

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

July 7, 2007

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 2007

Dear Ms. Thurman:

Attached are the Discharge Monitoring Report (DMR) for the West County Wastewater Treatment Plant, for the month of June 2007. Also enclosed is the Whole Effluent Toxicity (WET) test for the second quarter. Additionally, the discharge spreadsheet for the West County WTP system is enclosed with this letter.

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 0307.doc

**Enclosures** 

cc:

P. Burgin

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 7, 2007

Mr. Michael Mudd Kentucky Division of Water 9116 Leesgate Rd. Louisville, Kentucky 40222

RE:

West County Treatment Plant, KPDES No: KY0078956

Discharge Monitoring Report

June 2007

Dear Mr. Mudd:

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 2007. Also enclosed is the Whole Effluent Toxicity (WET) test for the second quarter. Additionally, the discharge spreadsheet for the West County WTP system is enclosed with this letter.

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 1206.doc



MONITORING PERIOD

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Form Approved. OMB No. 2040-0004

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ADDRESS C/O LOUISVILLE/JEFF CO MSD

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LOUISVILLE

KY 40211-2477

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

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

KYOO78986

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DISCHARGE NUMBER

MAJOR (SUBR LV) F - FINAL

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

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NAME

KY 40211-2497

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

MONITORING PERIOD

TO

KY0078956 PERMIT NUMBER

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NOTE: Read Instructions before completing this form.

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ADDRESS C/O LOUISVILLE/JEFF CO MSD

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KY 40211-2497

KY0078956 PERMIT NUMBER

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FROM

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

MONITORING PERIOD

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\*\*\* NO DISCHARGE | | \*\*\*

NOTE: Read Instructions before completing this form

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

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

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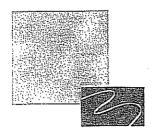
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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



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

**May 2007** 

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:

Biomonitoring QA Officer

6-13-07



#### Summary

Acute toxicity testing was performed on final effluent samples collected May 21 and 22, 2007 from the MSD West County Wastewater Treatment Plant. Testing was performed May 22 through 24, 2007 and upon termination, the following conclusions were reached:

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

#### Introduction

At the request of Mr. Kevin Ries, acute toxicity testing was performed on two grab effluent samples collected May 21 and 22, 2007 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 14, 2007

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 # 184817

Sample Date: 5/22/2007 Sample Time: 8:00 Sampled by: Ibn Green

Parameter	Results	Units	Type	Method	Analyz Date / T		Analyst
Hardness (T)	237	mg/l	С	EPA 130.2	5/29/2007	10:45	РЈВ
Cadmium (TR)	< 0.001	mg/l	С	EPA 200.7	5/30/2007	15:00	ALS
Cadmium (D)	< 0.001	mg/l	C	EPA 200.7	5/30/2007	15:00	ALS
Copper (TR)	0.013	mg/l	С	EPA 200.7	5/30/2007	15:00	ALS
Copper (D)	0.011	mg/l	C	EPA 200.7	5/30/2007	15:00	ALS
Lead (TR)	< 0.004	mg/l	C	EPA 200.7	6/5/2007	13:30	ALS
Lead (D)	< 0.004	mg/l	С	EPA 200.7	6/5/2007	13:30	ALS
Zinc (TR)	0.0448	mg/l	C	EPA 200.7	5/30/2007	15:00	ALS
Zinc (D)	0.0441	mg/l	С	EPA 200.7	5/30/2007	15:00	ALS

Remarks:

If you have any questions please call.

Thank you,

Joe P. Carney

Quality Control Officer

JPC:dwt

ENVIRONMENTAL

LABORATORY

leffersontown Business Pork

3251 Ruckriegel Parkway

Jeffersontown, KY 40299

502.266.6533

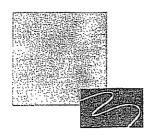
FAX 502.246.6446



Test Type:	Acute X	Screen
	Chronic	Definitive X

#### TOXICITY TEST REPORT SHEET

1)	Facility/Discharger:	MSD West County	y WWTP		Rep	ort Date:	6/4/2007
2)	Address: 11601 I	Lower River Rd. Lo	uisville, K	Y. 40272		,	
3)	NPDES Permit #:	KY0078956	4) Rec	eiving S	tream:	Ohio River @	) mile 358.1
5)	Facility Contact: Mr	. Kevin Ries					
6)	Phone #: (502)-5	40-6031					
7)	Consultant/Testing l	Lab Name Beckmar	Environm	ental La	borator	<u>y</u>	
8)	Lab Contact: Bed	cky Barker		Phone #	: <u>(50:</u>	2) 266-6533	
9)	Outfall(s) Tested:	1					
10)	Average Daily flow 3)4)		(GD)	1) <u>na</u> 6)		2) <u>na</u> 7)	
11)	Test Species:	1) Ceriodaphnia	dubia	_ 2)	Pimeph	ales promelas	
12)	Species Age:	1) < 24 hours		2)	14 days	old	<del></del>
13)	Organism Source:	1) lab culture		2)	fish hat	ch 050807	<del></del>
14)	Acclimation Proced	hures: 1) Reared at 2) Reared at	t test condit t test condit	ions in s	ynthetic ynthetic	water water	
15)	Test Conditions:	Static: X	Static-F	Renewal:			
16)	Dilution Water Typ	e (Synthetic, Recei	ving Stream	synthet	ic - mhsy	N	
17)	Aeration? (Before	Test/During Test/N	one): <u>no</u>	· 			
18)	Dechlorination? no	<u>,                                      </u>	Original Cl	nlorine L	evel: <u>&lt;0</u>	.01 m	
	Mirel Baker Signature of person	filling out form)				6/4/2 Date	2007
Rh	onda Baker	7			Bi	ologist <i>Title</i>	
	Name (Typed o	r Printed)				7 1116	



#### Materials and Methods

#### Sampling

Two effluent samples were collected 12 hours apart (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<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

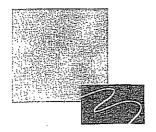
Samples were allowed to warm to room temperature (25°C) and were tested for residual chlorine immediately prior to dilution. Testing was then performed in accordance with US EPA methodology. Data was recorded on Beckmar generated lab sheets (Appendix I).

#### 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 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% 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/temperature:

PH:

Conductivity: Alkalinity:

Hardness:

Total Chlorine Residual: EPA Acute/Chronic Manual:

YSI Model 52

Orion Model 720A

Oakton CON 100 Series

Standard Methods Titration Standard Methods Titration

Fisher-Porter Titration

5th Acute 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 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	1 gallon	05/21/07 @ 8:00 P.M.	lna l	5.0 degrees C
	Grab	2 gallon	05/22/07 @ 8:00 A.M.	NA	5.0 degrees C

### Dates/Times of Test Performance

 Species #1: Ceriodaphnia dubia

 Initiated:
 05/22/07 @ 5:00 P.M.

 Terminated
 05/24/07 @ 5:00 P.M.

 Species #2: Pimephales promelas

 Initiated:
 05/22/07 @ 5:00 P.M.

 Terminated
 05/24/07 @ 5:00 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 100% survival in the 100% dilution.

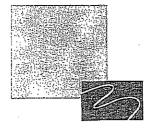
In sample "B", Ceriodaphnia dubia test ran exhibited 100% survival in the control, 100% survival in the 20% dilution, 100% survival in the 40% dilution, 100% survival in the 60% dilution, 100% survival in the 80% dilution, and 100% survival in the 100% dilution.

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, 95% 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

	1							
	Ī		Cerioda	aphnia Surv	ival and Reprod	uction Test-48 l	Hr Survival	
Start Date: 55 End Date: 55 Sample Date: 5	24/2007		Lab ID:	0044:beckm	nar environmenta PA Freshwater	Sample ID:   Sample Type:   Test Species:	westa0507 EFF1-POTW CD-Ceriodaphnia dubia	
Comments		cerio acu	ite may 20	007				
Conc-%		2	3	4				
B-Control®	對100000	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	1.0000	1.0000				٠

			Tri	ansform:	Arcsin Sc	uare Root		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	
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	4	
40	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	
60	1.0000		1,3453	1.3453	1.3453	0.000	4	
80	1.0000		1.3453	1,3453	1.3453	0.000	4	
100	1,0000		1.3453	1.3453	1.3453	0.000	4	

Auxiliary Tests	Statistic	Critical	Skew Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	1	0.884	
Equality of variance cannot be confirmed			



## Toxicity Test Results

Results of Ceriodaphnia (Genus)

dubia (Species)

48 HR. ACUTE (Type/Duration)

**Toxicity Test** 

Conducted:

05/22/07 (mm/dd/yy)

05/24/07 (mm/dd/yy) Using Effluent from Outfall # 1

				ercent					# of ?	Toung	Dry V	Veight
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										
LC <sub>50</sub> / IC <sub>25</sub> Value 95% Confide			3			lculateo		estimate	(indica	< 1.00 ate Acu		- onic)
UL: na LL: na									TU <sub>n</sub> /l			
UL = Upper I LL = Lower I					l	acute te	•				ie	

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

	R	Leference	Toxicant T	est Results									
Species	Species Date Time Duration Toxicant Results (LC <sub>50</sub> / IC <sub>25</sub> )												
Ceriodaphnia	05/09/07	1:00 P.M.	48 hrs.	NaCl	LC50=2.6698g/l								
dubia													

Persons Conducting Test: Client: WEST COUNTY. Date: 5-22-07 Time: Test Period: Beginning Beckmar Sample Number\_184915 Date: 5-24-07 Time: . 58 Ending Client Contact: NPDES Permit No: Test Species: Sample Collector: Age / Source: lab culture Grab Sample Collected: (1) 2000 am/pm 5/21/07 (Date) am/pm; Dilution Water Used: MHS W

Sample ID	Test Container	Numb	er of Live Or	ganisms	Dissolve	ed Oxygen	(mg/l) / Temp C		pН	Total Alkalinity (mg/l as	Total • Hardness	Conductivity	Total Residual
	Number	0	24	48			48	0	48	(mg// as CaCO <sub>3</sub> )	(mg/l as CaCO <sub>3</sub> )	(umhos/cm)	Chlorine (mg/L)
C	1	5	5_	5	8.0	1240	B.5 /240	7.89	8.34	86.4	116.6	410	20.0
	2			5								111	-
	3	<u> </u>		5	٠					-	•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	4	·		5									
ત્રે૦%				5	8.2	1241	B.7 /240	7.66	8,60				
	2			5									
	3			5									
	4			_5									
40%				5	8.2	242	87 /240	<u> 4.51</u>	8.64				
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	3			5									
f	4			5		1					<u> </u>		
60%	1 1			5	82	1244	8.8 /240	7.40	8.62			. ]	
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	3			5 5									
	4			_ל_		<del></del>							
80°/a	1	1 4,5		5	8,2	1246	8.7 /240	4.33	8.60				*
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	3			5				***			ļ		
	4			5	0.7	11/0	0 7. 1 0/5	~ -1	10				
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	<u> </u>	<u> </u>	<u> </u>						_	<u> </u>			· · · · · · · · · · · · · · · · · · ·
	171	5	5	5							· .		

			Cerioda	aphnia Survi	val and Reprod	uction Test-48	Hr Survival	
Start Date: 5	/22/2007		Test ID:	westb0507		Sample ID:	westb0507	
End Date: 5	/24/2007		Lab ID:	0044;beckma	ar environmental	Sample Type:	EFF1-POTW	
Sample Date: 5					A Freshwater	Test Species:	CD-Ceriodaphnia dubia	
Comments	vestico b	cerio acu	ite may 20	007				.,,
Conc-%		2	3	4				
B-Control	<b>110000</b>	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	1.0000	1.0000				

			Tra	ansform:	Arcsin Sc	uare Root	: <u> </u>	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	
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	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 normal distribution (p > 0.01)	1	0.884	
Equality of variance cannot be confirmed			



## **Toxicity Test Results**

Results of

Ceriodaphnia (Genus)

dubia (Species)

48 HR. ACUTE (Type/Duration)

Toxicity Test

Conducted:

05/22/07 (mm/dd/yy)

05/24/07 (mm/dd/yy) Using Effluent from Outfall # 1

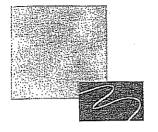
				ercent	, - ,				# of Y	Young	Dry V	Veight
Test Solution	1	2	(time ii 3	nterval: 4	s used: 5	- DAY) 6	) 7	8	Total	Mean	Total	Mean
Control	100	100		-			,					
20% Effluent	100	100										
40% Effluent	100	100						!				
60% Effluent	100	100										
80% Effluent	100	100		- -								
100% Effluent	100	100										
$LC_{50}$ / $IC_{25}$ Value 95% Confiden	<u></u>	>100% nits	)			lculated		stimate		< 1.00 ate Acu		- onic)
UL: na					101			dicate		U <sub>e</sub> )		
UL = Upper I LL = Lower I					į.			hod use dence I			e	

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

	Reference Toxicant Test Results												
Species	ecies Date Time Duration Toxicant Results (LC <sub>50</sub> / IC <sub>25</sub> )												
Ceriodaphnia	05/09/07	1:00 P.M.	48 hrs.	<u>NaCl</u>	LC50=2.6698g/I								
dubia													

Client: WEST COUNTY LOU, KY	Persons Conducting Test: 18-Back
Beckmar Sample Number 184816	Test Period: Beginning Date: 5-22-07 Time: 5P
Seckmar Client Contact:	Ending Date: 5-24-07 Time: 5P
NPDES Permit No: Sample Collector:	Test Species: C. olu hia
Grab Sample Collected: (1) 8 (am/pm; 5/22/17 (Date)	Age / Source: <u>624 hrs.</u> ; lab culture
(2)am/pm;/_/_(Date)	Dilution Water Used: MHS W

Sample ID	Test Container	Numb	er of L	ive Org	anisms	Dissolved Oxy	gen (mg/l) / T	emp C		рH	Total Alkalinity	Total Hardness	Conductivity	Total Residual
	Number	0	24		48	,0.	1	8	0	48	(mg/l as CaCO <sub>3</sub> )	(mg/i as CaCO <sub>3</sub> )	s } (umhos/cm	Chlorina (mg/L)
C	1	5	5	5	5	8.0\ 24.1		24.0	7.89	8.34	86. K	116.6	410	40.01
•	2				5						29-1-	110.0	1110	
	3				5						•	<del></del>	<del>   </del>	
	4				_ ゔ	1							<del> </del>	
20%	1				5 5	8.0 24.0	8.6	24.0	7.68	B. 64			<del> </del> -	
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	2				5									
	3				5				,					
	4			144.4	5									***************************************
60%	1			,	_5	8.1 24.0	8.7	24.0	7.41	B.73			-	
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	4				5	<u> </u>		1						
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	4	5	5		_5									



## Appendix II

# Pimephales promelas Data Sheets

			Lε	rval Fish Grov	wth and Survi	val Test-48 Hr Si	urvival	
Start Date: \$25	/22/2007		Test ID:	westfha57		Sample ID:	westfha0507	
End Date: 5	/24/2007		Lab ID:	0044:beckma	r environmenta	al Sample Type:	EFF1-POTW	
Sample Date: 5	/21/2007		Protocol:	EPAF 94-EPA	\ Freshwater	Test Species:	PP-Pimephales promelas	
Comments	vest(co) a	fhm acut	e may 20	07			`	
Conc-%		2						
B-Control	<b>110000</b>	1.0000						
20	1.0000	1.0000						
40	1.0000	0.9000						
60	1.0000	1.0000						
80	1.0000	1,0000						
100	1.0000	1.0000						

		-						
Сопс-%	Mean	N-Mean	Mean	Min	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	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	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	
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				<u> </u>



## Toxicity Test Results

Results of

Pimephales (Genus)

promelas (Species)

48 HR. ACUTE (Type / Duration)

**Toxicity Test** 

Conducted:

05/22/07 ---(mm/dd/yy)

05/24/07 (mm/dd/yy) Using Effluent from Outfall # \_\_1

If acute test, method used to determine

LC50 and Confidence Limit Valued:

				ercent					# of ?	Young	Dry V	Veight
Test Solution	. 1	2	(time in	nterval: 4		- DAY) 6	) 7.	8	Total	Mean	Total	Mean
Control	100	100		•								
20% Effluent	100	100		,								
40% Effluent	100	95										
60% Effluent	100	100										
80% Effluent	100	100										
100% Effluent	100	100										
LC <sub>50</sub> / IC <sub>25</sub> Value	::	> 100%	<u>б</u>		Ca	lculated	I TU E	stimate		< 1.0 7		onic)
95% Confider	nce Lir	nits		i								,
UL: na LL: na	<del></del> -				Pe	rmit Lin		<del></del>	Tua TU <sub>a</sub> /T	U <sub>c</sub> )		

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

UL = Upper Limit

LL = Lower Limit

Reference Toxicant Test Results									
Species Pimephales promelas	Date 05/09/07	Time 5:00 P.M.	Duration 48 hrs.	Toxicant NaCl	Results (LC <sub>50</sub> / IC <sub>25</sub> ) LC50=7.0079g/l				

Client: WEST Co. msd Lou. Ky

Beckmar Sample Number 184815

Client Contact:

NPDES Permit No:

Sample Collected: (1) 2000 am(pm) 5/11/07 (Date)

Persons Conducting Test: B. Barke

Test Period: Beginning Date: 5-22-07 Time: 58

Ending Date: 5-24-07 Time: 58

Test Species: FHM

Age / Source: 14 days dd Fillfarda 050807

am/pm; / / (Date)

(2)

Test Container	Numb	er of Live Org	เลกโรการ	Dissolved Oxygen (mg/l) / Temp C		рН		Total Alkalinity	· Hardness		Total Residual
Number	0	24	48	0.	48	0	48	CaCO <sub>3</sub> )	(mg/l as CaCO <sub>3</sub> )	(umhos/cm)	Chlorine (mg/L)
1	10	10	10	8.0 /240	8.0 /240	7.89	6,00	864	116.6	39040	40:0
2			10				r		<u> </u>	7,0	10.0
<u> </u>	<u>    :                                 </u>		10	8.2/240	81 /240	7.64	4.91	•			
2			10								
1 1	<u> </u>		10	8.2/140	8.1/240	7.51	7.89				
2		. ]	9								
1	, ,		/0	8.2/24.2	8.1/240	7.40	7.94				
2			10								
			10	B. 2/240	8.2/240	年,33	8.04				
2			10								
1	$\lor$	<u> </u>	10	82/24Y	8.7-/240	7.24	7.96	176	248.0	824	دن. د
2	10	10	10			•					****************
										•	
											•
	4,2	· 1: 11			·						
						· ·					
											<del></del>
	Container Number	Container Number 0	Container Number 0 24  1 10 10 10  2 1 1	Container Number of Live Organisms    O   24   48     I   IO   IO   IO     I   IO   IO     I   IO   IO	Container Number	Container   Number of Live Organisms   Dissolved Oxygen (mg/l) / Temp C	Container   Number of the Organisms   Dissolved bxygen (mg/n) / Temp C   P	Container   Number of Live Organisms   Dissolved Oxygen (mg/l/ 1 emp C   P1	Number   Number   O   24   48   O   48   O   48   O   48   CaCo <sub>3</sub>	Contenier   Number   Contenier   Disserved Dayler (mg/n)   Temp C   Pi	Container Number 0 24 48 0 48 0 48 0 48 CaCO <sub>3</sub> (unthose mall law orders)    1   10   10   10   10   8.0   146   8.0   146   7.89   8.00   86   166

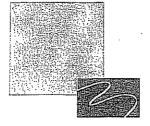
Dilution Water Used: mH3w

						•		
70.76				La	rval Fish Growth ar	id Survi	ival Test-48 Hr S	
E	dental transfer for the	5/22/2007 5/24/2007 5/22/2007		Lab ID:	westfhb57 0044:beckmar envir EPAF 94-EPA Fresl		Sample ID: al Sample Type: Test Species:	westfhb0507 EFF1-POTW PP-Pimephales promelas
	omments 🚄	west co b						• •
	Conc B-Control		1.0000					
	20	1.0000	1.0000					,
	40 60	1.0000 1.0000	1.0000 1.0000				<del></del>	
	80	1.0000	1.0000		,			
	100	1.0000	1.0000					

Transform: Arcsin Square Root										
Conc-%	Mean	N-Mean	Mean	Min	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	•		
80	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:

05/22/07 (mm/dd/yy) 05/24/07

(mm/dd/yy)

Using Effluent from Outfall # \_\_1\_

Percent Survival # of Young Dry Weight Test Solution (time intervals used:- DAY) 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

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

Calculated TU Estimate \*

\* < 1.0 Tua (indicate Acute/Chronic)

95% Confidence Limits

Permit Limits:

1.00 Tua

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

UL:

na

LL:

UL = Upper Limit

LL = Lower Limit

If acute test, method used to determine

LC50 and Confidence Limit Valued:

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

Reference Toxicant Test Results									
Species Pimephales promelas	Date 05/09/07	Time 5:00 P.M.	Duration 48 hrs.	Toxicant NaCl	Results (LC <sub>50</sub> / IC <sub>25</sub> ) LC50=7.0079g/l				

	Client:_	WEST	- Co.	MSD	1
	Beckma	r Sample	Number_	18481	6
<b>Beckmar</b>	Client C	ontact:			

NPDES Permit No:\_ Sample Collector:\_

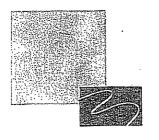
Persons Conductin	g Test:	B. Backer		-
Test Period: Begin	ning E	Date: <u>5-22-07</u>	Time:	5P
E	Ending	Date: 5-24-07	Time:	. 5P
Test Species:	FHM			

Grab Sample Collected:	(1) 8:00	am/pm;	5 122107	(Date)
------------------------	----------	--------	----------	--------

Age / Source: 14 dayfold / Fish Hatch 050807

\_am/pm; \_\_/\_ (Date) Dilution Water Used: \_\_mHSw

Sample ID	Test Container	Num	ber of Live Or	ganisms	Dissolved Oxyge	n (mg/l) / Temp C		pH ·	Total Alkalinity (mg/i as	Total Hardness	Conductivity	Hesidual Chlorine	
	Number	0	24	48	0;	48	0	48	CaCO <sub>3</sub> )	(mg/l as CaCO <sub>3</sub> )	(umhos/cm)		
<u> </u>	l	10	10 10		B.0 /24.0	8.0 /240	7.89	8.00	86.4	116.6	390 un	, 40.01	
,	2			10								<u> </u>	
20%	1			10	8.0 /240	8.3 /240	7.68	8.03	•	<u> </u>			
	ス			10					•				
40%	1			10	80/241	8.2 /240	7.52	8.01					
	2			10									
60%	!			10	8.1 / 24. X	81 /240	7.41	8.00				,	
	2		'	10		-						-	
80%	1			10	B.1 124.3	7.9 /240	7.35	8.02		10.000			
	2			10									
100%		$\underline{\downarrow}$	<u> </u>	10	8,1 / 24.6	7.8 / 140	7.25	797	146.8	2202	818	40.01	
	2	10	10	10									
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## **Appendix III**

# Chain of Custody Data Sheets

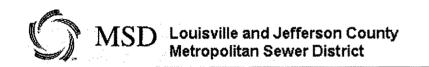
Beckmar Environmental Laboratory 3251 Ruckriegel Parkway Louisville, KY 40299 (502) 266-6533 Fax: (502) 266-6446

## CHAIN OF CUSTODY

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



www.beckn	narlab.com										á	7						ì	200		de la constitución de la constit			H A	
Client / Company	Number of Containers	×		- /				7	Tes	ts / A	nal	ysis	Reg	uesto	ed /	7	7	7	$\overline{}$	$\sqrt{\lambda}$					
Sampled by (prin	enta enta	fattri	,		/:	3	/		/								/	/ ,	/	/ /\					
Signature:	n Hu	<u> </u>	·	P/O#:	5	Sample Matrix	,	/ /	<b>/</b> {\$	/	/ /	/ /	<i>'</i> /	/ /	/ /	/ /	/ /	/ /	/ /	/ /		/ /		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Beckmar	Colle		Sample	Sample Point	/ Description	mber	Sam	ķ	,o/	4						/									Preservative
ID#	Date	Time	Турс	Jumpio I omi		문			<u>/_</u>	<u>/</u>	<u> </u>	(	/_/	/	4			<u> </u>			(	(	/	_/	AT .
184815	5/21/07	9000	WW	Discharge	Eff weit	3	ωω	X	ļ				<u> </u>		æ	_	<u>/</u>		R	41		_	_	_	
184816	5/02/07		ww	/ 1		a	ww	χ	<u> </u>			_/	30	·.	a		10	1	<u> </u>			_			
			0	( -	£.7	1	ww		-	<u> </u>															
									<u> </u>		,														
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Relinguished by:	<u> </u>	<u> </u>	Rec	eived by:	Λ.		Date:		me:	٦٢	· .	I	TEL	D I	DAT	A			I	AB	BORATORY DATA				
The Man	len			mn Sa	mitten		5/22/0	17/0	810		Colibra	tion I	D:		рH						Temp	erntur	c Recei	°C	
Rettriquished by:		***************************************	Reg	cived by:			Onte:	Ti	me:	╟	D.O.			$\dashv$	Total (	Chlori		รบ	HNO <sub>3</sub>			<u></u>	H <sub>2</sub> NO		
				eived by:		_	Date:	-	me:	_				g/i					PH_			_su			su
Relinquished by:			WEC	ested by:					<b></b>		Tempe	rature		c	Free C	hlori		mg/l	NaOF	1		_SU	UNP PH		SU
Comments:	<u> </u>									نالـــ ۲		1								. ((^)			-		
											San	npie	іур	es:	Co	mpc	site	(U),	Grat						• :::
										- 1	Mat		Code		DW GW	= G	roun	d W	ater		SW	= St	astev urfacı udge	e Wa	ter



Report Selections: Excluding PPI, CSO, Result; WUS, Act Code; DISDW, DISREV

KPDES#
KY0078956

Facility ID

Treatment Plant Name WEST COUNTY

Receiving Stream of Treatment Plant OHIO RIVER

Region WEST

Facility Type
SMH Sewer Manhole

Facility ID

Facility Address

If Pump Station, Name of Pump Station:

Receiving Stream

Discharge to

79650

4807 MUDLN

Problem

Resolution

Completed

Activity Code / Description

DISREV: RAIN EVENT DISCHARGE

WO # 680635 Initiated 06/23/07 07:50 PM

GERALD DUNLAP

Initiated By

GREASE BLOCKAGE

DISCHARGE TO WATERS OF

06/23/07 09:30 PM

THE US

#### Spot Inspections:

Discharge Amount:	30 GAL	
Cause;	GREASE BLOCKAGE IN MANHOLE LEADING TO PUMP STATION.	THE PARTY NAMED
Clean Up:	RAKED AREA AND SPREAD LIME AROUND MANHOLE	Taracana and a second
Control Zone:	NONE REQUIRED. UPON ARRIVAL RAIN HAD WASHED INTO THE LEAD	
Impact:	WATER DISCHARGING FROM MANHOLE	Shanna and the
Repair:	FLUSHED LEAD TO RELIEVE WATER - WORK ORDER #680636	in the sandy of

#### Notifications:

\$P\$ 000-24 00000000000000000000000000000000		7
06/23/07 01:00 PM	Email notification of unauthorized discharge sent to Harkins.John@epamail.epa.gov and eppc.ert@ky.gov	0,4444.00

Name (	of Sewag	ge Treatment	Plant:		West County WTP								Jefferson Month of:									June 2007														
KODE	Dormit	Number:			KY0078	1056			Plant ∩	County apacity: 30 MGD Receivi								ina Stre	am.			Ohio River														
KEDES	Pellin	Number.			KTOOT	9990			rianto	apacity		اب	טועוני					1100014	ang one	<b>2</b> 111.					OIRO INIV		•									
,										.,											Activated								<u>.</u>							
	li	Raw		ьн		ttleable			Dissolved Suspended Oxygen (mg/L) Solids (mg/L)						Total 5-d Solids (mg/L) (i				D F	De	Sludge eturn	WAS				ation asin			Dig Sludge		1	Final		- 1		
	<sub>-</sub>	Sewage ∃		717	Solids (mL/L)		-)	ÇXY	gen (m	yrL)	· · · · · · · · · · · · · · · · · · ·			301				(mg/L)		1/2	tuiti				T	2511			Sluage	T				$\neg$		
	(MG)		i			Sec.)		g.		×		Sec.)			Sec.)			Sec.)		ay Y		1000	Ð.	()	~6	€6	(ri					(mg/L)	<b>3</b>	Ε		
	3				1	ē.		bove		Below		(or S			ō			(or S		Gal/Day	mg/L	×	(mg/L)	(mg/L)	(mg/L) 1#18#2	£ \$2	SettS			S. C.S	5	Ĕ	ng/l	<u>≅</u> =		
	Į.	ğ ğ						Ψ		пВ		5	ĺ			l				õ	Ĕο	ay)	) G	, E	E#	) % (%			Solids	용	m g	Lal Lal	2	රිලි		
Date	Total Flow	Grit Remov	2 ≥	E	≥	Primary	inat	Stream	Final	Stream	≩	Primary	Final	Raw	Primary	Final	Zaw Aw	Primary	inal	Million	LSS n	Sal/Day	Oxygen ( #1	Oxygen ( #2	MLSS ( X1000	MLVSS (mg/L) X1000 #18#2	iE,	-	Sol	Phosphorus (mg/L)	KN (mg/L)	Chlorine Residual	4H3-N (mg/L)	Fecal Coliform Col./100ml		
ä	_	Scrit			Raw	풀	Ē	ŝ		ž,	S,	<u>o</u>		8	ŭ	這		ď		Ξ	∑×	Ö	-6¥	169			ଛ	S	%	효트	主			щŏ		
1	15.88		7.2	+					6.2		234		6				186		10		3290				1310	1050	130.0	0.10				0.01	6.00	15		
2	16.25		7.1	-					6.1		210		6				216		10		3240				1320	1060	120,0	0.09				0.01		1		
3	16.49		7.3						5.8		284		7				332		14		3130				1290	1020	120.0	0.09			9.02	0.01		2		
4	17.00		7.1	-					6.6		250		8				310		17		3240				1410	1160	140.0	0.10		2.58		0.01	8.18	1		
5	16.81		7.3						5.9		244		11				335 661		29 18		1990 3910				1190 1760	950 1410	120.0	0.10 0.08		2.58			10.80	50 8		
6	16.81		6.9	-					6.2 6.3		912 236		6 8				295		14		3130			·	1210	1000	130.0	0.08	_			0.01		13		
7 8	15.35 16.48		7.1	***************************************			-		6.3		284		4				314		10		2610				1120	920	110,0	0.10	_			0.01		53		
9	17.89		6.9						6.6		196		9				241		9		2940				1300	970	120.0	0.09				0.01	_	1		
10	13,63		7.1						5.1		250		6				399		15		2780				1310	1050	130.0	0.10			9.89		7.84	1		
11	15.44		7.2	<b></b>					7.0		226		8				403		17		2770				1190	930	140.0	0.12			0.00	0.01		116		
12	15.81		7.3	<del></del>					6,6		234		6				360		14		2950				1120	910	130.0	0.12		1.61		0.01		3		
13	15.77		7.3		i	T			6.8		226		5				350		13		2800				1290	970	130.0	0.10				0.01	7.39	11		
14	15.10		7.2						6.1		242		5				341		15		2910				1190	900	130.0	0.11				0.01	6.89	56		
15	15.27		7.3	7.4				***************************************	6.0		214		4				290		9		3060				1270	1010	120.0	0.09				0.01	6.22	6		
16	14.98		7.3	7.4					5.9		224		5				366		13		2810				1480	1230	110.0	0.07	<u> </u>			0.01	7.00	1		
17	14.98		7.2	7.3					5.3		232		6				362		18		2790				1370	1080	120.0	0.09			9.33	0.01	7.28	1		
18	15.71		7.1	7.2					5.9		258		6				357		15		2700				1080	870	110.0	0.10				0.01	7.62	2		
19	16.18		7.2	7.2					6.6		256		5				378	<del> </del>	14		2930				1120	910	110.0	0.10		2.19		0.01	6.83	23		
20	15.73		7.2						6.0		284		6				304		13		2670				1090	860	100.0	0.09				0.01	6.33	13		
21	15.87		7.0						5.4	1	258		6				322		13		2860				1360	1080	100.0	0.07				0.01		2		
22	15.05		7.1		***************************************				5.2		290		8				326	_	13		2720				1130	920	100.0	0.09				0.01	_			
23	19.69		7.0						5.6		356		10				357		15		2850				1180	950	100.0	0.08				0.01		10		
24	25.54		7.1						5.5		314		9				315	_	27		3340	ļ			1180	960	80.0	0.07	<u> </u>		11.00	0.01		5		
25	19.74		7.1		_				6.1	<u> </u>	236		6				275	-	17		3120				1160	910	90.0	0.08	_	100		0.01		3		
26	17.57		7.1						5.7		280		6 7				277	-	22		3020				1140 1520	940	90.0	0.08	_	1.29		0.01 0.01		1 18		
27	18.55		7.2						5.0		306		9				355 271		21 29		2980 3540				1090	1250 880	80.0	0.06	_			0.01	8.34	18		
28	22.30		7.1		-	-		-	5.0 5.2		268 238		8			<del>                                     </del>	271		29		3960				1480	1170	90.0	0.07	<del></del>			0.01		11		
29	20.95 18.53		7.1			$\dashv$			5.2		252		7				286		24		3540				1310	980	90.0	0.00	<del> </del>			0.01	-	2		
30	0.00		1.	1.5					3,0		202		- 1								3340				1010	300	30.0	<i></i>				<u></u>	1.30			
Total	511.4	n	0 30000	8. PEVEZESSA	308326466	40000000	49(61)X(EL)	Mary Swares	5(5041/25)	30220135311	0.000 (0.000)	SUPPLAYER I	(427/423)	ostroni:	SUNSHIE!	14/00/05/25	47(05(7)(0))	550000055	dw///state	0.0	201400000000000000000000000000000000000	0.0	3550V939AV	00/100000	51005000567786	9856849849859	2000/03/2003	((D)(()(E)(V	(0.0000000)	1000000000	Y6397228113	WWW.	360000000	180866934		
Avg.	16.50	2000 BEC 456348	7.1	7.3		11013014160	T. Constant	100000000000000000000000000000000000000	5.9	Part Andrews	276	egylatoraliseva a	7	10001010000	200000000000000000000000000000000000000	1	329	- managang	16	0.0	3019.3	1			1265.67	1010.00	112.33	******		1.92	9.81	0.01	7.81	6		
Avg.	10.00			7.0	i			l	0.0							1			,		,	<b></b>		·												
'																																				
Total N	lumber o	of Sewer Con	nections	5;			(	D			Industrial	Waste	Popula	ation Ed	uivaler	nt									Operator					lbn G	reen					
		nnections:			-					-																										
		onnections:			_					-	1	57097	7097 266346						18	1112	_				Cert.#					161	55					
	ial Conn				_					-	Flow BOD						_	7	SS	-																
Sewer	Connec	tions X 4 =			0					_														Phone #					502-540-6042							
								-																												