

Louisville and Jefferson County Metropolitan Sewer District 700 West Liberty Street Louisville Kentucky 40203-1911 502-540-6000 www.msdlouky.org

July 24, 2008

Ms. Kathy Thurman Kentucky Division of Water 14 Reilly Road Frankfort, Kentucky 40601

RE:

West County Treatment Plant, KPDES No: KY0078956

Discharge Monitoring Report

June 2008

Dear Ms. Thurman:

Attached are the Discharge Monitoring Report (DMR) for the West County Wastewater Treatment Plant, for the month of June 2008. The Whole Effluent Toxicity (WET) test for the second quarter has been electronically submitted.

There is one exceedence for minimum effluent pH. Upon obtaining this result, we immediately retested the effluent pH and found that the effluent pH was in compliance. There was no evidence of the WCWTP being upset. This exceedence possibly indicates that there was a cross contamination in our sample bottle.

If you have any questions concerning the attached DMR's, please contact me at (502)540-6031.

Sincerely,

Kevin D. Ries

Process Supervisor, West Region

Kent D. Russ

KDR/West County 0608.doc

Enclosures

cc: T. Singleton

R. Shaw





Louisville and Jefferson County Metropolitan Sewer District 700 West Liberty Street Louisville Kentucky 40203-1911 502-540-6000 www.msdlouky.org

July 24, 2008

Mr. Charlie Roth Kentucky Division of Water 9116 Leesgate Rd. Louisville, Kentucky 40222

RE:

West County Treatment Plant, KPDES No: KY0078956

Discharge Monitoring Report

June 2008

Dear Mr. Roth:

Attached are the Discharge Monitoring Report (DMR) and the Monthly Operating Report (MOR) report for the West County Wastewater Treatment Plant, for the month of June 2008. There is one exceedence for minimum effluent pH. Upon obtaining this result, we immediately retested the effluent pH and found that the effluent pH was in compliance. There was no evidence of the WCWTP being upset. This exceedence possibly indicates that there was a cross contamination in our sample bottle.

If you have any questions concerning the attached DMR's, please contact me at (502)540-6031.

Sincerely,

Kevin D. Ries

Process Supervisor, West Region

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KDR/West County 0608.doc



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Form Approved. OMB No. 2040-0004

MAD WEST COUNTY STP

AND THE REAL PROPERTY AND STORE AND ADDRESS OF THE PERSON AS AS

ADDRESS C/O CEDAR CREEK STP RAOS CEDAR CREEK RD

> LOUISVILLE MSD WEST COUNTY STP

KY 40211

KY 40272

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MAJOR (SUBR LV) F - FINAL

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MUNICIPAL MASTEMATER MONITORING PERIOD DAY YEAR DAY MO

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\*\*\* NO DISCHARGE |

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NAME/TITLE PRINCIPAL EXECUTIVE	prepare	y under penalty of law that t ed under my direction or sup	ervision in accordance with	a system design	ed	^		TELEPHON	JE	DA	TE
H.J. Schardein Exec. Director	submitt or thos submitt	re that qualified personnel p ted. Based on my inquiry of e persons directly responsib- ted is, to the best of my kno-	the person or persons who i le for gathering the informat wledge and belief, true, acci	manage the syste tion, the informat arate, and comple	ion	TURE OF PRINCIPAL	EXECUTIVE 5	2 154n-6	àn a	08 0	7-23

**TYPED OR PRINTED** 

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

582 540-6000 UU UT NUMBER YEAR DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

USE MO AVG FOR BOD/TSS REMV/REPT IN MINIMUM COLUMN.

letter for explaination.

MONITORING PERIOD

TO

DAY

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YEAR

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Form Approved. OMB No. 2040-0004

MED WEST COUNTY STP

ADDRESS C/O CEDAR CREEK STP

6405 CEDAR CREEK RD

KY 40211

LOUISVILLE FACILITY MED WEST COUNTY STP LOCATION LOUISVILLE

KY 40272

KVAATROKA PERMIT NUMBER

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MAJOR (SUBR LV) F - FINAL

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MUNICIPAL WASTEWATER

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including the possibility of fine and imprisonment for knowing violations. COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

USE MO AVG FOR BOD/TSS REMV:REPT IN MINIMUM COLUMN.

Form Approved. OMB No. 2040-0004

MAD WEST COUNTY STP ADDRESS C/O CEDAR CREEK STP

RATE CETAR CREEK RD

LOUISVILLE MSD WEST COUNTY STP

LOCATION LOUISVILLE

KY 40211

KY 40272

FROM

KY0078956

PERMIT NUMBER

OCH DISCHARGE NUMBER MAJOR (SUBR LV) F - FINAL

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MONITORING PERIOD YEAR MO DAY YEAR MO DAY TO Öès OB Oó 01 08 30 MUNICIPAL WASTEWATER EFFLUENT

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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

USE MO AVG FOR BOD/TSS REMV; REPT IN MINIMUM COLUMN.

Form Approved. OMB No. 2040-0004

MSD WEST COUNTY STP

MED WEST COUNTY STP

ADDRESS C/O CEDAR CREEK STP 8405 CEDAR CREEK RD

LOUISVILLE

LOUISVILLE

FACILITY

KY 40Z11

KY 40272

KVOOZA95A PERMIT NUMBER

001 0 DISCHARGE NUMBER MAJOR (SUBR LV) F - FINAL

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MONITORING PERIOD YEAR MO DAY YEAR МО DAY **FROM** OF 04 01 TO OS 06 30 REASONABLE POTENTIAL EFFLUENT

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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

MONITORING PERIOD

Form Approved. OMB No. 2040-0004

MED MEST COUNTY STP

ADDRESS C/O CEDAR CREEK STP 8405 CEDAR CREEK RD

> LOUISVILLE MED WEST COUNTY STP

KY 40211

KYMTEGEL **PERMIT NUMBER** 

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H.J. Schardein  Exec. Director  TYPED OR PRINTED  COMMENTS AND EXPLANATION OF A	to assure submitte or those submitte I am aw includin	a that qualified personnel prod. Based on my inquiry of persons directly responsible dis, to the best of my knower that there are significant g the possibility of fine and	operly gather and evaluate the person or persons who e for gathering the informa wledge and belief, true, acc t penalties for submitting fa imprisonment for knowing	the information manage the syste tion, the informa urate, and complete alse information,	nn, tion ate.  SIGNA	TURE OF PRINCIPAL ICER OR AUTHORIZE	EXECUTIVE ARE ARE	-540-6 A NUMBE		OS O	7 23

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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

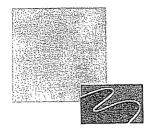
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1 1	9.44			7.3	7.4			<u> </u>		6.8		218		3			,	179		- 5	***************************************	3520	ļ			2060	1580	150.0	0.07			5.40	0.01	4.00	2
2 1	9.18			7.5	7.3					6,9	<del></del>	218		3				179	$\overline{}$	7		3470	٠.			2160	1650	160.0	0.07				0.01	5.10	21
3 2	3.35			7.1	7.2		<u> </u>			6,0	_	222		4				151		9		3880	ļ	1		1990	1560	150.0	0.08		0.87			3.40	_1
4 2	0.94			8.0	7.1					5,5		192		3				140		7		3330	<u> </u>			1840	1420	150.0	0.08						1
5 2	0.30			7.3	7.1			<u> </u>		5.5		182		3	<u>-</u> .		<u> </u>	156		8		3190				1810	1400	150.0	0.08				0.01		7
6 1	8.65			7.5		<u> </u>				6.7		194		3				159		9		3140		ļ		1850	1470	150.0	0.08				0.01		1
7 1	8.77			7.2	7.3	ļ				6.4		210		4				182		8	-	3350	<u> </u>	ļ		1980	1550	150.0	0.08				0.01		1
8 1	7.17			7.2						6.4		200		3				198		9	ļ	3050	<b> </b>			2330	1870	150.0	0.06	$\dashv$		5.40		4.00	4
9 1	8.20			7.4	7.3					6.8		188		3			<u> </u>	156		8	<del> </del>	2940				2090	1500	150.0	0.07	$\rightarrow$				4.40	88
10 1	7.79			7.4	5.5					6.1		192		6		ļ		153		10		3010	· <del> </del>	,		1810	1430	150.0	0.08		1.31		0.01	4.00	883
11 1	7.18			7.4	7.3					5.9		200		4				170		6		2990	<del></del>			1730	1390	150.0	0.09					4.20	. 9
12 1	8,53			7.2	7.0					6.0		212		5				170		8		3170	<u> </u>			1740	1390	150.0	0.09				0.01	5.10	-4
13 2	0.53			7.1	6.9					6.0		84		6		ļ	_	102		7		3400	4			1640	1280	140.0	0,09				0.01	5.80	1
14 2	1.50			7,1	7.3		<u> </u>	<u> </u>		5.7		154		5	************			158		6		3230	ļ			1440	1180	140.0	0,10	$\overline{}$			0.01	5.20	6
15 1	7.86			7,1	7,0			<u> </u>		5.7		348		6		ļ	ļ	204	<del></del>	9	<del></del>	3600				2080	1590	160.0	0.08					6.70	72
16 1	9.37			7.1	7.0				<u> </u>	5.4		176		8		L	<u> </u>	164	$\rightarrow$	9	<del> </del>	4020		ļļ		2010	1580	150.0	0.07				0.01	6.00	1
17 1	7.80			7.3	7.1					5.4		196	`	7				167		13	·	3610				1650	1300	150.0	0.09		1.56		0.01	6.20	7
18 1	7.30			7.1	7,0	<u> </u>				5.5		190		8		<u></u>		189	_	8		3400	ļ			1450	1120	150.0	0.10				0.01	6.00	1
19 1	7.51			7.1	7.3				<u> </u>	5,8		178		7			ļ	22		13		3770	<u> </u>			1510	1260	140.0					0.01	7.00	3
20 1	8.79			7.1	7.3					7,4		180		7		<u> </u>		138		10		3350		ļ		1530	1220	140.0					0.01	5.60	11
21 1	9.74			7.9	7.4					7.0		214		5		<u> </u>	<u> </u>	156	3	9		3500				1620	1340	140.0					0.01	6.00	15
22 1	8,79			7.1	7.0					6.7	'	214		7				161	1	12		3300	<del></del>			1850	1435	150.0	0.08				0.01	6.70	3
	8,32		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7.2	7.4					6.5		176		4				180	0	14		3270				1880	1470	150.0					0.01	5,90	- 6
	6.88			7.1	7,1					6.1		202		4				164	4	11		3220	<del></del>	.,		1710	1380	150.0			1.28		0,01	4.70	6
25 1	6.46			7.1	7.2		I			5.1		204		. 7			<u> </u>	200	0	10		2950	<del></del>			1750	1430	160,0	0.09				0.01	4.10	15
	7.40			7.3	6.9					5.4		222		7				207		12	***********	2790		ļ		1940	1530	140.0	0.07	<b>  </b>			0,01	4.50	36
	7.45			7.3	6.9					5.4		206		5		<u> </u>		162	2	11	<u> </u>	2670	<u> </u>			1520	1280	150.0	0.10			4.70	0.01	4.00	53
	1.34			7.0	7.1	T	I			5.6	i	186		5				160		8	4	2850	<u> </u>	1		1650	1270	140.0	0.08				0.01	4.20	10
	7.79			7.0	7.1		Ţ			5.4		224		4				173	3	10		2820				1660	1290	140.0	0.08			6.00	0.01	4,60	- 6
	7.44			7.0	6.9					7,1		192		3		l	<u> </u>	178	В	9	<u> </u>	2630		·		1550	1240	140.0					0.01	5.10	2
31	0.00									l					<u> </u>											CONTRACTOR OF THE PROPERTY OF		Verification to w	#VALUE!	av araovis navid	ACR-STINES	A BATTERIA DO DA PORTO DE	1105-00025-000001	stanyysándyi sérz	0.7500-0000
Total 5	61.8	0	0	28.55			1000	199		1000	ACCUPATION OF	20 P/2		鄉鄉		1000000	製製		\$ 1807.45		0.		0.0		TO COMPANY		Hollow Hill	<u> </u>	2000	333014	MEANS.			\$50 PER 172	/####
Avg.	8.12	ALC: NO.		7.3	7.1					6.1		199		5		ļ		16	9	9	<u> </u>	3247.3	<u> </u>	<u> </u>	1	1794.33	1413.50	148.00	#VALUE!		1.26	5.38	0.01	4.85	6]
	Total Number of Sewer Connections: 0 Industrial Waste Population Equivalent Operator Donald Rheinlaender Jr																																		
Residenti	al Con	nection	ns:																		10011					Cont #					164	00			
Commerc	ial Co	nnectic	ns:										172587			***************************************	15018				43314 TOC					Cert.#					104	33			
Industrial													Flow				BOD				TSS					Phone #					502-540	en/2			
Sewer Co	nnecti	ons X	4 =				0																			FHUITE#	•				JUZ-UMI	0072			

#### NAME OF SEWAGE TREATMENT PLANT WEST COUNTY WTP

Month of: June 2008 Average Flow 18.73 MGD

	Weather	
	Data	
		_

		Data		
Date 1	High	Low	Rainfall	Remarks
2				
3				took #3 Bar Screen O/S fo maintenance to work on convayor system.
4				#2 Grit Classifier was clogged took out , maint. Unclogged
5				72 CTR 51835H01 Was 5183530 1000 1000 1000 1000 1000 1000 1000
6				Did Bio monitor sampling
7				
8				
9				
10				
11				
12				
13				Took #1 clar. o/s to clean and P.M
14				Put #1 clar. Back in service.
15				Took #5 clar. o/s to clean for contractors to check out.
16				Maint. Working on #3 clar. Skimmer
17				
18				
19				Took #3 clar o/s so maint. Can P.M
20				Increased flow from clarifiers from 4000 to 5000
21				Took #3 Bar Screen o/s for the contractors to install new screen
22				
23				
24				
25				
26				
27				
28				Took #4,5&6 clarifiers o/s, and had them cleaned for the contractors
29				
30				
31				
Total			0	
Avg.				



## Acute Toxicity Evaluation for the MSD – West County Wastewater Treatment Plant

**June 2008** 

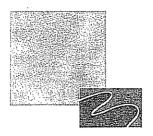
Prepared by:

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

Submitted to:

Mr. Kevin Ries
West County Wastewater Treatment Plant
700 West Liberty St.
Louisville, KY. 40203

Released by: MWM J. John Chuld
Biomonitoring QA Officer 7.3.1



#### Summary

Acute toxicity testing was performed on final effluent samples collected June 6, 2008 from the MSD West County Wastewater Treatment Plant. Testing was performed June 7 through 9, 2008 and upon termination, the following conclusions were reached:

For the 48-hour *Ceriodaphnia dubia* survival test, the LC50s for survival for samples "A" and "B" were greater than 100% effluent, generating an acute toxicity value of less than 1.00 TUa (TUa=100/LC50).

For the 48-hour *Pimephales promelas* survival test, the LC<sub>50s</sub> for survival for samples "A" and "B" were greater than 100% effluent, generating an acute toxicity value of less than 1.00 TUa (TUa=100/LC<sub>50</sub>).

#### Introduction

At the request of Mr. Kevin Ries, acute toxicity testing was performed on two grab effluent samples collected June 6, 2008 from the MSD West County Wastewater Treatment Plant in Louisville, KY. Metals analyses were also performed on effluent samples collected during the same time period. Information concerning plant and laboratory conditions can be found on the following pages.

The acute toxicity testing was performed in accordance with the US EPA methodology as defined in the US EPA manual "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" fifth edition, 2002 (EPA-821-R-02-012). The acute toxicity tests were performed in order to ascertain the LCso values for *Ceriodaphnia dubia* and *Pimephales promelas* survival.



Date of Issue: June 23, 2008

Page 1 of 1

Metropolitan Sewer District c/o Mr. Kevin Ries

700 West Liberty St.

Louisville, KY 40203-1913

RE: Analysis results for: West County WWTP: Biomonitoring metals/hardness.

#### BECKMAR CERTIFICATE OF ANALYSIS # 200529

Sample Date: 6/6/2008 Sample Time: 20:00

Sampled by: Kenneth Jones

Parameter	Results	Units	Туре	Method	Analyz Date / T		Analyst
Hardness (T) Cadmium (gfaa) Copper (TR) Lead (TR) Zinc (TR)	238 < 0.0001 0.008 < 0.005 0.0435	mg/l mg/l mg/l mg/l mg/l	0000	EPA 130.2 EPA 200.7 EPA 200.7 EPA 200.7 EPA 200.7	6/12/2008 6/10/2008 6/9/2008 6/9/2008 6/9/2008	14:30 7:30 16:00 16:00 16:00	BWK ALS ALS ALS ALS

Remarks:

If you have any questions please call.

Thank you,

Joe P. Carney

Quality Control Officer

JPC:dwt

EN VIR ON MENTAL LABORATORY

Jeffersantown Business Park

3251 Ruckriegel Parkway

Jeffersontown, KY 40299

502,266.6533

FAX 502.266.6446

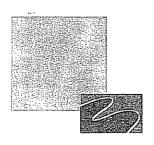


CT3 (	Page 1
I PCT	Type:
TODE	TAIL

Acute X Screen
Chronic Definitive X

### TOXICITY TEST REPORT SHEET

1)	Facility/Discharger: MSD West County WWTP	Report Date:	7/2/2008
2)	Address: 11601 Lower River Rd. Louisville, K	Y. 40272	
3)	NPDES Permit #: <u>KY0078956</u> 4) Re	ceiving Stream: Ohio Riv	<u>ver @ mile 358.1</u>
5)	Facility Contact: Mr. Kevin Ries		
6)	Phone #: (502)-540-6031		
7)	Consultant/Testing Lab Name Beckmar Environm	nental Laboratory	
8)	Lab Contact: Becky Barker	Phone #: (502) 266-65	33
9)	Outfall(s) Tested: 1		
10)	Average Daily flow on day sampled (MGD) 3)5)	1) na 2) na 6) 7)	y
11)	Test Species: 1) Ceriodaphnia dubia	2) Pimephales prom	elas
12)	Species Age: 1) <24 hours	2) 4 days old	
13)	Organism Source: 1) lab culture	2) fish hatch 060308	}
14)	Acclimation Procedures: 1) Reared at test conditation Reared Re	ions in synthetic water ions in synthetic water	
15)	Test Conditions: Static: X Static-F	Renewal:	
16)	Dilution Water Type (Synthetic, Receiving Stream	synthetic - mhsw	
17)	Aeration? (Before Test/During Test/None): no		
18)	Dechlorination? no Original Ch	lorine Level: <0.01 mg/L	
	Rhorde Saker	7,	/2/2008
(2	Signature of person filling out form)	Date	
Rho	onda Baker	Biologist	····
	Name (Typed or Printed)	Title	



#### Materials and Methods

#### Sampling

Two samples were collected twelve hours apart (Table I) and delivered to Beckmar Environmental Laboratory. Upon receipt, the sample went through standard log in procedures.

#### Control/Dilution Water

All chemicals used are reagent grade, obtained from Aldrich. 1.20 grams of CaSO<sub>4</sub>, 1.2 grams of MgSO<sub>4</sub>, 1.92 grams of NaHCO<sub>3</sub>, 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). Pimephales promelas tests were performed in 600 mL plastic cups obtained from Liquor Outlet (Louisville, KY).

#### **Toxicity Testing**

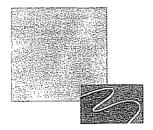
The sample was allowed to warm to room temperature  $(25^{\circ}C)$  and was tested for residual chlorine immediately prior to dilution. Testing was then performed in accordance with US EPA methodology. Data was recorded on Beckmar generated lab sheets (Appendix I).

#### 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 48 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% sample. 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/temperature:

YSI Model 52

PH:

Orion Model 720A

Conductivity:

Alkalinity:

Oakton CON 100 Series

Hardness:

Standard Methods Titration

Standard Methods Titration

Total Chlorine Residual:

Fisher-Porter Titration 5th Acute Edition, 2002

EPA Acute/Chronic Manual:

- 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 final grab sample is collected. 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 Grab	2 gallon	06/06/08 @ 8:00 A.M.	NA	3.0 degrees C
	Grab	2 gallon	06/06/08 @ 8:00 P.M.	NA	3.0 degrees C

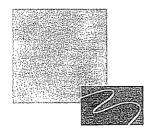
#### Dates/Times of Test Performance

Species #1: Ceriodaphnia dubia

Initiated: 06/07/08 @ 2:00 P.M.
Terminated 06/09/08 @ 2:00 P.M.

Species #2: Pimephales promelas

Initiated: 06/07/08 @ 2:00 P.M.
Terminated 06/09/08 @ 2:00 P.M.



#### Results

In sample "A", Ceriodaphnia dubia test 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 95% survival in the 100% dilution.

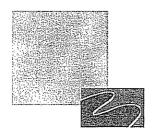
In sample "B", Ceriodaphnia dubia test ran exhibited 100% survival in the control, 95% survival in the 20% dilution, 100% survival in the 40% dilution, 100% survival in the 60% dilution, 100% survival in the 80% dilution, and 100% survival in the 100% dilution.

For the 48-hour Ceriodaphnia dubia survival test, the LC50s for survival for samples "A" and "B" were greater than 100% effluent, generating an acute toxicity value of less than 1.00 TUa.

In sample "A", the *Pimephales promelas* test ran 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.

In sample "B", the *Pimephales promelas* test 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.

For the 48-hour *Pimephales promelas* survival test, the LC50s for survival for samples "A" and "B" were greater than 100% effluent, generating an acute toxicity value of less than 1.00 TUa.



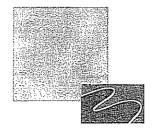
## Appendix I

# Ceriodaphnia dubia Data Sheets

			Coriode	onbaja Surviv	al and Reproc	luction Test-48 l	Hr Survival
and the second property of the second party of the second	/7/2008 /9/2008 /6/2008	L	rest ID: _ab ID: Protocol:	westa0608 0044:beckmai EPAF 94-EPA	environmenta	Sample ID: Il Sample Type: Test Species:	westa0608 EFF1-POTW CD-Ceriodaphnia dubia
Conc-%	174	2	3	4			
B-Control	1.0000	1.0000	1.0000	1.0000			
20	1.0000	1.0000	1.0000	1.0000			
40	1.0000	1.0000	1.0000	1.0000			
60	1.0000	1.0000	1.0000	1.0000			
80	1.0000	1.0000	1.0000	1.0000			
100	1.0000	1.0000	0.8000	1.0000			

			Tre	ınsform:	Arcsin Sq	uare Root		•
Conc-%	Mean	N-Mean	Mean	Min	Max	_CV%	<u> </u>	
B-Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	
20	1.0000	1.0000	1.3453	1.3453	1.3453	0.000 0.000	4 4	
40	1,0000		1.3453	1.3453	1.3453 1.3453	0.000	4	
60	1.0000		1.3453	1.3453 1.3453	1.3453	0.000	4	
80 100	1.0000 0.9500	1.0000 0.9500	1.3453 1.2857	1.1071	1.3453	9.261	4	
100	ນ.ວວຸເພ	0.0000						

	Statistic	Critical	Skew	Kurt
Auxiliary Tests Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)		0.884	-3.0206	13.9892
Equality of variance cannot be confirmed				



## **Toxicity Test Results**

Results of *Ceriodaphnia* (Genus)

dubia (Species) 48 HR. ACUTE (Type / Duration) Toxicity Test

Conducted:

06/07/08 - (mm/dd/yy)

<u>06/09/08</u> (mm/dd/yy) Using Effluent from Outfall # \_\_1\_

(Indicate TU<sub>a</sub> / TU<sub>c</sub>)

If acute test, method used to determine

LC50 and Confidence Limit Valued:

The state of the s				ercent			•		#of Y	loung	Dry V	Veight
Capped	•		(time i			•			Total	Mean	Total	Mean
	1	2	3	4	5	6	7	8				
Control	100	100										
20% Effluent	100	100										
40% Effluent	100	100										
60% Effluent	100	100										
80% Effluent	100	100										
100% Effluent	100	95										
LC <sub>50</sub> / IC <sub>25</sub> Value		>100%	, 3		Ca	lculate	d TU E	Estimate		<1.00 ' ate Aut		omic)
95% Confide	nce Lir	nits			Pe	rmit Li	mits:	1.00	Tua			

Note:  $TU_n = 100/LC_{50}$ ;  $TU_c = 100/IC_{25}$ 

UL: LL:

na

UL = Upper Limit

LL = Lower Limit

	R	Reference	Toxicant T	est Results	
Species C. dubia	Date 05/23/08	Time 11:00 A.M.	Duration 48 hrs.	Toxicant NaCl	Results (LC <sub>50</sub> / IC <sub>25</sub> ) LC50=2.1865g/l
С. аиви	03/23/06	11:00 A.M.	40 IIIS.	Naci	LC30-2.1863g/1

Client: WEST Co.	Persons Conducting Test: B. Barker Make
Beckmar Sample Number 300527	Test Period: Beginning Date: 6-7-09 Time: 2P
Client Contact:  NPDES Permit No:  Sample Collector:	Test Species: C. dubic
Grab Sample Collected: (1) 8:00 (am/pm; 6/6/08 (Date) (2) am/pm; // (Date)	Age / Source: < 24 hr. ; lab culture  Dilution Water Used:

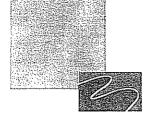
Sample ID	Test Container	Ni	ımbe	er of Liv	ve Org	anisms	Dissolved Oxygen	(mg/l) / Temp C		pH	Total Alkalinity (mg/l as	Total Hardness (mg/i as	Conductivity	Total Residual Chlorine
	Number	O		2	4	48	0 .	48	0	48	CaCO <sub>3</sub> )	CaCO <sub>3</sub> )	(umhos/cm)	
C	1	5		5		5	7.8 24.0	7.4 25-2	8.10	7.79	1092	1308	410	40.01
	2	1				5								
	3	<u> </u>				5					•	·		
	4					5								
20%	1		_			5	7.9/24.0	7.7 25.1	7.89	8.17			ļ	
······································	2					5′	•							
	3	_				5								· · · · · · · · · · · · · · · · · · ·
7.6 m. M.	4		_			5 5	8.0 24.0	7.6 25-1	4.40	8.25				
40%	2					5	0'0   W!	1.6[37]	7. 10	0.9-7				
	3					5								
	4					5					<del>                                     </del>			
60%			_			5	8.1 24.0	7.8 25.0	7.69	8.37			·	
4- 10	2		_			5				0.55				***************************************
	3					5								
	4					5	١	•						
80%	1					5	8.2 24.0	7.9 24.9	4.44	8-37				
	2		• •	-1	·, ·	5	\$							
	3	_				5					ļ			
	Ч	·				5								·
100%						5	8.3 24.0	7.8 249	4.26	8.41	185.2	2948	830	40.01
	7					5								
	3			<u>y</u> 5		# 5 95				_				
	4	5_				<i>5</i> 95			<u> </u>		1		<u></u>	

				•				
			Ceriod	aphnia Survi	val and Repro	duction Test-48 I	Hr Survival	
元 18 · 图		m norio o	Test ID: Lab ID: Protocol:	westb0608 0044:beckm EPAF 94-EP		Sample ID: al Sample Type: Test Species:	westb0608 EFF1-POTW CD-Ceriodaphnia dubia	With the second
Conc-%	inesiaco p	2	3	<u> 4</u>				
B-Confire		1.0000	1.0000	1.0000				
20	1.0000	0.8000	1.0000	1.0000				
40	1.0000	1.0000	1.0000	1.0000				
60	1.0000	1.0000	1.0000	1.0000				
80	1.0000	1.0000	1.0000	1.0000				
100	1.0000	1.0000	1.0000	1.0000				

			_	Tra	ansform:	Arcsin Sc	uare Roo	t	
******	Conc-%	Mean	N-Mean	Mean	Min	Vlax	CV%	N	
	B-Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	
	20	0.9500	0.9500	1.2857	1.1071	1.3453	9,261	4	
	40	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	
	60	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	
	80	1.0000	1.0000	1.3453	1,3453	1.3453	0.000	4	
	100	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	

Auxiliary Tests	Statistic	Critical	Skew Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.46508	0.884	-3.0206 13.9892
Equality of variance cannot be confirmed			

Reviewed by:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



## Toxicity Test Results

Results of Ceriodaphnia

(Genus)

dubia (Species) 48 HR. ACUTE
(Type / Duration)

**Toxicity Test** 

Conducted:

<u>06/07/08</u> - (mm/dd/yy)

<u>06/09/08</u> (mm/dd/yy) Using Effluent from Outfall # \_\_1

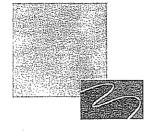
				ercent			······································		# of `	Young	Dry V	Veight
Capped	1	2	(time ii 3	nterval: 4	s used: 5	- DAY) 6	) 7	8	Total	Mean	Total	Mean
Control	100	100		,			1					
20% Effluent	100	95										
40% Effluent	100	100										
60% Effluent	100	100										
80% Effluent	100	100										
100% Effluent	100	100										
LC <sub>50</sub> / IC <sub>25</sub> Value	<del></del>	(indicate Aute / Chromic)										
UL: na LL: na							(In		TU <sub>a</sub> /T	TU <sub>c</sub> )	*****	
	UL = Upper Limit LL = Lower Limit						-		ed to d Limit V		ne	

Note:  $TU_a = 100/LC_{50}$ ;  $TU_c = 100/IC_{25}$ 

	Reference Toxicant Test Results											
Species C. dubia	Date 05/23/08	Time 11:00 A.M.	Duration 48 hrs.	Toxicant NaCl	Results (LC <sub>50</sub> / IC <sub>25</sub> ) LC50=2.1865g/l							

Client: West Co.  Beckmar Sample Number 200578	Persons Conducting Test: B. Back, Mich.  Test Period: Beginning Date: 6-7-08 Time: 2P
eckmar	Ending Date: 6-9-08 Time: 2P
Client Contact:  NPDES Permit No:  Sample Collector:	Test Species: C-dubia
Grab Sample Collected: (1) 8'W am/pm; 6/6/08 (Date)	Age / Source: / 24 hrs.; lab culture
(2)am/pm;//_ (Date)	Dilution Water Used: + 5 w

Sample ID	Test Container	Number of Live Organisms			Dissolv	ved Oxγgen	(mg/l) /	Твтр С		рН	Total Alkalinity (mg/i as	Total Hardness (mg/l as	Re: Chi (umhos/cm) (m	Total Residual Chlorine
•	Number	0	24	48		ο.		48	o	48	CaCO <sub>3</sub> )	CaCO <sub>3</sub> )	(umhos/cm)	
С	1	5	5	5	7.8	34.0	( B 1 7	.4 25.3	8.10	7.79	109.7	130.8	410	40.0 L
-	2			5				<u> </u>						
	3			5				,,			·			
	4			5									·	
áo%	1			5	7.4	124.0	8.0	25-0	7.44	<u>8</u> -30				
	2			4		1	<u> </u>							
	3			5										
	4			<b>S</b> 95		1	<u> </u>							
40%	1			5	५.७	24.0	150	124.9	7.69	8235				
	2			5										
····	3			5′										W-W
	4			5′		ļ								
600/0				5	6.7	24.0	8.0	24.9	7.44	8.37	<u> </u>			
	2			5		·			•					
	3			5										
	4			5		··-								
80%	1			5	0.	240	8.1	124.9	7.24	8,43				-
	2	<i>-,</i> ,		5										
	3			5	······································			·						
	4			5				1						
100%				5	5.8	24.0	10	124.8	7.02	7.44	183.4	5448	844	40.01
	2			5						<b></b>	1			
	3	V	V	5			<u> </u>		-				`	
	4	5	5	5		···								



## Appendix II

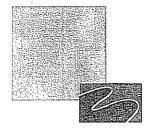
# Pimephales promelas Data Sheets

	Larval Fish Growth and Survival Test-48 Hr Survival
Start Date: 6/7/2008 End Date: 6/9/2008 Sample Date: 6/6/2008 Comments: westgo a	Test ID: westafh68 Sample ID: westafh68  Lab ID: 0044:beckmar environmental Sample Type: EFF1-POTW  Protocol: EPAF 94-EPA Freshwater Test Species: PP-Pimenhales prometas
Conc-Maria	2
B-Control 1,0000 20 1,0000 40 1,0000 60 1,0000 80 1,0000 100 1,0000	1.0000 1.0000 1.0000 1.0000 1.0000

			Tra	ansform:	Arcsin Sc	uare Roo	t	· · · · · · · · · · · · · · · · · · ·	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	•	
B-Cont	rol 1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2		
	20 1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2		•
	40 1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2		
	60 1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2		
	80 1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2		
1	00 1.0000	1,0000	1.4120	1.4120	1.4120	0.000	2		

Auxiliary Tests	Statistic	Critical	Skew Kurl	t
Normality of the data set cannot be confirmed			***************************************	
Equality of variance cannot be confirmed				

Reviewed by:



### Toxicity Test Results

Results of

Pimephales (Genus)

promelas (Species)

48 HR. ACUTE
( Type / Duration)

Toxicity Test

Conducted:

06/07/08 (mm/dd/yy) 06/09/08 (mm/dd/yy) Using Effluent from Outfall # 1

				ercent					# of Young		Dry Weight	
Test Solution			(time in	Total	Mean	Total	Mean					
	1	2	3	4	5	6	7	8				
Control	100	100										
20% Effluent	100	100										
40% Effluent	100	100										
60% Effluent	100	100										
80% Effluent	100	100										
100% Effluent	100	100										

LC<sub>50</sub> / IC<sub>25</sub> Value:

> 100%

Calculated TU Estimate \* <a></a> <a>1.00 Tua</a> (indicate Acute/Chronic)

95% Confidence Limits

Permit Limits:

s: 1.00 Tua (Indicate TU<sub>a</sub> / TU<sub>c</sub>)

UL: na LL: na

UL = Upper Limit

LL = Lower Limit

If acute test, method used to determine LC50 and Confidence Limit Valued:

Note:  $TU_a = 100/LC_{50}$ ;  $TU_c = 100/IC_{25}$ 

	Reference Toxicant Test Results											
Species	Date	Results (LC <sub>50</sub> / IC <sub>25</sub> )										
Pimephales	05/16/08	5:00 P.M.	48 hrs.	NaCl_	LC50=7.0095g/l							
promelas												

Client: $\omega_{\bar{\epsilon}s\tau} c_{o}$ .	Persons Conducting Test: B. Backer						
Beckmar Sample Number 200527	Test Period: Beginning Date: 6-7-08 Time: 2P						
eckmar Client Contact:	Ending Date: 6-9-08 Time: 28						
NPDES Permit No: Sample Collector:	Test Species: FAM						
Grab Sample Collected: (1) B'as (am)pm; (6/6/08(Date) (2) am/pm; / / (Date)	Age / Source: 4 day old Fish Hatel 060308  Dilution Water Used: MITSW						

Sample ID	Test Container	Number of Live Organisms			Dissolved Oxyge	n (mg/l) / Temp C		рН	Total Alkalinity (mg/l as	Total Hardness (mg/l as	Conductivity	Total Residual Chlorine
	Number	0	24	48	. 0 .	, 48	0	48	CaCO <sub>3</sub> )	CaCO <sub>3</sub> )	(umhos/cm)	
Ċ	1	6)	10	10	7.9 24.3	6.8 25.2	8.01	7.63	109.1	136.8	342	40.01
	2	1		10								
20	1			10	8.0 24.3	7-1 1248	7-89	7.8 λ	•			
	2			10	1							
40	1			10	8.1 342	7.1 246	7.77	8.03				
	2			/0	<u> </u>		704		_			
(e_D	1			/0	8.2 24.1	7.1 24.6	7.69	8.11				
M =	2			70	0 - 101 -		F - 6	66				<u> </u>
80	1			(0	8.2 洲.0	7.0) 24.5	7.50	8'0 A				
	2			/0		1010		<u> </u>		- 60		
100	1		$\Psi$	/0	8.3/24.0	69 1245	7.26	8.14	185.2	294.8	830	(0.0
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5000000000000000000000000000000000000	Larval Fish Growth and Survival Test-48 Hr Survival												
Start Date:			Test ID:	westbfh68	Sample ID:	westbfh68							
End Date:			Lab ID:	0044:beckmar environme	ntal Sample Type:	EFF1-POTW							
Sample Date: (			Protocol:	: EPAF 94-EPA Freshwate	r Test Species:	PP-Pimephales promelas							
Comments	west <sub>s</sub> co p	m fhm ac	ute june 2	2008									
Conc-%		2											
B-Control	10000	1.0000		-									
	1.0000	1.0000											
40	1.0000	1.0000				·							
60	1.0000	1.0000											
80	1.0000	1.0000											
100	1.0000	1.0000											

			Tra					
Conc-%	Mean	N-Mean	Mean	Mîn	Max	CV%	N	_
B-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	
20	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	
40	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	
60	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	
08	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	
100	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	•

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Reviewed by:



## **Toxicity Test Results**

Results of

Pimephales (Genus)

promelas (Species) 48 HR. ACUTE
(Type / Duration)

Toxicity Test

Conducted:

<u>06/07/08</u> (mm/dd/yy) 06/09/08 (mm/dd/yy) Using Effluent from Outfall # \_\_1

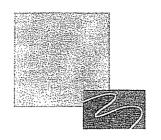
		······································	P	# of Y	owng	Dry Weight									
Test Solution	1	2	(time ii 3	nterval: 4	s used: 5	- DAY) 6	) 7	8	Total	Mean	Total	Mean			
Control	100	100		,											
20% Effluent	100	100								-					
40% Effluent	100	100													
60% Effluent	100	100													
80% Effluent	100	100													
100% Effluent	100	100							- Language of the Control of the Con						
LC <sub>50</sub> / IC <sub>25</sub> Value: > 100%						Calculated TU Estimate * < 1.00 Tua  (indicate Acute/Chronic)									
UL: na	Permit Limits: 1.00 Tua (Indicate TU <sub>n</sub> / TU <sub>c</sub> )														
UL = Upper Limit LL = Lower Limit						If acute test, method used to determine LC50 and Confidence Limit Valued:									

Note:  $TU_a = 100/LC_{50}$ ;  $TU_c = 100/IC_{25}$ 

Reference Toxicant Test Results													
Species	Date	Time	Duration	Toxicant	Results (LC <sub>50</sub> / IC <sub>25</sub> )								
Pimephales	05/16/08	5:00 P.M.	48 hrs.	NaCl	LC50=7.0095g/l								
promelas													

Client: WEST Co.	Persons Conducting Test: Back									
Beckmar Sample Number ついてみ	Test Period: Beginning Date: 6-7-08 Time: 2									
Seckmar Client Contact:	Ending Date: 6-9-08 Time: 2P									
NPDES Permit No:	Test Species: FAM									
Grab Sample Collected: (1) 8:00 am/6m; 6/6/08 (Date)	Age/Source: 4 dapped Fish Hatch 060308									
(2)am/pm;// (Date)	Dilution Water Used:mゃらい									

Sample ID Contai	Test Container	Numb	er of Live Org	anisms	Dissolved Oxyger	ı (mg/l) / Temp C		pН	Total Alkalinity (mg/l as	Total Hardness (mg/l as	Conductivity	Residual Chlorine
	Number	0	24	48	0.	48	0	48	CaCO3	CaCO <sub>g</sub> )	(umhos/cm)	
<u> </u>		10	10	10	7.9/24.3	6.8 25.2	8.01	7.63	109-2	130.8	342	40.01
	2			10	/	1					<u> </u>	
20	i	<u>.</u>		70	74 24.3	7.2 245	77.7	7.92	•			
	Z			10	i.							
40	1			/0	7.1 24.2	6,9 24.4	7.69	8:01				***************************************
	2			/0								
60				10	6.7 24.1	6.9 24.4	7.47	8.08				,
	2			/0								····
<u>80</u>	<u> </u>			70	6.0 24.0	6.8 1244	7.24	8.12				
	2			/0	'							-
100		<u> </u>	<u> </u>	10	5.8/24.0	6.5 24.4	4.02.	8.11	182,4	244.8	844	30.0
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## **Appendix III**

## Chain of Custody Data Sheets

Beckmar Environmental Laboratory 3251 Ruckriegel Parkway Louisville, KY 40299 (502) 266-6533 Fax: (502) 266-6446

www.beckmarlab.com

CHAIN OF CUSTODY

PAGE \_\_\_\_\_ OF \_\_\_\_\_\_



										- 0,	<u>)</u>											
Client / Company Name: WEST County MSD Sampled by (print name): Kenneth R Jones						ners				Tests / Analysis Requested / /									7	///		
Sampled by (prin	t name):	Kenn	eth	R Jones	antai		12	6 64 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		$\lambda'$	T	/ /	/ /			/				/ /	/ / /	
Signature:		rtetin		P/O#:	ر 1	Sample Matrix	"			73	¥ /	/ /		/ ,	/ /	/ ,	/ /	/ /	/ /	/ /	/ /	
Beckmar ID #	Colle Date	Time	Sample Type	Sample Point / Descript	Sumber of Containers	Sam	1		<b>7</b>	THE THE PARTY OF T	/,	//	//		/	/	/		/,	/,	//	Preservative
200527	10/6/08	8:00Am	G	EffVertWeir		MM	V															
200578	6/6/03	8:00 PM	6	Effluent Vain	2	WW	V															
200529						<u> </u>	<u> </u>	×	×		_		$\perp$									
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Relinquished by:	- a		Rec	eved by:)		Date:		me:		FIELD DATA LABORATORY												
Relinquished by:	forsa		7	Jukak		614 Date:	i a	1) 13 me: 1	4	Calibration		):		pH 2 SU			Temperature Received					
Remidusated by:	Rul		· Acci	Law.		660			#	0.0.			Total	Chiari	ne		HNO <sub>3</sub>			- 1	H <sub>2</sub> NO <sub>4</sub>	•
Relinquished by: Received by:					Date:		me:	-   <u>-</u>	mg/l						PHSU NaOII			SU I	UNP SU			
								····	╝			°C				ng/I	РИ			SU 1	P13	su
Comments;				•						Sam	ple '	Type	s: Co	mpo	site	(C),	Grab	(G)				
		-							- 1.			odes	: DW GW S	= Dr = Gr = Sc	ound	ī Wa			SW =	= Sui	stewa face \ dge	Vater