



700 West Liberty Street | Louisville, KY 40203-1911
Phone: 502.540.6000 | LouisvilleMSD.org

January 24th, 2024

Crystal Dennis
300 Sower Blvd., 3rd Floor
Frankfort, Kentucky 40601

**RE: Kentucky State Reformatory STP, KPDES No: KY00400126
Discharge Monitoring Report for December 2024.**

Dear Ms. Dennis:

Attached are the Discharge Monitoring Report (DMR) for the Kentucky State Reformatory STP, for the month December 2024.

See attached overflow documentation.

There were no exceedances or bypasses.

If you have any questions concerning the attached DMR's, please contact me at (502) 264-2804.

Sincerely,

A handwritten signature in black ink, appearing to read 'AS' or 'Alex Smither', written in a cursive style.

Alex Smither
Process Supervisor

CAS 12/24

Cc: V. Teague, B. Tinnel

EPA may make all the information submitted through this form (including all attachments) available to the public without further notice to you. Do not use this online form to submit personal information (e.g., non-business cell phone number or non-business email address), confidential business information (CBI), or if you intend to assert a CBI claim on any of the submitted information. Pursuant to 40 CFR 2.203(a), EPA is providing you with notice that all CBI claims must be asserted at the time of submission. EPA cannot accommodate a late CBI claim to cover previously submitted information because efforts to protect the information are not administratively practicable since it may already be disclosed to the public. Although we do not foresee a need for persons to assert a claim of CBI based on the types of information requested in this form, if persons wish to assert a CBI claim we direct submitters to contact the [NPDES eReporting Help Desk](#) for further guidance. Please note that EPA may contact you after you submit this report for more information.

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Permit

Permit #:
Major:

KY0040126
Yes

Permittee:
Permittee Address:

Louisville and Jefferson County MSD
700 West Liberty St
Louisville, KY 40203

Facility:
Facility Location:

KY STATE REFORMATORY WWTP
3001 W HWY 146
LA GRANGE, KY 40031

Permitted Feature:

001
External Outfall

Discharge:

001-1
SANITARY WASTEWATER

Report Dates & Status

Monitoring Period:

From 12/01/24 to 12/31/24

DMR Due Date:

01/28/25

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:
Last Name:

Tony
Parrott

Title:

Executive Director

Telephone:

502-540-6533

No Data Indicator (NODI)

Form NODI: --

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration							# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units			
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	--	Sample						=	7.8					19 - mg/L	0	01/07 - Weekly	GR - Grab
					Permit Req.						>=	7.0 INST MIN					19 - mg/L		01/07 - Weekly	GR - Grab
					Value NODI															
00400	pH	1 - Effluent Gross	0	--	Sample						=	7.4			=	7.81	12 - SU	0	01/07 - Weekly	GR - Grab
					Permit Req.						>=	6.0 MINIMUM			<=	9.0 MAXIMUM	12 - SU		01/07 - Weekly	GR - Grab
					Value NODI															
00530	Solids, total suspended	1 - Effluent Gross	0	--	Sample	=	51.3	=	87.1	26 - lb/d			=	9.8	=	18.0	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.	<=	250.0 MO AVG	<=	376.0 MX WK AV	26 - lb/d			<=	30.0 MO AVG	<=	45.0 MX WK AV	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
00530	Solids, total suspended	G - Raw Sewage Influent	0	--	Sample								=	125.5	=	165.0	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.									Req Mon MO AVG		Req Mon MX WK AV	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
00600	Nitrogen, total [as N]	1 - Effluent Gross	0	--	Sample								=	17.5	=	22.3	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
00600	Nitrogen, total [as N]	G - Raw Sewage Influent	0	--	Sample								=	34.7	=	43.5	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
00610	Nitrogen, ammonia total [as N]	1 - Effluent Gross	2	--	Sample								=	0.38	=	0.6	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.								<=	5.0 MO AVG	<=	7.5 DAILY MX	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
00665	Phosphorus, total [as P]	1 - Effluent Gross	0	--	Sample								=	3.46	=	4.55	19 - mg/L	4	01/07 - Weekly	CP - Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
00665	Phosphorus, total [as P]	G - Raw Sewage Influent	0	--	Sample								=	5.42	=	6.6	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
00900	Hardness, total [as CaCO3]	1 - Effluent Gross	0	--	Sample								=	252.5	=	267.0	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.									Req Mon MO AVG		Req Mon MX WK AV	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite

					Value NODI															
01119	Copper, total recoverable	1 - Effluent Gross	0	--	Sample								=	0.0173	=	0.025	19 - mg/L		01/07 - Weekly	CP - Composite
					Permit Req.									Req Mon MO AVG		Req Mon MX WK AV	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
34306	Chlorodibromomethane	1 - Effluent Gross	0	--	Sample								=	5.0			28 - ug/L		01/07 - Weekly	CP - Composite
					Permit Req.								<=	13.0 MO AVG			28 - ug/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
50050	Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Sample	=	0.713	=	0.5551	03 - MGD								0	99/99 - Continuous	RC - Recorder (auto)
					Permit Req.		Req Mon MO AVG		Req Mon MX WK AV	03 - MGD									99/99 - Continuous	RC - Recorder (auto)
					Value NODI															
50050	Flow, in conduit or thru treatment plant	G - Raw Sewage Influent	0	--	Sample	=	0.7712	=	1.3515	03 - MGD								0	01/07 - Weekly	CA - Calculated
					Permit Req.		Req Mon MO AVG		Req Mon MX WK AV	03 - MGD									01/07 - Weekly	CA - Calculated
					Value NODI															
50060	Chlorine, total residual	1 - Effluent Gross	0	--	Sample								=	0.01	=	0.01	19 - mg/L		01/07 - Weekly	GR - Grab
					Permit Req.								<=	0.011 MO AVG	<=	0.019 DAILY MX	19 - mg/L		01/07 - Weekly	GR - Grab
					Value NODI															
51040	E. coli	1 - Effluent Gross	0	--	Sample								=	1.0	=	1.0	13 - #/100mL	0	01/07 - Weekly	GR - Grab
					Permit Req.								<=	130.0 30DA GEO	<=	240.0 7 DA GEO	13 - #/100mL		01/07 - Weekly	GR - Grab
					Value NODI															
80082	BOD, carbonaceous [5 day, 20 C]	1 - Effluent Gross	0	--	Sample	=	30.0	=	34.0	26 - lb/d			=	5.5	=	7.0	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.	<=	83.5 MO AVG	<=	125.0 MX WK AV	26 - lb/d			<=	10.0 MO AVG	<=	15.0 MX WK AV	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
80082	BOD, carbonaceous [5 day, 20 C]	G - Raw Sewage Influent	0	--	Sample								=	122.0	=	186.0	19 - mg/L	0	01/07 - Weekly	CP - Composite
					Permit Req.									Req Mon MO AVG		Req Mon MX WK AV	19 - mg/L		01/07 - Weekly	24 - 24 Hour Composite
					Value NODI															
80091	BOD, carb-5 day, 20 deg C, percent removal	K - Percent Removal	0	--	Sample						=	95.5					23 - %	0	01/30 - Monthly	CA - Calculated
					Permit Req.							>=	85.0 MO AV MN				23 - %		01/30 - Monthly	CA - Calculated
					Value NODI															
81011	Solids, suspended percent removal	K - Percent Removal	0	--	Sample						=	92.2					23 - %	0	01/30 - Monthly	CA - Calculated
					Permit Req.							>=	85.0 MO AV MN				23 - %		01/30 - Monthly	CA - Calculated
					Value NODI															

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

Name	Type	Size
KSR_DISCHARGE_12_24.pdf	pdf	165930.0
KSR_COVER_12_24.pdf	pdf	35627.0

Report Last Saved By

Louisville and Jefferson County MSD

User:	ALEX.SMITHER@LOUISVILLEMSD.ORG
Name:	Charles Smither
E-Mail:	alex.smither@louisvillemسد.org
Date/Time:	2025-01-24 09:54 (Time Zone: -05:00)

Report Last Signed By

User:	ALEX.SMITHER@LOUISVILLEMSD.ORG
Name:	Charles Smither
E-Mail:	alex.smither@louisvillemسد.org
Date/Time:	2025-01-24 09:55 (Time Zone: -05:00)



IMSAST0004
Overflow Report
12/1/2024 12:00:00 AM to 12/31/2024 12:00:00 AM

KPDES #	Facility ID	Water Quality Treatment Center			Receiving Stream of Discharge		Region				
KY0040126	MSD0411	KSR			CEDAR CREEK		NA				
Facility Type	Facility ID	Facility Address	If Pump Station, Name of Station			Receiving Stream		Discharge To			
Sewer Lift Station	SSPSKS-DISW	1815 N STHY 393	KSR			CURRYS FORK		GROUND			
Activity Code / Description	WO #	Ref #	Initiated on	Initiated By	Assigned To	Dish Status	Event Date	Problem Desc	Result	Completed	Condition
DISREV:RAIN EVENT DISCHARGE	3880140		12/16/2024 4:19:00 PM	BROADEN	BROADEN	QUEUED FOR INVESTIGATION / REPAIR	4/15/2024 12:00:00 AM	LACK OF SYSTEM CAPACITY	UNAUTHORIZED DISCHARGE-WATERS	12/18/24 10:20 AM	

Discharge Reporting:

Discharge Amount:	150 GAL
Cause:	LACK OF SYSTEM CAPACITY.
Clean Up:	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.
Control Zone:	PLACED TEMPORARY SIGNS AROUND THE IMPACTED AREA.
Impact:	SEWAGE FOUND ON THE GROUND.
Repair:	SITE FOUND DURING RAIN EVENT RECON - WILL BE MONITORED AND EVALUATED FOR REPAIR.
Public Notification:	PLACED TEMPORARY SIGNS AROUND THE IMPACTED AREA.

Notifications:

12/17/24 1:00 AM	DISNOT	EMAIL NOTIFICATION OF UNAUTHORIZED DISCHARGE SENT TO:DISCHARGENOTICES@LOUISVILLEMSD.ORG, SAYRE.DENNIS@EPAMAIL.EPA.GOV
12/17/24 1:00 AM	DISSNO	WAITING TO COMPLETE THE DISCHARGE INFORMATION



IMSAST0004
Overflow Report

12/1/2024 12:00:00 AM to 12/31/2024 12:00:00 AM

KPDES #	Facility ID	Water Quality Treatment Center		Receiving Stream of Discharge		Region					
KY0040126	MSD0411	KSR		CEDAR CREEK		NA					
Facility Type	Facility ID	Facility Address	If Pump Station, Name of Station		Receiving Stream		Discharge To				
Sewer Lift Station	SSPSKS-DISW	1815 N STHY 393	KSR		CURRYS FORK		GROUND				
Activity Code / Description	WO #	Ref #	Initiated on	Initiated By	Assigned To	Dish Status	Event Date	Problem Desc	Result	Completed	Condition
DISREV:RAIN EVENT DISCHARGE	3880987		12/18/2024 10:09:00 AM	PARKER	GENERAL MAINTENANCE	QUEUED FOR INVESTIGATION / REPAIR	4/15/2024 12:00:00 AM	LACK OF SYSTEM CAPACITY	UNAUTHORIZED DISCHARGE-WATERS	12/20/24 12:57 PM	

Discharge Reporting:

Discharge Amount:	3,000 GAL
Cause:	LACK OF SYSTEM CAPACITY.
Clean Up:	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.
Control Zone:	PLACED TEMPORARY SIGNS AROUND THE IMPACTED AREA.
Impact:	SEWAGE FOUND AROUND WET WELL.
Repair:	SITE FOUND DURING RAIN EVENT RECON- WILL MONITOR & EVALUATE FOR REPAIR.
Public Notification:	PLACED TEMPORARY SIGNS AROUND THE IMPACTED AREA.

Notifications:

12/18/24 1:00 PM	DISNOT	EMAIL NOTIFICATION OF UNAUTHORIZED DISCHARGE SENT TO:DISCHARGENOTICES@LOUISVILLEMSD.ORG, SAYRE.DENNIS@EPAMAIL.EPA.GOV
12/18/24 1:00 PM	DISSNO	WAITING TO COMPLETE THE DISCHARGE INFORMATION



IMSAST0004
Overflow Report
12/1/2024 12:00:00 AM to 12/31/2024 12:00:00 AM

KPDES #	Facility ID	Water Quality Treatment Center			Receiving Stream of Discharge		Region				
KY0040126	MSD0411	KSR			CEDAR CREEK		NA				
Facility Type	Facility ID	Facility Address	If Pump Station, Name of Station			Receiving Stream		Discharge To			
Sewer Lift Station	SSPSKS-DISW	1815 N STHY 393	KSR			CURRYS FORK		GROUND			
Activity Code / Description	WO #	Ref #	Initiated on	Initiated By	Assigned To	Dish Status	Event Date	Problem Desc	Result	Completed	Condition
DISREV:RAIN EVENT DISCHARGE	3886284		12/29/2024 7:20:00 AM	PARKER	GENERAL MAINTENANCE	QUEUED FOR INVESTIGATION / REPAIR	4/15/2024 12:00:00 AM	LACK OF SYSTEM CAPACITY	UNAUTHORIZED DISCHARGE- WATERS	12/29/24 03:20 PM	

Discharge Reporting:

Discharge Amount:	1,625 GAL
Cause:	LACK OF SYSTEM CAPACITY.
Clean Up:	CLEANUP NOT POSSIBLE DUE TO MAGNITUDE OF STORM.
Control Zone:	PLACED TEMPORARY SIGNS AROUND THE IMPACTED AREA.
Impact:	SEWAGE FOUND AROUND WET WELL.
Repair:	SITE FOUND DURING RAIN EVENT RECON- WILL MONITOR & EVALUATE FOR REPAIR.
Public Notification:	PLACED TEMPORARY SIGNS AROUND THE IMPACTED AREA.

Notifications:

12/29/24 1:00 PM	DISNOT	EMAIL NOTIFICATION OF UNAUTHORIZED DISCHARGE SENT TO:DISCHARGENOTICES@LOUISVILLEMSD.ORG, SAYRE.DENNIS@EPAMAIL.EPA.GOV
12/29/24 1:00 PM	DISSNO	WAITING TO COMPLETE THE DISCHARGE INFORMATION

**Chronic Toxicity Evaluation
for the
Kentucky State Reformatory
Wastewater Treatment Plant**

December 2024

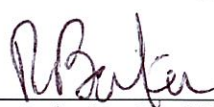
Prepared by:

Beckmar Environmental Laboratory
Biomonitoring Department
3251 Ruckriegel Parkway
Louisville, KY. 40299
(502) 266-6533

Submitted to:

Kentucky State Reformatory Wastewater Treatment Plant
1612 Dawkins Road
LaGrange, KY 40031

Released by: _____


Biomonitoring QA Officer

1-24-2025

Summary

Chronic definitive toxicity testing was performed on final effluent samples collected December 01 through 06, 2024 from the Kentucky State Reformatory Wastewater Treatment Plant. Testing was performed December 03 through 10, 2024 and upon termination, the following conclusions were reached:

For the 7 day *Ceriodaphnia dubia* survival and reproduction test, the IC₂₅ for reproduction was greater than 100%, yielding less than 1.0 chronic toxicity units (TUC=100/IC₂₅).

Introduction

At the request of Oldham County, chronic definitive toxicity testing was performed on 24 hour composite effluent samples collected December 01 through 06, 2024 from the Kentucky State Reformatory Wastewater Treatment Plant in LaGrange, KY. Information concerning plant and laboratory conditions can be found on the following pages.

The chronic toxicity testing was performed in accordance with the US EPA methodology as defined in the US EPA manual "Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms" fourth edition, 2002. The actual methods used were "Cladoceran, *Ceriodaphnia dubia*, Survival and Reproduction Test Method 1002.0". The chronic toxicity test was performed in order to ascertain the IC₂₅ values for *Ceriodaphnia dubia* reproduction.

Test Type: Acute _____ Screen _____
Chronic X Definitive X

TOXICITY TEST REPORT SHEET

- 1) Facility/Discharger: Kentucky State Reformatory Wastewater Treatment Plant
Report Date: 1/20/2025
- 2) Address: 1612 Dawkins Road, LaGrange KY 40031
- 3) NPDES Permit #: KY0040126 4) Receiving Stream: North Fork of Cedar Creek
- 5) Facility Contact: _____ 6) Phone #: _____
- 7) Consultant/Testing Lab Name: Beckmar Environmental Laboratory
- 8) Lab Contact: Becky Barker Phone #: (502) 266-6533
- 9) Outfall(s) Tested: 1
- 10) Average Daily flow on day sampled (MGD) 1) 0.596 2) 0.58
3) 0.57 4) _____ 5) _____ 6) _____ 7) _____
- 11) Test Species: 1) Ceriodaphnia dubia 2) _____
- 12) Species Age: 1) 15-22 hours old 2) _____
- 13) Organism Source: 1) brood board 12022024 2) _____
- 14) Acclimation Procedures: 1) Reared at test conditions in synthetic water
2) _____
- 15) Test Conditions: Static: _____ Static-Renewal: X
- 16) Dilution Water Type (Synthetic, Receiving Stream) synthetic - mhs
- 17) Aeration? (Before Test/During Test/None): no
- 18) Dechlorination? no Original Chlorine Level: <0.01 mg/L



(Signature of person filling out form)

Rhonda Baker
Name (Typed or Printed)

1/20/2025

Date

Biologist
Title

Materials and Methods

Sampling

Composite effluent samples were collected once every other 24 hours (Table I) and delivered to Beckmar Environmental Laboratory. Upon receipt, each sample went through standard log in procedures.

Control/Dilution Water

All chemicals used are reagent grade, obtained from Aldrich. 1.20 grams of CaSO_4 , 1.2 grams of MgSO_4 , 1.92 grams of NaHCO_3 , and 0.080 grams of KCl were dissolved in distilled water provided by a Barnstead Thermolyne distillation system and aerated for a minimum of 24 hours.

Test Containers

C. dubia tests were performed in 1 ounce plastic cups obtained from Plastics Inc. (St. Paul, MN).

Toxicity Testing

Samples were allowed to warm to room temperature (25°C) and were tested for residual chlorine immediately prior to dilution. Testing was then performed in accordance with US EPA methodology. Data was recorded on Beckmar generated lab sheets (Appendix I).

Chemical Analysis

All test dilutions as well as control/dilution water were tested to determine initial dissolved oxygen, temperature, and pH. At the end of 24 hours, the control/dilution water and test dilutions were again tested to determine final dissolved oxygen, temperature and pH. Also, specific conductance, hardness, and alkalinity analyses were performed on the initial control/dilution water and 100% effluent samples. Data was recorded on Beckmar generated lab sheet (Appendix I).

Statistical Analysis

Statistical data was generated using ToxCalc 5.0® (Tidepool Scientific software, McKinleyville, CA) and ToxStat® (USEPA, Cincinnati, OH) on a Pentium IV®, computer using Windows 98® Operating System.

Additional Toxicity Test Information

- 1) Submit copies of all bench sheets and statistical calculations/printouts obtained during the test(s). Data must be presented in tabular form and must include all physical and/or chemical measurements recorded during the test (e.g. temperature, conductivity, total residual chlorine, dissolved oxygen, etc.).

- 2) Methods/Instrumentation used in chemical analysis:

Dissolved Oxygen:	YSI Model 58
PH:	Thermo-Orion 720
Conductivity:	Oakton Conductivity Meter 300
Alkalinity:	Standard Methods Titration
Hardness:	Standard Methods Titration
Total Chlorine Residual:	Fisher-Porter Titration
EPA Acute/Chronic Manual:	4 th Chronic Edition, 2002

- 3) Indicate below any other relevant information that may aid in the evaluation of this report. Include any deviations from EPA methodology that was necessary for these tests as well as any sample manipulations that were performed, such as aeration, dechlorination with sodium thiosulfate, etc., and the justification for such manipulations or deviations. Attach additional pages as needed.
- 4) Sample temperature upon receipt may be greater than 4°C. Samples are picked up immediately after the 24 hours composite is completed. The sampler is cooled and the samples are refrigerated, however it may be impossible to rapidly drop the effluent to 4°C.

TABLE I
Sampling Summary

Outfall	Sample Type	Volume	Collection Period			Rainfall	Sample Temp
1	Composite	1 gallon	12/01/24 @ 9:00 a.m.	=	12/02/24 @ 9:00 a.m.	0	1.0 degrees C
	Composite	1 gallon	12/03/24 @ 11:30 a.m.	=	12/04/24 @ 11:30 a.m.	0	2.0 degrees C
	Composite	1 gallon	12/05/24 @ 8:00 a.m.	=	12/06/24 @ 8:00 a.m.	0	1.0 degrees C

Dates/Times of Test Performance

Species #1: Ceriodaphnia dubia

Initiated: 12/03/24 @ 3:00 P.M.
Renewed Daily @ 3:00 P.M.
Terminated 12/10/24 @ 3:00 P.M.

Results

Ceriodaphnia dubia exhibited 100% survival in the control, 100% survival in the 20% dilution, 100% survival in the 40% dilution, 100% survival in the 60% dilution, 100% survival in the 80% dilution, and 100% survival in the 100% dilution with reproduction occurring in all of the dilutions (Table II).

For the 7-day *Ceriodaphnia dubia* survival and reproduction test, the IC₂₅ for reproduction was greater than 100%, generating a chronic toxicity value of less than 1.0 TUc.

Table II: *Ceriodaphnia dubia* Reproduction Results

<u>C</u>	<u>20%</u>	<u>40%</u>	<u>60%</u>	<u>80%</u>	<u>100%</u>
25	21	23	26	30	26
26	28	25	20	24	24
21	25	26	25	27	24
25	23	27	21	28	22
25	32	23	24	24	28
24	27	27	25	24	26
26	33	26	28	25	26
24	29	25	33	29	33
26	25	27	26	30	28
26	24	27	34	24	30
<u>248</u>	<u>267</u>	<u>256</u>	<u>262</u>	<u>265</u>	<u>267</u>

Appendix I

Ceriodaphnia dubia Data Sheets

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 12/3/2024	Test ID: KSR1224	Sample ID: KSR122024
End Date: 12/10/2024	Lab ID: 0044: Beckmar Lab	Sample Type: EFF1-POTW
Sample Date: 12/2/2024	Protocol: EPAF 94-EPA Freshwater	Test Species: CD-Ceriodaphnia dubia
Comments: KSR Cerio Chronic December 2024		

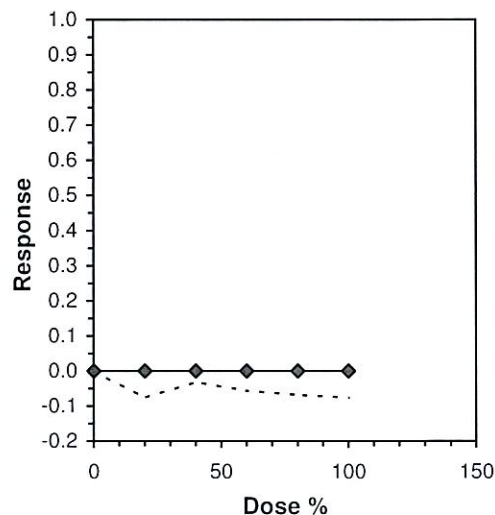
Conc-%	1	2	3	4	5	6	7	8	9	10
B-Control	25.000	26.000	21.000	25.000	25.000	24.000	26.000	24.000	26.000	26.000
20	21.000	28.000	25.000	23.000	32.000	27.000	33.000	29.000	25.000	24.000
40	23.000	25.000	26.000	27.000	23.000	27.000	26.000	25.000	27.000	27.000
60	26.000	20.000	25.000	21.000	24.000	25.000	28.000	33.000	26.000	34.000
80	30.000	24.000	27.000	28.000	24.000	24.000	25.000	29.000	30.000	24.000
100	26.000	24.000	24.000	22.000	28.000	26.000	26.000	33.000	28.000	30.000

Conc-%	Transform: Untransformed							Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N	Mean	N-Mean
B-Control	24.800	1.0000	24.800	21.000	26.000	6.247	10	26.083	1.0000
20	26.700	1.0766	26.700	21.000	33.000	14.457	10	26.083	1.0000
40	25.600	1.0323	25.600	23.000	27.000	6.163	10	26.083	1.0000
60	26.200	1.0565	26.200	20.000	34.000	17.239	10	26.083	1.0000
80	26.500	1.0685	26.500	24.000	30.000	9.784	10	26.083	1.0000
100	26.700	1.0766	26.700	22.000	33.000	11.981	10	26.083	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution ($p > 0.01$)	0.96012	1.035	0.45062	0.52546
Bartlett's Test indicates unequal variances ($p = 8.70E-03$)	15.4226	15.0863		

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Grab # _____

Toxicity Test Results

Results of *Ceriodaphnia* *dubia* 7 day chronic definitive Toxicity Test
 (Genus) (Species) (Type / Duration)

Conducted: 12/03/24 -- 12/10/24 Using Effluent from Outfall # 1
 (mm/dd/yy) (mm/dd/yy)

Test Solution	Percent Survival (time intervals used:- DAY)								# of Young		Dry Weight	
	1	2	3	4	5	6	7	8	Total	Mean	Total	Mean
Control	100	100	100	100	100	100	100		248	24.8		
20% Effluent	100	100	100	100	100	100	100		267	26.7		
40% Effluent	100	100	100	100	100	100	100		256	25.6		
60% Effluent	100	100	100	100	100	100	100		262	26.2		
80% Effluent	100	100	100	100	100	100	100		265	26.5		
100% Effluent	100	100	100	100	100	100	100		267	26.7		
LC ₅₀ / IC ₂₅ Value: <u>>100%</u>					Calculated TU Estimate * <u><1.0 Tuc</u> (Indicate Acute/Chronic)							
95% Confidence Limits												
UL: <u>na</u>					Permit Limits: <u>1.0 Tuc</u> (Indicate TU _a / TU _c)							
LL: <u>na</u>												
UL = Upper Limit LL = Lower Limit					If acute test, method used to determine LC50 and Confidence Limit Valued: _____							

Note: TU_a = 100/LC₅₀; TU_c = 100/IC₂₅

Reference Toxicant Test Results

Species	Date	Time	Duration	Toxicant	Results (LC ₅₀ / IC ₂₅)
<u><i>Ceriodaphnia</i></u>	<u>11/10/24</u>	<u>3:00 P.M.</u>	<u>7 days</u>	<u>NaCl</u>	<u>IC25=1.0254g/l</u>
<u><i>dubia</i></u>					

Client: KSRAnalyst: Elv. ButlerTest Start -- Date/Time: 12-3-2024 3PTest Stop -- Date/Time: 12-10-2024 3PBrood Board Batch: 12022024ANeonate Age: 15-22 hrs oldData form for *Ceriodaphnia dubia* survival and reproduction test

Control	Replicate										No. Of Young	No. Of Adults	Analyst
Day	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0		LS
2	0	0	0	0	0	0	0	0	0	0	0		LS
3	3	3	3	4	3	3	2	3	4	3	31		LS
4	0	0	0	0	0	0	0	0	0	0	0		LS
5	8	10	7	9	10	7	7	8	10	9	85		LS
6	0	0	0	0	0	0	0	0	0	0	0		LS
7	14	13	11	12	12	14	17	13	12	14	132		LS
8													
Total	25	26	21	25	25	24	26	24	26	26	248		LS

20%

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
Day	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0		LS
2	0	0	0	0	0	0	0	0	0	0	0		LS
3	3	4	3	2	4	3	3	4	3	2	31		LS
4	0	0	0	0	0	0	0	0	0	0	0		LS
5	8	11	8	8	12	7	10	9	8	9	90		LS
6	0	0	0	0	0	0	0	0	0	0	0		LS
7	10	13	14	13	16	17	20	16	14	13	146		LS
8													
Total	21	28	25	23	32	27	33	29	25	24	267		LS

40%

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
Day	1	2	3	4	5	6	7	8	9	10			
1	0	0	0	0	0	0	0	0	0	0	0		LS
2	0	0	0	0	0	0	0	0	0	0	0		LS
3	4	3	3	4	3	3	2	3	4	3	32		LS
4	0	0	0	0	0	0	0	0	0	0	0		LS
5	8	10	11	10	6	7	10	9	11	10	92		LS
6	0	0	0	0	0	0	0	0	0	0	0		LS
7	11	12	12	13	14	17	14	13	12	14	132		LS
8													
Total	23	25	26	27	23	27	26	25	27	27	256		LS

Client: KSPAnalyst: El. BakerTest Start -- Date/Time: 12-3-2024 30Test Stop -- Date/Time: 12-10-2024 30Data form for *Ceriodaphia dubia* survival and reproduction test

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
60%	1	0	0	0	0	0	0	0	0	0	0		LS
	2	0	0	0	0	0	0	0	0	0	0		LS
	3	4	2	4	3	3	3	4	3	2	3		LS
	4	0	0	0	0	0	0	0	0	0	0		LS
	5	8	6	9	6	8	7	7	10	8	10		LS
	6	0	0	0	0	0	0	0	0	0	0		LS
	7	14	12	13	12	13	15	17	20	16	21		LS
	8												
Total		26	20	25	21	24	25	28	33	26	34	262	LS

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
80%	1	0	0	0	0	0	0	0	0	0	0		LS
	2	0	0	0	0	0	0	0	0	0	0		LS
	3	4	3	4	3	4	3	2	3	4	3		LS
	4	0	0	0	0	0	0	0	0	0	0		LS
	5	10	8	9	9	7	7	10	9	8	7		LS
	6	0	0	0	0	0	0	0	0	0	0		LS
	7	16	13	14	16	13	14	13	17	18	14		LS
	8												
Total		30	24	27	28	24	24	25	29	30	24	265	LS

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
100%	1	0	0	0	0	0	0	0	0	0	0		LS
	2	0	0	0	0	0	0	0	0	0	0		LS
	3	4	3	3	4	3	3	2	3	4	3		LS
	4	0	0	0	0	0	0	0	0	0	0		LS
	5	9	8	9	8	10	7	7	10	8	9		LS
	6	0	0	0	0	0	0	0	0	0	0		LS
	7	14	13	12	10	15	16	17	20	16	18		LS
	8												
Total		26	24	24	22	28	26	26	33	28	30	267	LS

O = daphnid Alive, no reproduction
= number of neonates released

28 EM 1/10/25
X = Daphnid dead
X# = Daphnid dead but (#) of neonates released
ND = near death

Data form for the *Ceriodaphnia dubia* survival and reproduction test.
Routine chemical and physical determinations.

Page 1 of 2

Client: KSR
Test Start: 12-3-2027 3P
Test Stop: 12-10-2027 3P

Analyst: B. Baurin
Analyst: _____
Analyst: _____

Control:		Day							Remarks
		1	2	3	4	5	6	7	
Temp. Degree C.	Initial	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
	Final	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
D. O. mg/l	Initial	8.1	8.1	8.1	8.1	8.1	8.1	8.1	
	Final	8.8	8.8	8.9	8.9	8.8	8.8	8.8	
pH S.U.	Initial	7.80	7.80	7.80	7.78	7.79	7.81	7.81	
	Final	8.46	8.54	8.52	8.57	8.52	8.49	8.44	
Alkalinity (mg/l)		81.3	81.3	80.5	81.3	80.9	81.3	80.9	
Hardness (mg/l)		114.2	114.6	114.6	115.3	115.0	115.0	114.6	
Conductivity (µmhos)		404	404	406	406	406	405	406	
Chlorine (mg/l)		20.01	20.01	20.01	20.01	20.01	20.01	20.01	
Analyst (init.)		MB	MB	MB	MB	MB	MB	MB	

Conc. <u>20%</u>		Day							Remarks
		1	2	3	4	5	6	7	
Temp. Degree C.	Initial	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
	Final	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
D. O. mg/l	Initial	8.2	8.3	8.2	8.3	8.2	8.2	8.3	
	Final	8.8	8.8	8.9	8.9	8.8	8.8	8.8	
pH S.U.	Initial	7.71	7.70	7.74	7.72	7.72	7.76	7.76	
	Final	8.58	8.69	8.71	8.69	8.62	8.58	8.51	
Analyst (init.)		MB	MB	MB	MB	MB	MB	MB	

Conc. <u>40%</u>		Day							Remarks
		1	2	3	4	5	6	7	
Temp. Degree C.	Initial	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
	Final	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
D. O. mg/l	Initial	8.4	8.5	8.4	8.6	8.3	8.4	8.5	
	Final	8.8	8.9	8.9	8.9	8.8	8.9	8.9	
pH S.U.	Initial	7.62	7.61	7.67	7.67	7.67	7.69	7.70	
	Final	8.66	8.74	8.75	8.78	8.75	8.70	8.68	
Analyst (init.)		MB	MB	MB	MB	MB	MB	MB	

Data form for the *Ceriodaphnia dubia* survival and reproduction test.
Routine chemical and physical determinations.

Page 2 of 2

Client: KSR
Test Start: 12-3-2024 3P
Test Stop: 12-10-2024 3P

Analyst: B. Barker
Analyst:
Analyst:

Conc. <u>60%</u>	Day							Remarks
	1	2	3	4	5	6	7	
Temp. Initial	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
Degree C. Final	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
D. O. Initial	8.6	8.7	8.5	8.8	8.5	8.7	8.8	
mg/l Final	8.9	8.9	8.9	8.9	8.8	8.9	9.0	
pH Initial	7.52	7.52	7.62	7.61	7.60	7.61	7.62	
S.U. Final	8.69	8.77	8.88	8.86	8.83	8.76	8.80	
Analyst (init.)	M	M	M	M	M	M	M	

Conc. <u>80%</u>	Day							Remarks
	1	2	3	4	5	6	7	
Temp. Initial	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
Degree C. Final	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
D. O. Initial	8.8	9.0	8.7	9.1	8.7	9.0	9.1	
mg/l Final	8.9	9.0	8.9	9.0	8.9	9.1	9.1	
pH Initial	7.41	7.42	7.55	7.54	7.51	7.52	7.55	
S.U. Final	8.69	8.73	8.82	8.81	8.78	8.75	8.81	
Analyst (init.)	M	M	M	M	M	M	M	

Conc. <u>100%</u>	Day							Remarks
	1	2	3	4	5	6	7	
Temp. Initial	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
Degree C. Final	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
D. O. Initial	9.0	9.3	9.0	9.4	8.9	9.3	9.5	
mg/l Final	8.9	9.0	8.9	9.1	8.9	9.1	9.2	
pH Initial	7.28	7.31	7.45	7.47	7.42	7.44	7.46	
S.U. Final	8.55	8.59	8.71	8.77	8.70	8.70	8.74	
Alkalinity (mg/l)	227.0	226.2	288.8	289.2	288.8	290.5	290.5	
Hardness (mg/l)	255.6	256.7	278.0	277.6	266.8	266.8	267.9	
Conductivity (µmhos)	1212	1210	1383	1385	1469	1471	1471	
Chlorine (mg/l)	20.01	20.01	20.01	20.01	20.01	20.01	20.01	
Analyst (init.)	M	M	M	M	M	M	M	

241202017 241204051 241206010

Appendix II

Chain of Custody Data Sheets

*Job ID:241202017

CHAIN OF CUSTOMERS AND ANALYTICAL REQUIREMENTS

Month: Dec Year: 2024

Beckmar

Special Instructions: * Days 1 & 2 - 1 Container, Day 3 - 2 Containers

Calibration ID:

Facility Location & Contact Information	Send Results To: (same as client info) ☐ yes ☐ no	Billing Information (same as client info) ☐ yes ☐ no	Permit
City: _____ State: _____ Zip: _____ Phone: _____ Fax: _____ Address: _____ Person: _____ Job: _____	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no

Client Name	KSR WQTC	Client Name	Metropolitan Sewer District
Address	1612 Dawkins Rd.	Address	P O Box 740011
			Metropolitan Sewer District
			P.O. Box 740011

City, St, ZIP	LaGrange, KY 40031	City, State, ZIP	Louisville, KY 40201
Address		Address	Louisville, KY 40201
			P.O. Box 740011

Phone	502-540-6735	Contact Name
-------	--------------	--------------

Contact	E-mail	A.P. Email	accounts payable@louisvillemisd.org
	david.radke@louisvillemisd.org		

Collected by (please print):	(signature):	P.O. Number:	sample frequency
C. J. R. P. 13	[Signature]		Quarterly
Project ID:			

Bottle ID (Lab Use)	Collection	Project No.	Field Data		
			U	W	C (mm)
KSR WQTC - BIO			Analysis Requested		

<u>Only</u>	Day	Time	Sample Point / Description	pH (S.U.)	DO (Mg/L)	Cl ₂ (mg/L)	Temp. (°C)

	Free	Total
T411EFF - KSR WQTC EFF (Day 1)		
Ceriodaphnia dubia (Chronic)		

[illegible][illegible][illegible][illegible][illegible]

0	5	0	570
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[illegible][illegible][illegible]

Relinquished by:	Received by:	Date	Time	Type of Container	Sample rejection : Reason:

Requisitioned by:	Received by:	Date	Time
<i>[Signature]</i>	<i>[Signature]</i>	01/06/24	1325
		G10 = 1000ml Glass	
		Temp. At Receipt _____ °C	
		DW = DW	

[illegible]

Relinquished by:	Date	Time	H40c = 40ml Headspace Clear	Yes	No	N/A
Received by:						

Relinquished by:	Received by:	Date	Time	H40a = 40ml Headspace Amber	Broken Containers	Colls
				SG = 16 Oz Glass - Sol	Custody Seals Intact	Inv

Relinquished by:	Received by:	Date	Time

Investigator's Initials	Date	Time	Proper Containers	C8 - 8Hr	Compos
			D1 = 120ml Plastic Sterile	X	—
			P25 = 250ml Plastic	✓	—
					Samples Within Holding Times

Relinquished by:	Received by:	Date	Time	P1 = 100ml Plastic	All Samples on COC Received	C12 - 12
------------------	--------------	------	------	--------------------	-----------------------------	---------------------

[illegible]

correction factor: 0.0°C **G2 = 250ml Glass**

End @ 03:10

[illegible]



Beckmar Environmental Laboratory
3251 Ruckriegel Parkway
Louisville, KY 40299
Phone: (502) 266-6533
Fax: (502) 266-6446
www.beckmarlab.com

CHAIN OF CUSTODY AND ANALYTICAL REQUIREMENTS

Month: Dec Year: 2024

Beckmar

Special Instructions: * Days 1 & 2 - 1 Container, Day 3 - 2 Containers

Calibration ID:

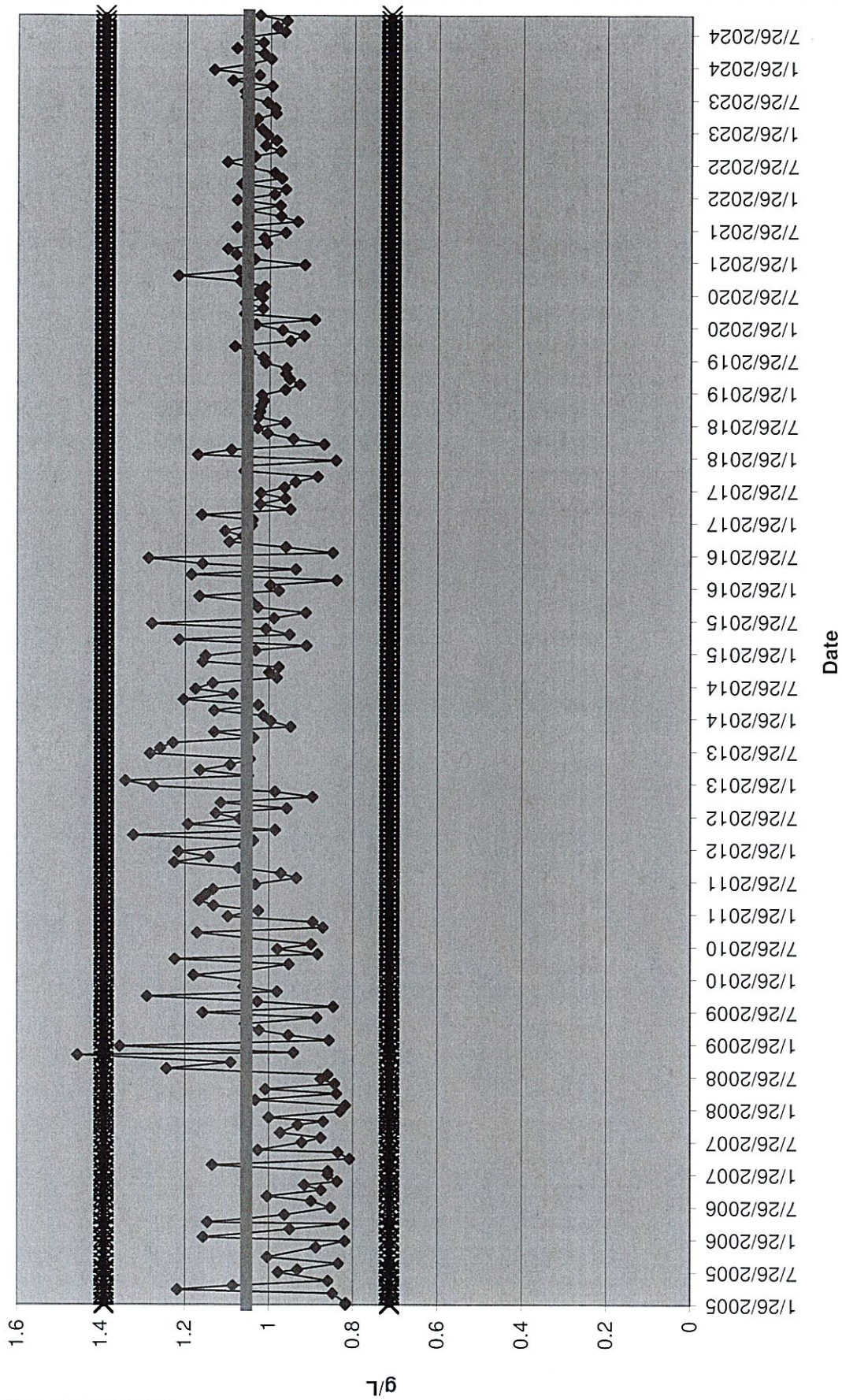
[illegible]

Initial *JML*

Appendix III

NaCl Reference Data Sheets

NaCl Reference Data Chart - *C. dubia* Chronic



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 11/10/2024	Test ID: nacl1124	Sample ID: nacl112024
End Date: 11/17/2024	Lab ID: 0044:beckmar lab	Sample Type: NACL-Sodium chloride
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species: CD-Ceriodaphnia dubia
Comments: nacl cerio chronic november 2024		

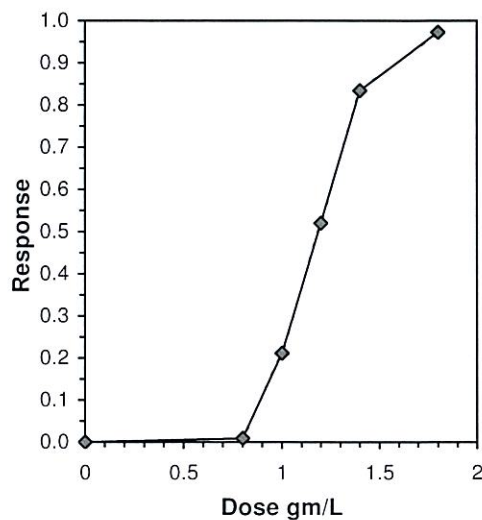
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
B-Control	18.000	17.000	20.000	25.000	23.000	27.000	25.000	25.000	24.000	19.000
0.8	19.000	19.000	21.000	25.000	25.000	26.000	24.000	24.000	21.000	17.000
1	16.000	18.000	14.000	21.000	22.000	15.000	16.000	23.000	18.000	13.000
1.2	12.000	14.000	8.000	10.000	9.000	7.000	17.000	15.000	14.000	1.000
1.4	6.000	7.000	5.000	8.000	4.000	0.000	0.000	5.000	2.000	0.000
1.8	1.000	0.000	2.000	0.000	1.000	0.000	0.000	0.000	1.000	1.000

Conc-gm/L	Mean	N-Mean	Transform: Untransformed					Isotonic	
			Mean	Min	Max	CV%	N	Mean	N-Mean
B-Control	22.300	1.0000	22.300	17.000	27.000	15.684	10	22.300	1.0000
0.8	22.100	0.9910	22.100	17.000	26.000	14.060	10	22.100	0.9910
1	17.600	0.7892	17.600	13.000	23.000	19.536	10	17.600	0.7892
1.2	10.700	0.4798	10.700	1.000	17.000	44.068	10	10.700	0.4798
1.4	3.700	0.1659	3.700	0.000	8.000	81.630	10	3.700	0.1659
1.8	0.600	0.0269	0.600	0.000	2.000	116.534	10	0.600	0.0269

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution ($p > 0.01$)	0.55802	1.035	-0.3752	0.13588
Bartlett's Test indicates unequal variances ($p = 6.13E-04$)	21.6411	15.0863		

Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL		Skew
IC05	0.8407	0.1453	0.3658	0.8856	-1.8588
IC10	0.8902	0.0556	0.7316	0.9714	-1.9849
IC15	0.9398	0.0431	0.8575	1.0176	0.1356
IC20	0.9893	0.0385	0.9046	1.0407	-0.2211
IC25	1.0254	0.0333	0.9441	1.0713	-0.4297
IC40	1.1223	0.0333	1.0660	1.1907	0.2047
IC50	1.1870	0.0339	1.1179	1.2455	-0.0806



Client: NaceAnalyst: B. BarkiTest Start -- Date/Time: 11-10-2024 3P.Test Stop -- Date/Time: 11-17-2024 3PBrood Board Batch: 11092024

Neonate Age: _____

Data form for *Ceriodaphia dubia* survival and reproduction test

Control	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	0	AB
	2	0	0	0	0	0	0	0	0	0	0	0	AB
	3	3	3	3	4	3	4	4	4	4	3	35	AB
	4	0	0	0	0	0	0	0	0	0	0	0	AB
	5	6	6	7	9	8	9	8	8	8	6	75	AB
	6	0	0	0	0	0	0	0	0	0	0	0	AB
	7	9	8	10	12	12	14	13	13	12	10	113	AB
	8												
	Total	18	17	20	25	23	27	25	25	24	19	223	AB

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	0	AB
	2	0	0	0	0	0	0	0	0	0	0	0	AB
	3	3	4	3	4	4	4	4	4	3	3	36	AB
	4	0	0	0	0	0	0	0	0	0	0	0	AB
	5	6	6	8	8	9	8	7	7	8	5	72	AB
	6	0	0	0	0	0	0	0	0	0	0	0	AB
	7	10	9	10	13	12	14	13	13	10	9	113	AB
	8												
	Total	19	19	21	25	25	26	24	24	21	17	221	AB

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	0	AB
	2	0	0	0	0	0	0	0	0	0	0	0	AB
	3	3	3	2	3	3	2	3	4	3	2	28	AB
	4	0	0	0	0	0	0	0	0	0	0	0	AB
	5	5	6	5	7	7	5	5	8	6	4	58	AB
	6	0	0	0	0	0	0	0	0	0	0	0	AB
	7	8	9	7	11	12	8	8	11	9	7	90	AB
	8												
	Total	16	18	14	21	22	15	16	23	18	13	176	AB

Client:

Nac

Analyst:

C. B. Baul

Test Start -- Date/Time:

11-10-2024 3P

Test Stop -- Date/Time:

11-17-2024 3P

Data form for *Ceriodaphnia dubia* survival and reproduction test

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
1.25m/L	1	0	0	0	0	0	0	0	0	0	0	0	PN
	2	0	0	0	0	0	0	0	0	0	0	0	PN
	3	3	2	2	0	0	0	2	0	0	1	10	PN
	4	0	0	0	3	2	2	0	3	2	X ⁰	12	PN
	5	5	5	3	0	0	0	7	0	0	X	20	PN
	6	0	0	0	5	4	5	0	6	4	X	24	PN
	7	4	7	3	X ²	3	0	8	6	8	X	41	PN
	8												PN
Total		12	14	8	10	9	7	17	15	14	1	107	PN

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
1.45m/L	1	0	0	0	0	0	0	0	0	0	0	0	PN
	2	0	0	0	0	0	0	0	0	0	0	0	PN
	3	0	0	0	0	0	0	X ⁰	0	0	0	0	PN
	4	2	1	2	3	0	X ⁰	X	0	0	0	8	PN
	5	0	0	0	0	2	X	X	3	0	0	5	PN
	6	4	6	1	5	0	X	X	0	2X	0	18	PN
	7	0	0	2	0	2	X	X	2	X	0	6	PN
	8												PN
Total		6	7	5	8	4	0	0	5	2	0	37	PN

Conc.	Replicate										No. Of Young	No. Of Adults	Analyst
	Day	1	2	3	4	5	6	7	8	9	10		
1.85m/L	1	0	0	0	0	0	0	0	0	0	0	0	PN
	2	0	X ⁰	0	X ⁰	0	0	0	0	0	0	0	PN
	3	0	X	0	X	0	0	0	0	0	0	0	PN
	4	0	X	0	X	0	0	X ⁰	X ⁰	0	0	0	PN
	5	0	X	0	X	X ¹	0	X	X	1	0	2	PN
	6	1	X	0	X	X	0	X	X	0	X ¹	2	PN
	7	0	X	2	X	X	0	X	X	0	X	2	PN
	8												PN
Total		1	0	2	0	1	0	0	0	1	1	6	PN

O = daphnid Alive, no reproduction
= number of neonates released

X = Daphnid dead
X# = Daphnid dead but (#) of neonates released

ND = near death

EPA may make all the information submitted through this form (including all attachments) available to the public without further notice to you. Do not use this online form to submit personal information (e.g., non-business cell phone number or non-business email address), confidential business information (CBI), or if you intend to assert a CBI claim on any of the submitted information. Pursuant to 40 CFR 2.203(a), EPA is providing you with notice that all CBI claims must be asserted at the time of submission. EPA cannot accommodate a late CBI claim to cover previously submitted information because efforts to protect the information are not administratively practicable since it may already be disclosed to the public. Although we do not foresee a need for persons to assert a claim of CBI based on the types of information requested in this form, if persons wish to assert a CBI claim we direct submitters to contact the [NPDES eReporting Help Desk](#) for further guidance. Please note that EPA may contact you after you submit this report for more information.

This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. (OMB Control No. 2040-0004). Responses to this collection of information are mandatory in accordance with this permit and EPA NPDES regulations 40 CFR 122.41(l)(4)(i). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The public reporting and recordkeeping burden for this collection of information are estimated to average 2 hours per outfall. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the Regulatory Support Division Director, U.S. Environmental Protection Agency (2821T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Permit

Permit #:

KY0040126

Major:

Yes

Permittee:

Louisville and Jefferson County MSD

Permittee Address:

700 West Liberty St
Louisville, KY 40203

Facility:

KY STATE REFORMATORY WWTP

Facility Location:

3001 W HWY 146
LA GRANGE, KY 40031

Permitted Feature:

001
External Outfall

Discharge:

001-2
QUARTERLY BIOMONITORING

Report Dates & Status

Monitoring Period:

From 10/01/24 to 12/31/24

DMR Due Date:

01/28/25

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:

Tony

Last Name:

Parrott

Title:

Executive Director

Telephone:

502-540-6533

No Data Indicator (NODI)

Form NODI:

--

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration							# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units			
61406	Toxicity, final conc toxicity units	1 - Effluent Gross	0	--	Sample										<	1.0	2G - tox chronic		01/90 - Quarterly	GR - Grab
					Permit Req.										<=	1.0 MAXIMUM	2G - tox chronic		01/90 - Quarterly	GR - Grab
					Value NODI															

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

Name	Type	Size
ksr_bio_rpt_december_2024.pdf	pdf	8504012.0

Report Last Saved By

Louisville and Jefferson County MSD

User:

ALEX.SMITHER@LOUISVILLEMSD.ORG

Name:

Charles Smither

E-Mail:

alex.smither@louisvillemسد.org

Date/Time:

2025-01-27 12:49 (Time Zone: -05:00)

Report Last Signed By

User:

ALEX.SMITHER@LOUISVILLEMSD.ORG

Name:

Charles Smither

E-Mail:

alex.smither@louisvillemسد.org

Date/Time:

2025-01-27 12:50 (Time Zone: -05:00)

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Form NODI:

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Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration							# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units			
00556	Oil & Grease	1 - Effluent Gross	0	--	Sample								<	5.0	<	5.0	19 - mg/L		01/YR - Annual	GR - Grab
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	GR - Grab
					Value NODI															
00556	Oil & Grease	G - Raw Sewage Influent	0	--	Sample								=	18.0	=	18.0	19 - mg/L		01/YR - Annual	GR - Grab
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	GR - Grab
					Value NODI															
00665	Phosphorus, total [as P]	1 - Effluent Gross	0	--	Sample								=	5.29	=	7.93	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															
00665	Phosphorus, total [as P]	G - Raw Sewage Influent	0	--	Sample								=	6.91	=	19.6	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															
00722	Cyanide, free [amenable to chlorination]	1 - Effluent Gross	0	--	Sample								<	0.005	<	0.005	19 - mg/L		01/YR - Annual	GR - Grab
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	GR - Grab
					Value NODI															
00722	Cyanide, free [amenable to chlorination]	G - Raw Sewage Influent	0	--	Sample								<	0.02	<	0.02	19 - mg/L		01/YR - Annual	GR - Grab
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	GR - Grab
					Value NODI															
00940	Chloride [as Cl]	1 - Effluent Gross	0	--	Sample								=	186.0	=	186.0	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															
00940	Chloride [as Cl]	G - Raw Sewage Influent	0	--	Sample								=	97.6	=	97.6	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															
00978	Arsenic, total recoverable	1 - Effluent Gross	0	--	Sample								<	0.05	<	0.05	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															
00978	Arsenic, total recoverable	G - Raw Sewage Influent	0	--	Sample								<	0.05	<	0.05	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite

					Value NODI															
00980	Iron, total recoverable	1 - Effluent Gross	0	--	Sample									<	0.3	<	0.3	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
00980	Iron, total recoverable	G - Raw Sewage Influent	0	--	Sample								=	1.11	=	1.11	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
00981	Selenium, total recoverable	1 - Effluent Gross	0	--	Sample								<	0.05	<	0.05	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
00981	Selenium, total recoverable	G - Raw Sewage Influent	0	--	Sample								<	0.05	<	0.05	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01074	Nickel, total recoverable	1 - Effluent Gross	0	--	Sample								<	0.05	<	0.05	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01074	Nickel, total recoverable	G - Raw Sewage Influent	0	--	Sample								<	0.05	<	0.05	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01079	Silver total recoverable	1 - Effluent Gross	0	--	Sample								<	0.004	<	0.004	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01079	Silver total recoverable	G - Raw Sewage Influent	0	--	Sample								<	0.004	<	0.004	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01094	Zinc, total recoverable	1 - Effluent Gross	0	--	Sample								<	0.05	<	0.05	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01094	Zinc, total recoverable	G - Raw Sewage Influent	0	--	Sample								=	0.075	=	0.075	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01113	Cadmium, total recoverable	1 - Effluent Gross	0	--	Sample								<	0.01	<	0.01	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01113	Cadmium, total recoverable	G - Raw Sewage Influent	0	--	Sample								<	0.01	<	0.01	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01114	Lead, total recoverable	1 - Effluent Gross	0	--	Sample								<	0.066	<	0.102	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01114	Lead, total recoverable	G - Raw Sewage Influent	0	--	Sample								<	0.05	<	0.05	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01118	Chromium, total recoverable	1 - Effluent Gross	0	--	Sample								<	0.01	<	0.01	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01118	Chromium, total recoverable	G - Raw Sewage Influent	0	--	Sample								<	0.01	<	0.01	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01119	Copper, total recoverable	1 - Effluent Gross	0	--	Sample								=	0.019	=	0.019	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
01119	Copper, total recoverable	G - Raw Sewage Influent	0	--	Sample								=	0.019	=	0.019	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	24 - 24 Hour Composite	
					Value NODI															
34043	Phenolics, total	1 - Effluent Gross	0	--	Sample								<	0.02	<	0.02	19 - mg/L	01/YR - Annual	GR - Grab	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	GR - Grab	
					Value NODI															
					Sample								=	0.145	=	0.145	19 - mg/L	01/YR - Annual	GR - Grab	
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/YR - Annual	GR - Grab	

34043	Phenolics, total	G - Raw Sewage Influent	0	--	Value NODI															
71901	Mercury, total recoverable	1 - Effluent Gross	0	--	Sample								<	0.0000005	<	0.0000005	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															
71901	Mercury, total recoverable	G - Raw Sewage Influent	0	--	Sample								=	0.0000097	=	0.0000097	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															
78247	Chromium, hexavalent tot recoverable	1 - Effluent Gross	0	--	Sample								<	0.005	<	0.005	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															
78247	Chromium, hexavalent tot recoverable	G - Raw Sewage Influent	0	--	Sample								=	0.012	<	0.012	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		01/YR - Annual	24 - 24 Hour Composite
					Value NODI															

Submission Note

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Edit Check Errors

No errors.

Comments

Attachments

No attachments.

Report Last Saved By

Louisville and Jefferson County MSD

User:

ALEX.SMITHER@LOUISVILLEMSD.ORG

Name:

Charles Smither

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