



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

October 17, 2012

Ms. Cheryl Edwards
Kentucky Division of Water
200 Fair Oaks Lane
Frankfort, Kentucky 40601

**RE: Derek Guthrie WQTC, KPDES No: KY0078956
Discharge Monitoring Report - September 2012**

Dear Ms. Cheryl Edwards:

Attached are the Discharge Monitoring Report (DMR) and the Monthly Operating Report (MOR) for the Derek Guthrie WQTC, for the month of September 2012.

There were no exceedences, bypasses or overflow reports during the month of September for the Derek Guthrie WQTC.

Also included is the third qtr Bio Monitoring report.

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

Sincerely,

John Kessel
Process Supervisor, West Region

JMK/Derek Guthrie 0912

Enclosures

cc:

T. Singleton
R. Shaw



Beneficial Use of Louisville's Biosolids
www.louisvillegreen.com

PERMITTEE NAME/ADDRESS (Include)

Facility Name/Location if different

NAME DEREK R. GUTHRIE WQTC MSD
 ADDRESS C/O CEDAR CREEK WQTC
 4522 ALGONQUIN PKWY
 LOUISVILLE KY 40211
 FACILITY DEREK R. GUTHRIE WQTC

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
 DISCHARGE MONITORING REPORT (DMR)

KY0078956
 PERMIT NUMBER

0012
 DISCHARGE NUMBER

MAJOR (SUBR LV)
 F - FINAL JEFFE
 MUNICIPAL WASTEWATER
 EFFLUENT
 [] No Discharge

LOCATION LOUISVILLE KY 40272
 ATTN: DENNIS THOMASSON SR. METRO OPS

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
12	09	01		12	09	30

NOTE: Read instructions before completing this form

PARAMETER	X	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
OXYGEN, DISSOLVED (DO) 00300 1 0 0	SAMPLE MEASUREMENT			***	5			(19) MG/L	0	01/01	GR
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	*****	*****	***	2 INST MIN	*****	*****	(19) MG/L		DAILY	GRAB
BOD, 5-DAY (20 DEG. C) 00310 G 0 0	SAMPLE MEASUREMENT	33491	45262	(26) LBS/DY		165	256	(19) MG/L	0	01/01	CP
RAW SEW/INFLUENT	PERMIT MEASUREMENT	REPORT MO AVG	REPORT MX WK AV	(26) LBS/DY	*****	REPORT MO AVG	REPORT MX WK AV	(19) MG/L		DAILY	COMPOS
BOD, 5-DAY (20 DEG. C) 00310 1 0 1	SAMPLE MEASUREMENT	2339	4171	(26) LBS/DY		10	15	(19) MG/L	0	01/01	CP
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	7506 MO AVG	11259 MX WK AV	(26) LBS/DY	*****	30 MO AVG	45 MX WK AV	(19) MG/L		DAILY	COMPOS
PH 00400 1 0 0	SAMPLE MEASUREMENT			***	7.1		7.7	(12) SU	0	01/01	GR
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	*****	*****	***	6.0 MINIMUM	*****	9.0 MAXIMUM	(12) SU		DAILY	GRAB
SOLIDS, TOTAL SUSPENDED 00530 G 0 0	SAMPLE MEASUREMENT	44168	53783	(26) LBS/DY		202	223	(19) MG/L	0	01/01	CP
RAW SEW/INFLUENT	PERMIT MEASUREMENT	REPORT MO AVG	REPORT MX WK AV	(26) LBS/DY	*****	REPORT MO AVG	REPORT MX WK AV	(19) MG/L		DAILY	COMPOS
SOLIDS, TOTAL SUSPENDED 00530 1 0 1	SAMPLE MEASUREMENT	1972	3659	(26) LBS/DY		9	14	(19) MG/L	0	01/01	CP
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	7506 MO AVG	11259 MX WK AV	(26) LBS/DY	*****	30 MO AVG	45 MX WK AV	(19) MG/L		DAILY	COMPOS
NITROGEN, AMMONIA TOTAL (AS N) 00610 G 0 0	SAMPLE MEASUREMENT	2554	2811	(26) LBS/DY		12	15	(19) MG/L	0	01/01	CP
RAW SEW/INFLUENT	PERMIT MEASUREMENT	REPORT MO AVG	REPORT MX WK AV	(26) LBS/DY	*****	REPORT MO AVG	REPORT MX WK AV	(19) MG/L		DAILY	COMPOS
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under those statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.				SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE		DATE		
GREG HEITZMAN EXECUTIVE DIRECTOR							502	540-6000	12	10	24
TYPED OR PRINTED							AREA CODE	NUMBER	YEAR	MO	DAY
COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)	USE MO AVG FOR BOD/TSS REMV; REPT IN MINIMUM COLUMN.										

PERMITTEE NAME/ADDRESS (Include

Facility Name/Location if different)

NAME DEREK R. GUTHRIE WQTC MSD
 ADDRESS C/O CEDAR CREEK WQTC
 4522 ALGONQUIN PKWY
 LOUISVILLE KY 40211
 FACILITY DEREK R. GUTHRIE WQTC

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)
 DISCHARGE MONITORING REPORT (DMR)

KY0078956
 PERMIT NUMBER

001 2
 DISCHARGE NUMBER

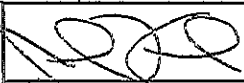
MAJOR (SUBR LV)
 F - FINAL JEFFE
 MUNICIPAL WASTEWATER
 EFFLUENT
 [] No Discharge

MONITORING PERIOD

FROM YEAR MO DAY TO YEAR MO DAY
 12 09 01 TO 12 09 30

LOCATION LOUISVILLE KY 40272
 ATTN: DENNIS THOMASSON SR. METRO OPS

NOTE: Read instructions before completing this form

PARAMETER	MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
NITROGEN, AMMONIA TOTAL (AS N) 00610 1 0 1	SAMPLE MEASUREMENT	524	1221	(26) LBS/DY		2	5	(19) MG/L	0	01/01	CP	
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	3253 MO AVG	4879 MX WK AV	(26) LBS/DY	*****	20 MO AVG	30 MX WK AV	(19) MG/L		DAILY	COMPOS	
NITROGEN, KJELDAHL TOTAL (AS N) 00625 1 0 1	SAMPLE MEASUREMENT	945	1921	(26) LBS/DY		4	8	(19) MG/L	0	05/30	CP	
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	REPORT MO AVG	REPORT MX WK AV	(26) LBS/DY	*****	REPORT MO AVG	REPORT MX WK AV	(19) MG/L		WEEKLY	COMPOS	
PHOSPHORUS, TOTAL (AS P) 00665 1 0 1	SAMPLE MEASUREMENT	291	570	(26) LBS/DY		1.6	3.0	(19) MG/L	0	01/07	COMPOS	
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	REPORT MO AVG	REPORT MX WK AV	(26) LBS/DY	*****	REPORT MO AVG	REPORT MX WK AV	(19) MG/L		WEEKLY	COMPOS	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 G 0 0	SAMPLE MEASUREMENT	24.87	45.25	(03) MGD				***	0	CN	CN	
RAW SEW/INFLUENT	PERMIT MEASUREMENT	REPORT MO AVG	REPORT Daily MAX	(03) MGD	*****	*****	*****	***		CONTINUOUS	CONTIN	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	SAMPLE MEASUREMENT	25.80	46.99	(03) MGD				***	0	CN	CN	
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	REPORT MO AVG	REPORT Daily MAX	(03) MGD	*****	*****	*****	***		CONTINUOUS	CONTIN	
CHLORINE, TOTAL RESIDUAL 50060 1 0 0	SAMPLE MEASUREMENT			***			<0.010	(19) MG/L	0	01/01	GR	
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	*****	*****	***	*****	*****	0.019 DAILY MX	(19) MG/L		DAILY	GRAB	
COLIFORM, FECAL GENERAL 74055 1 0 0	SAMPLE MEASUREMENT			***		4	5	(13) 100ML	0	01/01	GR	
EFFLUENT GROSS VALUE	PERMIT MEASUREMENT	*****	*****	***	*****	200 30DA GEO	400 7 DA GEO	(13) 100ML		DAILY	GRAB	
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT, SEE 18 U.S.C 1001 AND 33 U.S.C 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.							TELEPHONE		DATE		
GREG HEITZMAN EXECUTIVE DIRECTOR								502	540-6000	12	10	26
TYPED OR PRINTED								SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 USE MO AVG FOR BOD/TSS REMV; REPT IN MINIMUM COLUMN.

PERMITTEE NAME/ADDRESS (include

Facility Name/Location if different)

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 LOUISVILLE KY 40211
 FACILITY DEREK R. GUTHRIE WQTC

KENTUCKY POLLUTANT DISCHARGE/ELIMINATION SYSTEM (KPDES)
 DISCHARGE MONITORING REPORT (DMR)

KY0078956
 PERMIT NUMBER

0012
 DISCHARGE NUMBER

MAJOR (SUBR LV) JEFFE
 F - FINAL MUNICIPAL WASTEWATER
 EFFLUENT
 [] No Discharge

MONITORING PERIOD							
YEAR	MO	DAY		YEAR	MO	DAY	
FROM	12	09	01	TO	12	09	30

LOCATION LOUISVILLE KY 40272
 ATTN: DENNIS THOMASSON SR. METRO OPS

NOTE: Read instructions before completing this form

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
BOD, 5-DAY PERCENT REMOVAL 81010 K 0 0 PERCENTREMOVAL	SAMPLE MEASUREMENT			***	92			(23) CENT	0	Cal	Cal
	PERMIT MEASUREMENT	*****	*****	***	85 MO AVG	*****	*****	(23) CENT		CAL	CAL
SOLIDS, SUSPENDED PERCENT REMOVAL 81011 K 0 0 PERCENTREMOVAL	SAMPLE MEASUREMENT			***	95			(23) CENT	0	CAL	CAL
	PERMIT MEASUREMENT	*****	*****	***	85 MO MIN	*****	*****	(23) CENT		CAL	CAL
	SAMPLE MEASUREMENT										
	PERMIT MEASUREMENT										
	SAMPLE MEASUREMENT										
	PERMIT MEASUREMENT										
	SAMPLE MEASUREMENT										
	PERMIT MEASUREMENT										
	SAMPLE MEASUREMENT										
	PERMIT MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 GREG HEITZMAN
 EXECUTIVE DIRECTOR
 TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT, SEE 18 U.S.C 1001 AND 33 U.S.C 1310. (Penalties under those statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 TELEPHONE 502 540-6000
 AREA CODE NUMBER
 DATE 12 10 24
 YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 USE MO AVG FOR BOD/TSS REMV; REPT IN MINIMUM COLUMN.

PERMITTEE NAME/ADDRESS (Include

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 DISCHARGE MONITORING REPORT (DMR)

KY0078956
 PERMIT NUMBER

001 Y
 DISCHARGE NUMBER

MAJOR (SUBR LV)
 F - FINAL JEFFE
 BIOMONITORING/METALS/QUARTERLY EFFLUENT
 [] No Discharge

MONITORING PERIOD

FROM

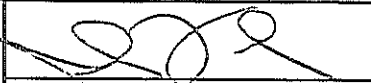
YEAR	MO	DAY
12	09	01

 TO

YEAR	MO	DAY
12	09	30

LOCATION LOUISVILLE KY 40272
 ATTN: DENNIS THOMASSON SR. METRO OPS

NOTE: Read instructions before completing this form

PARAMETER	X	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
HARDNESS, TOTAL (AS CaCO3) 00900 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT			***		215	215	(19) MG/L	0	01/90	CP	
	PERMIT MEASUREMENT	*****	*****	***	*****	REPORT MO AVG	REPORT DAILY MX	(19) MG/L		QTRLY	COMPOS	
ZINC TOTAL RECOVERABLE 01094 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT			***		0.061	0.061	(19) MG/L	0	01/90	CP	
	PERMIT MEASUREMENT	*****	*****	***	*****	REPORT MO AVG	REPORT DAILY MX	(19) MG/L		QTRLY	COMPOS	
CADMIUM TOTAL RECOVERABLE 01113 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT			***		<0.001	<0.001	(19) MG/L	0	01/90	CP	
	PERMIT MEASUREMENT	*****	*****	***	*****	REPORT MO AVG	REPORT DAILY MX	(19) MG/L		QTRLY	COMPOS	
LEAD TOTAL RECOVERABLE 01114 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT			***		<0.08	<0.08	(19) MG/L	0	01/90	CP	
	PERMIT MEASUREMENT	*****	*****	***	*****	REPORT MO AVG	REPORT DAILY MX	(19) MG/L		QTRLY	COMPOS	
COPPER TOTAL RECOVERABLE 01119 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT			***		0.008	0.008	(19) MG/L	0	01/90	CP	
	PERMIT MEASUREMENT	*****	*****	***	*****	REPORT MO AVG	REPORT DAILY MX	(19) MG/L		QTRLY	COMPOS	
TOXICITY, FINAL CONC TOXICITY UNITS 61406 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT			***			<1.0	TOXCTY	0	01/90	GRAB-2	
	PERMIT MEASUREMENT	*****	*****	***	*****	*****	1.00 DAILY MX	(2F) TOXCTY		QTRLY	GRAB-2	
	SAMPLE MEASUREMENT											
	PERMIT MEASUREMENT											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under those statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.							TELEPHONE		DATE		
GREG HEITZMAN EXECUTIVE DIRECTOR								502	540-6000	12	10	26
TYPED OR PRINTED								SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO

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

Name of Sewage Treatment Plant:

West County WTP

Jefferson

Month of:

September

2012

KPDES Permit Number:

KY0078956

Plant Capacity:

30 MGD

Receiving Stream:

Ohio River

Date	Total Flow (MG)	Raw Sewage		pH		Settleable Solids (mL/L)			Dissolved Oxygen (mg/L)			Suspended Solids (mg/L)			Total Solids (mg/L)			5-day BOD (mg/L)			Activated Sludge			Aeration Basin						Dig Sludge		Final						
		Grift Removed (cu ft)	Screenings (cu ft)	Raw	Final	Raw	Primary (or Sec.)	Final	Stream Above	Final	Stream Below	Raw	Primary (or Sec.)	Final	Raw	Primary (or Sec.)	Final	Raw	Primary (or Sec.)	Final	Million Gal/Day	MLSS mg/L X 1000	WAS	Gal/Day X 1000	Oxygen (mg/L) #1	Oxygen (mg/L) #2	MLSS (mg/L) X 1000 #1	MLVSS (mg/L) X 1000 #1	50 min. Settis.	SVI	% Solids	Phosphorus (mg/L)	TKN (mg/L)	Chlorine Residual (mg/L)	NH3-N (mg/L)	Fecal Coliform Col/100ml	Hexavalent Chromium	Hardness
1	25.27			7.5	7.5				6.7		238	22				152	12			3950						2570	1910	160.0	0.08				0.01	4.00	2			
2	38.70			7.2	7.4				6.5		222	98				98	22			5510						2820	2030	140.0	0.05				0.01	6.30	2			
3	39.70			7.2	7.3				6.8		190	14				14	17			5910						3680	2810	170.0	0.05				0.01	4.90	3			
4	24.23			7.5	7.5				7.3		204	12				100	8			8540						10100	6990	180.0	0.02	0.89		0.01	3.60	2				
5	29.53			7.3	7.4				7.2		222	14				118	21			3860						7500	5180	200.0	0.03			7.80	0.01	5.50	2			
6	34.05			7.5	7.5				7.0		192	10				135	19			8520						5410	3840	160.0	0.03				0.01	4.60	10			
7	23.40			7.3	7.5				6.8		214	6				132	9			4980						3180	2180	200.0	0.08				0.01	3.40	7			
8	46.99			7.3	7.5				6.8		338	9				78	9			6880						2430	1690	140.0	0.06				0.01	3.10	180			
9	30.58			7.7	7.7				7.0		82	6				54	8			7390						2900	2050	180.0	0.08				0.01	1.70	7			
10	25.19			7.8	7.7				7.2		96	7				72	12			2990						1840	1160	100.0	0.08				0.01	4.20	3			
11	23.89			7.4	7.6				6.0		94	17				123	17			1930						1150	870	70.0	0.08	8.00		0.01	5.00	2				
12	22.67			7.5	7.4				6.0		142	5				208	16			5320						3080	2230	200.0	0.06	0.70		0.01	3.80	2		228		
13	21.60			7.2	7.4				5.0		170	5				165	12			4490						2920	2120	200.0	0.07				0.01	4.10	3	0.01		
14	21.80			7.3	7.4				6.5		128	5				144	10			4390						2870	2100	180.0	0.08				0.01	2.30	2			
15	20.94			6.6	7.4				6.0		172	6				120	6			4240						2480	1810	190.0	0.08				0.01	1.20	2			
16	21.16			7.2	7.2				7.0		182	7				190	14			4560						2890	2120	220.0	0.08				0.01	1.30	2			
17	21.82			7.3	7.4				6.8		194	7				143	14			5070						3280	2410	230.0	0.07				0.01	1.40	2			
18	20.92			7.0	7.4				6.6		172	5				195	8			4060						2840	2100	180.0	0.08	1.84	2.10	0.01	0.62	23				
19	21.72			7.1	7.2				6.8		428	8				777	9			3990						2780	2000	180.0	0.08				0.01	0.73	8			
20	20.58			7.3	7.3				6.6		208	5				232	5			4830						3220	2340	210.0	0.07				0.01	0.34	2			
21	19.38			7.5	7.4				6.7		204	8				136	5			4750						3530	2580	200.0	0.08				0.01	0.34	2			
22	19.30			7.4	7.5				7.0		208	7				172	8			4850						3270	2400	200.0	0.08				0.01	0.28	3			
23	19.89			7.2	7.3				7.0		192	8				135	5			4750						3070	2230	200.0	0.07				0.01	0.22	3			
24	19.38			7.4	7.1				6.6		194	7				229	6			5190						4040	2930	200.0	0.05				0.01	0.28	5			
25	22.79			7.5	7.2				6.7		230	6				251	6			5100						3340	2490	200.0	0.08	2.99	2.50	0.01	0.56	14				
26	27.41			7.5	7.3				6.7		336	8				136	5			8290						3650	2800	200.0	0.05				0.01	0.39	3			
27	40.00			7.4	7.3				7.0		208	9				191	11			8930						3330	2320	190.0	0.08				0.01	0.39	3			
28	26.01			7.3	7.4				6.7		186	7				125	6			7640						8480	4690	230.0	0.04				0.01	0.67	4			
29	23.57			7.6	7.3				7.0		198	7				101	5			8760						8380	4580	200.0	0.03				0.01	0.58	4			
30	21.81			7.6	7.5				6.4		228	6				178	6			6300						5000	3830	200.0	0.04			2.00	0.01	0.39	7			
31																																						
Total	###	0	0																																			
Avg.	25.80			7.3	7.4				6.7		202	9				165	10			5378.3		0.0					3731.00	2579.00	183.67	0	1.55	4.48	0.01	2.21	4	0.01	228	

Total Number of Sewer Connections:

0

Industrial Waste Population Equivalent

Operator

Curt Otto

Residential Connections:

Commercial Connections:

Industrial Connections:

Sewer Connections X 4 =

0

245734

209240

206582

Flow

BOD

TSS

Cart #

#20285

Phone #

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**Acute Toxicity Evaluation
for the
MSD – Derek R. Guthrie Water Quality
Treatment Center**

August 2012

Prepared by:

Beckmar Environmental Laboratory
Biomonitoring Department
3251 Ruckriegel Parkway
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(502) 266-6533

Submitted to:

Mr. John Kessel
Derek R. Guthrie Water Quality Treatment Center
700 West Liberty St.
Louisville, KY. 40203

Released by: _____


Biomonitoring QA Officer

9-12-12

Summary

Acute definitive toxicity testing was performed on final effluent samples collected August 21, 2012 from the MSD Derek R. Guthrie Water Quality Treatment Center. Testing was performed August 22 through 24, 2012 and upon termination, the following conclusions were reached:

For the 48-hour *Pimephales promelas* 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).

Introduction

At the request of Mr. John Kessel, acute toxicity testing was performed on two grab effluent samples collected August 21, 2012 from the MSD Derek R. Guthrie Water Quality Treatment Center 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 LC₅₀ values for *Pimephales promelas* survival.



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Beckmar Certificate of Analysis BMSG120907-002

BMSG120907-002A	Collection Date	8/21/2012 9:00:00 PM	Sampled By: Stephen Patterson				
Sample Description: MSD / West County - Bio Metals			Sample Type: Wastewater				
Parameter	Result	Unit	MDL	Type	Method	Analyzed Date/Time	Analyst
Cadmium (D)	<0.001	mg/L	0.001	Comp	EPA 200.7	9/11/2012 12:00:00 PM	AMP
Cadmium (TR)	<0.001	mg/L	0.001	Comp	EPA 200.7	9/11/2012 12:00:00 PM	AMP
Copper (TR)	0.008	mg/L	0.008	Comp	EPA 200.7	9/11/2012 12:00:00 PM	AMP
Lead (TR)	<0.08	mg/L	0.08	Comp	EPA 200.7	9/11/2012 12:00:00 PM	AMP
Total Hardness as CaCO3	215	mg/L	5	Comp	SM 2340C	9/11/2012 3:00:00 PM	AMP
Zinc (TR)	0.061	mg/L	0.005	Comp	EPA 200.7	9/11/2012 12:00:00 PM	AMP

Thank You,

A handwritten signature in black ink, appearing to read 'Paul J. Barker'.

Paul J. Barker
Chemist

Analyst: Autumn Payne
Date: 9/11/2012

QC Data

West Co. (DRGWQTC)

Sample Number: BMSG 120907-002A

Analyte	Result (mg/L)	INITIAL CALIBRATION VERIFICATION (% recovery)	CONTINUED CALIBRATION VERIFICATION (% recovery)	CONTINUED CALIBRATION VERIFICATION (% recovery)	BLANK (mg/L)	DUPLICATE	SPIKE (% recovery)
Cu (tr)	0.008	104.2	97.5	98.9	<0.006	<0.006/<0.006	94.7
Pb (tr)	<0.08	105%	97.6	100.0	<0.08	<0.08/<0.08	93.8
Zn (tr)	0.061	101.5	97.7	100.0	<0.005	0.005/0.005	96.9
Cd (dis)	<0.001	99.8	97.5	99.3	<0.001	<0.001/<0.001	94.8
Cd (tr)	<0.001	99.8	97.5	99.3	<0.001	<0.001/<0.001	94.8
Hardness	215	100	101	99	<5	100%	96

Test Type: Acute X Screen
Chronic Definitive X

TOXICITY TEST REPORT SHEET

- 1) Facility/Discharger: MSD-DRG WQTC Report Date: 9/12/2012
- 2) Address: 11601 Lower River Rd. Louisville, KY. 40272
-
- 3) NPDES Permit #: KY0078956 4) Receiving Stream: Ohio River @ mile 358.1
- 5) Facility Contact: Mr. John Kessel
- 6) Phone #: (502) 540-6031 plant / 253-9310
- 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) na 2) na
3) 4) 5) 6) 7)
- 11) Test Species: 1) Pimephales promelas 2)
- 12) Species Age: 1) 8 days old 2)
- 13) Organism Source: 1) fish hatch 081412 2)
- 14) Acclimation Procedures: 1) Reared at test conditions in synthetic water
2)
- 15) Test Conditions: Static: X Static-Renewal:
- 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

Rhonda Baker
(Signature of person filling out form)

9/12/2012
Date

Rhonda Baker
Name (Typed or Printed)

Biologist
Title

Materials and Methods

Sampling

Two effluent samples were collected at 11:00 a.m. and 9:00 p.m. on August 21, 2012 (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 CaSO₄, 1.2 grams of MgSO₄, 1.92 grams of NaHCO₃, 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

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:	YSI Model 52
PH:	Orion Model 720A
Conductivity:	Oakton CON 100 Series
Alkalinity:	Standard Methods Titration
Hardness:	Standard Methods Titration
Total Chlorine Residual:	Fisher-Porter Titration
EPA Acute/Chronic Manual:	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	08/21/12 @ 11:00 a.m.	NA	2.0 degrees C
	Grab	1 gallon	08/21/12 @ 9:00 p.m.	NA	2.0 degrees C

Dates/Times of Test Performance

Species #1: *Pimephales promelas*

Initiated: 08/22/12 @ 6:00 P.M.

Terminated: 08/24/12 @ 6:00 P.M.

Results

In sample 120822-021A, *Pimephales promelas* exhibited 100% survival in the control, 100% survival in the 20% dilution, 100% survival in the 40% dilution, 100% survival in the 60% dilution, 90% survival in the 80% dilution, and 90% survival in the 100% dilution.

In sample 120822-021B, *Pimephales promelas* exhibited 100% survival in the control, 85% survival in the 20% dilution, 100% survival in the 40% dilution, 95% survival in the 60% dilution, 95% survival in the 80% dilution, and 95% 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

Pimephales promelas Data Sheets

Larval Fish Growth and Survival Test-48 Hr Survival

Start Date: 8/22/2012	Test ID: drgam812	Sample ID: drgam812
End Date: 8/24/2012	Lab ID: 0044;beckmar environmental	Sample Type: EFF1-POTW
Sample Date: 8/21/2012	Protocol: EPA 821 RO2012	Test Species: PP-Pimephales promelas
Comments: drg fhm acute am august 2012		

Conc-%	1	2
B-Control	1.0000	1.0000
20	1.0000	1.0000
40	1.0000	1.0000
60	1.0000	1.0000
80	0.9000	0.9000
100	0.9000	0.9000

Conc-%	Mean	N-Mean	Transform: Arcsin Square Root				
			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	0.9000	0.9000	1.2490	1.2490	1.2490	0.000	2
100	0.9000	0.9000	1.2490	1.2490	1.2490	0.000	2

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

Grab # A

Toxicity Test Results

Results of *Pimephales promelas* 48 HR. ACUTE Toxicity Test
 (Genus) (Species) (Type / Duration)

Conducted: 08/22/12 -- 08/24/12 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										
20% Effluent	100	100										
40% Effluent	100	100										
60% Effluent	100	100										
80% Effluent	100	90										
100% Effluent	100	90										
LC ₅₀ / IC ₂₅ Value: <u>> 100%</u> 95% Confidence Limits UL: <u>na</u> LL: <u>na</u> UL = Upper Limit LL = Lower Limit								Calculated TU Estimate * <u>< 1.00 Tua</u> (indicate Acute/Chronic) Permit Limits: <u>1.00 Tua</u> (Indicate TU _a / TU _c)				
								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>Pimephales promelas</i></u>	<u>08/10/12</u>	<u>3:00 P.M.</u>	<u>48 hrs.</u>	<u>NaCl</u>	<u>LC50=6.3939g/l</u>

Larval Fish Growth and Survival Test-48 Hr Survival

Start Date: 8/22/2012	Test ID: drgpm812	Sample ID: drgpm812
End Date: 8/24/2012	Lab ID: 0044:beckmar environmental	Sample Type: EFF1-POTW
Sample Date: 8/21/2012	Protocol: EPA 821 RO2012	Test Species: PP-Pimephales promelas
Comments: drg fhm acute pm august 2012		

Conc-%	1	2
B-Control	1.0000	1.0000
20	0.9000	0.8000
40	1.0000	1.0000
60	1.0000	0.9000
80	0.9000	1.0000
100	0.9000	1.0000

Conc-%	Transform: Arcsin Square Root						
	Mean	N-Mean	Mean	Min	Max	CV%	N
B-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2
20	0.8500	0.8500	1.1781	1.1071	1.2490	8.517	2
40	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2
60	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2
80	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2
100	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2

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

Grab # B

Toxicity Test Results

Results of *Pimephales* *promelas* 48 HR. ACUTE Toxicity Test
 (Genus) (Species) (Type / Duration)

Conducted: 08/22/12 -- 08/24/12 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										
20% Effluent	100	85										
40% Effluent	100	100										
60% Effluent	100	95										
80% Effluent	100	95										
100% Effluent	100	95										
LC ₅₀ / IC ₂₅ Value: <u>> 100%</u> 95% Confidence Limits UL: <u>na</u> LL: <u>na</u> UL = Upper Limit LL = Lower Limit								Calculated TU Estimate * <u>< 1.00 Tua</u> (indicate Acute/Chronic) Permit Limits: <u>1.00 Tua</u> (Indicate TU _n / TU _c)				
								If acute test, method used to determine LC50 and Confidence Limit Valued:				

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

Reference Toxicant Test Results					
Species	Date	Time	Duration	Toxicant	Results (LC ₅₀ / IC ₂₅)
<i>Pimephales</i>	<u>08/10/12</u>	<u>3:00 P.M.</u>	<u>48 hrs.</u>	<u>NaCl</u>	<u>LC50=6.3939g/l</u>
<i>promelas</i>					

Appendix II

Chain of Custody Data Sheets

