

AMBIENT TOXICITY TEST REPORT FORM

GENERAL INFORMATION						
PROJECT NAME: Kinnickinnic River Sediment Project		LABORATORY NAME: Wisconsin State Laboratory of Hygiene				
REPORT TYPE: Ammended		REPORT NUMBER: FZ000200 Ammended				
		If ammended, original report number: FZ000200				
SAMPLE INFORMATION						
SAMPLE NO.	LAB NO.	FIELD NO.	SITE DESCRIPTION			STATION NO. (SWIMS, STORET or LAT/LONG)
A	FZ000204	KKMBS010Tox_0-0.5	Site SD010 Surface Sediment			
B	FZ000202	KKMBS012Tox_0-0.5	Site SD012 Surface Sediment			
C	FZ000203	KKMBS012Tox_0.5-5	Site SD012 Sub-Surface Sediment			
D	FZ000200	KKMBS014Tox_0-0.5	Site SD014 Surface Sediment			
E	FZ000201	KKMBS014Tox_0.5-5	Site SD014 Sub-Surface Sediment			
F	FZ000199	KKMBS014Tox_Water	Kinnickinnic River Surface Water			
SAMPLE NO.	SAMPLE COLLECTION			SAMPLE TEMP	HAND DELIVER? (If Yes, ≤ 4 hr?)	SAMPLE ACCEP-TABLE?
	SAMPLE TYPE	SAMPLING DATE	DATE at LAB	COLLECTION		
A	Sediment	05/14/2015	05/14/2015	iced	Yes	Yes
B	Sediment	05/14/2015	05/14/2015	iced	Yes	Yes
C	Sediment	05/14/2015	05/14/2015	iced	Yes	Yes
D	Sediment	05/14/2015	05/14/2015	iced	Yes	Yes
E	Sediment	05/14/2015	05/14/2015	iced	Yes	Yes
F	Water	05/14/2015	05/14/2015	iced	Yes	Yes
<i>Describe any unusual conditions during sampling that may influence test results. (see Part 6.1.2 of the Methods Manual for examples.)</i>						
COMMENTS: Kinnickinnic (KK) River water was collected at Site SD014 for use in toxicity tests. Sediment was collected at 3 sites via boat by EPA and EPA consultants. Sediment tests were set 5/18/15 and elutriate tests were set 5/20/15.						
TEST INFORMATION						
Date Test Initiated:		ACUTE			CHRONIC	
		NA			05/20/2015	
QA/QC CONDITIONS						
The chronic elutriate test was set with two control treatments, a lab w				ACUTE	CHRONIC	
Temperatures maintained during test? (25 ± 1°C)				NA	Yes (with a few exceptions noted below)	
Dissolved oxygen ≥ 4.0 mg/l throughout tests?				NA	Yes	
pH maintained within 6.0 - 9.0 s.u. throughout DM and FHM tests?				NA	Yes	
Concurrent or monthly reference tests within acceptable limits?				NA	Yes	
Tests conducted in a carbon dioxide atmosphere throughout test?				NA	No	
Were samples modified prior to testing? (ex. filtration, aeration, chem addition)				NA	Yes	
COMMENTS: Samples were modified in that elutriate samples were prepared from KK River water and sediment which was then centrifuged. Carbon dioxide was not used for this test since it was an elutriate test. Site SD012 Sub-surface (FZ000203) was not used for elutriate testing - only for sediment testing. The vast majority of testing was within the required temperatures but there were 7 temperatures out of all the tests that were slightly above 26°C. The highest temperature was 26.2 °C.						
WATER CHEMISTRY						
SAMPLE NO.	HARDNESS (mg/L)	ALKALINITY (mg/L)	TOTAL AMMONIA (mg/L)	DISSOLVED OXYGEN (mg/L)	pH (s.u.) After Warming	Conductivity (µS)
Lab Control Elutriate Batch 1	216	135	0.1	9.35	8.05	760
FZ200 Elutriate Batch 1 Pre-centrifuge	NE	NE	3.3	NA	NA	NA
FZ200 Elutriate Batch 1 Post centrifuge	252	190	3.4	7.59	7.45	862
FZ201 Elutriate Batch 1	NE	NE	NE	7.69	7.44	1010
FZ199 KK River Water	LA	LA	LA	10.20	7.99	847
FZ202 Elutriate Batch 1	NE	NE	NE	7.77	7.39	880
Lab Control Hard Water	184	115	NA	8.54	8.56	589
Lab Control DC	216	350	NA	8.50	8.03	744
COMMENTS: See narrative for other chemistry data notes pertaining to <i>Daphnia magna</i> and <i>Pimephales promelas</i> tests DC = Dechlorinated Madison tap water is used as the lab control for the fathead minnow test. Hard water = Lab control water for the <i>Daphnia magna</i> tests. KK = Kinnickinnic River water Elutriate is a water sample prepared by mixing sediment and water, settling, centrifuging and decanting the supernatant off to use in toxicity testing. DM = <i>Daphnia magna</i> NE = Not enough sample to test for this parameter LA = Lab accident, no sample collected						

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CHRONIC PHASE 2 TEST CONTROL PERFORMANCE

LAB WATER CONTROLS	
Fathead Minnow	Daphnia magna
Survival ≥ 80% Yes	Survival ≥ 80% No for HW; Yes for LC Elutriate
≥ 0.25 mg/fish Yes	≥ 15 neonates/female Yes
Survival Weight CV ≤ 40% Yes	Reproduction CV ≤ 40% Yes
Survival Weight % CV = 13	Reproduction %CV= 28
	≥ 80% 3rd brood Yes
	≤ 20% males Yes

Chronic Elutriate Testing
Pimephales promelas and *Daphnia magna*

COMMENTS:

CHRONIC TEST DATA

SPECIES	SITE DESCRIPTION		MEAN % SURVIVAL	MEAN DRY BIOMASS PER REPLICATE PAIR (mg)					MEAN BIOMASS (mg)	Growth Statistical Significance*
				1	2	3	4	5		
7 Day Fathead Minnow Growth & Survival Test	LC	Hard Water	95	0.343	0.260	0.285	0.335	0.335	0.312	C
	<i>LW Survival Weight</i>			0.343	0.260	0.380	0.335	0.335		
	1	LC Elutriate	100	0.413	0.415	0.385	0.378	0.415	0.401	A
	2	SD012 Surface Elutriate	95	0.398	0.335	0.353	0.323	0.325	0.347	BC
	3	SD014 Sub-surface Elutriate	0	0.000	0.000	0.000	0.000	0.000	0.000	D
	4	SD014 Surface Elutriate	100	0.298	0.390	0.425	0.370	0.375	0.372	AB

Please describe any unusual behavior and/or appearance of organisms. (see Part 6.1.2 of the Methods Manual for ex.)

COMMENTS: * Samples with the same letter are not statistically different from each other.

The chronic elutriate test was set with two control treatments, a lab water and a lab prepared elutriate made from HW and LC sediment. All site treatments are described in the site description above. Elutriate samples were prepared from KK River water mixed with site sediment, settled and centrifuged. Statistical significance is based on growth results.

SPECIES	SITE	NEONATE PRODUCTION BY REPLICATE										MEAN NEONATES	% ADULT SURVIVAL	Statistical Significance*
		1	2	3	4	5	6	7	8	9	10			
21 Day D. magna Reproduction & Survival Test	LC - HW	0	83	30	69	39	81	65	61	66	58	55	70	AB (Surv); AB (Repro)
	1 - LC Elutriate	121	96	93	88	73	89	73	76	0	89	80	80	AB (Surv); A (Repro)
	2 - SD012 Surface	75	69	61	90	68	65	85	69	65	68	72	100	A (Surv); A (Repro)
	3 - SD014 Sub-surface	0	0	16	53	LA	59	66	46	LA	54	37	50	B (Surv); B (Repro)
	4 - SD014 Surface	80	85	95	85	71	81	78	63	75	77	79	100	A (Surv); A (Repro)

Male Production ≤ 20% Over All Treatments? Yes

Please describe any unusual behavior and/or appearance of organisms. (see Part 6.1.2 of the Methods Manual for ex.)

COMMENTS: * Samples with the same letter are not statistically different from each other.

Chronic test was set with two control treatments, a lab water control and a lab prepared elutriate control made from HW and lab control sediment. All site treatments are described in the site description above and were elutriate samples prepared from KK River water mixed with site sediment, settled and centrifuged. Statistical significance was determined for both survival (Surv) and reproduction (Repro). Two replicates were lost from the Site 3 test due to a lab accident.

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CHRONIC PHASE 2 TEST CONTROL PERFORMANCE														
LAB WATER CONTROLS														
Fathead Minnow				Daphnia magna										
Survival ≥ 80% Yes				Survival ≥ 80% Yes										
≥ 0.25 mg/fish Yes				≥ 15 neonates/female Yes										
Survival Weight CV ≤ 40% Yes				Reproduction CV ≤ 40% Yes										
Survival Weight % CV = 12				Reproduction %CV= 18 ≥ 80% 3rd brood Yes										
				≤ 20% males Yes										
<p>Chronic FHM and D.magna tests set using 5 mL sediment sample with 20 mL overlying water. Two control treatments for each test, one control just lab water (no sediment) and 2nd control is lab water over lab prepared clean sediment. Site treatments are KK River water overlying sediment from the site.</p>														
CHRONIC TEST DATA														
SPECIES	SITE DESCRIPTION		MEAN % SURVIVAL	MEAN DRY BIOMASS PER REPLICATE PAIR (mg)					MEAN BIOMASS (mg)	Growth Statistical Significance*				
				1	2	3	4	5						
7 Day Fathead Minnow Growth & Survival Test	LC	Culture Water - DC	94	0.320	0.275	0.285	0.360	0.345	0.317	A				
	<i>LW Survival Weight</i>			0.320	0.275	0.380	0.360	0.345						
	1	KK + LC Sediment	95	0.218	0.185	0.253	0.280	0.243	0.236	B				
	2	KK + SD012 Surface	100	0.313	0.263	0.293	0.315	0.208	0.278	AB				
	3	KK + SD014 SubSurface	0	0.000	0.000	0.000	0.000	0.000	0.000	C				
	4	KK + SD014 Surface	100	0.250	0.323	0.343	0.358	0.348	0.324	A				
<p>Please describe any unusual behavior and/or appearance of organisms.(see Part 6.1.2 of the Methods Manual for ex.)</p> <p>COMMENTS: * Samples with the same letter are not statistically different from each other. Statistical significance is based on growth results.</p>														
SPECIES	SITE	NEONATE PRODUCTION BY REPLICATE										MEAN NEONATES	% ADULT SURVIVAL	Statistical Significance*
		1	2	3	4	5	6	7	8	9	10			
21 Day D. magna Reproduction & Survival Test	LC - Hard Water	56	61	52	41	51	66	62	49	39	61	54	80	A(Surv) AB(Repro)
	1 - KK + LC Sediment	57	77	49	62	44	43	68	62	56	54	57	100	A(Surv) A(Repro)
	2 - KK + SD012 Surface	34	38	42	36	42	46	45	46	46	44	42	100	A(Surv) BC(Repro)
	3 - KK + SD014 SubSurface	12	50	49	58	60	0	50	42	0	40	36	70	A(Surv) C(Repro)
	4 - KK + SD014 Surface	53	46	47	45	56	59	56	49	61	64	54	100	A (Surv) AB(Repro)
Male Production ≤ 20% Over All Treatments? Yes														
<p>Please describe any unusual behavior and/or appearance of organisms.(see Part 6.1.2 of the Methods Manual for ex.)</p> <p>COMMENTS: * Samples with the same letter are not statistically different from each other. Statistical significance was determined for both survival (Surv) and reproduction (Repro).</p>														

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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I also certify that these results relate only to these samples.

LAB REPRESENTATIVE:	Camille Danielson	SIGNATURE:	
DATE:	10/30/2015		
PHONE:	(608) 224-6230	WDNR LAB CERT #:	113133790
LAB ADDRESS:	Wisconsin State Laboratory of Hygiene, 2601 Agriculture Drive, Madison, WI 53718		
REVIEWED BY:	Dawn Perkins	DATE:	09/17/2015
PERMITTEE	NA	SIGNATURE:	NA
PHONE:	NA	DATE:	NA

Send **all pages** of this form (plus any attachments or additional information which you believe to be relevant to the test) to: **Biomonitoring Coordinator, Bureau of Watershed Management, Department of Natural Resources, 101 South Webster St., P.O. Box 7921, Madison, WI 53707-7921.**

Copies of the State of Wisconsin Aquatic Life Toxicity Testing Methods Manual (Methods Manual) and the WET Guidance Document can be obtained from the WDNR Biomonitoring Coordinator at the address given above or at: <http://dnr.wi.gov/org/water/wm/ww/biomon/>

TO BE COMPLETED BY THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES	
Results Entered Into Database?	
COMMENTS:	
REVIEWED BY:	DATE:
CC:	