CITY OF HOT SPRINGS

Davidson Wastewater Treatment Plant

320 Davidson Drive Hot Springs, Arkansas 71901
Phone: (501) 621-5041
hmauldin@hotspringsar.gov

June 15, 2026

Leslie,

The current Davidson Wastewater Treatment Plant (AR0033880) permit went into effect July 1, 2024. Contained in the permit is Section B "Permit Compliance Schedule." This section of the permit identifies compliance with the Final WET Limitations for P. promelas (Fathead Minnow). The Davidson Wastewater Treatment Plant is required to meet compliance within three years after the effective date of the permit.

Major changes are now implemented at the Davidson Plant. Upgrades to the Aeration Basin, increased Secondary Clarification, new chemical building, and an increase in UV Disinfection have helped charter compliance with WET testing and reach compliance.

Attached are the yearly reports addressing progress towards WET Limitations for P. promelas. The reports show compliance goals reached for testing and retests (when warranted) for P. promelas as well as Ceriodaphnia Dubia for each quarter, beginning in third quarter of 2025 and ending in second quarter of 2026.

If you have any questions, please let me know.

Thank you,

Harold Mauldin
Facilities Operations Manager
City of Hot Springs

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ANALYTICAL REPORT

PREPARED FOR

Attn: Harold Mauldin
City of Hot Springs
320 Davidson Drive
Hot Springs, Arkansas 71901

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JOB DESCRIPTION

Quarterly Bio-monitoring

JOB NUMBER

192-22481-1

Eurofins Arkansas
8600 Kanis Rd
Little Rock AR 72204

See page two for job notes and contact information.

my EOL

Job Notes

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Authorization

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Authorized for release by
John Overbey, Business Unit Manager
john.overbey@et.eurofinsus.com
(501)224-5060

Re: Chronic *Pimephales promelas* (Fathead minnow) and *Ceriodaphnia dubia*
Sample ID: Plant effluent
Job number: 192-22481
Permit No.: AR0033880 / AFIN #26-00145

This report is the analytical results and supporting information for the samples submitted to Eurofins Arkansas. The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the Laboratory Manager or qualified designee.

Testing procedures and Quality Assurance were in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013, Fourth Edition, October 2002. The supporting chemistry data included with this report is intended for accessing the basic water quality of the effluent as required by this test method and is not intended to be utilized for discharge monitoring reports. Test results are summarized below:

Method 1000.0 Chronic *Pimephales promelas* (Fathead minnow) Survival and Growth Test:
The permit requirement is NOEC not less than 41
The following were concluded from the test:

Survival:	NOEC	LOEC	LC50	Growth:	NOEC	LOEC	IC25
	55	>55	>55		55	>55	>55

The sample therefore PASSED the Fathead minnow test.

Method 1002.0 Chronic *Ceriodaphnia dubia* Survival and Reproduction Test:
The permit requirement is NOEC not less than 41
The following were concluded from the test:

Survival:	NOEC	LOEC	LC50	Reproduction:	NOEC	LOEC	IC25
	55	>55	>55		55	>55	>55

The sample therefore PASSED the Ceriodaphnia dubia test.

Appendix (Summary): Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead minnow)
SURVIVAL AND GROWTH

1. Steel's Many-One Rank Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

a.) LOW FLOW OR CRITICAL DILUTION	____YES	___X___NO
b.) 1/2 LOW FLOW DILUTION	____YES	_____NO

2. Dunnett's Test:

Is the mean dry weight (growth) significantly different (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION	____YES	___X___NO
b.) 1/2 LOW FLOW DILUTION	____YES	_____NO

3. If you answered NO to 1.a) enter [0] otherwise enter [1]:	0 (TLP6C)
4. If you answered NO to 2.a) enter [0] otherwise enter [1]:	0 (TGP6C)
5. NOEC Pimephales Lethality:	55 (TOP6C)
6. LOEC Pimephales Lethality:	>55 (TXP6C)
7. NOEC Pimephales Sub Lethality:	55 (TPP6C)
8. LOEC Pimephales Sub Lethality:	>55 (TYP6C)
9. Coefficient of variation from Pimephales growth:	18.99 (TQP6C)
10. Sub Lethality for this test:	55 (51714 or 51714S)

Appendix (Summary): Test 1002.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Ceriodaphnia dubia
SURVIVAL AND REPRODUCTION

1. Fisher's Exact Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

a.) LOW FLOW OR CRITICAL DILUTION	____ YES	X NO
b.) 1/2 LOW FLOW DILUTION	____ YES	____ NO

2. Steel's Many-One Rank Test:

Is the mean number of young produced per female significantly different (p=0.05) than the control's number of young per female for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION	____ YES	X NO
b.) 1/2 LOW FLOW DILUTION	____ YES	____ NO

3. If you answered NO to 1.a) enter [0] otherwise enter [1]:	0 (TLP3B)
4. If you answered NO to 2.a) enter [0] otherwise enter [1]:	0 (TGP3B)
5. NOEC Ceriodaphnia Lethality:	55 (TOP3B)
6. LOEC Ceriodaphnia Lethality:	>55 (TXP3B)
7. NOEC Ceriodaphnia Sub Lethality:	55 (TPP3B)
8. LOEC Ceriodaphnia Sub Lethality:	>55 (TYP3B)
9. Coefficient of variation for Ceriodaphnia Reproduction:	10.23 (TQP3B)
10. Sub Lethality for this test:	55 (51710 or 51710Q)

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ANALYTICAL REPORT

PREPARED FOR

Attn: Harold Mauldin
City of Hot Springs
320 Davidson Drive
Hot Springs, Arkansas 71901

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JOB DESCRIPTION

Quarterly Biomonitoring

JOB NUMBER

192-22799-1

Eurofins Arkansas
8600 Kanis Rd
Little Rock AR 72204

See page two for job notes and contact information.

my EOL

Eurofins Arkansas

Job Notes

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Authorization

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Revision 1

Authorized for release by
John Overbey, Business Unit Manager
john.overbey@et.eurofinsus.com
(501)224-5060

Re: Chronic *Pimephales promelas* (Fathead minnow) and *Ceriodaphnia dubia*
Sample ID: Plant Effluent
Job number: 192-22799
Permit No.: AR0033880 / AFIN: 26-00145

This report is the analytical results and supporting information for the samples submitted to Eurofins Arkansas. The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the Laboratory Manager or qualified designee.

Testing procedures and Quality Assurance were in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013, Fourth Edition, October 2002. The supporting chemistry data included with this report is intended for accessing the basic water quality of the effluent as required by this test method and is not intended to be utilized for discharge monitoring reports. Test results are summarized below:

Method 1000.0 Chronic *Pimephales promelas* (Fathead minnow) Survival and Growth Test:
The permit requirement is NOEC not less than 41%. Note: PMSD is below limit. Additional calculations described by EPA were utilized to calculate NOEC.
The following were concluded from the test:

Survival:	NOEC	LOEC	Growth:	NOEC	LOEC	IC25
	55	>55		23	31	>55

The sample therefore PASSED the Fathead minnow survival test but FAILED the growth test.

Method 1002.0 Chronic *Ceriodaphnia dubia* Survival and Reproduction Test:
The permit requirement is NOEC not less than 41%
The following were concluded from the test:

Survival:	NOEC	LOEC	Reproduction:	NOEC	LOEC	IC25
	55	>55		55	>55	>55

The sample therefore PASSED the Ceriodaphnia dubia test.

I. Test Acceptance Criteria

Pimephales promelas (Fathead Minnow) Method 1000.0

CRITERIA	RESULTS	PASS/FAIL
Control Survival > or = 80%	100	Pass
Control Growth > or = 0.25 mg per Surviving minnow	0.759	Pass
Control Growth CV < or = 40% *	8.02	Pass
Growth Minimum Significant Difference 12 to 30%	10.20	Below
Critical Dilution CV < or = 40% *	10.48	Pass

*EPA Region 6 Requirement consult permit

Ceriodaphnia dubia Method 1002.0

CRITERIA	RESULTS	PASS/FAIL
Control Survival > or = 80%	80	Pass
Control Reproduction > or = 15 per Surviving Female	40.0	Pass
Control CV < or = 40% per Surviving Female *	11.18	Pass
Reproduction Minimum Significant Difference 13 to 47%	36.30	Pass
Critical Dilution CV < or = 40% *	8.43	Pass

*EPA Region 6 Requirement consult permit

II. Test Design and QA

A. Introduction

1. Permit Number: AR0033880 / AFIN: 26-00145
2. Test Requirements:Test Methods 1000.0 and 1002.0

B. Source of Effluent/Dilution Water:

1. Effluent Samples:
   a. Sampling Point: Plant Effluent
   b. Chemical Data:

Analysis	Sample 1	Sample 2	Sample 3
Dissolved oxygen (mg/l)	8.79	8.49	8.73
pH (standard units)	7.24	7.30	6.86
Alkalinity (mg/l as CaCO3)	62	57	31
Hardness (mg/l as CaCO3)	57	44	42
Conductivity (umhos/cm)	230	239	220
Residual Chlorine (mg/l)	<0.05	<0.05	<0.05
Ammonia as N (mg/l)	6.50	4.80	0.35

2. Dilution Water : Synthetic Moderately Hard

Analysis	192-22674-A-1	192-22845-A-1
Dissolved oxygen (mg/l)	8.62	8.51
pH (standard units)	6.53	6.98
Alkalinity (mg/l as CaCO3)	30	30
Hardness (mg/l as CaCO3)	46	46
Conductivity (umhos/cm)	159	169
Residual Chlorine (mg/l)	<0.05	<0.05
Ammonia as N (mg/l)	N/A	N/A

Appendix (Summary): Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead minnow)
SURVIVAL AND GROWTH

1. Steel's Many-One Rank Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

2. Dunnett's Test:

Is the mean dry weight (growth) significantly different (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

LOW FLOW OR CRITICAL DILUTION ___X___ YES _____ NO

3. If you answered NO to 1.a) enter [0] otherwise enter [1]: 0 (TLP6C)
4. If you answered NO to 2.a) enter [0] otherwise enter [1]: 1 (TGP6C)
5. NOEC Pimephales Lethality: 55 (TOP6C)
6. LOEC Pimephales Lethality: >55 (TXP6C)
7. NOEC Pimephales Sub Lethality: 23 (TPP6C)
8. LOEC Pimephales Sub Lethality: 31 (TYP6C)
9. Coefficient of variation from Pimephales growth: 10.48 (TQP6C)
10. Sub Lethality for this test: 23 (51714 or 51714S)

Appendix (Summary): Test 1002.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Ceriodaphnia dubia
SURVIVAL AND REPRODUCTION

1. Fisher's Exact Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

2. Steel's Many-One Rank Test:

Is the mean number of young produced per female significantly different (p=0.05) than the control's number of young per female for the % effluent corresponding to (significant non-lethal effects):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

3.	If you answered NO to 1.a) enter [0] otherwise enter [1]:	0 (TLP3B)
4.	If you answered NO to 2.a) enter [0] otherwise enter [1]:	0 (TGP3B)
5.	NOEC Ceriodaphnia Lethality:	55 (TOP3B)
6.	LOEC Ceriodaphnia Lethality:	>55 (TXP3B)
7.	NOEC Ceriodaphnia Sub Lethality:	55 (TPP3B)
8.	LOEC Ceriodaphnia Sub Lethality:	>55 (TYP3B)
9.	Coefficient of variation for Ceriodaphnia Reproduction:	11.18 (TQP3B)
10.	Sub Lethality for this test:	55 (51710 or 51710Q)

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ANALYTICAL REPORT

PREPARED FOR

Attn: Harold Mauldin
City of Hot Springs
320 Davidson Drive
Hot Springs, Arkansas 71901

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JOB DESCRIPTION

Biomonitoring

JOB NUMBER

192-23680-1

Eurofins Arkansas
8600 Kanis Rd
Little Rock AR 72204

See page two for job notes and contact information.

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Job Notes

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Revision 1

Authorized for release by
John Overbey, Business Unit Manager
john.overbey@et.eurofinsus.com
(501)224-5060

Re: Chronic *Pimephales promelas* (Fathead minnow)
Sample ID: Plant Effluent
Job number: 192-23680
Permit No.: AR0033880

This report is the analytical results and supporting information for the samples submitted to Eurofins Arkansas. The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the Laboratory Manager or qualified designee.

Testing procedures and Quality Assurance were in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013, Fourth Edition, October 2002. The supporting chemistry data included with this report is intended for accessing the basic water quality of the effluent as required by this test method and is not intended to be utilized for discharge monitoring reports. Test results are summarized below:

The test was conducted with the samples collected on 8-12-2025, 8-14-2025, and 8-15-2025.

Method 1000.0 Chronic *Pimephales promelas* (Fathead minnow) Survival and Growth Test:
The permit requirement is NOEC not less than 41%.
The following were concluded from the test:

Survival:	NOEC	LOEC	Growth:	NOEC	LOEC	IC25
	55	>55		55	>55	>55

The sample therefore PASSED the Fathead minnow test.

Appendix (Summary): Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead minnow)
SURVIVAL AND GROWTH

1. Steel's Many-One Rank Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

2. Dunnett's Test:

Is the mean dry weight (growth) significantly different (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

3. If you answered NO to 1.a) enter [0] otherwise enter [1]: 0 (TLP6C)
4. If you answered NO to 2.a) enter [0] otherwise enter [1]: 0 (TGP6C)
5. NOEC Pimephales Lethality: 55 (TOP6C)
6. LOEC Pimephales Lethality: >55 (TXP6C)
7. NOEC Pimephales Sub Lethality: 55 (TPP6C)
8. LOEC Pimephales Sub Lethality: >55 (TYP6C)
9. Coefficient of variation from Pimephales growth: 21.8 (TQP6C)
10. Sub Lethality for this test: 55 (51714 or 51714S)

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ANALYTICAL REPORT

PREPARED FOR

Attn: Harold Mauldin
City of Hot Springs
320 Davidson Drive
Hot Springs, Arkansas 71901

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JOB DESCRIPTION

Biomonitoring

JOB NUMBER

192-23680-1

Eurofins Arkansas
8600 Kanis Rd
Little Rock AR 72204

See page two for job notes and contact information.

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Eurofins Arkansas

Job Notes

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John Overbey, Business Unit Manager
john.overbey@et.eurofinsus.com
(501)224-5060

Re: Chronic *Pimephales promelas* (Fathead minnow)
Sample ID: Plant Effluent
Job number: 192-23680
Permit No.: AR0033880

This report is the analytical results and supporting information for the samples submitted to Eurofins Arkansas. The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the Laboratory Manager or qualified designee.

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The test was conducted with the samples collected on 8-12-2025, 8-14-2025, and 8-15-2025.

Method 1000.0 Chronic *Pimephales promelas* (Fathead minnow) Survival and Growth Test:
The permit requirement is NOEC not less than 41%.
The following were concluded from the test:

Survival:	**NOEC**	**LOEC**	**Growth:**	**NOEC**	**LOEC**	**IC25**
	55	>55		55	>55	>55

The sample therefore PASSED the Fathead minnow test.

Appendix (Summary): Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead minnow)
SURVIVAL AND GROWTH

1. Steel's Many-One Rank Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

2. Dunnett's Test:

Is the mean dry weight (growth) significantly different (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

3.	If you answered NO to 1.a) enter [0] otherwise enter [1]:	0 (TLP6C)
4.	If you answered NO to 2.a) enter [0] otherwise enter [1]:	0 (TGP6C)
5.	NOEC Pimephales Lethality:	55 (TOP6C)
6.	LOEC Pimephales Lethality:	>55 (TXP6C)
7.	NOEC Pimephales Sub Lethality:	55 (TPP6C)
8.	LOEC Pimephales Sub Lethality:	>55 (TYP6C)
9.	Coefficient of variation from Pimephales growth:	21.8 (TQP6C)
10.	Sub Lethality for this test:	55 (51714 or 51714S)

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ANALYTICAL REPORT

PREPARED FOR

Attn: Harold Mauldin
City of Hot Springs
320 Davidson Drive
Hot Springs, Arkansas 71901

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JOB DESCRIPTION

Quarterly Biomonitoring - Minnows Only

JOB NUMBER

192-24373-1

Eurofins Arkansas
8600 Kanis Rd
Little Rock AR 72204

See page two for job notes and contact information.

my EOL

Eurofins Arkansas

Job Notes

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Authorized for release by
John Overbey, Business Unit Manager
john.overbey@et.eurofinsus.com
(501)224-5060

Re: Chronic *Pimephales promelas* (Fathead minnow)
Sample ID: Plant Effluent
Job number: 192-24373
Permit No.: AR0033880

This report is the analytical results and supporting information for the samples submitted to Eurofins Arkansas. The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the Laboratory Manager or qualified designee.

Testing procedures and Quality Assurance were in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013, Fourth Edition, October 2002. The supporting chemistry data included with this report is intended for accessing the basic water quality of the effluent as required by this test method and is not intended to be utilized for discharge monitoring reports. Test results are summarized below:

Method 1000.0 Chronic *Pimephales promelas* (Fathead minnow) Survival and Growth Test:
The permit requirement is NOEC not less than 41%.
The following were concluded from the test:

Survival:	**NOEC**	**LOEC**	**Growth:**	**NOEC**	**LOEC**	**IC25**
	55	>55		55	>55	>55

The sample therefore PASSED the Fathead minnow test.

Appendix (Summary): Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead minnow)
SURVIVAL AND GROWTH

1. Steel's Many-One Rank Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

2. Dunnett's Test:

Is the mean dry weight (growth) significantly different (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

3.	If you answered NO to 1.a) enter [0] otherwise enter [1]:	0 (TLP6C)
4.	If you answered NO to 2.a) enter [0] otherwise enter [1]:	0 (TGP6C)
5.	NOEC Pimephales Lethality:	55 (TOP6C)
6.	LOEC Pimephales Lethality:	>55 (TXP6C)
7.	NOEC Pimephales Sub Lethality:	55 (TPP6C)
8.	LOEC Pimephales Sub Lethality:	>55 (TYP6C)
9.	Coefficient of variation from Pimephales growth:	13.2 (TQP6C)
10.	Sub Lethality for this test:	55 (51714 or 51714S)

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ANALYTICAL REPORT

PREPARED FOR

Attn: Harold Mauldin
City of Hot Springs
320 Davidson Drive
Hot Springs, Arkansas 71901

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JOB DESCRIPTION

Quarterly Biomonitoring

JOB NUMBER

192-25115-1

Eurofins Arkansas
8600 Kanis Rd
Little Rock AR 72204

See page two for job notes and contact information.

my EOL

Eurofins Arkansas

Job Notes

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Authorized for release by
John Overbey, Business Unit Manager
john.overbey@et.eurofinsus.com
(501)224-5060

Re: Chronic *Pimephales promelas* (Fathead minnow) and *Ceriodaphnia dubia*
Sample ID: Plant Effluent
Job number: 192-25115
Permit No.: AR0033880

This report is the analytical results and supporting information for the samples submitted to Eurofins Arkansas. The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the Laboratory Manager or qualified designee.

Testing procedures and Quality Assurance were in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013, Fourth Edition, October 2002. The supporting chemistry data included with this report is intended for accessing the basic water quality of the effluent as required by this test method and is not intended to be utilized for discharge monitoring reports. Test results are summarized below:

A statistical difference was noted at the 31% effluent for the Fathead minnow growth test.
This difference is considered an anomaly.

Method 1000.0 Chronic *Pimephales promelas* (Fathead minnow) Survival and Growth Test:
The permit requirement NOEC not less than 41%.
The following were concluded from the test:

Survival:	NOEC	LOEC	LC50	Growth:	NOEC	LOEC	IC25
	55	>55	>55		55	>55	>55

The sample therefore PASSED the Fathead minnow test.

Method 1002.0 Chronic *Ceriodaphnia dubia* Survival and Reproduction Test:
The permit requirement NOEC not less than 41%.
The following were concluded from the test:

Survival:	NOEC	LOEC	LC50	Reproduction:	NOEC	LOEC	IC25
	55	>55	>55		55	>55	>55

The sample therefore PASSED the Ceriodaphnia dubia test.

Appendix (Summary): Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead minnow)
SURVIVAL AND GROWTH

1. Steel's Many-One Rank Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

a.) LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

2. Dunnett's Test:

Is the mean dry weight (growth) significantly different (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

3.	If you answered NO to 1.a) enter [0] otherwise enter [1]:	0 (TLP6C)
4.	If you answered NO to 2.a) enter [0] otherwise enter [1]:	0 (TGP6C)
5.	NOEC Pimephales Lethality:	55 (TOP6C)
6.	LOEC Pimephales Lethality:	>55 (TXP6C)
7.	NOEC Pimephales Sub Lethality:	55 (TPP6C)
8.	LOEC Pimephales Sub Lethality:	>55 (TYP6C)
9.	Coefficient of variation from Pimephales growth:	7.76 (TQP6C)
10.	Sub Lethality for this test:	55 (51714 or 51714S)

Appendix (Summary): Test 1002.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Ceriodaphnia dubia
SURVIVAL AND REPRODUCTION

1. Fisher's Exact Test:

Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

a.) LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

2. Steel's Many-One Rank Test:

Is the mean number of young produced per female significantly different (p=0.05) than the control's number of young per female for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION _____ YES ___X___ NO

3.	If you answered NO to 1.a) enter [0] otherwise enter [1]:	0 (TLP3B)
4.	If you answered NO to 2.a) enter [0] otherwise enter [1]:	0 (TGP3B)
5.	NOEC Ceriodaphnia Lethality:	55 (TOP3B)
6.	LOEC Ceriodaphnia Lethality:	>55 (TXP3B)
7.	NOEC Ceriodaphnia Sub Lethality:	55 (TPP3B)
8.	LOEC Ceriodaphnia Sub Lethality:	>55 (TYP3B)
9.	Coefficient of variation for Ceriodaphnia Reproduction:	29.8 (TQP3B)
10.	Sub Lethality for this test:	55 (51710 or 51710Q)

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ANALYTICAL REPORT

PREPARED FOR

Attn: Harold Mauldin
City of Hot Springs
320 Davidson Drive
Hot Springs, Arkansas 71901

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JOB DESCRIPTION

Quarterly Biomonitoring

JOB NUMBER

192-28438-1

Eurofins Arkansas
8600 Kanis Rd
Little Rock AR 72204

See page two for job notes and contact information.

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Job Notes

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Authorization

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Authorized for release by
John Overbey, Business Unit Manager
john.overbey@et.eurofinsus.com
(501)224-5060

Eurofins Environment Testing Bio-Aquatics
2501 Mayes Road, Suite 100
Carrollton, Texas 75006
Tel: (972) 242-7750
Fax: (972) 242-7749

TOXICITY TEST REPORT - Chronic

Client:	Eurofins Arkansas	Sample:	Plant Effluent
Facility:	City of Hot Springs	Laboratory Number:	102672
Permit No.	AR0033880	Date:	February 10, 2026

Ceriodaphnia dubia **passed** survival and reproduction testing requirements. *Pimephales promelas* **passed** survival and growth testing requirements.

SAMPLE COLLECTION:

Composite effluent samples from Eurofins Arkansas, City of Hot Springs, were received on February 10, 2026, February 12, 2026, and February 14, 2026. Effluent samples were collected from Outfall Plant Effluent by facility personnel.

The effluent samples were analyzed for total residual chlorine using the Hanna Ion Specific Meter #711 and contained <0.10 mg/L, <0.10 mg/L, and <0.10 mg/L, respectively. Effluent and laboratory dilution water pH, temperature, and dissolved oxygen data were collected daily.

TEST PROCEDURES:
Ceriodaphnia dubia

EPA METHOD: 1002

The seven-day (three brood) Chronic *Ceriodaphnia dubia* survival and reproduction test was initiated at 11:15 hours on February 10, 2026. Five effluent concentrations of 17%, 23%, 31%, 41%, and 55% were prepared using synthetic water as dilution water. The test was set up with 30mL plastic cups containing 15mL of test solution or control dilution water. Each effluent concentration or control dilution water included ten replicate cups with one organism in each cup. The control was conducted concurrently with the test. Test organisms were less than 24-hour old laboratory cultured neonates. Neonates were introduced into the test solutions using a blocking design. The test was renewed daily with newly prepared solutions. Food consisting of a half-milliliter suspension of the green algae, *Selenastrum capricornutum,* and YTC was added to the test solutions each day. The test proceeded for seven days or until 60% of the females in the control had three broods. Data on survival and number of young produced per female were collected daily. The test ended at 09:58 hours on February 17, 2026. Survival and reproduction data were statistically (p=0.05) analyzed according to EPA procedures to determine the Lowest Observable Effect Concentration (LOEC) and the No Observable Effect Concentration (NOEC).

SURVIVAL:

Ceriodaphnia dubia

Fisher's Exact test on *Ceriodaphnia dubia* survival test data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)
NOEC: 55% Effluent

REPRODUCTION:

Ceriodaphnia dubia

The *Ceriodaphnia dubia* reproduction data were normally distributed at the alpha level of 0.01 (13.277) using the Chi-square test for normality. Reproduction data were shown to be homogeneous using Bartlett's test at the alpha level of 0.01 (15.09) without data transformations. Using ANOVA and Dunnett's test (with Bonferroni adjustment as appropriate for Sub-Lethality) on *Ceriodaphnia dubia* reproduction data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)
NOEC: 55% Effluent

TEST PROCEDURES:

Pimephales promelas

EPA METHOD: 1000

The seven-day Chronic *Pimephales promelas* survival and growth test was initiated at 11:28 hours on February 10, 2026. Five effluent concentrations of 17%, 23%, 31%, 41%, and 55% were prepared using synthetic water as dilution water. The test was set up with 450mL plastic cups containing 250mL of test solution as test chambers. Each concentration consisted of five replicate chambers containing eight organisms each, giving a total of 40 (forty) per treatment. The control test was conducted concurrently with the test. Test organisms were laboratory-cultured *Pimephales promelas* larvae less than 24-hours old. The number of surviving larvae and water quality parameters in the old test solutions were recorded after each 24-hour period. The test was renewed daily with fresh solutions. Surviving larvae in each test chamber were fed freshly hatched brine shrimp two times per day. The test proceeded for seven days.

At the end of the test, all organisms were sacrificed, dried, and weighed. Data on surviving organisms and water quality were collected. The test ended at 12:06 hours on February 17, 2026. Survival and growth (weight) were statistically (p=0.05) analyzed according to EPA procedures to determine the Lowest Observable Effect Concentration (LOEC) and the No Observable Effect Concentration (NOEC).

SURVIVAL:

Pimephales promelas

The non-parametric Steel's Many-One Rank test performed on *Pimephales promelas* survival data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)
NOEC: 55% Effluent

GROWTH:

Pimephales promelas

The *Pimephales promelas* growth data were normally distributed at the alpha level of 0.01 (0.900) using Shapiro Wilk's test for normality. Growth data were shown to be homogeneous using Bartlett's test at the alpha level of 0.01 (15.09) without data transformations. Using ANOVA and Dunnett's test on *Pimephales promelas* growth data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)
NOEC: 55% Effluent

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ANALYTICAL REPORT

PREPARED FOR

Attn: Harold Mauldin
City of Hot Springs
320 Davidson Drive
Hot Springs, Arkansas 71901

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JOB DESCRIPTION

Quarterly Biomonitoring

JOB NUMBER

192-30475-1

Eurofins Arkansas
8600 Kanis Rd
Little Rock AR 72204

See page two for job notes and contact information.

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Eurofins Arkansas

Job Notes

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Authorized for release by
John Overbey, Business Unit Manager
john.overbey@et.eurofinsus.com
(501)224-5060

Eurofins Environment Testing Bio-Aquatics
2501 Mayes Road, Suite 100
Carrollton, Texas 75006
Tel: (972) 242-7750
Fax: (972) 242-7749

TOXICITY TEST REPORT - Chronic

Client:	Eurofins Arkansas	Sample:	Plant Effluent
Facility:	City of Hot Springs	Laboratory Number:	103430
Permit No.	AR0033880	Date:	April 21, 2026

Ceriodaphnia dubia **passed** survival and reproduction testing requirements. *Pimephales promelas* **passed** survival and growth testing requirements.

SAMPLE COLLECTION:

Composite effluent samples from Eurofins Arkansas, City of Hot Springs, were received on April 21, 2026, April 23, 2026, and April 25, 2026. Effluent samples were collected from Outfall Plant Effluent by facility personnel.

The effluent samples were analyzed for total residual chlorine using the Hanna Ion Specific Meter #711 and contained <0.10 mg/L, <0.10 mg/L, and <0.10 mg/L, respectively. Effluent and laboratory dilution water pH, temperature, and dissolved oxygen data were collected daily.

TEST PROCEDURES:

Ceriodaphnia dubia

EPA METHOD: 1002

The seven-day (three brood) Chronic *Ceriodaphnia dubia* survival and reproduction test was initiated at 11:54 hours on April 21, 2026. Five effluent concentrations of 17%, 23%, 31%, 41%, and 55% were prepared using synthetic water as dilution water. The test was set up with 30mL plastic cups containing 15mL of test solution or control dilution water. Each effluent concentration or control dilution water included ten replicate cups with one organism in each cup. The control was conducted concurrently with the test. Test organisms were less than 24-hour old laboratory cultured neonates. Neonates were introduced into the test solutions using a blocking design. The test was renewed daily with newly prepared solutions. Food consisting of a half-milliliter suspension of the green algae, *Selenastrum capricornutum,* and YTC was added to the test solutions each day. The test proceeded for seven days or until 60% of the females in the control had three broods. Data on survival and number of young produced per female were collected daily. The test ended at 10:45 hours on April 28, 2026. Survival and reproduction data were statistically (p=0.05) analyzed according to EPA procedures to determine the Lowest Observable Effect Concentration (LOEC) and the No Observable Effect Concentration (NOEC).

SURVIVAL:

Ceriodaphnia dubia

Fisher's Exact test on *Ceriodaphnia dubia* survival test data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)
NOEC: 55% Effluent

REPRODUCTION:

Ceriodaphnia dubia

The *Ceriodaphnia dubia* reproduction data were normally distributed at the alpha level of 0.01 (13.277) using the Chi-square test for normality. Reproduction data were shown to be homogeneous using Bartlett's test at the alpha level of 0.01 (15.09) without data transformations. Using ANOVA and Dunnett's test on *Ceriodaphnia dubia* reproduction data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)
NOEC: 55% Effluent

TEST PROCEDURES:

Pimephales promelas

EPA METHOD: 1000

The seven-day Chronic *Pimephales promelas* survival and growth test was initiated at 11:56 hours on April 21, 2026. Five effluent concentrations of 17%, 23%, 31%, 41%, and 55% were prepared using synthetic water as dilution water. The test was set up with 450mL plastic cups containing 250mL of test solution as test chambers. Each concentration consisted of five replicate chambers containing eight organisms each, giving a total of 40 (forty) per treatment. The control test was conducted concurrently with the test. Test organisms were laboratory-cultured *Pimephales promelas* larvae less than 24-hours old. The number of surviving larvae and water quality parameters in the old test solutions were recorded after each 24-hour period. The test was renewed daily with fresh solutions. Surviving larvae in each test chamber were fed freshly hatched brine shrimp two times per day. The test proceeded for seven days.

At the end of the test, all organisms were sacrificed, dried, and weighed. Data on surviving organisms and water quality were collected. The test ended at 09:59 hours on April 28, 2026. Survival and growth (weight) were statistically (p=0.05) analyzed according to EPA procedures to determine the Lowest Observable Effect Concentration (LOEC) and the No Observable Effect Concentration (NOEC).

SURVIVAL:

Pimephales promelas

The non-parametric Steel's Many-One Rank test performed on *Pimephales promelas* survival data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)
NOEC: 55% Effluent

GROWTH:

Pimephales promelas

The *Pimephales promelas* growth data were normally distributed at the alpha level of 0.01 (0.900) using Shapiro Wilk's test for normality. Growth data were shown to be homogeneous using Bartlett's test at the alpha level of 0.01 (15.09) without data transformations. Using ANOVA and Dunnett's test on *Pimephales promelas* growth data demonstrated statistically significant differences between the control and the 17%, 23%, 31%, and 55% effluent concentrations tested. This result is attributed to a low PMSD and high test sensitivity and is not considered to be effluent related.

LOEC: Not Calculable (Q)
NOEC: 55% Effluent