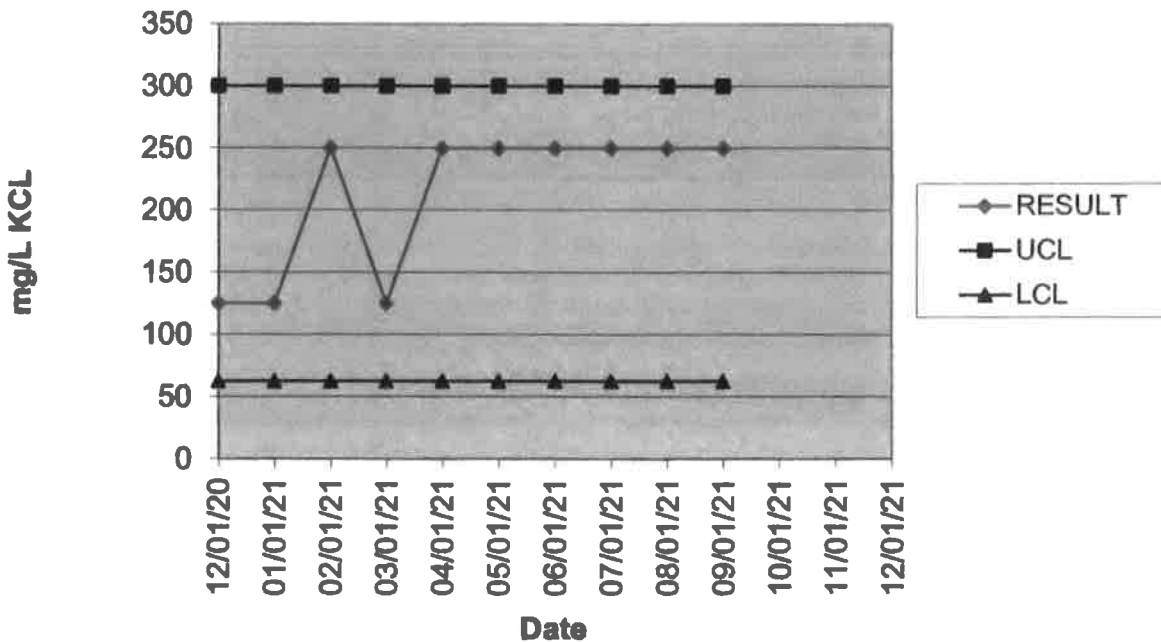
Waypoint Analytical Inc.

Attachment 2

Ceriodaphnia Chronic Reference Toxicant Data
Survival NOEC

DATE	RESULT	UCL	LCL	STDEV	CV%	MEAN
12/01/20	125	300	62.5			125.00
01/05/21	125	300	62.5	0.00	0.00	125.00
02/02/21	250	300	62.5	72.17	43.30	166.67
03/02/21	125	300	62.5	62.50	40.00	156.25
04/06/21	250	300	62.5	68.47	39.12	175.00
05/04/21	250	300	62.5	68.47	36.51	187.50
06/01/21	250	300	62.5	66.82	34.02	196.43
07/06/21	250	300	62.5	64.69	31.85	203.13
08/03/21	250	300	62.5	62.50	30.00	208.33
09/07/21	250	300	62.5	60.38	28.41	212.50
		300	62.5	60.38	28.41	212.50
		300	62.5	60.38	28.41	212.50
		300	62.5	60.38	28.41	212.50

CERIODAPHNIA REFERENCE TOXICANT SURVIVAL NOEC



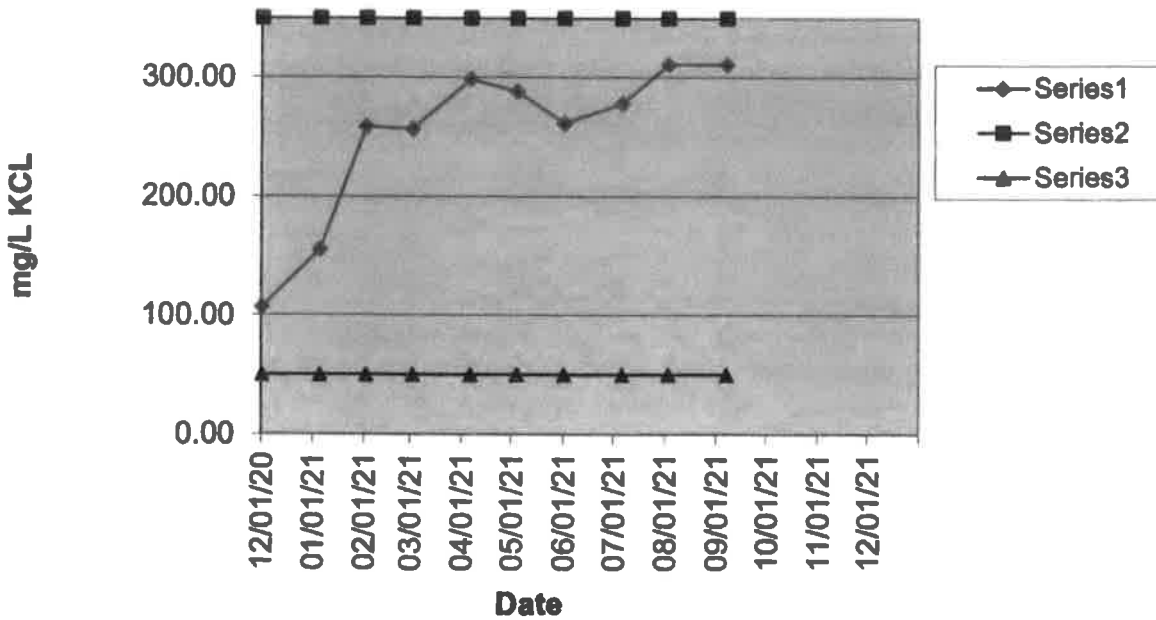
Waypoint Analytical Inc.

Attachment 2

**Ceriodaphnia Chronic Reference Toxicant Data
Reproduction IC25**

DATE	RESULT	UCL	LCL	STDEV	CV%	MEAN
12/01/20	106.81	350.00	50.00	68.07	26.95	252.61
01/05/21	155.39	350.00	50.00	68.07	26.95	252.61
02/02/21	258.64	350.00	50.00	68.07	26.95	252.61
03/02/21	256.76	350.00	50.00	68.07	26.95	252.61
04/06/21	298.53	350.00	50.00	68.07	26.95	252.61
05/04/21	288.07	350.00	50.00	68.07	26.95	252.61
06/01/21	261.57	350.00	50.00	68.07	26.95	252.61
07/06/21	278.20	350.00	50.00	68.07	26.95	252.61
08/03/21	311.06	350.00	50.00	68.07	26.95	252.61
09/07/21	311.06	350.00	50.00	68.07	26.95	252.61
		350.00	50.00	68.07	26.95	252.61
		350.00	50.00	68.07	26.95	252.61
		350.00	50.00	68.07	26.95	252.61

CERIODAPHNIA REFERENCE TOXICANT REPRODUCTION IC25



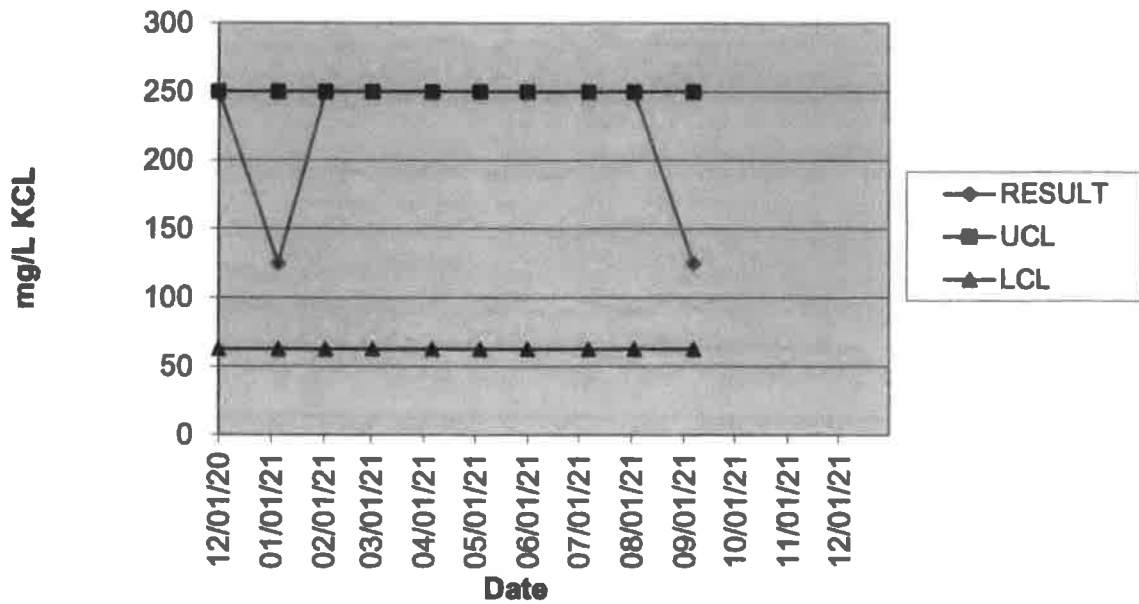
Waypoint Analytical Inc.

Attachment 2

**Ceriodaphnia Chronic Reference Toxicant Data
Reproduction NOEC**

DATE	RESULT	UCL	LCL	STDEV	CV%	MEAN	PMSD
12/01/20	250	250	62.5			250.00	14.94
01/05/21	125	250	62.5	88.39	47.14	187.50	28.31
02/02/21	250	250	62.5	72.17	34.64	208.33	23.51
03/02/21	250	250	62.5	62.50	28.57	218.75	37.50
04/06/21	250	250	62.5	55.90	24.85	225.00	31.89
05/04/21	250	250	62.5	51.03	22.27	229.17	41.54
06/01/21	250	250	62.5	47.25	20.35	232.14	23.83
07/07/21	250	250	62.5	44.19	18.86	234.38	23.26
08/03/21	250	250	62.5	41.67	17.65	236.11	30.41
09/07/21	125	250	62.5	52.70	23.42	225.00	39.35
		250	62.5	52.70	23.42	225.00	32.19
		250	62.5	52.70	23.42	225.00	38.64
		250	62.5	52.70	23.42	225.00	38.93

**CERIODAPHNIA REFERENCE TOXICANT REPRODUCTON
NOEC**



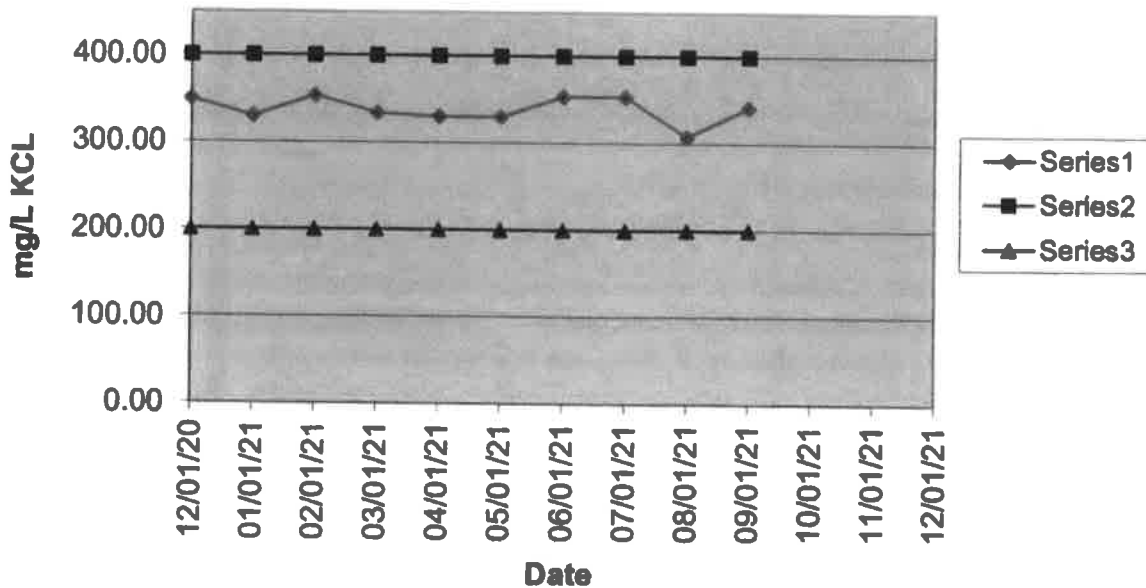
Waypoint Analytical Inc.

Attachment 2

Ceriodaphnia Chronic Reference Toxicity Data
48Hour Survival

DATE	RESULT	UCL	LCL	STDEV	CV%	MEAN
12/02/20	349.35	400.00	200.00			349.35
01/06/21	329.88	400.00	200.00	13.77	4.05	339.62
02/03/21	353.55	400.00	200.00	12.63	3.67	344.26
03/03/21	334.06	400.00	200.00	11.50	3.37	341.71
04/07/21	329.88	400.00	200.00	11.28	3.32	339.34
05/05/21	329.88	400.00	200.00	10.80	3.20	337.77
06/02/21	353.55	400.00	200.00	11.53	3.39	340.02
07/07/21	353.55	400.00	200.00	11.69	3.42	341.71
08/04/21	307.79	400.00	200.00	15.73	4.66	337.94
09/07/21	341.51	400.00	200.00	14.88	4.40	338.30
		400.00	200.00	14.88	4.40	338.30
		400.00	200.00	14.88	4.40	338.30
		400.00	200.00	14.88	4.40	338.30

CERIODAPHNIA REFERENCE TOXICANT 48HOUR SURVIVAL



Waypoint Analytical

2269 Dr. F. E. Wright Dr. - Jackson, TN 38305

731-423-5330
1-800-TEC-1808
FAX 731-423-5326

CHAIN OF CUSTODY/FIELD DATA SHEET

PAGE 1 OF 1		PROJECT SITE: Bioassay		ANALYSES REQUESTED				
CLIENT NAME:	City of Bells	P.O. #	QID 139					
ADDRESS:	Hwy 79 Bells TN 38006	RUSH?	(Lab MUST Be Notified)	CLIENT #	C0202WW			
PHONE 663-2383	Angel West	<24 hr	200%	DATE NEEDED:				
FAX: 663-2383		24-48 hr	100%					
COLLECTED BY:	Jody Riley	48-72 hr	50%	FAX?	No Yes			
# OF CONT.	SAMPLE DESCRIPTION/LOCATION	Start Date/Time	End Date/Time	TYPE	COMP	GRAB	MATRIX*	PRESERVATIVE
2	Outfall 002	9/13/21 8:00A	9/13/21 9:30A	X			SW	---
1	Outfall 002	9/13/21 8:00A	9/13/21 8:00A	X			SW	---
1	Outfall 002	9/13/21 8:00A	9/13/21 8:00A	X			SW	HN03
Flow (GPD): 1,240,036								



*Matrix: SS - Soil GW - Groundwater TW - Treated Groundwater WW - Wastewater WS - Water Sample WO - Waste Oil DW - Drinking Water SL - Sludge SD - Sediment OT - Other

Remarks: Cl_res: _____ Conductivity: _____ DO: 5.92 @ 745A pH: 7.17 @ 745A

Changed to Outfall 002 May 2009 RS per permit

SHIPPED VIA:	UPS	CLIENT VEHICLE	
	FEDX	LAB VEHICLE	X
	OTHER	COOLER #:	
SAMPLES RETURNED VIA:	UPS	CLIENT VEHICLE	
	FEDX	LAB VEHICLE	X
TEMP:	20C	Bottles Received:	4
DATE:	9/13/21	TIME:	1121
RELINQUISHED BY:	Jody Riley	RECEIVED FOR LAB BY:	Waypoint Analytical
RELINQUISHED BY:	Jody Riley	RECEIVED BY:	Waypoint Analytical
RELINQUISHED BY:	Jody Riley	RECEIVED BY:	Waypoint Analytical

Condition: (lab use only)

pH checked	YES	NO	X
------------	-----	----	---

Waypoint Analytical

2269 Dr. F. E. Wright Dr. - Jackson, TN 38305

731-423-5330
1-800-TEC-1808
FAX 731-423-5326

CHAIN OF CUSTODY/FIELD DATA SHEET

PAGE 1 OF 1		PROJECT SITE: Bioassay	ANALYSES REQUESTED					
CLIENT NAME: City of Bells		P.O. # QID 139						
ADDRESS: Hwy 79		RUSH? (Lab MUST Be Notified)		CLIENT #C0202WW				
PHONE 663-2383		Angel West		DATE NEEDED:				
FAX: 663-2383		<24 hr.		200%				
COLLECTED BY: Jody Riley		24-48 hr.		100%				
		48-72 hr.		50%				
# OF CONT.	SAMPLE DESCRIPTION/LOCATION	Start Date/ Time	End Date/ Time	TYPE	COMP	GRAB	MATRIX*	PRESERVATIVE
2	Outfall 002	9/15/21 @ 1:50A	9/15/21 @ 1:50A	X	X		SW	-----
1	Outfall 002	9/15/21 @ 1:50A	9/15/21 @ 1:50A	X	X		SW	-----
1	Outfall 002	9/15/21 @ 1:50A	9/15/21 @ 1:50A	X	X		SW	HN03
								BIOASSAY
								Aik/Cl res
								Hardness



City of Bells
Bioassay

Flow (GPD): 1.456

*Matrix: SS - Soil GW - Groundwater TW - Treated Groundwater WW - Wastewater WS - Water Sample WO - Waste Oil DW - Drinking Water SL - Sludge SD - Sediment OT - Other

Changed to Outfall 002 May 2009 RS per permit

Remarks: CI_res: _____
Conductivity: 6.74 @ 8:02Am
DO: 6.85 @ 8:00Am
pH: _____

RELINQUISHED BY: Ayle West
RECEIVED BY: Jody Riley
DATE: 9/15/21 1300

RELINQUISHED BY: Jody Riley
RECEIVED BY: _____
DATE: 9/15/21 1530

RELINQUISHED BY: _____
RECEIVED BY: _____
DATE: 9/15/21 1550

SHIPPED VIA: UPS, FEDX, OTHER
CLIENT VEHICLE, LAB VEHICLE, COOLER #:
X

SAMPLES RETURNED VIA: UPS, FEDX, LAB VEHICLE
Condition: (lab use only)

TEMP: 20.2
DATE: 9/15/21
TIME: 1:30

Bottles Received: 4
pH checked: YES
NO X

CHAIN OF CUSTODY/FIELD DATA SHEET

PAGE 1 OF 1		PROJECT SITE: Bioassay		ANALYSES REQUESTED									
CLIENT NAME: City of Bells		P.O. # QID 139											
ADDRESS: Hwy 79		RUSH? (Lab MUST Be Notified)		CLIENT #C0202WV									
PHONE 663-2383		<24 hr. 200%		DATE NEEDED:									
FAX: 663-2383		24-48 hr. 100%											
COLLECTED BY: <u>Tody Riley</u>		48-72 hr. 50%		FAX? No Yes									
# OF CONT.	SAMPLE DESCRIPTION/LOCATION	Start Date/Time	End Date/Time	TYPE	COMP	GRAB	MATRIX*	PRESERVATIVE					
3	Outfall 002	9/17/21 9:15 AM	9/17/21 9:20 AM	X			SW		BIOASSAY				
1	Outfall 002	9/17/21 9:15 AM	9/17/21 9:20 AM	X			SW		Alk/Cl res				
1	Outfall 002	9/17/21 9:15 AM	9/17/21 9:20 AM	X			SW	HN03	Hardness				
				Flow (GPD): 1,471,000									
*Matrix: SS - Soil GW - Groundwater TW - Treated Groundwater WW - Wastewater WS - Water Sample WO - Waste Oil DW - Drinking Water SL - Sludge SD - Sediment OT - Other													
Remarks: Changed to Outfall 002 May 2009 RS per permit													
SHIPPED VIA:		CLIENT VEHICLE		LAB VEHICLE		COOLER #:		Condition: (lab use only)					
UPS								Condition: (lab use only)					
FEDX								Condition: (lab use only)					
OTHER								Condition: (lab use only)					
SAMPLES RETURNED VIA:		CLIENT VEHICLE		LAB VEHICLE		COOLER #:		Condition: (lab use only)					
UPS								Condition: (lab use only)					
FEDX								Condition: (lab use only)					
TEMP: 20°		Bottles Received: 5						Condition: (lab use only)					
DATE: 9/17/21		TIME: 1341						Condition: (lab use only)					
RELINQUISHED BY: <u>Angel West</u>		DATE: 9/17/21		TIME: 1341		RECEIVED BY: <u>[Signature]</u>		DATE: 9/17/21		TIME: 1341		RECEIVED FOR LAB BY: <u>[Signature]</u>	
RELINQUISHED BY: <u>[Signature]</u>		DATE: 9/17/21		TIME: 1341		RECEIVED BY: <u>[Signature]</u>		DATE: 9/17/21		TIME: 1341		RECEIVED FOR LAB BY: <u>[Signature]</u>	
RELINQUISHED BY: <u>[Signature]</u>		DATE: 9/17/21		TIME: 1341		RECEIVED BY: <u>[Signature]</u>		DATE: 9/17/21		TIME: 1341		RECEIVED FOR LAB BY: <u>[Signature]</u>	
CI_res: _____		Conductivity: _____		DO: 7.20		pH: 4.68		pH checked YES NO		X		X	

Shipment Receipt Form

Customer Number: **00064**
Customer Name: **City of Bells**
Report Number: **21-256-0019**

Shipping Method

Fed Ex US Postal Lab Other :
 UPS Client Courier Thermometer ID: IR1

Shipping container/cooler uncompromised?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Number of coolers/boxes received	<input type="text" value="1"/>		
Custody seals intact on shipping container/cooler?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Not Present
Custody seals intact on sample bottles?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Not Present
Chain of Custody (COC) present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
COC agrees with sample label(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
COC properly completed	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Samples in proper containers?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Sample containers intact?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Sufficient sample volume for indicated test(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
All samples received within holding time?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Cooler temperature in compliance?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Water - Sample containers properly preserved	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Water - VOA vials free of headspace	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
Trip Blanks received with VOAs	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
Soil VOA method 5035 – compliance criteria met	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
<input type="checkbox"/> High concentration container (48 hr)		<input type="checkbox"/> Low concentration EnCore samplers (48 hr)	
<input type="checkbox"/> High concentration pre-weighed (methanol -14 d)		<input type="checkbox"/> Low conc pre-weighed vials (Sod Bis -14 d)	
Special precautions or instructions included?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	

Comments:

Signature:

Date & Time:

