

**NPDES PERMIT FACT SHEET
ADDENDUM**

Application Type Renewal
Facility Type Sewage
Major / Minor Major

Application No. PA0024406
APS ID 1062853
Authorization ID 1395409

Applicant and Facility Information

Applicant Name	<u>Mount Carmel Municipal Authority</u>	Facility Name	<u>MCMA WWTF</u>
Applicant Address	<u>137 West Fourth Street</u> <u>Mount Carmel, PA 17851-2061</u>	Facility Address	<u>657 Brennans Farm Road</u> <u>Kulpmont, PA 17834</u>
Applicant Contact	<u>Robert Shirmer</u>	Facility Contact	<u>Thomas Gallagher</u>
Applicant Phone	<u>570-339-5166</u>	Facility Phone	<u>570-339-5166</u>
Client ID	<u>94508</u>	Site ID	<u>264784</u>
SIC Code	<u>4952</u>	Municipality	<u>Mount Carmel Township</u>
SIC Description	<u>Trans. & Utilities - Sewerage Systems</u>	County	<u>Northumberland</u>
Date Published in PA Bulletin	<u>May 04, 2024</u>	EPA Waived?	<u>No</u>
Comment Period End Date	<u>June 18, 2024</u>	If No, Reason	<u>Major Facility, Significant CB Discharge</u>
Purpose of Application	<u>Renewal of NPDES permit</u>		

Internal Review and Recommendations

INTRODUCTION

The Mount Carmel Municipal Authority (MCMA) has applied to renew its existing NPDES permit which authorizes the discharge of treated wastewater from the wastewater treatment facility (WWTF) in Mount Carmel Township, Northumberland County.

APPLICATION

Entech Engineering, Inc. (Entech), the application consultant, submitted the *NPDES Application for Individual Permit to Discharge Sewage Effluent for Major Sewage Facilities* (DEP #3800-PM-BCW0009b) on behalf of the MCMA. This application was received by the Department on May 04, 2022 and considered administratively complete on May 26, 2022. Robert Shirmer, MCMA Chairman, is the Client Contact. His additional contact information is (email) rshirmer123@yahoo.com. The site contact is Thomas Gallagher, Plant Foreman. His additional contact information is (email) tgall75@ptd.net. The Entech contact is Natalie O'Connor, Project Manager. Her contact information is (phone) 570-628-5655 and (email) noconnor@entecheng.com.

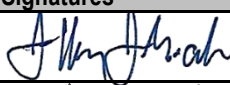

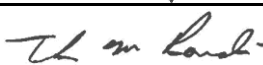
FACILITY DESCRIPTION

The WWTP consists of coarse and fine screening, a raw sewage pump station, a grit removal system, an *Intermittent Cycle Extended Aeration System* (ICEAS) *Sequencing Batch Reactor* (SBR) tertiary system, ultraviolet (UV) disinfection, aerobic digestion, sludge dewatering (belt filter press) and outfall. The SBR tanks incorporate pre-thickened aerobic digestion (with a gravity thickening system). The ICEAS SBR system provides the flexibility to handle peak flows, achieve necessary effluent quality and provide required nutrient removal. The MCMA collection system was formerly a combined sewer system with associated combined sewer overflow (CSO) discharges. These have all been removed from the system during the upgrades to both the stormwater and wastewater collection systems.

DRAFT PERMIT

A draft permit package was prepared in April 2024. The draft permit package was emailed to the MCMA on April 16, 2024. The draft package was transferred to the Environmental Protection Agency (EPA) via the WMS application on April 23, 2024.

CONTINUED on the next page.

Approve	Return	Deny	Signatures	Date
X			Jeffrey J. Gocek, EIT Project Manager 	09/30/2024
X			Nicholas W. Hartranft, PE Environmental Engineer Manager 	09/30/2024
X			Thomas M. Randis Program Manager 	09/30/2024

Internal Review and Recommendations

The draft notice was published in the PA Bulletin on May 04, 2024 (Volume 54, Number 18, Page 2358). In an email dated April 30, 2024, the Department granted a 15-day extension to the comment period.

DRAFT PERMIT COMMENTS

Mount Carmel Municipal Authority

The MCMA did not submit a draft NPES permit comment letter. The MCMA submitted revised sampling results for the parameters not typically found in the effluent from a Publicly Owned Treatment Works (POTW). These associated limits, established in the draft permit, were recommended by the Toxics Management Spreadsheet (TMS) since the non-detectable sampling results were higher than both the Chapter 93 criteria and the application instructions and were therefore considered parameters of concern. The revised sampling results were submitted in an email dated June 25, 2024.

Environmental Protection Agency

In an email dated May 29, 2024, the Environmental Protection Agency (EPA) submitted comments on the first draft permit. The comments have been summarized below.

1. The Department used the NOEC values to evaluate Reasonable Potential (RP) for Whole Effluent Toxicity (WET) testing. All documents require the use of EPA's Test of Significant Toxicity (TST).
2. The August 2020 endpoint failure for Ceriodaphnia reproduction, determined by the NOEC values, was deemed a failure. This determination may be irrelevant if the Department uses the TST method.
3. The Fact Sheet included WET data from 2018 through 2021. Since the permit has an annual WET testing requirement, where is the most recent data?
4. Since the failure was determined for the 2020 Ceriodaphnia reproduction, a WET limit was proposed in the permit. No limit was proposed for Ceriodaphnia survival. EPA believes that if the RP is demonstrated for one endpoint, it would be appropriate to have a WET limit for the species that had the failure.

REVISED WET ANALYSIS

At EPA's direction, and in accordance with the current permit and the Department's Standard Operating Procedure for Clean Water Program Whole Effluent Toxicity (WET) (DEP #BPNPSM-PMT-031), the Department analyzed the most recent WET data using the WET Analysis Spreadsheet. The WET Analysis spreadsheet incorporates the EPA TST statistical approach.

Summary of Four Most Recent Test Results

Test Date	Ceriodaphnia Results (Pass/Fail)		Pimephales Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
08/31/2020	PASS	FAIL	PASS	PASS
09/28/2020	N/A	PASS	N/A	N/A
08/23/2021	PASS	PASS	PASS	PASS
06/20/2022	PASS	PASS	PASS	PASS
06/27/2023	PASS	PASS	PASS	PASS

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? ☐ YES ☒ NO

Based on this new analysis, there is no need for the WET limit proposed by the Department in the April 16, 2024 Fact Sheet and NPDES permit.

A different Part C special condition for WET will be included in the second draft since a WET limit is no longer proposed.

See Attachment 01 for the WET data including the DEP WET Analysis Spreadsheets for each annual test.

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Internal Review and Recommendations

REVISED TMS ANALYSIS

As indicated above, new sampling result data was submitted to the Department during the comment period of the draft permit. Proper target Quantitation Limits (QLs) were utilized in this analysis.

The revised TMS recommended only the following monitoring and limitations.

Pollutant	Mass Limits		Concentration				Governing WQBEL	WQBEL Basis	Comment
	AML (lbs/day)	MDL (lb/day)	AML	MDL	IMAX	Units			
Total Copper	0.43	0.66	0.023	0.035	0.057	mg/L	0.023	AFC	≥ 50% WQBEL (RP)
Total Nickel	Report	Report	Report	Report	Report	µg/L	134	CFC	> 10%WQBEL (No RP)
Total Zinc	3.66	5.70	0.19	0.30	0.49	mg/L	0.19	AFC	≥ 50% WQBEL (RP)

See Attachment 02 for the revised TMS spreadsheet.

Because the stringent toxics limits have been removed, the Part C.IV Special Condition (WQBELs Below Quantitation Limits) has been removed from the permit.

COMMENT RESPONSE

1. The WET data has been evaluated using the TST method. See above.
2. The August 2020 failure is now irrelevant since the TST method has been employed.
3. The latest WET data has been evaluated. See above.
4. The need to include a second endpoint toxicity unit limit is no longer applicable.

REMAINING PERMIT REQUIREMENTS

All effluent limitations, monitoring requirements and special conditions not discussed in this Fact Sheet Addendum remain the same as proposed in the April 16, 2024 Fact Sheet.

PROPOSED EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date

CONTINUED on the next page.

Internal Review and Recommendations

Discharge Parameter	Mass Limits (lb/day)		Concentrations (mg/L unless noted)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Meter
pH	XXX	XXX	6.0 Instant Min	XXX	XXX	9.0	1/Day	Grab
Fecal Coliform (No./100mL) 05/01-09/30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/Week	Grab
Fecal Coliform (No./100mL) 10/01-04/30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/Week	Grab
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/Week	24 Hour Comp
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/Week	24 Hour Comp
CBOD5	465	750	XXX	25	40	50	2/Week	24 Hour Comp
Total Suspended Solids	560	840	XXX	30	45	60	2/Week	24 Hour Comp
UV Light Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/Day	Meter
Dissolved Oxygen	XXX	XXX	4.0 Instant Min	XXX	XXX	XXX	1/Day	Grab
Ammonia-N 06/01-10/31	90	140	XXX	5.5	8.2	11	2/Week	24 Hour Comp
Ammonia-N 11/01-05/31	280	420	XXX	16.5	24.7	33	2/Week	24 Hour Comp
Total Copper	0.43	0.66 Daily Max	XXX	0.023	0.035 Daily Max	0.057	1/Week	24 Hour Comp
Total Zinc	3.66	5.70 Daily Max	XXX	0.19	0.30 Daily Max	0.49	1/Week	24 Hour Comp
Total Nickel (µg/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/Month	24 Hour Comp
Total Aluminum	Report Annl Avg	Report Daily Max	XXX	Report Annl Avg	Report Daily Max	XXX	1/Year	24 Hour Comp
Total Iron	Report Annl Avg	Report Daily Max	XXX	Report Annl Avg	Report Daily Max	XXX	1/Year	24 Hour Comp
Total Manganese	Report Annl Avg	Report Daily Max	XXX	Report Annl Avg	Report Daily Max	XXX	1/Year	24 Hour Comp
PFOA (ng/L)	Report Annl Avg	Report Daily Max	XXX	Report Annl Avg	Report Daily Max	XXX	1/Year	Grab
PFOS (ng/L)	Report Annl Avg	Report Daily Max	XXX	Report Annl Avg	Report Daily Max	XXX	1/Year	Grab
HFPO-DA (ng/L)	Report Annl Avg	Report Daily Max	XXX	Report Annl Avg	Report Daily Max	XXX	1/Year	Grab
PFBS (ng/L)	Report Annl Avg	Report Daily Max	XXX	Report Annl Avg	Report Daily Max	XXX	1/Year	Grab
E. Coli (No./100mL)	XXX	XXX	XXX	XXX	XXX	Report	1/Year	Grab

Discharge Parameter	Mass Load (lb)		Concentrations (mg/L)			Monitoring Requirements	
	Monthly	Annual	Minimum	Monthly Average	Maximum	Minimum Measurement Frequency	Required Sample Type
Ammonia-N	Report	Report	XXX	Report	XXX	2/Week	24 Hour Comp
Kjeldahl-N	Report	XXX	XXX	Report	XXX	1/Week	24 Hour Comp
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/Week	24 Hour Comp
Total Nitrogen	Report	Report	XXX	Report	XXX	1/Month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	1/Week	24 Hour Comp
Net Total Nitrogen	Report	41,095	XXX	XXX	XXX	1/Month	Calculation
Net Total Phosphorus	Report	5,479	XXX	XXX	XXX	1/Month	Calculation

END of Fact Sheet.

ATTACHMENT 01

3800-FM-BPNPSM0485 Rev. 10/2013
Cover SheetCOMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENTWHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
COVER SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☒ *Ceriodaphnia dubia* ☐ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☐ Yes ☒ No (If Yes, indicate the date of original test completion: _____)

SAMPLE INFORMATION

	Date/Time	Sample Source	Temperature	Holding Time	Chlorine	Dechlorinated?
1.	8/24/20 @ 8:00	_____	0.5°C	29 hrs 40 min	<0.2 mg/L	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.	8/26/20 @ 8:00	_____	1.0°C	28 hrs 50 min	<0.2 mg/L	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.	8/28/20 @ 8:00	_____	2.9°C	30 hrs 44 min	<0.2 mg/L	<input type="checkbox"/> Yes <input type="checkbox"/> No

TEST CONDITIONS

Date/Time of Test Initiation: 8/25/2020 @ 13:40

Date/Time of Test Termination: 8/31/2020 @ 13:47

☒ Renewal Test ☐ Non-Renewal Test

Frequency of Renewals: daily

Dilution Series: 9, 18, 35.77, 68, 100

Target Instream Waste Concentration (TIWC): 35.77

Age of Organisms at Start of Tests: neonates (<24 hours) within 8 hours of the same age

Number of Replicates: ten (10)

Number of Organisms per Replicate: one (1)

Source of Organisms: in-house cultures

Feeding Regimen: 0.15mL YCT and 0.15mL algal suspension, daily

Light Intensity: 50-100 ft-c

Photoperiod: 16 hours light, 8 hours dark

Temperature measurements made at least once per 24-hour period? ☒ Yes ☐ No (attach log sheet)DO measured daily in at least one replicate of each concentration? ☒ Yes ☐ No (attach log sheet)Were the test chambers aerated? ☐ Yes ☒ No Rate:pH measured daily in at least one replicate of each concentration? ☒ Yes ☐ No (attach log sheet)Were test acceptability criteria in the EPA method met? ☒ Yes ☐ NoWere there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? ☐ Yes ☒ No

DILUTION / REAGENT WATER

Date of Last Test for Chemistry: 8/31/2020

Conductivity: 316 µmhos/cm

pH: 8.0

TRC: <0.2 mg/L

CONTROL RESULTS

*Ceriodaphnia dubia**Pimephales promelas*

Survival: 90%

Survival:

Percent that produced 3 broods (if applicable): 80 %

Mean Dry Weight of Survivors (if applicable):

Young per Surviving Female (if applicable): 28

REFERENCE TOXICITY TESTS

Date of most recent test: 8/4/2020

Same conditions as test? ☒ Yes ☐ NoWere test acceptability criteria in the EPA method met? ☒ Yes ☐ No

TEST RESULTS

Control compared to: ☒ TIWC Dilution ☐ Other:Survival: ☒ Pass ☐ FailGrowth: ☐ Pass ☐ FailReproduction: ☐ Pass ☒ Fail

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Brandon Etheridge
Name of Laboratory Manager

B. Etheridge
Signature of Laboratory Manager

1-12-2021
Date

68-02979
DEP Lab ID No.

3800-FM-BPNPSM0486 Rev. 10/2013

Data Sheet



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT DATA SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☒ *Ceriodaphnia dubia* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: 1

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1	0	1	1	1	1	1	11	23	15	12	11	3
2	1	1	1	1	1	1	28	38	37	33	20	23
3	1	1	1	1	1	1	8	27	0	5	5	5
4	1	1	1	1	1	1	31	18	20	17	20	19
5	1	1	1	1	1	1	29	16	24	31	10	22
6	1	1	1	1	1	1	33	23	28	38	14	19
7	1	1	1	1	1	0	36	24	16	22	11	0
8	1	1	1	1	1	1	35	11	27	25	32	21
9	1	1	1	1	1	1	38	34	22	30	25	13
10	1	1		1	1	1	33	16		15	24	7
11												
12												
13												
14												
15												

Species: ☒ *Pimephales promelas* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: 10

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

3800-FM-BPNPSM0485 Rev. 10/2013
Cover Sheet

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT COVER SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☐ *Ceriodaphnia dubia* ☒ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☐ Yes ☒ No (If Yes, indicate the date of original test completion: _____)

SAMPLE INFORMATION						
	Date/Time	Sample Source	Temperature	Holding Time	Chlorine	Dechlorinated?
1.	8/24/20 @ 8:00	_____	0.5°C	29 hrs 40 min	<0.2 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2.	8/26/20 @ 8:00	_____	1.0°C	28 hrs 44 min	0.25 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3.	8/28/20 @ 8:00	_____	2.9°C	29 hrs 50 min	<0.2 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

TEST CONDITIONS	
Date/Time of Test Initiation: 8/25/2020 @ 13:40	Date/Time of Test Termination: 9/1/2020 @ 12:40
<input checked="" type="checkbox"/> Renewal Test <input type="checkbox"/> Non-Renewal Test	Frequency of Renewals: daily
Dilution Series: 9, 18, 35.77, 68, 100	Target Instream Waste Concentration (TIWC): 35.77
Age of Organisms at Start of Tests: 24-36 hours old	Number of Organisms per Replicate: ten (10)
Number of Replicates: four (4)	Feeding Regimen: 0.15mL-0.2mL newly hatched brine shrimp nauplii, twice daily
Source of Organisms: Aquatic Bio Systems	Photoperiod: 16 hours light, 8 hours dark
Light Intensity: 50-100 ft-c	Temperature measurements made at least once per 24-hour period? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
DO measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were the test chambers aerated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rate:
pH measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

DILUTION / REAGENT WATER	
Date of Last Test for Chemistry: 8/31/2020	Conductivity: 316 µmhos/cm
pH: 8.0	TRC: <0.2 mg/L

CONTROL RESULTS	
<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Survival:	Survival: 92.3%
Percent that produced 3 broods (if applicable):	% Mean Dry Weight of Survivors (if applicable): 0.5942 mg
Young per Surviving Female (if applicable):	

REFERENCE TOXICITY TESTS	
Date of most recent test: 8/4/2020	Same conditions as test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TEST RESULTS	
Control compared to: <input checked="" type="checkbox"/> TIWC Dilution <input type="checkbox"/> Other:	
Survival: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	Growth: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Reproduction: <input type="checkbox"/> Pass <input type="checkbox"/> Fail	

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Brandon Etheridge
Name of Laboratory Manager

B. Etheridge
Signature of Laboratory Manager

1-12-2021
Date

68-02979
DEP Lab ID No.

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Data Sheet



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT DATA SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☒ *Ceriodaphnia dubia* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: one

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	2 %	4 %	30 %	60 %	100 %	Control	2 %	4 %	30 %	60 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Species: ☒ *Pimephales promelas* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: ten

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	2 %	4 %	30 %	60 %	100 %	Control	2 %	4 %	30 %	60 %	100 %
1	10	10	10	10	9	10	0.615	0.644	0.699	0.652	0.523	0.615
2	9	10	9	10	9	10	0.614	0.652	0.647	0.641	0.668	0.735
3	9	10	10	9	9	10	0.621	0.666	0.61	0.543	0.57	0.51
4	10	9	10	10	10	10	0.5267	0.521	0.484	0.551	0.556	0.633
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Ceriodaphnia
 Endpoint Survival
 TIWC (decimal) 0.3577
 No. Per Replicate 1
 TST b value 0.75
 TST alpha value 0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

8/31/2020

Replicate No.	Control	TIWC
1	0	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		

Mean 0.900 1.000
 Std Dev. 0.316 0.000
 # Replicates 10 10

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test
Species Tested
Endpoint
TIWC (decimal)
No. Per Replicate
TST b value
TST alpha value

Chronic
Ceriodaphnia
Reproduction
0.3577
1
0.75
0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

8/31/2020

Replicate
No.

Control TIWC

1	11	12
2	28	33
3	8	5
4	31	17
5	29	31
6	33	38
7	36	22
8	35	25
9	36	30
10	33	15
11		
12		
13		
14		
15		

Mean 28.000 22.800
Std Dev. 10.143 10.475
Replicates 10 10

T-Test Result 0.4397
Deg. of Freedom 16
Critical T Value 0.8647
Pass or Fail **FAIL**

Test Completion Date

Replicate
No.

Control TIWC

1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
Std Dev.
Replicates

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate
No.

Control TIWC

1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
Std Dev.
Replicates

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate
No.

Control TIWC

1		
2		
3		
4		
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8		
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11		
12		
13		
14		
15		

Mean
Std Dev.
Replicates

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test **Chronic**
 Species Tested **Pimephales**
 Endpoint **Survival**
 TIWC (decimal) **0.3677**
 No. Per Replicate **10**
 TST b value **0.75**
 TST alpha value **0.25**

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Replicate No.	Test Completion Date 9/1/2020	
	Control	TIWC
1	10	10
2	9	10
3	9	9
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 9.500 9.750
 Std Dev. 0.577 0.500
 # Replicates 4 4

T-Test Result 6.9275
 Deg. of Freedom 5
 Critical T Value 0.7267
 Pass or Fail **PASS**

Replicate No.	Test Completion Date	
	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Replicate No.	Test Completion Date	
	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Replicate No.	Test Completion Date	
	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Pinephales
 Endpoint Growth
 TIWC (decimal) 0.3577
 No. Per Replicate 4
 TST b value 0.75
 TST alpha value 0.25

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

9/1/2020

Replicate No.	Control	TIWC
1	0.615	0.652
2	0.614	0.641
3	0.621	0.543
4	0.5267	0.551
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.594 0.597
 Std Dev. 0.045 0.058
 # Replicates 4 4

T-Test Result 4.5183
 Deg. of Freedom 5
 Critical T Value 0.7267
 Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

WET Summary and Evaluation

Facility Name	Mt. Carmel Municipal Authority
Permit No.	PA0024406
Design Flow (MGD)	
Q₇₋₁₀ Flow (cfs)	
PMF_a	
PMF_c	

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Survival	8/31/20			
		PASS			

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Reproduction	8/31/20			
		FAIL			

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Pimephales	Survival	9/1/20			
		PASS			

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Pimephales	Growth	9/1/20			
		PASS			

Reasonable Potential? YES

Permit Recommendations

Test Type	Chronic
TIWC	#DIV/0! % Effluent
Dilution Series	### ### ### ### 100 % Effluent
Permit Limit	#DIV/0! TUc
Permit Limit Species	Ceriodaphnia dubia

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Ceriodaphnia
 Endpoint Survival
 TIWC (decimal) 0.68
 No. Per Replicate 1
 TST b value 0.75
 TST alpha value 0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date
 9/28/2020

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		

Mean 1.000 1.000
 Std Dev. 0.000 0.000
 # Replicates 10 10

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Ceriodaphnia
 Endpoint Reproduction
 TIWC (decimal) 0.68
 No. Per Replicate 1
 TST b value 0.76
 TST alpha value 0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

9/28/2020

Replicate No.	Control	TIWC
1	40	37
2	41	34
3	42	36
4	42	39
5	36	28
6	37	41
7	32	41
8	37	45
9	34	47
10	32	44
11		
12		
13		
14		
15		

Mean 37.300 39.200
 Std Dev. 3.860 5.692
 # Replicates 10 10

T-Test Result 5.5585
 Deg. of Freedom 14
 Critical T Value 0.8681
 Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev. 0.000 0.000
 # Replicates 10 10

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

WET Summary and Evaluation

Facility Name	Mt. Carmel Municipal Authority
Permit No.	PA0024406
Design Flow (MGD)	
Q₇₋₁₀ Flow (cfs)	0.68
PMF_a	
PMF_c	

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Survival	PASS			

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Reproduction	9/28/20			
		PASS			

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date

Reasonable Potential? NO

Permit Recommendations

Test Type

TIWC % Effluent

Dilution Series , , , , % Effluent

Permit Limit

Permit Limit Species

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Cover SheetCOMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENTWHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
COVER SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☒ *Ceriodaphnia dubia* ☐ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☒ Yes ☐ No (If Yes, indicate the date of original test completion: 8/24/20)

SAMPLE INFORMATION						
	<u>Date/Time</u>	<u>Sample Source</u>	<u>Temperature</u>	<u>Holding Time</u>	<u>Chlorine</u>	<u>Dechlorinated?</u>
1.	<u>9/21/20 @ 8:00</u>	_____	<u>3.0°C</u>	<u>32 hrs 13 min</u>	<u><0.2 mg/L</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.	<u>9/23/20 @ 8:00</u>	_____	<u>1.0°C</u>	<u>30 hrs 23 min</u>	<u><0.2 mg/L</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.	<u>9/25/20 @ 8:00</u>	_____	<u>1.5°C</u>	<u>29 hrs 24 min</u>	<u><0.2 mg/L</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No

TEST CONDITIONS	
Date/Time of Test Initiation: 9/22/2020 @ 16:13	Date/Time of Test Termination: 9/28/2020 @ 15:35
<input checked="" type="checkbox"/> Renewal Test <input type="checkbox"/> Non-Renewal Test	Frequency of Renewals: daily
Dilution Series: 9, 18, 35.77, 68, 100	Target Instream Waste Concentration (TIWC): 35.77
Age of Organisms at Start of Tests: neonates (<24 hours) within 8 hours of the same age	
Number of Replicates: ten (10)	Number of Organisms per Replicate: one (1)
Source of Organisms: in-house cultures	Feeding Regimen: 0.15mL YCT and 0.15mL algal suspension, daily
Light Intensity: 50-100 ft-c	Photoperiod: 16 hours light, 8 hours dark
Temperature measurements made at least once per 24-hour period?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
DO measured daily in at least one replicate of each concentration?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
Were the test chambers aerated?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rate:
pH measured daily in at least one replicate of each concentration?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
Were test acceptability criteria in the EPA method met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

DILUTION / REAGENT WATER	
Date of Last Test for Chemistry: 9/27/2020	Conductivity: 336 µmhos/cm
pH: 7.7	TRC: <0.2 mg/L

CONTROL RESULTS	
<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Survival: 100%	Survival:
Percent that produced 3 broods (if applicable): 100 %	Mean Dry Weight of Survivors (if applicable):
Young per Surviving Female (if applicable): 37.3	

REFERENCE TOXICITY TESTS	
Date of most recent test: 9/1/2020	Same conditions as test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TEST RESULTS	
Control compared to: <input checked="" type="checkbox"/> TIWC Dilution <input type="checkbox"/> Other:	
Survival: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	Growth: <input type="checkbox"/> Pass <input type="checkbox"/> Fail
Reproduction: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Brandon Etheridge
Name of Laboratory Manager

B. Etheridge
Signature of Laboratory Manager

3-2-2021
Date

68-02979
DEP Lab ID No.

3800-FM-BPNPSM0486 Rev. 10/2013

Data Sheet



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT DATA SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☒ *Ceriodaphnia dubia* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: 1

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1	1	1	1	1	1	1	40	40	39	29	37	38
2	1	1	1	1	1	1	41	22	27	40	34	44
3	1	1	1	1	1	1	42	27	30	45	36	46
4	1	1	1	1	1	1	42	41	40	7	39	47
5	1	1	1	1	1	1	36	16	43	39	28	39
6	1	1	1	1	1	0	37	43	41	45	41	8
7	1	1	1	1	1	1	32	47	39	48	41	41
8	1	1	1	0	1	1	37	33	40	0	45	36
9	1	1	1	0	1	1	34	47	37	0	47	21
10	1	1	0	1	1	1	32	40	21	41	44	42
11												
12												
13												
14												
15												

Species: ☒ *Pimephales promelas* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: 10

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

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DEPARTMENT OF ENVIRONMENTAL
PROTECTIONCOMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENTWHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
COVER SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☒ *Ceriodaphnia dubia* ☐ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☐ Yes ☒ No (If Yes, indicate the date of original test completion: _____)

SAMPLE INFORMATION					
	Date/Time	Sample Source	Temperature	Holding Time	Chlorine
1.	8/16/21 @ 8:00	_____	2.9°C	29 hrs 19 min	<0.2 mg/L
2.	8/18/21 @ 8:00	_____	4.3°C	30 hrs 44 min	<0.2 mg/L
3.	8/20/21 @ 8:00	_____	0.7°C	29 hrs 48 min	<0.2 mg/L
					Dechlorinated?
					<input type="checkbox"/> Yes <input type="checkbox"/> No
					<input type="checkbox"/> Yes <input type="checkbox"/> No
					<input type="checkbox"/> Yes <input type="checkbox"/> No

TEST CONDITIONS	
Date/Time of Test Initiation: 8/17/2021 @ 13:19	Date/Time of Test Termination: 8/23/2021 @ 12:56
<input checked="" type="checkbox"/> Renewal Test <input type="checkbox"/> Non-Renewal Test	Frequency of Renewals: daily
Dilution Series: 9, 18, 35.77, 68, 100	Target Instream Waste Concentration (TIWC): 35.77
Age of Organisms at Start of Tests: neonates (<24 hours) within 8 hours of the same age	
Number of Replicates: ten (10)	Number of Organisms per Replicate: one (1)
Source of Organisms: in-house cultures	Feeding Regimen: 0.15mL YCT and 0.15mL algal suspension, daily
Light Intensity: 50-100 ft-c	Photoperiod: 16 hours light, 8 hours dark
Temperature measurements made at least once per 24-hour period?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
DO measured daily in at least one replicate of each concentration?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
Were the test chambers aerated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Rate:
pH measured daily in at least one replicate of each concentration?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
Were test acceptability criteria in the EPA method met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

DILUTION / REAGENT WATER	
Date of Last Test for Chemistry: 8/23/2021	Conductivity: 323 µmhos/cm
pH: 8.0	TRC: <0.2 mg/L

CONTROL RESULTS	
<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Survival: 100%	Survival:
Percent that produced 3 broods (if applicable): 90 %	Mean Dry Weight of Survivors (if applicable):
Young per Surviving Female (if applicable): 31.0	

REFERENCE TOXICITY TESTS	
Date of most recent test: 7/13/2021	Same conditions as test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TEST RESULTS	
Control compared to: <input checked="" type="checkbox"/> TIWC Dilution <input type="checkbox"/> Other:	
Survival: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	Growth: <input type="checkbox"/> Pass <input type="checkbox"/> Fail
Reproduction: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Brandon Etheridge
Name of Laboratory Manager

B. Etheridge
Signature of Laboratory Manager

9-16-2021
Date

168-02979
DEP Lab ID No.

3800-FM-BPNPSM0485 Rev. 10/2013
Data Sheet

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT DATA SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☒ *Ceriodaphnia dubia* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: 1

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1	1	1	1	0	1	1	35	37	33	0	28	37
2	1	1	1	1	1	1	27	30	32	26	26	25
3	1	1	1	1	1	1	28	33	26	36	21	33
4	1	1	1	1	1	1	33	9	10	15	27	32
5	1	1	1	1	1	1	31	33	33	34	27	26
6	1	1	1	1	1	1	35	32	27	28	31	30
7	1	1	1	1	1	1	15	38	14	28	26	30
8	1	1	1	1	1	1	35	31	35	34	29	32
9	1	1	1	1	1	1	38	41	31	31	37	41
10	1	1	1	0	1	1	33	30	33	0	38	38
11												
12												
13												
14												
15												

Species: ☒ *Pimephales promelas* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: 10

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT COVER SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☐ *Ceriodaphnia dubia* ☒ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☐ Yes ☒ No (If Yes, indicate the date of original test completion: _____)

SAMPLE INFORMATION					
	Date/Time	Sample Source	Temperature	Holding Time	Chlorine
1.	8/16/21 @ 8:00	_____	2.9°C	29 hrs 30 min	<0.2 mg/L
2.	8/18/21 @ 8:00	_____	4.3°C	30 hrs 41 min	<0.2 mg/L
3.	8/20/21 @ 8:00	_____	0.7°C	29 hrs 31 min	<0.2 mg/L
					Dechlorinated?
					<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

TEST CONDITIONS	
Date/Time of Test Initiation: 8/17/2021 @ 13:30	Date/Time of Test Termination: 8/24/2021 @ 10:11
<input checked="" type="checkbox"/> Renewal Test <input type="checkbox"/> Non-Renewal Test	Frequency of Renewals: daily
Dilution Series: 9, 18, 35.77, 68, 100	Target Instream Waste Concentration (TIWC): 35.77
Age of Organisms at Start of Tests: 24-36 hours old	
Number of Replicates: four (4)	Number of Organisms per Replicate: ten (10)
Source of Organisms: Aquatic Bio Systems	Feeding Regimen: 0.15mL-0.2mL newly hatched brine shrimp nauplii, twice daily
Light Intensity: 50-100 ft-c	Photoperiod: 16 hours light, 8 hours dark
Temperature measurements made at least once per 24-hour period?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
DO measured daily in at least one replicate of each concentration?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
Were the test chambers aerated?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rate:
pH measured daily in at least one replicate of each concentration?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
Were test acceptability criteria in the EPA method met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

DILUTION / REAGENT WATER	
Date of Last Test for Chemistry: 8/23/2021	Conductivity: 323 µmhos/cm
pH: 8.0	TRC: <0.2 mg/L

CONTROL RESULTS	
<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Survival:	Survival: 97.5%
Percent that produced 3 broods (if applicable):	% Mean Dry Weight of Survivors (if applicable): 0.6425 mg
Young per Surviving Female (if applicable):	

REFERENCE TOXICITY TESTS	
Date of most recent test: 7/13/2021	Same conditions as test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TEST RESULTS	
Control compared to: <input checked="" type="checkbox"/> TIWC Dilution <input type="checkbox"/> Other:	
Survival: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	Growth: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Reproduction: <input type="checkbox"/> Pass <input type="checkbox"/> Fail	

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Brandon Etheridge
Name of Laboratory Manager

B. Etheridge
Signature of Laboratory Manager

9-16-2021
Date

68-02979
DEP Lab ID No.

3600-FM-BPNPSM0485 Rev. 10/2013

Data Sheet



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT DATA SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☒ *Ceriodaphnia dubia* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: one

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	2 %	4 %	30 %	60 %	100 %	Control	2 %	4 %	30 %	60 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Species: ☒ *Pimephales promelas* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: ten

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	2 %	4 %	30 %	60 %	100 %	Control	2 %	4 %	30 %	60 %	100 %
1	10	10	10	9	10	10	0.755	0.751	0.643	0.612	0.56	0.64
2	10	9	10	9	10	9	0.651	0.547	0.635	0.553	0.626	0.571
3	9	10	9	10	10	10	0.518	0.609	0.611	0.653	0.55	0.623
4	10	10	10	10	10	10	0.646	0.626	0.62	0.583	0.693	0.551
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Ceriodaphnia
 Endpoint Survival
 TIWC (decimal) 0.68
 No. Per Replicate 1
 TST b value 0.75
 TST alpha value 0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

8/23/2021

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		

Mean 1.000 1.000
 Std Dev. 0.000 0.000
 # Replicates 10 10

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

JBE

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Ceriodaphnia
 Endpoint Reproduction
 TIWC (decimal) 0.68
 No. Per Replicate 1
 TST b value 0.75
 TST alpha value 0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

8/23/2021

Replicate No.	Control	TIWC
1	35	28
2	27	26
3	28	21
4	33	27
5	31	27
6	35	31
7	15	26
8	35	29
9	38	37
10	33	38
11		
12		
13		
14		
15		

Mean 31.000 29.000
 Std Dev. 6.549 5.164
 # Replicates 10 10

T-Test Result 2.5514
 Deg. of Freedom 17
 Critical T Value 0.8633
 Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

VBE

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Pimephales
 Endpoint Survival
 TIWC (decimal) 0.88
 No. Per Replicate 10
 TST b value 0.75
 TST alpha value 0.25

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Replicate No.	Test Completion Date 8/24/2021	
	Control	TIWC
1	10	10
2	10	10
3	9	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 9.750 10.000
 Std Dev. 0.500 0.000
 # Replicates 4 4

T-Test Result 12.5523
 Deg. of Freedom 3
 Critical T Value 0.7649
 Pass or Fail PASS

Replicate No.	Test Completion Date	
	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Replicate No.	Test Completion Date	
	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Replicate No.	Test Completion Date	
	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

✓BC

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic	Facility Name	
Species Tested	Pimephales		
Endpoint	Growth		
TIWC (decimal)	0.68		
No. Per Replicate	10	Permit No.	PA0024406
TST b value	0.75		
TST alpha value	0.25		

Test Completion Date		
Replicate No.	Control	TIWC
1	0.755	0.58
2	0.851	0.626
3	0.518	0.55
4	0.848	0.683
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean	0.643	0.607
Std Dev.	0.097	0.066
# Replicates	4	4

T-Test Result	2.6480
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date		
Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date		
Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

WET Summary and Evaluation

Facility Name	Mt. Carmel Municipal Authority
Permit No.	PA0024406
Design Flow (MGD)	
Q₇₋₁₀ Flow (cfs)	
PMF_a	
PMF_c	

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Survival	8/23/21			
		PASS			

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Reproduction	8/23/21			
		PASS			

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Pimephales	Survival	8/24/21			
		PASS			

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Pimephales	Growth	8/24/21			
		PASS			

Reasonable Potential? NO

Permit Recommendations

Test Type

TIWC

% Effluent

Dilution Series

% Effluent

Permit Limit

Permit Limit Species

VBE

3800-FM-BPNPSM0486 Rev. 10/2013
Cover Sheetpennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTIONCOMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENTWHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
COVER SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☒ *Ceriodaphnia dubia* ☐ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☐ Yes ☒ No (If Yes, indicate the date of original test completion: _____)

SAMPLE INFORMATION					
Date/Time	Sample Source	Temperature	Holding Time	Chlorine	Dechlorinated?
1. 6/13/22 @ 8:00	_____	1.6°C	31 hrs 10 min	<0.2 mg/L	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. 6/15/22 @ 8:00	_____	1.1°C	30 hrs 25 min	<0.2 mg/L	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. 6/17/22 @ 8:00	_____	2.2°C	30 hrs 32 min	<0.2 mg/L	<input type="checkbox"/> Yes <input type="checkbox"/> No

TEST CONDITIONS	
Date/Time of Test Initiation: 6/14/2022 @ 15:10	Date/Time of Test Termination: 6/20/2022 @ 13:44
<input checked="" type="checkbox"/> Renewal Test <input type="checkbox"/> Non-Renewal Test	Frequency of Renewals: daily
Dilution Series: 9, 18, 35.77, 68, 100	Target Instream Waste Concentration (TIWC): 35.77
Age of Organisms at Start of Tests: neonates (<24 hours) within 8 hours of the same age	Number of Organisms per Replicate: one (1)
Number of Replicates: ten (10)	Feeding Regimen: 0.15mL YCT and 0.15mL algal suspension, daily
Source of Organisms: in-house cultures	Photoperiod: 16 hours light, 8 hours dark
Light Intensity: 50-100 ft-c	Temperature measurements made at least once per 24-hour period? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
DO measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were the test chambers aerated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rate:
pH measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

DILUTION / REAGENT WATER	
Date of Last Test for Chemistry: 6/20/2022	Conductivity: 340 µmhos/cm
pH: 8.0	TRC: <0.2 mg/L

CONTROL RESULTS	
<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Survival: 100%	Survival:
Percent that produced 3 broods (if applicable): 100 %	Mean Dry Weight of Survivors (if applicable):
Young per Surviving Female (if applicable): 38.4	

REFERENCE TOXICITY TESTS	
Date of most recent test: 6/14/2022	Same conditions as test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TEST RESULTS	
Control compared to: <input checked="" type="checkbox"/> TIWC Dilution <input type="checkbox"/> Other:	Reproduction: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Survival: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	Growth: <input type="checkbox"/> Pass <input type="checkbox"/> Fail

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Brandon Etheridge
Name of Laboratory Manager

B. Etheridge
Signature of Laboratory Manager

7-18-2022
Date

68-02979
DEP Lab ID No.

3800-FM-BPNPSM0485 Rev. 10/2013

Data Sheet



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT DATA SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☒ *Ceriodaphnia dubia* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: 1

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	9 %	18 %	35. %	68 %	100 %	Control	9 %	18 %	35. %	68 %	100 %
1	1	1	1	1	1	1	33	40	24	38	38	29
2	1	1	1	1	1	1	46	38	38	45	40	39
3	1	1	1	1	1	1	39	38	40	37	27	35
4	1	1	1	1	1	1	37	38	39	41	33	36
5	1	1	1	1	1	1	35	15	17	41	12	9
6	1	1	1	1	1	1	45	44	44	46	37	43
7	1	1	1	1	1	1	37	37	43	25	15	30
8	1	1	1	1	1	1	43	42	47	39	33	27
9	1	1	1	1	1	1	40	23	42	39	33	32
10	1	1	1	1	1	1	29	33	41	12	20	17
11												
12												
13												
14												
15												

Species: ☒ *Pimephales promelas* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: 10

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	9 %	18 %	35. %	68 %	100 %	Control	9 %	18 %	35. %	68 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

3800-FM-BPNPSM0485 Rev. 10/2013
Cover Sheet

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT COVER SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☐ *Ceriodaphnia dubia* ☒ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☐ Yes ☒ No (If Yes, indicate the date of original test completion: _____)

SAMPLE INFORMATION					
Date/Time	Sample Source	Temperature	Holding Time	Chlorine	Dechlorinated?
1. 6/13/22 @ 8:00	_____	1.6°C	30 hrs 17 min	<0.2 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. 6/15/22 @ 8:00	_____	1.1°C	30 hrs 50 min	<0.2 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3. 6/17/22 @ 8:00	_____	2.2°C	30 hrs 15 min	<0.2 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

TEST CONDITIONS	
Date/Time of Test Initiation: 6/14/2022 @ 14:17	Date/Time of Test Termination: 6/21/2022 @ 10:49
<input checked="" type="checkbox"/> Renewal Test <input type="checkbox"/> Non-Renewal Test	Frequency of Renewals: daily
Dilution Series: 9, 18, 35.77, 68, 100	Target Instream Waste Concentration (TIWC): 35.77
Age of Organisms at Start of Tests: 24-36 hours old	Number of Organisms per Replicate: ten (10)
Number of Replicates: four (4)	Feeding Regimen: 0.15mL-0.2mL newly hatched brine shrimp nauplii, twice daily
Source of Organisms: Aquatic Bio Systems	Photoperiod: 16 hours light, 8 hours dark
Light Intensity: 50-100 ft-c	Temperature measurements made at least once per 24-hour period? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
DO measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were the test chambers aerated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rate: _____
pH measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

DILUTION / REAGENT WATER	
Date of Last Test for Chemistry: 6/20/2022	Conductivity: 340 µmhos/cm
pH: 8.0	TRC: <0.2 mg/L

CONTROL RESULTS	
<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Survival:	Survival: 90%
Percent that produced 3 broods (if applicable):	% Mean Dry Weight of Survivors (if applicable): 0.4835 mg
Young per Surviving Female (if applicable):	

REFERENCE TOXICITY TESTS	
Date of most recent test: 6/14/2022	Same conditions as test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TEST RESULTS	
Control compared to: <input checked="" type="checkbox"/> TIWC Dilution <input type="checkbox"/> Other:	Reproduction: <input type="checkbox"/> Pass <input type="checkbox"/> Fail
Survival: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	Growth: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Brandon Etheridge
Name of Laboratory Manager

B. Etheridge
Signature of Laboratory Manager

7-18-2022
Date

68-02979
DEP Lab ID No.

3800-FM-BPNPSM0485 Rev. 10/2013
Data Sheet



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT DATA SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☒ *Ceriodaphnia dubia* ☐ Other _____
Original Number of Organisms Per Replicate: one

Pass/Fail Determined Using: ☒ TST
☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	2 %	4 %	30 %	60 %	100 %	Control	2 %	4 %	30 %	60 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Species: ☒ *Pimephales promelas* ☐ Other _____
Original Number of Organisms Per Replicate: ten

Pass/Fail Determined Using: ☒ TST
☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	2 %	4 %	30 %	60 %	100 %	Control	2 %	4 %	30 %	60 %	100 %
1	10	10	9	9	10	9	0.534	0.596	0.4	0.481	0.571	0.617
2	8	9	10	10	10	9	0.513	0.594	0.586	0.525	0.525	0.586
3	9	9	9	10	10	9	0.406	0.475	0.529	0.505	0.823	0.545
4	9	10	10	9	9	10	0.481	0.554	0.479	0.551	0.53	0.548
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test
Species Tested
Endpoint
TIWC (decimal)
No. Per Replicate
TST b value
TST alpha value

Chronic
Ceriodaphnia
Survival
0.3577
1
0.75
0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

6/20/2022

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		

Mean 1.000 1.000
Std Dev. 0.000 0.000
Replicates 10 10

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
Std Dev.
Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
Std Dev.
Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
Std Dev.
Replicates

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Ceriodaphnia
 Endpoint Reproduction
 TIWC (decimal) 0.3577
 No. Per Replicate 1
 TST b value 0.75
 TST alpha value 0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

6/20/2022

Replicate No.	Control	TIWC
1	33	38
2	48	45
3	39	37
4	37	41
5	35	41
6	45	46
7	37	25
8	43	39
9	40	39
10	29	12
11		
12		
13		
14		
15		

Mean 38.400 36.300
 Std Dev. 5.358 10.275
 # Replicates 10 10

T-Test Result 2.1497
 Deg. of Freedom 13
 Critical T Value 0.8702
 Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Pimephales
 Endpoint Survival
 TIWC (decimal) 0.3577
 No. Per Replicate 10
 TST b value 0.75
 TST alpha value 0.25

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

6/21/2022

Replicate No.	Control	TIWC
1	10	9
2	8	10
3	9	10
4	9	9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 9.000 9.500
 Std Dev. 0.816 0.577
 # Replicates 4 4

T-Test Result 5.3785
 Deg. of Freedom 5
 Critical T Value 0.7267
 Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Pimephales
 Endpoint Growth
 TIWC (decimal) 0.3577
 No. Per Replicate 10
 TST b value 0.75
 TST alpha value 0.25

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

6/21/2022

Replicate No.	Control	TIWC
1	0.534	0.481
2	0.513	0.525
3	0.406	0.505
4	0.481	0.551
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.484 0.516
 Std Dev. 0.056 0.030
 # Replicates 4 4

T-Test Result 5.9368
 Deg. of Freedom 5
 Critical T Value 0.7267
 Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

WET Summary and Evaluation

Facility Name	Mt. Carmel Municipal Authority
Permit No.	PA0024406
Design Flow (MGD)	
Q₇₋₁₀ Flow (cfs)	
PMF_a	
PMF_c	

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Survival	6/20/22	PASS		

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Reproduction	6/20/22	PASS		

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Pimephales	Survival	6/21/22	PASS		

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Pimephales	Growth	6/21/22	PASS		

Reasonable Potential? NO

Permit Recommendations

Test Type
 TIWC % Effluent
 Dilution Series , , , , % Effluent
 Permit Limit
 Permit Limit Species

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Cover SheetCOMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT**WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
COVER SHEET**

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☒ *Ceriodaphnia dubia* ☐ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☐ Yes ☒ No (If Yes, indicate the date of original test completion: _____)

SAMPLE INFORMATION					
Date/Time	Sample Source	Temperature	Holding Time	Chlorine	Dechlorinated?
1. 6/19/23 @ 8:00	Outfall 001	4.5°C	29 hrs 26 min	<0.2 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. 6/21/23 @ 8:00	Outfall 001	1.3°C	27 hrs 43 min	<0.2 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3. 6/23/23 @ 8:00	Outfall 001	3.6°C	30 hrs 31 min	<0.2 mg/L	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

TEST CONDITIONS	
Date/Time of Test Initiation: 6/20/2023 @ 13:26	Date/Time of Test Termination: 6/27/2023 @ 10:12
<input checked="" type="checkbox"/> Renewal Test <input type="checkbox"/> Non-Renewal Test	Frequency of Renewals: daily
Dilution Series: 9, 18, 35.77, 68, 100	Target Instream Waste Concentration (TIWC): 35.77
Age of Organisms at Start of Tests: 24-36 hours old	Number of Organisms per Replicate: One (1)
Number of Replicates: Ten (10)	Feeding Regimen: 0.15mL of YCT and Algae
Source of Organisms: In house Culture	Photoperiod: 16 hours light, 8 hours dark
Light Intensity: 50-100 ft-c	Temperature measurements made at least once per 24-hour period? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
DO measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were the test chambers aerated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rate:
pH measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

DILUTION / REAGENT WATER	
Date of Last Test for Chemistry: 6/26/2023	Conductivity: 343.6 µmhos/cm
pH: 8.1	TRC: <0.2 mg/L

CONTROL RESULTS	
<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Survival: 100%	Survival:
Percent that produced 3 broods (if applicable): 100 %	Mean Dry Weight of Survivors (if applicable): 0
Young per Surviving Female (if applicable): 36.8	

REFERENCE TOXICITY TESTS	
Date of most recent test: 6/6/2022	Same conditions as test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TEST RESULTS	
Control compared to: <input checked="" type="checkbox"/> TIWC Dilution <input type="checkbox"/> Other:	
Survival: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	Growth: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Reproduction: <input type="checkbox"/> Pass <input type="checkbox"/> Fail	

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Bramdon Etheridge
Name of Laboratory Manager

B. ch. B.
Signature of Laboratory Manager

9-1-2023
Date

68-02979
DEP Lab ID No.

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Data Sheetpennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTIONCOMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT**WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
DATA SHEET**

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☒ *Ceriodaphnia dubia* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: one

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1	1	1	1	1	1	1	27	42	39	44	3	42
2	1	1	1	1	1	1	33	38	47	45	40	40
3	1	1	1	1	1	1	43	43	42	41	43	47
4	1	1	1	1	1	1	40	42	42	40	37	45
5	1	1	1	1	1	1	35	32	25	37	41	28
6	1	1	1	1	1	1	38	34	38	28	39	36
7	1	1	1	1	1	1	36	41	34	36	39	40
8	1	1	1	1	1	1	42	45	44	39	43	45
9	1	1	1	1	1	1	40	46	47	46	45	41
10	1	1	1	1	1	1	34	37	24	40	36	41
11												
12												
13												
14												
15												

Species: ☐ *Pimephales promelas* ☐ Other _____Pass/Fail Determined Using: ☐ TST

Original Number of Organisms Per Replicate:

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

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Cover Sheet

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT COVER SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species Tested: ☐ *Ceriodaphnia dubia* ☒ *Pimephales promelas* Test Type: ☒ Chronic ☐ AcuteRe-Test? ☐ Yes ☒ No (If Yes, indicate the date of original test completion: _____)

SAMPLE INFORMATION						
	<u>Date/Time</u>	<u>Sample Source</u>	<u>Temperature</u>	<u>Holding Time</u>	<u>Chlorine</u>	<u>Dechlorinated?</u>
1.	<u>6/19/23 @ 8:00</u>	<u>Outfall 001</u>	<u>4.5°C</u>	<u>29 hrs 47min</u>	<u><0.2 mg/L</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2.	<u>6/21/23 @ 8:00</u>	<u>Outfall 001</u>	<u>1.3°C</u>	<u>27 hrs 54 min</u>	<u><0.2 mg/L</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3.	<u>6/23/23 @ 8:00</u>	<u>Outfall 001</u>	<u>3.6°C</u>	<u>30 hrs 20 min</u>	<u><0.2 mg/L</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

TEST CONDITIONS	
Date/Time of Test Initiation: 6/20/2023 @ 13:47	Date/Time of Test Termination: 6/27/2023 @ 11:38
<input checked="" type="checkbox"/> Renewal Test <input type="checkbox"/> Non-Renewal Test	Frequency of Renewals: daily
Dilution Series: 9, 18, 35.77, 68, 100	Target Instream Waste Concentration (TIWC): 35.77
Age of Organisms at Start of Tests: 24-36 hours old	Number of Organisms per Replicate: ten (10)
Number of Replicates: four (4)	Feeding Regimen: 0.15mL-0.2mL newly hatched brine shrimp nauplii, twice daily
Source of Organisms: Aquatic Bio Systems	Photoperiod: 16 hours light, 8 hours dark
Light Intensity: 50-100 ft-c	Temperature measurements made at least once per 24-hour period? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)
DO measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were the test chambers aerated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rate:
pH measured daily in at least one replicate of each concentration? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (attach log sheet)	Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

DILUTION / REAGENT WATER	
Date of Last Test for Chemistry: 6/26/2023	Conductivity: 343.6 µmhos/cm
pH: 8.1	TRC: <0.2 mg/L

CONTROL RESULTS	
<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Survival:	Survival: 97.5%
Percent that produced 3 broods (if applicable):	Mean Dry Weight of Survivors (if applicable): 0.5605 mg
Young per Surviving Female (if applicable):	

REFERENCE TOXICITY TESTS	
Date of most recent test: 6/14/2022	Same conditions as test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were test acceptability criteria in the EPA method met? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

TEST RESULTS	
Control compared to: <input checked="" type="checkbox"/> TIWC Dilution <input type="checkbox"/> Other:	Reproduction: <input type="checkbox"/> Pass <input type="checkbox"/> Fail
Survival: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	Growth: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

Brandon Ethersidge
Name of Laboratory Manager

B. de Bl.
Signature of Laboratory Manager

9-1-2023
Date

68-02979
DEP Lab ID No.

3800-FM-BPNPSM0486 Rev. 10/2013

Data Sheet



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT DATA SHEET

NPDES Permit Number: PA0024406

Facility Name: Mt. Carmel Municipal Authority

Species: ☐ *Ceriodaphnia dubia* ☐ Other _____Pass/Fail Determined Using: ☐ TST

Original Number of Organisms Per Replicate:

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Reproduction					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Species: ☒ *Pimephales promelas* ☐ Other _____Pass/Fail Determined Using: ☒ TST

Original Number of Organisms Per Replicate: ten

☐ Other Hypothesis Test ☐ Other _____

Rep. No.	Survival						Growth					
	Control	9 %	18 %	35 %	68 %	100 %	Control	9 %	18 %	35 %	68 %	100 %
1	10	10	10	10	6	10	0.634	0.451	0.481	0.496	0.321	0.574
2	10	9	10	10	10	10	0.508	0.465	0.661	0.542	0.525	0.496
3	10	10	10	10	7	10	0.613	0.542	0.509	0.509	0.432	0.547
4	9	9	10	9	8	9	0.487	0.517	0.53	0.564	0.369	0.447
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test: Chronic
 Species Tested: Ceriodaphnia
 Endpoint: Survival
 TIWC (decimal): 0.3577
 No. Per Replicate: 1
 TST b value: 0.75
 TST alpha value: 0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

6/27/2023

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		

Mean: 1.000 1.000
 Std Dev.: 0.000 0.000
 # Replicates: 10 10

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean: 0.000 0.000
 Std Dev.:
 # Replicates:

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean: 0.000 0.000
 Std Dev.:
 # Replicates:

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean:
 Std Dev.:
 # Replicates:

T-Test Result

Deg. of Freedom

Critical T Value

Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Ceriodaphnia
 Endpoint Reproduction
 TIWC (decimal) 0.3577
 No. Per Replicate 1
 TST b value 0.75
 TST alpha value 0.2

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

6/27/2023

Replicate No.	Control	TIWC
1	27	44
2	33	45
3	43	41
4	40	40
5	35	37
6	38	28
7	36	36
8	42	39
9	40	46
10	34	40
11		
12		
13		
14		
15		

Mean 36.800 39.600
 Std Dev. 4.826 5.232
 # Replicates 10 10

T-Test Result 5.9845
 Deg. of Freedom 16
 Critical T Value 0.8647
 Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test **Chronic**
 Species Tested **Pimephales**
 Endpoint **Survival**
 TIWC (decimal) **0.3577**
 No. Per Replicate **10**
 TST b value **0.75**
 TST alpha value **0.25**

Facility Name

Mt. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

6/27/2023

Replicate No.	Control	TIWC
1	10	10
2	10	10
3	10	10
4	9	9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 9.750 9.750
 Std Dev. 0.500 0.500
 # Replicates 4 4

T-Test Result 6.7314
 Deg. of Freedom 5
 Critical T Value 0.7287
 Pass or Fail **PASS**

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test Chronic
 Species Tested Pimephales
 Endpoint Growth
 TIWC (decimal) 0.3577
 No. Per Replicate 10
 TST b value 0.75
 TST alpha value 0.25

Facility Name

MT. Carmel Municipal Authority

Permit No.

PA0024406

Test Completion Date

6/27/2023

Replicate No.	Control	TIWC
1	0.634	0.496
2	0.608	0.542
3	0.613	0.509
4	0.487	0.584
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.561 0.528
 Std Dev. 0.074 0.031
 # Replicates 4 4

T-Test Result 3.3877
 Deg. of Freedom 5
 Critical T Value 0.7287
 Pass or Fail PASS

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean 0.000 0.000
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Mean
 Std Dev.
 # Replicates

T-Test Result
 Deg. of Freedom
 Critical T Value
 Pass or Fail

WET Summary and Evaluation

Facility Name	Mt. Carmel Municipal Authority
Permit No.	PA0024406
Design Flow (MGD)	
Q₇₋₁₀ Flow (cfs)	
PMF_a	
PMF_c	

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Survival	6/27/23	PASS		

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Ceriodaphnia	Reproduction	6/27/23	PASS		

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Pimephales	Survival	6/27/23	PASS		

Species	Endpoint	Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Pimephales	Growth	6/27/23	PASS		

Reasonable Potential? NO

Permit Recommendations

Test Type

TIWC

% Effluent

Dilution Series

1 1 1 1

% Effluent

Permit Limit

Permit Limit Species

ATTACHMENT 02



Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions Discharge Stream

Facility: Mount Carmel Municipal Authority NPDES Permit No.: PA0024406 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Domestic with Industrial Contribution

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q ₇₋₁₀	Q _n
2.25	92.1	6.88	0.983	1				

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L	432								
	Chloride (PWS)	mg/L	200								
	Bromide	mg/L	0.037								
	Sulfate (PWS)	mg/L	28								
	Fluoride (PWS)	mg/L									
Group 2	Total Aluminum	µg/L	26.6								
	Total Antimony	µg/L	0.41								
	Total Arsenic	µg/L	< 0.44								
	Total Barium	µg/L	17.7								
	Total Beryllium	µg/L	< 0.15								
	Total Boron	µg/L	217								
	Total Cadmium	µg/L	< 0.13								
	Total Chromium (III)	µg/L	0.63								
	Hexavalent Chromium	µg/L	2								
	Total Cobalt	µg/L	4.7								
	Total Copper	mg/L	4.61								
	Free Cyanide	µg/L	0.025								
	Total Cyanide	µg/L	4.6								
	Dissolved Iron	µg/L	54.6								
	Total Iron	µg/L	74.3								
	Total Lead	µg/L	0.62								
	Total Manganese	µg/L	163								
	Total Mercury	µg/L	< 0.16								
	Total Nickel	µg/L	14								
	Total Phenols (Phenolics) (PWS)	µg/L	< 16								
	Total Selenium	µg/L	1.2								
	Total Silver	µg/L	< 0.53								
	Total Thallium	µg/L	< 0.081								
	Total Zinc	mg/L	91								
	Total Molybdenum	µg/L	1.2								
	Acrolein	µg/L	< 1.8								
	Acrylamide	µg/L	<								
	Acrylonitrile	µg/L	< 0.58								
	Benzene	µg/L	< 0.41								
	Bromoform	µg/L	< 0.55								
	Carbon Tetrachloride	µg/L	< 0.52								

Page 2

Page 3



Stream / Surface Water Information

Mount Carmel Municipal Authority, NPDES Permit No. PA0024406, Outfall 001

- Instructions
- Discharge
- Stream

Receiving Surface Water Name: Shamokin Creek

No. Reaches to Model: 1

- ☒ Statewide Criteria
- ☐ Great Lakes Criteria
- ☐ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi ²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	018489	29.5	1034	14			Yes
End of Reach 1	018489	27.5	991	21.4			Yes

Q₇₋₁₀

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	29.5	0.1	5.68									100	7		
End of Reach 1	27.5	0.1	8.69												

Q_h

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	29.5														
End of Reach 1	27.5														



Model Results

Mount Carmel Municipal Authority, NPDES Permit No. PA0024406, Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

☒ All☐ Inputs☐ Results☐ Limits☐ Hydrodynamics☒ Wasteload Allocations☒ AFC

CCT (min): 15

PMF: 0.983

Analysis Hardness (mg/l): 96.966

Analysis pH: 6.95

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	1,953	
Total Antimony	0	0		0	1,100	1,100	2,865	
Total Arsenic	0	0		0	340	340	885	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	54,686	
Total Boron	0	0		0	8,100	8,100	21,093	
Total Cadmium	0	0		0	1.954	2.07	5.38	Chem Translator of 0.945 applied
Total Chromium (III)	0	0		0	555.568	1,758	4,578	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	42.4	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	247	
Total Copper	0	0		0	13.055	13.6	35.4	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	57.3	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	62.450	78.5	204	Chem Translator of 0.795 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	4.29	Chem Translator of 0.85 applied
Total Nickel	0	0		0	456.190	457	1,190	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.051	3.59	9.35	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	169	
Total Zinc	0	0		0	114.161	117	304	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	7.81	

Acrylonitrile	0	0		0	650	650	1,693
Benzene	0	0		0	640	640	1,667
Bromoform	0	0		0	1,800	1,800	4,687
Carbon Tetrachloride	0	0		0	2,800	2,800	7,291
Chlorobenzene	0	0		0	1,200	1,200	3,125
Chlorodibromomethane	0	0		0	N/A	N/A	N/A
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	46,874
Chloroform	0	0		0	1,900	1,900	4,948
Dichlorobromomethane	0	0		0	N/A	N/A	N/A
1,2-Dichloroethane	0	0		0	15,000	15,000	39,061
1,1-Dichloroethylene	0	0		0	7,500	7,500	19,531
1,2-Dichloropropane	0	0		0	11,000	11,000	28,645
1,3-Dichloropropylene	0	0		0	310	310	807
Ethylbenzene	0	0		0	2,900	2,900	7,552
Methyl Bromide	0	0		0	550	550	1,432
Methyl Chloride	0	0		0	28,000	28,000	72,915
Methylene Chloride	0	0		0	12,000	12,000	31,249
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	2,604
Tetrachloroethylene	0	0		0	700	700	1,823
Toluene	0	0		0	1,700	1,700	4,427
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	17,708
1,1,1-Trichloroethane	0	0		0	3,000	3,000	7,812
1,1,2-Trichloroethane	0	0		0	3,400	3,400	8,854
Trichloroethylene	0	0		0	2,300	2,300	5,989
Vinyl Chloride	0	0		0	N/A	N/A	N/A
2-Chlorophenol	0	0		0	560	560	1,458
2,4-Dichlorophenol	0	0		0	1,700	1,700	4,427
2,4-Dimethylphenol	0	0		0	660	660	1,719
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	208
2,4-Dinitrophenol	0	0		0	660	660	1,719
2-Nitrophenol	0	0		0	8,000	8,000	20,833
4-Nitrophenol	0	0		0	2,300	2,300	5,989
p-Chloro-m-Cresol	0	0		0	160	160	417
Pentachlorophenol	0	0		0	8,295	8.3	21.6
Phenol	0	0		0	N/A	N/A	N/A
2,4,6-Trichlorophenol	0	0		0	460	460	1,198
Acenaphthene	0	0		0	83	83.0	216
Anthracene	0	0		0	N/A	N/A	N/A
Benzidine	0	0		0	300	300	781
Benzo(a)Anthracene	0	0		0	0.5	0.5	1.3
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	78,123
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	11,718
4-Bromophenyl Phenyl Ether	0	0		0	270	270	703
Butyl Benzyl Phthalate	0	0		0	140	140	365

2-Chloronaphthalene	0	0		0	N/A	N/A	N/A
Chrysene	0	0		0	N/A	N/A	N/A
Dibenzo(a,h)Anthracene	0	0		0	N/A	N/A	N/A
1,2-Dichlorobenzene	0	0		0	820	820	2,135
1,3-Dichlorobenzene	0	0		0	350	350	911
1,4-Dichlorobenzene	0	0		0	730	730	1,901
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A
Diethyl Phthalate	0	0		0	4,000	4,000	10,416
Dimethyl Phthalate	0	0		0	2,500	2,500	6,510
Di-n-Butyl Phthalate	0	0		0	110	110	286
2,4-Dinitrotoluene	0	0		0	1,600	1,600	4,167
2,6-Dinitrotoluene	0	0		0	990	990	2,578
1,2-Diphenylhydrazine	0	0		0	15	15.0	39.1
Fluoranthene	0	0		0	200	200	521
Fluorene	0	0		0	N/A	N/A	N/A
Hexachlorobenzene	0	0		0	N/A	N/A	N/A
Hexachlorobutadiene	0	0		0	10	10.0	26.0
Hexachlorocyclopentadiene	0	0		0	5	5.0	13.0
Hexachloroethane	0	0		0	60	60.0	156
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A
Isophorone	0	0		0	10,000	10,000	26,041
Naphthalene	0	0		0	140	140	365
Nitrobenzene	0	0		0	4,000	4,000	10,416
n-Nitrosodimethylamine	0	0		0	17,000	17,000	44,270
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A
n-Nitrosodiphenylamine	0	0		0	300	300	781
Phenanthrene	0	0		0	5	5.0	13.0
Pyrene	0	0		0	N/A	N/A	N/A
1,2,4-Trichlorobenzene	0	0		0	130	130	339
Aldrin	0	0		0	3	3.0	7.81
alpha-BHC	0	0		0	N/A	N/A	N/A
beta-BHC	0	0		0	N/A	N/A	N/A
gamma-BHC	0	0		0	0.95	0.95	2.47
Chlordane	0	0		0	2.4	2.4	6.25
4,4-DDT	0	0		0	1.1	1.1	2.86
4,4-DDE	0	0		0	1.1	1.1	2.86
4,4-DDD	0	0		0	1.1	1.1	2.86
Dieldrin	0	0		0	0.24	0.24	0.62
alpha-Endosulfan	0	0		0	0.22	0.22	0.57
beta-Endosulfan	0	0		0	0.22	0.22	0.57
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A
Endrin	0	0		0	0.086	0.086	0.22
Endrin Aldehyde	0	0		0	N/A	N/A	N/A
Heptachlor	0	0		0	0.52	0.52	1.35
Heptachlor Epoxide	0	0		0	0.5	0.5	1.3
Toxaphene	0	0		0	0.73	0.73	1.9

☒ CFC

CCT (min): 15.503

PMF: 1

Analysis Hardness (mg/l): 96.998

Analysis pH: 6.95

Model Results

9/16/2024

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Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	579	
Total Arsenic	0	0		0	150	150	395	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	10,791	
Total Boron	0	0		0	1,600	1,600	4,211	
Total Cadmium	0	0		0	0.241	0.26	0.7	Chem Translator of 0.91 applied
Total Chromium (III)	0	0		0	72.287	84.1	221	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	27.4	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	50.0	
Total Copper	0	0		0	8.726	9.09	23.9	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	13.7	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	3,948	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.434	3.06	8.05	Chem Translator of 0.795 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2.38	Chem Translator of 0.85 applied
Total Nickel	0	0		0	50.683	50.8	134	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	13.1	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	34.2	
Total Zinc	0	0		0	115,127	117	307	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	7.9	
Acrylonitrile	0	0		0	130	130	342	
Benzene	0	0		0	130	130	342	
Bromoform	0	0		0	370	370	974	
Carbon Tetrachloride	0	0		0	560	560	1,474	
Chlorobenzene	0	0		0	240	240	632	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	9,211	
Chloroform	0	0		0	390	390	1,026	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	8,159	
1,1-Dichloroethylene	0	0		0	1,500	1,500	3,948	
1,2-Dichloropropane	0	0		0	2,200	2,200	5,790	
1,3-Dichloropropylene	0	0		0	61	61.0	161	
Ethylbenzene	0	0		0	580	580	1,526	
Methyl Bromide	0	0		0	110	110	290	
Methyl Chloride	0	0		0	5,500	5,500	14,475	

Methylene Chloride	0	0		0	2,400	2,400	6,316
1,1,2,2-Tetrachloroethane	0	0		0	210	210	553
Tetrachloroethylene	0	0		0	140	140	368
Toluene	0	0		0	330	330	869
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	3,685
1,1,1-Trichloroethane	0	0		0	610	610	1,605
1,1,2-Trichloroethane	0	0		0	680	680	1,790
Trichloroethylene	0	0		0	450	450	1,184
Vinyl Chloride	0	0		0	N/A	N/A	N/A
2-Chlorophenol	0	0		0	110	110	290
2,4-Dichlorophenol	0	0		0	340	340	895
2,4-Dimethylphenol	0	0		0	130	130	342
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	42.1
2,4-Dinitrophenol	0	0		0	130	130	342
2-Nitrophenol	0	0		0	1,600	1,600	4,211
4-Nitrophenol	0	0		0	470	470	1,237
p-Chloro-m-Cresol	0	0		0	500	500	1,316
Pentachlorophenol	0	0		0	6.364	6.36	16.7
Phenol	0	0		0	N/A	N/A	N/A
2,4,6-Trichlorophenol	0	0		0	91	91.0	239
Acenaphthene	0	0		0	17	17.0	44.7
Anthracene	0	0		0	N/A	N/A	N/A
Benzydine	0	0		0	59	59.0	155
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.26
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	15,791
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	2,395
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	142
Butyl Benzyl Phthalate	0	0		0	35	35.0	92.1
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A
Chrysene	0	0		0	N/A	N/A	N/A
Dibenzo(a,h)Anthracene	0	0		0	N/A	N/A	N/A
1,2-Dichlorobenzene	0	0		0	160	160	421
1,3-Dichlorobenzene	0	0		0	69	69.0	182
1,4-Dichlorobenzene	0	0		0	150	150	395
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A
Diethyl Phthalate	0	0		0	800	800	2,105
Dimethyl Phthalate	0	0		0	500	500	1,316
Di-n-Butyl Phthalate	0	0		0	21	21.0	55.3
2,4-Dinitrotoluene	0	0		0	320	320	842
2,6-Dinitrotoluene	0	0		0	200	200	526
1,2-Diphenylhydrazine	0	0		0	3	3.0	7.9

Fluoranthene	0	0		0	40	40.0	105	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	5.26	
Hexachlorocyclopentadiene	0	0		0	1	1.0	2.63	
Hexachloroethane	0	0		0	12	12.0	31.6	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	5,527	
Naphthalene	0	0		0	43	43.0	113	
Nitrobenzene	0	0		0	810	810	2,132	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	8,948	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	155	
Phenanthrene	0	0		0	1	1.0	2.63	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	68.4	
Aldrin	0	0		0	0.1	0.1	0.26	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.011	
4,4-DDT	0	0		0	0.001	0.001	0.003	
4,4-DDE	0	0		0	0.001	0.001	0.003	
4,4-DDD	0	0		0	0.001	0.001	0.003	
Dieldrin	0	0		0	0.056	0.056	0.15	
alpha-Endosulfan	0	0		0	0.056	0.056	0.15	
beta-Endosulfan	0	0		0	0.056	0.056	0.15	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.095	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.01	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.01	
Toxaphene	0	0		0	0.0002	0.0002	0.0005	

☒ THH

CCT (min): 15,503

PMF: 1

Analysis Hardness (mg/l): N/A

Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	14.7	
Total Arsenic	0	0		0	10	10.0	26.3	
Total Barium	0	0		0	2,400	2,400	6,316	

Total Boron	0	0		0	3,100	3,100	8,159
Total Cadmium	0	0		0	N/A	N/A	N/A
Total Chromium (III)	0	0		0	N/A	N/A	N/A
Hexavalent Chromium	0	0		0	N/A	N/A	N/A
Total Cobalt	0	0		0	N/A	N/A	N/A
Total Copper	0	0		0	N/A	N/A	N/A
Free Cyanide	0	0		0	4	4.0	10.5
Dissolved Iron	0	0		0	300	300	790
Total Iron	0	0		0	N/A	N/A	N/A
Total Lead	0	0		0	N/A	N/A	N/A
Total Manganese	0	0		0	1,000	1,000	2,632
Total Mercury	0	0		0	0.050	0.05	0.13
Total Nickel	0	0		0	610	610	1,605
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A
Total Selenium	0	0		0	N/A	N/A	N/A
Total Silver	0	0		0	N/A	N/A	N/A
Total Thallium	0	0		0	0.24	0.24	0.63
Total Zinc	0	0		0	N/A	N/A	N/A
Acrolein	0	0		0	3	3.0	7.9
Acrylonitrile	0	0		0	N/A	N/A	N/A
Benzene	0	0		0	N/A	N/A	N/A
Bromoform	0	0		0	N/A	N/A	N/A
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A
Chlorobenzene	0	0		0	100	100.0	263
Chlorodibromomethane	0	0		0	N/A	N/A	N/A
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A
Chloroform	0	0		0	5.7	5.7	15.0
Dichlorobromomethane	0	0		0	N/A	N/A	N/A
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A
1,1-Dichloroethylene	0	0		0	33	33.0	86.9
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A
Ethylbenzene	0	0		0	68	68.0	179
Methyl Bromide	0	0		0	100	100.0	263
Methyl Chloride	0	0		0	N/A	N/A	N/A
Methylene Chloride	0	0		0	N/A	N/A	N/A
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A
Tetrachloroethylene	0	0		0	N/A	N/A	N/A
Toluene	0	0		0	57	57.0	150
1,2-trans-Dichloroethylene	0	0		0	100	100.0	263
1,1,1-Trichloroethane	0	0		0	10,000	10,000	26,318
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A
Trichloroethylene	0	0		0	N/A	N/A	N/A
Vinyl Chloride	0	0		0	N/A	N/A	N/A
2-Chlorophenol	0	0		0	30	30.0	79.0

2,4-Dichlorophenol	0	0		0	10	10.0	26.3
2,4-Dimethylphenol	0	0		0	100	100.0	263
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	5.26
2,4-Dinitrophenol	0	0		0	10	10.0	26.3
2-Nitrophenol	0	0		0	N/A	N/A	N/A
4-Nitrophenol	0	0		0	N/A	N/A	N/A
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A
Pentachlorophenol	0	0		0	N/A	N/A	N/A
Phenol	0	0		0	4,000	4,000	10,527
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A
Acenaphthene	0	0		0	70	70.0	184
Anthracene	0	0		0	300	300	790
Benzidine	0	0		0	N/A	N/A	N/A
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	526
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.26
2-Chloronaphthalene	0	0		0	800	800	2,105
Chrysene	0	0		0	N/A	N/A	N/A
Dibenzo(a,h)Anthracene	0	0		0	N/A	N/A	N/A
1,2-Dichlorobenzene	0	0		0	1,000	1,000	2,632
1,3-Dichlorobenzene	0	0		0	7	7.0	18.4
1,4-Dichlorobenzene	0	0		0	300	300	790
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A
Diethyl Phthalate	0	0		0	600	600	1,579
Dimethyl Phthalate	0	0		0	2,000	2,000	5,264
Di-n-Butyl Phthalate	0	0		0	20	20.0	52.6
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A
Fluoranthene	0	0		0	20	20.0	52.6
Fluorene	0	0		0	50	50.0	132
Hexachlorobenzene	0	0		0	N/A	N/A	N/A
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A
Hexachlorocyclopentadiene	0	0		0	4	4.0	10.5
Hexachloroethane	0	0		0	N/A	N/A	N/A
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A
Isophorone	0	0		0	34	34.0	89.5
Naphthalene	0	0		0	N/A	N/A	N/A
Nitrobenzene	0	0		0	10	10.0	26.3

n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A
Phenanthrene	0	0		0	N/A	N/A	N/A
Pyrene	0	0		0	20	20.0	52.6
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.18
Aldrin	0	0		0	N/A	N/A	N/A
alpha-BHC	0	0		0	N/A	N/A	N/A
beta-BHC	0	0		0	N/A	N/A	N/A
gamma-BHC	0	0		0	4.2	4.2	11.1
Chlordane	0	0		0	N/A	N/A	N/A
4,4-DDT	0	0		0	N/A	N/A	N/A
4,4-DDE	0	0		0	N/A	N/A	N/A
4,4-DDD	0	0		0	N/A	N/A	N/A
Dieldrin	0	0		0	N/A	N/A	N/A
alpha-Endosulfan	0	0		0	20	20.0	52.6
beta-Endosulfan	0	0		0	20	20.0	52.6
Endosulfan Sulfate	0	0		0	20	20.0	52.6
Endrin	0	0		0	0.03	0.03	0.079
Endrin Aldehyde	0	0		0	1	1.0	2.63
Heptachlor	0	0		0	N/A	N/A	N/A
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A
Toxaphene	0	0		0	N/A	N/A	N/A

☒ CRL

CCT (min): 13.109

PMF: 1

Analysis Hardness (mg/l): N/A

Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	

Total Manganese	0	0		0	N/A	N/A	N/A
Total Mercury	0	0		0	N/A	N/A	N/A
Total Nickel	0	0		0	N/A	N/A	N/A
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A
Total Selenium	0	0		0	N/A	N/A	N/A
Total Silver	0	0		0	N/A	N/A	N/A
Total Thallium	0	0		0	N/A	N/A	N/A
Total Zinc	0	0		0	N/A	N/A	N/A
Acrolein	0	0		0	N/A	N/A	N/A
Acrylonitrile	0	0		0	0.06	0.06	0.64
Benzene	0	0		0	0.58	0.58	6.23
Bromoform	0	0		0	7	7.0	75.2
Carbon Tetrachloride	0	0		0	0.4	0.4	4.3
Chlorobenzene	0	0		0	N/A	N/A	N/A
Chlorodibromomethane	0	0		0	0.8	0.8	8.59
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A
Chloroform	0	0		0	N/A	N/A	N/A
Dichlorobromomethane	0	0		0	0.95	0.95	10.2
1,2-Dichloroethane	0	0		0	9.9	9.9	106
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A
1,2-Dichloropropane	0	0		0	0.9	0.9	9.67
1,3-Dichloropropylene	0	0		0	0.27	0.27	2.9
Ethylbenzene	0	0		0	N/A	N/A	N/A
Methyl Bromide	0	0		0	N/A	N/A	N/A
Methyl Chloride	0	0		0	N/A	N/A	N/A
Methylene Chloride	0	0		0	20	20.0	215
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	2.15
Tetrachloroethylene	0	0		0	10	10.0	107
Toluene	0	0		0	N/A	N/A	N/A
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A
1,1,2-Trichloroethane	0	0		0	0.55	0.55	5.91
Trichloroethylene	0	0		0	0.6	0.6	6.44
Vinyl Chloride	0	0		0	0.02	0.02	0.21
2-Chlorophenol	0	0		0	N/A	N/A	N/A
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A
2-Nitrophenol	0	0		0	N/A	N/A	N/A
4-Nitrophenol	0	0		0	N/A	N/A	N/A
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A
Pentachlorophenol	0	0		0	0.030	0.03	0.32
Phenol	0	0		0	N/A	N/A	N/A
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	16.1

Acenaphthene	0	0		0	N/A	N/A	N/A
Anthracene	0	0		0	N/A	N/A	N/A
Benztidine	0	0		0	0.0001	0.0001	0.001
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.011
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.001
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.011
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.11
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.32
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	3.44
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A
Chrysene	0	0		0	0.12	0.12	1.29
Dibenzo(a,h)Anthracene	0	0		0	0.0001	0.0001	0.001
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	0.54
Diethyl Phthalate	0	0		0	N/A	N/A	N/A
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.54
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.54
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.32
Fluoranthene	0	0		0	N/A	N/A	N/A
Fluorene	0	0		0	N/A	N/A	N/A
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.0009
Hexachlorobutadiene	0	0		0	0.01	0.01	0.11
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A
Hexachloroethane	0	0		0	0.1	0.1	1.07
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.011
Isophorone	0	0		0	N/A	N/A	N/A
Naphthalene	0	0		0	N/A	N/A	N/A
Nitrobenzene	0	0		0	N/A	N/A	N/A
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.008
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.054
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	35.4
Phenanthrene	0	0		0	N/A	N/A	N/A
Pyrene	0	0		0	N/A	N/A	N/A
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A
Aldrin	0	0		0	0.0000008	8.00E-07	0.000009
alpha-BHC	0	0		0	0.0004	0.0004	0.004
beta-BHC	0	0		0	0.008	0.008	0.086
gamma-BHC	0	0		0	N/A	N/A	N/A

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☒ **Other Pollutants without Limits or Monitoring**

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., \leq Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	1,252	µg/L	Discharge Conc \leq 10% WQBEL
Total Antimony	14.7	µg/L	Discharge Conc \leq 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	6,316	µg/L	Discharge Conc \leq 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	4,211	µg/L	Discharge Conc \leq 10% WQBEL
Total Cadmium	0.7	µg/L	Discharge Conc < TQL
Total Chromium (III)	221	µg/L	Discharge Conc \leq 10% WQBEL
Hexavalent Chromium	27.2	µg/L	Discharge Conc \leq 10% WQBEL
Total Cobalt	50.0	µg/L	Discharge Conc \leq 10% WQBEL
Free Cyanide	10.5	µg/L	Discharge Conc \leq 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	790	µg/L	Discharge Conc \leq 10% WQBEL
Total Iron	3,948	µg/L	Discharge Conc \leq 10% WQBEL
Total Lead	8.05	µg/L	Discharge Conc \leq 10% WQBEL
Total Manganese	2,632	µg/L	Discharge Conc \leq 10% WQBEL
Total Mercury	0.13	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	13.1	µg/L	Discharge Conc \leq 10% WQBEL
Total Silver	5.99	µg/L	Discharge Conc \leq 10% WQBEL
Total Thallium	0.63	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	5.01	µg/L	Discharge Conc < TQL
Acrylonitrile	0.64	µg/L	Discharge Conc < TQL
Benzene	6.23	µg/L	Discharge Conc < TQL
Bromoform	75.2	µg/L	Discharge Conc \leq 25% WQBEL
Carbon Tetrachloride	4.3	µg/L	Discharge Conc \leq 25% WQBEL
Chlorobenzene	263	µg/L	Discharge Conc < TQL
Chlorodibromomethane	8.59	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	9,211	µg/L	Discharge Conc < TQL
Chloroform	15.0	µg/L	Discharge Conc \leq 25% WQBEL
Dichlorobromomethane	10.2	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS

1,2-Dichloroethane	106	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	86.9	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	9.67	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	2.9	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	179	µg/L	Discharge Conc < TQL
Methyl Bromide	263	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	14,475	µg/L	Discharge Conc < TQL
Methylene Chloride	215	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	2.15	µg/L	Discharge Conc < TQL
Tetrachloroethylene	107	µg/L	Discharge Conc < TQL
Toluene	150	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	263	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	1,605	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	5.91	µg/L	Discharge Conc < TQL
Trichloroethylene	6.44	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.21	µg/L	Discharge Conc < TQL
2-Chlorophenol	79.0	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	26.3	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	263	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	5.26	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	26.3	µg/L	Discharge Conc < TQL
2-Nitrophenol	4,211	µg/L	Discharge Conc < TQL
4-Nitrophenol	1,237	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	267	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.32	µg/L	Discharge Conc < TQL
Phenol	10,527	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	16.1	µg/L	Discharge Conc < TQL
Acenaphthene	44.7	µg/L	Discharge Conc ≤ 25% WQBEL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	790	µg/L	Discharge Conc ≤ 25% WQBEL
Benzidine	0.001	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.011	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.001	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.011	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.11	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.32	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	526	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Ethylhexyl)Phthalate	3.44	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	142	µg/L	Discharge Conc ≤ 25% WQBEL
Butyl Benzyl Phthalate	0.26	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	2,105	µg/L	Discharge Conc ≤ 25% WQBEL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS

Chrysene	1.29	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthracene	0.001	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	421	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	18.4	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	395	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.54	µg/L	Discharge Conc < TQL
Diethyl Phthalate	1,579	µg/L	Discharge Conc ≤ 25% WQBEL
Dimethyl Phthalate	1,316	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Butyl Phthalate	52.6	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrotoluene	0.54	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.54	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.32	µg/L	Discharge Conc < TQL
Fluoranthene	52.6	µg/L	Discharge Conc ≤ 25% WQBEL
Fluorene	132	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorobenzene	0.0009	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.11	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	2.63	µg/L	Discharge Conc < TQL
Hexachloroethane	1.07	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.011	µg/L	Discharge Conc < TQL
Isophorone	89.5	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	113	µg/L	Discharge Conc < TQL
Nitrobenzene	26.3	µg/L	Discharge Conc ≤ 25% WQBEL
n-Nitrosodimethylamine	0.008	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.054	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	35.4	µg/L	Discharge Conc ≤ 25% WQBEL
Phenanthrene	2.63	µg/L	Discharge Conc < TQL
Pyrene	52.6	µg/L	Discharge Conc ≤ 25% WQBEL
1,2,4-Trichlorobenzene	0.18	µg/L	Discharge Conc < TQL
Aldrin	0.000009	µg/L	Discharge Conc < TQL
alpha-BHC	0.004	µg/L	Discharge Conc < TQL
beta-BHC	0.086	µg/L	Discharge Conc < TQL
gamma-BHC	1.59	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.003	µg/L	Discharge Conc < TQL
4,4-DDT	0.0003	µg/L	Discharge Conc < TQL
4,4-DDE	0.0002	µg/L	Discharge Conc < TQL
4,4-DDD	0.001	µg/L	Discharge Conc < TQL
Dieldrin	0.00001	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.15	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.15	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	52.6	µg/L	Discharge Conc < TQL
Endrin	0.079	µg/L	Discharge Conc < TQL
Endrin Aldehyde	2.63	µg/L	Discharge Conc < TQL
Heptachlor	0.00006	µg/L	Discharge Conc < TQL

Heptachlor Epoxide	0.0003	µg/L	Discharge Conc < TQL
Toxaphene	0.0005	µg/L	Discharge Conc < TQL