Joseph Shane Geren
Environmental Engineer

Wacker Polysilicon North America LLC
P.O. Box 446
Charleston, TN 37310-0446
Tel. 423-780-8160
Cell 423-829-7104
josephshane.geren@wacker.com

WACKER

MJB
WL-CSD

September 11, 2020

Jennifer Innes
Tennessee Department of Environment and Conservation
Chattanooga Environmental Field Office
Division of Water Resources
1301 Riverfront Parkway, Suite 206
Chattanooga, TN 37402

Federal Express Tracking Number: 771500194414

Re: Wacker Polysilicon North America LLC
NPDES Permit Number #TN0081311
2020 LC50 Static 48Hr Acute Ceriodaphnia & Pimephales Biomonitoring Report & Results
Bradley County, Tennessee

Dear Ms. Innes,

Pursuant to Part I, A. Tier I of NPDES Permit Number #TN0081311, please find enclosed the 2020 LC50 Static 48Hr Acute Ceriodaphnia and LC50 Static 48Hr Acute Pimephales Biomonitoring Report and Results which were all >4.88% Non-Toxic. Please contact me at (423) 780-8160 or Jeremy Copeland at (423) 780-7953 if you have any questions.

Sincerely,

Shane Geren
Environmental Engineer
Wacker Polysilicon North America LLC

RECEIVED
SEP 14 '20
ENVIRONMENT & CONSERVATION
CHATTANOOGA FIELD OFFICE

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August 24, 2020

Mr. Adrien Patridge
Wacker Polysilicon North America, LLC
553 Wacker Blvd NW
P.O. Box 446
Charleston, TN 37310-0446

RE: Biomonitoring Results
Sample Numbers: L0E0019

Dear Mr. Geren:

Enclosed are the results of the recent biomonitoring tests for Wacker Polysilicon North America LLC.. A summary of the findings is presented below.

Test Type	Acute 48-Hour Definitive			
Test Concentration	0.31, 0.61, 1.22, 2.44 and 4.88%			
Sample Collection Date / Time	Grab 1 8/5/20 13:19		Grab 2 8/5/20 19:03	
Test Organism	*Ceriodaphnia dubia*	*Pimephales promelas*	*Ceriodaphnia dubia*	*Pimephales promelas*
LC_{50}	>4.88%	>4.88%	>4.88%	>4.88%
Result	Non-Toxic	Non-Toxic	Non-Toxic	Non-Toxic
Sample Collection Date / Time	Grab 3 8/6/20 1:03		Grab 4 8/6/20 7:06	
Test Organism	*Ceriodaphnia dubia*	*Pimephales promelas*	*Ceriodaphnia dubia*	*Pimephales promelas*
LC_{50}	>4.88%	>4.88%	>4.88%	>4.88%
Result	Non-Toxic	Non-Toxic	Non-Toxic	Non-Toxic

If you have any comments or questions concerning the enclosed report, please feel free to contact me.

Sincerely,

Blair Schneider

Blair Schneider, Ph.D.
Department Manager

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Test Type: Acute Definitive

TOXICITY TEST REPORT SHEET
SAMPLE NUMBERS: L0E0019

1) **Facility/Discharger:** Wacker Polysilicon North America, LLC **Report Date:** 08/24/20

2) **Address:** Charleston, TN

3) **NPDES Permit #:** TN0081311

4) **Receiving Stream:** Hiwassee River Embayment of Chickamauga Reservoir at mile 15.9

5) **Facility Contact:** Mr. Adrien Paridge **Phone #:** (423) 780-8160

6) **Consultant/Testing Lab Name:** Microbac Laboratories

7) **Lab Contact:** Dr.Blair Schneider **Phone #:** (502) 962 - 6400

8) **Outfall(s)/Station(s) Tested:** 001

9) **Average Daily Flow (MGD):** Not recorded on chain of custody record

10) **Test Species:** **#1** *Ceriodaphnia dubia* **#2** *Pimephales promelas*

11) **Species Age:** **#1** <24 hours **#2** 13 and 3 days

12) **Organism Source:** **#1** In-house culture **#2** Commercial Supplier

13) **Acclimation Procedure:** N/A

14) **Test Conditions: (Static, Static-Renewal):** Static

15) **Dilution Water Type (synthetic, receiving stream):** Synthetic

16) **Aeration? (Before/During Test):** None

17) **Dechlorination?:** No **Original Chlorine Level:** 0.03, <0.02, <0.02, & <0.02 mg/L

18) **Reference Toxicant Test Results:**

Species	Date	Time	Duration	Toxicant	Result (LC_{50})
Ceriodaphnia dubia	July 2020	---	48 hours	NaCl	2068.6 mg/L
Pimephales promelas	July 2020	---	96 hours	NaCl	7517.6 mg/L

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SAMPLING SUMMARY FOR
WACKER POLYSILICON NORTH AMERICA, LLC

Outfall	Type Grab/Composite	Volume Collected	Sample Collection	Sample Temp. (°C)	Rain Fall (inches)
001	Grab 1 Grab 2	1/2 Gallon 1/2 Gallon	8/5/20 13:19 8/5/20 19:03	5.6 5.6	NR NR
Outfall	Type Grab/Composite	Volume Collected	Sample Collection	Sample Temp. (°C)	Rain Fall (inches)
001	Grab 3 Grab 4	1/2 Gallon 1/2 Gallon	8/6/20 1:03 8/6/20 7:06	5.6 5.6	NR NR

[1] NR - Not recorded on the chain of custody record.

Dates / Times of Test Performance:

Grab 1: 8/6/20 15:40 – 8/8/20 16:09
Grab 1: 8/6/20 14:45 – 8/8/20 14:27

Grab 2: 8/6/20 15:54 – 8/8/20 16:20
Grab 2: 8/6/20 14:55 – 8/8/20 15:35

Grab 3: 8/6/20 16:00 – 8/8/20 16:25
Grab 3: 8/6/20 15:05 – 8/8/20 15:51

Grab 4: 8/6/20 16:12 – 8/8/20 16:33
Grab 4: 8/6/20 15:15 – 8/8/20 16:00

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Grab 1

TOXICITY TEST RESULTS FOR
WACKER POLYSILICON NORTH AMERICA, LLC
48-HOUR ACUTE Ceriodaphnia dubia DEFINITIVE TEST
CONDUCTED 8/6/20 – 8/8/20

Test Solution	Percent Survival	
	24 hrs.	48 hrs.
Control	100	100
0.31% Effluent	100	100
0.61% Effluent	100	100
1.22% Effluent	100	100
2.44% Effluent	100	95
4.88% Effluent	100	90

LC_{50} = >4.88% 95% Confidence Limits UL = N/A LL = N/A UL - Upper Limit LL - Lower Limit	Method used to determine LC_{50} and Confidence Limit values: Inspection

***NOTE: Acute Toxicity Units (TU_a) = 100/LC_{50}**

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Grab 2

TOXICITY TEST RESULTS FOR
WACKER POLYSILICON NORTH AMERICA, LLC
48-HOUR ACUTE Ceriodaphnia dubia DEFINITIVE TEST
CONDUCTED 8/6/20 – 8/8/20

Test Solution	Percent Survival	
	24 hrs.	48 hrs.
Control	100	100
0.31% Effluent	100	100
0.61% Effluent	100	100
1.22% Effluent	100	100
2.44% Effluent	100	100
4.88% Effluent	100	100

LC_{50} = >4.88% 95% Confidence Limits UL = N/A LL = N/A UL - Upper Limit LL - Lower Limit	Method used to determine LC_{50} and Confidence Limit values: Inspection

***NOTE: Acute Toxicity Units (TU_a) = 100/LC_{50}**

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Grab 1

TOXICITY TEST RESULTS FOR
WACKER POLYSILICON NORTH AMERICA, LLC
48-HOUR ACUTE Pimephales promelas DEFINITIVE TEST
CONDUCTED 8/6/20 – 8/8/20

Test Solution	Percent Survival	
	24 hrs.	48 hrs.
Control	100	100
0.31% Effluent	100	100
0.61% Effluent	100	100
1.22% Effluent	100	100
2.44% Effluent	100	100
4.88% Effluent	100	100

LC_{50} = >4.88% 95% Confidence Limits UL = N/A LL = N/A UL - Upper Limit LL - Lower Limit	Method used to determine LC_{50} and Confidence Limit values: Inspection

***NOTE: Acute Toxicity Units (TU_a) = 100/LC_{50}**

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Grab 2

TOXICITY TEST RESULTS FOR
WACKER POLYSILICON NORTH AMERICA, LLC
48-HOUR ACUTE Pimephales promelas DEFINITIVE TEST
CONDUCTED 8/6/20 – 8/8/20

Test Solution	Percent Survival	
	24 hrs.	48 hrs.
Control	100	100
0.31% Effluent	95	95
0.61% Effluent	100	100
1.22% Effluent	100	100
2.44% Effluent	100	100
4.88% Effluent	100	100

LC_{50} = >4.88% 95% Confidence Limits UL = N/A LL = N/A UL - Upper Limit LL - Lower Limit	Method used to determine LC_{50} and Confidence Limit values: Inspection

***NOTE: Acute Toxicity Units (TU_a) = 100/LC_{50}**

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Grab 3

TOXICITY TEST RESULTS FOR WACKER POLYSILICON NORTH AMERICA, LLC 48-HOUR ACUTE Ceriodaphnia dubia DEFINITIVE TEST CONDUCTED 8/620 – 8/8/20

Test Solution	Percent Survival	
	24 hrs.	48 hrs.
Control	100	100
0.31% Effluent	100	100
0.61% Effluent	100	100
1.22% Effluent	100	100
2.44% Effluent	100	100
4.88% Effluent	100	100

LC_{50} = >4.88% 95% Confidence Limits UL = N/A LL = N/A UL - Upper Limit LL - Lower Limit	Method used to determine LC_{50} and Confidence Limit values: Inspection

***NOTE: Acute Toxicity Units (TU_a) = 100/LC_{50}**

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Grab 4

TOXICITY TEST RESULTS FOR
WACKER POLYSILICON NORTH AMERICA, LLC
48-HOUR ACUTE Ceriodaphnia dubia DEFINITIVE TEST
CONDUCTED 8/6/20 – 8/8/20

Test Solution	Percent Survival	
	24 hrs.	48 hrs.
Control	100	100
0.31% Effluent	100	100
0.61% Effluent	100	100
1.22% Effluent	100	100
2.44% Effluent	100	100
4.88% Effluent	100	100

LC_{50} = >4.88% 95% Confidence Limits UL = N/A LL = N/A UL - Upper Limit LL - Lower Limit	Method used to determine LC_{50} and Confidence Limit values: Inspection

***NOTE: Acute Toxicity Units (TU_a) = 100/LC_{50}**

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Grab 3

TOXICITY TEST RESULTS FOR
WACKER POLYSILICON NORTH AMERICA, LLC
48-HOUR ACUTE Pimephales promelas DEFINITIVE TEST
CONDUCTED 8/6/20 – 8/8/20

Test Solution	Percent Survival	
	24 hrs.	48 hrs.
Control	100	100
0.31% Effluent	100	100
0.61% Effluent	100	100
1.22% Effluent	100	100
2.44% Effluent	100	100
4.88% Effluent	100	100

LC_{50} = >4.88% 95% Confidence Limits UL = N/A LL = N/A UL - Upper Limit LL - Lower Limit	Method used to determine LC_{50} and Confidence Limit values: Inspection

***NOTE: Acute Toxicity Units (TU_a) = 100/LC_{50}**

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Grab 4

TOXICITY TEST RESULTS FOR
WACKER POLYSILICON NORTH AMERICA, LLC
48-HOUR ACUTE Pimephales promelas DEFINITIVE TEST
CONDUCTED 8/6/20 – 8/8/20

Test Solution	Percent Survival	
	24 hrs.	48 hrs.
Control	100	100
0.31% Effluent	100	100
0.61% Effluent	100	100
1.22% Effluent	100	100
2.44% Effluent	100	100
4.88% Effluent	100	100

LC_{50} = >4.88% 95% Confidence Limits UL = N/A LL = N/A UL - Upper Limit LL - Lower Limit	Method used to determine LC_{50} and Confidence Limit values: Inspection

***NOTE: Acute Toxicity Units (TU_a) = 100/LC_{50}**

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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.). **See appendix**.

2) Methods/Instrumentation used in chemical analysis:

   Dissolved Oxygen: Standard Methods 4500 O-G, 2011

   pH: Standard Methods 4500 H+ B, 2011

   Conductivity: Standard Methods 2510 B, 2011

   Alkalinity: Standard Methods 2320 B, 2011

   Hardness: Standard Methods 2340 B, 2011

   Chlorine: Hach 8167, 2014

   EPA Acute Manual Edition and Date: EPA 821-R-02-012 October 2002

3) Indicate below any other relevant information that may aid in the evaluation of this report. Include any deviations from EPA methodology that were necessary for these tests as well as any sample manipulations which were performed, such as aeration, dechlorination with sodium thiosulfate, etc. and the justification for such manipulations or deviations. Attach additional pages as needed.

Blair Schneider — 8/24/2020

Signature of person filling out form — Date

Blair Schneider, Ph.D. — Department Manager

Name (typed or printed)

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APPENDIX

CHEMISTRY REPORT
TOXICITY BENCH SHEETS
CONTROL CHARTS
CHAIN OF CUSTODY RECORD

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CERTIFICATE OF ANALYSIS

L0E0019

WACKER POLYSILICON NORTH AMERICAN LLC

Adrien Partridge
553 Wacker Blvd
Charleston, TN 37310-0446

Project Name: Biomonitoring

Project / PO Number: 9104642103
Received: 08/06/2020
Reported: 08/21/2020

Case Narrative

The hardness calculation could not be performed due to sample matrix interference with the ICP instrument . BWS 8/21/2020

Analytical Testing Parameters

Client Sample ID: Outfall 001 - Grab 1
Sample Matrix: Aqueous
Lab Sample ID: L0E0019-01 **Collection Date:** 08/05/2020 13:19

Biomonitoring	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 2000.0 - Fathead Minnow Acute Toxicity								
Toxicity, Acute - P. promelas	<1.00		1.00	TU			08/06/20 1445	BIO
Method: EPA 2002.0 - Ceriodaphnia dubia Acute Toxicity								
Toxicity, Acute - C. dubia	<1.00		1.00	TU			08/06/20 1540	BIO

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: HACH 8167								
Chlorine, Total Residual	0.030		0.020	mg/L	H1	08/11/20 1603	08/11/20 1706	CCK
Method: SM 2320 B-2011								
Alkalinity to pH 4.5, Total as CaCO3	590		5.0	mg/L		08/14/20 1254	08/14/20 1311	JGF

Metals Total by ICP	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4 (1994)								
Calcium	13		0.30	mg/L	M2	08/14/20 0851	08/14/20 1934	JSW
Magnesium	3.4		0.60	mg/L		08/14/20 0851	08/14/20 1934	JSW
Method: SM 2340 B-2011								
Hardness, Total as CaCO3	48		2.5	mg/L		08/14/20 0851	08/14/20 1934	JSW

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Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

L0E0019

Client Sample ID: Outfall 001 - Grab 2
Sample Matrix: Aqueous
Lab Sample ID: L0E0019-02 **Collection Date:** 08/05/2020 19:03

Biomonitoring	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 2000.0 - Fathead Minnow Acute Toxicity								
Toxicity, Acute - P. promelas	<1.00		1.00	TU			08/06/20 1455	BIO
Method: EPA 2002.0 - Ceriodaphnia dubia Acute Toxicity								
Toxicity, Acute - C. dubia	<1.00		1.00	TU			08/06/20 1554	BIO

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: HACH 8167								
Chlorine, Total Residual	<0.020		0.020	mg/L	H1	08/11/20 1603	08/11/20 1706	CCK
Method: SM 2320 B-2011								
Alkalinity to pH 4.5, Total as CaCO3	520		5.0	mg/L		08/14/20 1254	08/14/20 1311	JGF

Client Sample ID: Outfall 001 - Grab 3
Sample Matrix: Aqueous
Lab Sample ID: L0E0019-03 **Collection Date:** 08/06/2020 1:03

Biomonitoring	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 2000.0 - Fathead Minnow Acute Toxicity								
Toxicity, Acute - P. promelas	<1.00		1.00	TU			08/06/20 1505	BIO
Method: EPA 2002.0 - Ceriodaphnia dubia Acute Toxicity								
Toxicity, Acute - C. dubia	<1.00		1.00	TU			08/06/20 1600	BIO

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: HACH 8167								
Chlorine, Total Residual	<0.020		0.020	mg/L	H1	08/11/20 1603	08/11/20 1706	CCK
Method: SM 2320 B-2011								
Alkalinity to pH 4.5, Total as CaCO3	400		5.0	mg/L		08/14/20 1254	08/14/20 1311	JGF

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CERTIFICATE OF ANALYSIS

L0E0019

Client Sample ID:	Outfall 001 - Grab 4		
Sample Matrix:	Aqueous		
Lab Sample ID:	L0E0019-04	**Collection Date:**	08/06/2020 7:06

Biomonitoring	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 2000.0 - Fathead Minnow Acute Toxicity								
Toxicity, Acute - P. promelas	<1.00		1.00	TU			08/06/20 1515	BIO
Method: EPA 2002.0 - Ceriodaphnia dubia Acute Toxicity								
Toxicity, Acute - C. dubia	<1.00		1.00	TU			08/06/20 1612	BIO

Inorganics Total	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: HACH 8167								
Chlorine, Total Residual	<0.020		0.020	mg/L	H1	08/11/20 1603	08/11/20 1706	CCK
Method: SM 2320 B-2011								
Alkalinity to pH 4.5, Total as CaCO3	390		5.0	mg/L		08/14/20 1254	08/14/20 1311	JGF

*Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.*

Definitions

H1:	Sample received outside of holding time for these analytes.
M2:	Matrix spike recovery outside Control Limits due to sample matrix interference; biased low.
mg/L:	Milligrams per Liter
RL:	Reporting Limit
TU:	Toxicity Unit

Report Comments

Reviewed and Approved By:

Blair Schneider
Analyst I
Reported: 08/21/2020 12:12

Freshwater Acute Ceriodaphnia dubia Toxicity Benchsheet

48-Hour Static Non-Renewal

EPA 821-R-02-012 Method 2002.0 (Non-Potable Water)

Discharger	Wacker	Dilution Water Used	Mod. Hard Synthetic Fresh
Location	grab 1	Dilution Water Batch Number	L31004
Sample Number	L0E0019-01	Source Culture	L032056
Test Initiated Date/Time/Analyst	8/6/20 15:40	Organism Age	< 24 HRS
Test Terminated Date/Time/Analyst	8/8/2020 16:09 MDW	Date/time Sample Collected	8/5/20 13:19

Sample (% Eff.)	Replicate ID	Live Organism at Hour			pH (Standard Units)			Dissolved Oxygen (mg.L)			Conductivity (umhos/cm)			Temperature (Deg. C)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
control	1	5	5	5	7.28	7.99	8..01	7.80	7.4	7.5	326.2	313	334	24.4	25.1	24.2
	2	5	5	5												
	3	5	5	5												
	4	5	5	5												
0.31	5	5	5	5	7.93	8.05	8.00	8.00	7.9	7.6	365.2	402	408	24.4	25.2	24.4
	6	5	5	5												
	7	5	5	5												
	8	5	5	5												
0.61	9	5	5	5	8.05	7.90	7.97	7.11	7.7	7.6	438	452	462	24.4	25.2	24.6
	10	5	5	5												
	11	5	5	5												
	12	5	5	5												
1.22	13	5	5	5	8.10	7.81	7.94	7.12	7.5	7.3	551.5	563	566	24.4	25.3	24.6
	14	5	5	5												
	15	5	5	5												
	16	5	5	5												
2.44	17	5	5	5	8.20	7.85	7.89	7.39	7.4	7.2	754	767	790	24.4	25.3	24.6
	18	5	5	5												
	19	5	5	5												
	20	5	5	4												
4.88	21	5	5	4	8.32	8.00	7.84	7.29	7.1	7.0	1180	1211	1225	24.4	25.3	24.6
	22	5	5	4												
	23	5	5	5												
	24	5	5	5												
	METER ID				P95	P95	P95	DOM22	DOM22	DOM22	CONMD4	COND4	COND4	L12	L12	L12
	ANALYST	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW

Sample Water TRC (mg/L)	Control H_2O Alkalinity (mg/L)	Control H_2O Hardness (mg/L)		Undiluted Sample DO	Tray ID	Randomization Template ID:
0.03	57	100		7.1	NA	AC-3

Comments:

Freshwater Acute Ceriodaphnia dubia Toxicity Benchsheet

48-Hour Static Non-Renewal

EPA 821-R-02-012 Method 2002.0 (Non-Potable Water)

Discharger	WACKER	Dilution Water Used	Mod. Hard Synthetic Fresh
Location	GRAB 2	Dilution Water Batch Number	L031004
Sample Number	L0E0019-02	Source Culture	L032056
Test Initiated Date/Time/Analyst	8/6/20 15:54	Organism Age	<24 HRS
Test Terminated Date/Time/Analyst	08/08/2020 16:20 MDW	Date/time Sample Collected	8/5/20 19:03

Sample (% Eff.)	Replicate ID	Live Organism at Hour			pH (Standard Units)			Dissolved Oxygen (mg.L)			Conductivity (umhos/cm)			Temperature (Deg. C)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
control	1	5	5	5	7.28	8.00	7.99	7.80	6.2	6.4	326	331	336	25.3	25.0	24.4
	2	5	5	5												
	3	5	5	5												
	4	5	5	5												
0.31	5	5	5	5	8.00	8.16	8.11	7.20	6.4	6.6	373.3	404	408	25.3	24.8	24.6
	6	5	5	5												
	7	5	5	5												
	8	5	5	5												
0.61	9	5	5	5	8.03	8.19	8.15	7.36	7.1	6.8	440	454	465	25.3	24.6	24.6
	10	5	5	5												
	11	5	5	5												
	12	5	5	5												
1.22	13	5	5	5	8.11	8.17	8.18	7.15	7.4	6.9	565.2	580	590	25.3	24.6	24.8
	14	5	5	5												
	15	5	5	5												
	16	5	5	5												
2.44	17	5	5	5	8.17	8.21	8.24	7.13	7.8	7.2	731.9	747	752	25.3	24.6	24.8
	18	5	5	5												
	19	5	5	5												
	20	5	5	5												
4.88	21	5	5	5	8.30	8.26	8.22	7.20	6.9	7.1	1185	1211	1215	25.3	24.4	24.6
	22	5	5	5												
	23	5	5	5												
	24	5	5	5												
METER ID					P95	P95	P95	DOM22	DOM22	DOM22	COND4	COND4	COND4	L12	L12	L12
ANALYST		BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW

Sample Water TRC (mg/L)	Control H_2O Alkalinity (mg/L)	Control H_2O Hardness (mg/L)		Undiluted Sample DO	Tray ID	Randomization Template ID:
<0.02	57	100		7.3	NA	AC-3

Comments:

Freshwater Acute Pimephales promelas Toxicity Benchsheet

48-Hour Static Non-Renewal

EPA 821-R-02-012 Method 2000.0 (Non-Potable Water)

Discharger	WACKER	Dilution Water Used	Mod. Hard Synthetic Fresh
Location	GRAB 1	Dilution Water Batch Number	L031004
Sample Number	L0E0019-01	Source Culture	L030092
Test Initiated Date/Time/Analyst	8/6/20 14:45 BWS	Organism Age	13 DAYS
Test Terminated Date/Time/Analyst	8/8/2020 14:27 MDW	Date/time Sample Collected	8/5/20 13:19

Sample (%Eff.)	Replicate ID	Live Organism at Hour			pH (Standard Units)			Dissolved Oxygen (mg.L)			Conductivity (umhos/cm)			Temperature (Deg. C)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
Control	1	10	10	10	7.28	7.85	7.81	7.80	5.8	5.5	326.2	355	372	24.4	25.2	24.1
	2	10	10	10												
0.31	3	10	10	10	7.93	7.60	7.75	7.00	5.3	5.6	365.2	396	403	24.4	25.2	24.2
	4	10	10	10												
0.61	5	10	10	10	8.05	7.51	7.72	7.11	5.1	5.8	438	462	476	24.4	25.3	24.3
	6	10	10	10												
1.22	7	10	10	10	8.10	7.44	7.82	7.12	3.9	5.9	551.5	564	570	24.4	25.4	24.3
	8	10	10	10												
2.44	9	10	10	10	8.20	7.54	7.82	7.39	3.8	6.1	754	789	821	24.4	25.4	24.3
	10	10	10	10												
4.88	11	10	10	10	8.32	7.56	8.00	7.29	4.1	5.5	1180	1195	1205	24.4	25.5	24.2
	12	10	10	10												
METER ID					P95	P95	P95	DOM22	DOM22	DOM22	COND4	COND4	COND4	L12	L12	L12
ANALYST		BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW

Sample Water TRC (mg/L)	Control H_2O Alkalinity (mg/L)	Control H_2O Hardness (mg/L)		Undiluted Sample DO		Randomization Template ID	
0.03	57	100		7.1		AF-3	

Comments:

Freshwater Acute Pimephales promelas Toxicity Benchsheet

48-Hour Static Non-Renewal

EPA 821-R-02-012 Method 2000.0 (Non-Potable Water)

Discharger	WACKER	Dilution Water Used	Mod. Hard Synthetic Fresh
Location	GRAB 2	Dilution Water Batch Number	L031004
Sample Number	L0E0019-02	Source Culture	L030092
Test Initiated Date/Time/Analyst	8/6/20 14:55 BWS	Organism Age	13 DAYS
Test Terminated Date/Time/Analyst	8/8/2020 15:35 MDW	Date/time Sample Collected	8/5/20 19:03

Sample (%Eff.)	Replicate ID	Live Organism at Hour			pH (Standard Units)			Dissolved Oxygen (mg.L)			Conductivity (umhos/cm)			Temperature (Deg. C)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
Control	1	10	10	10	7.28	7.86	7.75	7.80	5.3	5.1	326.2	361	383	25.3	25.1	24.5
	2	10	10	10												
0.31	3	10	10	10	8.00	7.64	7.70	7.20	5.1	5.5	373.3	407	426	25.3	25.0	24.5
	4	10	9	9												
0.61	5	10	10	10	8.03	7.54	7.65	7.36	5.4	5.5	440	467	499	25.3	25.1	24.5
	6	10	10	10												
1.22	7	10	10	10	8.11	7.50	7.69	7.15	4.7	5.5	565.2	582	600	25.3	25.1	24.5
	8	10	10	10												
2.44	9	10	10	10	8.17	7.46	7.74	7.13	4.6	5.6	731.9	754	795	25.3	25.0	24.4
	10	10	10	10												
4.88	11	10	10	10	8.30	7.52	7.86	7.20	4.0	5.9	1185	1218	1217	25.3	25.2	24.5
	12	10	10	10												
METER ID					P95	P95	P95	DOM22	DOM22	DOM22	COND4	COND4	COND4	L12	L12	L12
ANALYST		BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW

Sample Water TRC (mg/L)	Control H_2O Alkalinity (mg/L)	Control H_2O Hardness (mg/L)		Undiluted Sample DO		Randomization Template ID	
<0.02	57	100		7.3		AF-3	

Comments:

Freshwater Acute Ceriodaphnia dubia Toxicity Benchsheet

48-Hour Static Non-Renewal

EPA 821-R-02-012 Method 2002.0 (Non-Potable Water)

Discharger	WACKER	Dilution Water Used	Mod. Hard Synthetic Fresh
Location	GRAB 3	Dilution Water Batch Number	L031004
Sample Number	L0E0019-03	Source Culture	L032059
Test Initiated Date/Time/Analyst	8/6/20 16:00 bws	Organism Age	< 24 HRS
Test Terminated Date/Time/Analyst	08/08/2020 16:25 MDW	Date/time Sample Collected	8/6/20 1:03

Sample (% Eff.)	Replicate ID	Live Organism at Hour			pH (Standard Units)			Dissolved Oxygen (mg.L)			Conductivity (umhos/cm)			Temperature (Deg. C)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
control	1	5	5	5	7.28	7.99	8.00	7.80	7.4	7.1	326.2	331	340	25.2	25.1	24.5
	2	5	5	5												
	3	5	5	5												
	4	5	5	5												
0.31	5	5	5	5	8.04	8.00	7.94	7.03	7.5	7.2	366.9	395	401	25.2	25.1	24.4
	6	5	5	5												
	7	5	5	5												
	8	5	5	5												
0.61	9	5	5	5	8.03	8.02	7.99	7.37	7.3	7.1	431.9	445	455	25.2	25.2	24.5
	10	5	5	5												
	11	5	5	5												
	12	5	5	5												
1.22	13	5	5	5	8.05	8.04	7.92	7.26	7.6	7.4	516.6	525	531	25.2	25.2	24.6
	14	5	5	5												
	15	5	5	5												
	16	5	5	5												
2.44	17	5	5	5	8.11	8.07	7.95	7.11	7.7	7.5	703.7	712	720	25.2	25.2	24.6
	18	5	5	5												
	19	5	5	5												
	20	5	5	5												
4.88	21	5	5	5	8.19	8.01	7.97	7.26	7.6	7.2	1046	1076	1079	25.2	25.2	24.6
	22	5	5	5												
	23	5	5	5												
	24	5	5	5												
	METER ID				P95	P95	P95	DOM22	DOM22	DOM22	COND4	COND4	COND4	L12	L12	L12
	ANALYST	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW

Sample Water TRC (mg/L)	Control H_2O Alkalinity (mg/L)	Control H_2O Hardness (mg/L)		Undiluted Sample DO	Tray ID	Randomization Template ID:
<0.02	57	100		7.3	NA	AC-3

Comments:

Freshwater Acute Ceriodaphnia dubia Toxicity Benchsheet

48-Hour Static Non-Renewal

EPA 821-R-02-012 Method 2002.0 (Non-Potable Water)

Discharger	Wacker	Dilution Water Used	Mod. Hard Synthetic Fresh
Location	Grab 4	Dilution Water Batch Number	L031004
Sample Number	L0E0019-04	Source Culture	L032056
Test Initiated Date/Time/Analyst	8/6/20 16:12	Organism Age	<24 HRS
Test Terminated Date/Time/Analyst	8/8/2020 16:33 MDW	Date/time Sample Collected	8/6/20 7:06

Sample (% Eff.)	Replicate ID	Live Organism at Hour			pH (Standard Units)			Dissolved Oxygen (mg.L)			Conductivity (umhos/cm)			Temperature (Deg. C)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
control	1	5	5	5	7.28	7.99	8.04	7.80	7.2	7.0	326.2	331	342	25.3	25.1	24.6
	2	5	5	5												
	3	5	5	5												
	4	5	5	5												
0.31	5	5	5	5	7.95	8.12	8.04	7.18	6.4	6.6	351.2	388	390	25.3	25.2	24.6
	6	5	5	5												
	7	5	5	5												
	8	5	5	5												
0.61	9	5	5	5	7.99	8.10	8.01	7.34	7.1	6.9	409.8	423	431	25.3	25.3	24.4
	10	5	5	5												
	11	5	5	5												
	12	5	5	5												
1.22	13	5	5	5	8.03	8.06	7.92	7.35	7.4	7.2	477.9	489	499	25.3	25.3	24.6
	14	5	5	5												
	15	5	5	5												
	16	5	5	5												
2.44	17	5	5	5	8.09	8.10	7.85	7.23	7.2	7.0	565.2	669	671	25.3	25.4	24.5
	18	5	5	5												
	19	5	5	5												
	20	5	5	5												
4.88	21	5	5	5	8.18	8.07	7.78	7.03	7.5	7.3	936.8	960	980	25.3	25.5	24.5
	22	5	5	5												
	23	5	5	5												
	24	5	5	5												
	METER ID				P95	P95	P95	DOM22	DOM22	DOM22	COND4	COND4	COND4	L12	L12	L12
	ANALYST	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW

Sample Water TRC (mg/L)	Control H_2O Alkalinity (mg/L)	Control H_2O Hardness (mg/L)		Undiluted Sample DO	Tray ID	Randomization Template ID:
<0.02	57	100		7.4	NA	AC-3

Comments:

Freshwater Acute Pimephales promelas Toxicity Benchsheet

48-Hour Static Non-Renewal

EPA 821-R-02-012 Method 2000.0 (Non-Potable Water)

Discharger	wacker	Dilution Water Used	Mod. Hard Synthetic Fresh
Location	GRAB 3	Dilution Water Batch Number	L031004
Sample Number	L0E0019-03	Source Culture	L032012
Test Initiated Date/Time/Analyst	8/6/20 15:05 BWS	Organism Age	3 DAYS
Test Terminated Date/Time/Analyst	8/8/2020 15:51 MDW	Date/time Sample Collected	8/6/20 1:03

Sample (%Eff.)	Replicate ID	Live Organism at Hour			pH (Standard Units)			Dissolved Oxygen (mg.L)			Conductivity (umhos/cm)			Temperature (Deg. C)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
Control	1	10	10	10	7.28	8.03	8.07	7.80	5.7	6.0	326.2	348	367	25.2	25.1	24.2
	2	10	10	10												
0.31	3	10	10	10	8.04	7.92	7.94	7.03	6.5	6.3	366.9	383	386	25.2	25.2	24.4
	4	10	10	10												
0.61	5	10	10	10	8.03	7.86	7.90	7.37	6.7	6.3	431.9	445	474	25.2	25.2	24.4
	6	10	10	10												
1.22	7	10	10	10	8.05	7.84	7.88	7.26	6.2	6.5	516.6	525	530	25.2	25.4	24.5
	8	10	10	10												
2.44	9	10	10	10	8.11	7.82	7.86	7.11	6.2	6.2	703.7	727	774	25.2	25.2	24.5
	10	10	10	10												
4.88	11	10	10	10	8.19	7.84	8.00	7.26	6.3	6.3	1046	1066	1076	25.2	25.3	24.5
	12	10	10	10												
METER ID					P95	P95	P95	DOM22	DOM22	DOM22	COND4	COND4	COND4	L12	L12	L12
ANALYST		BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW

Sample Water TRC (mg/L)	Control H_2O Alkalinity (mg/L)	Control H_2O Hardness (mg/L)		Undiluted Sample DO		Randomization Template ID	
<0.02	57	100		7.3		AF-3	

Comments:

Freshwater Acute Pimephales promelas Toxicity Benchsheet

48-Hour Static Non-Renewal

EPA 821-R-02-012 Method 2000.0 (Non-Potable Water)

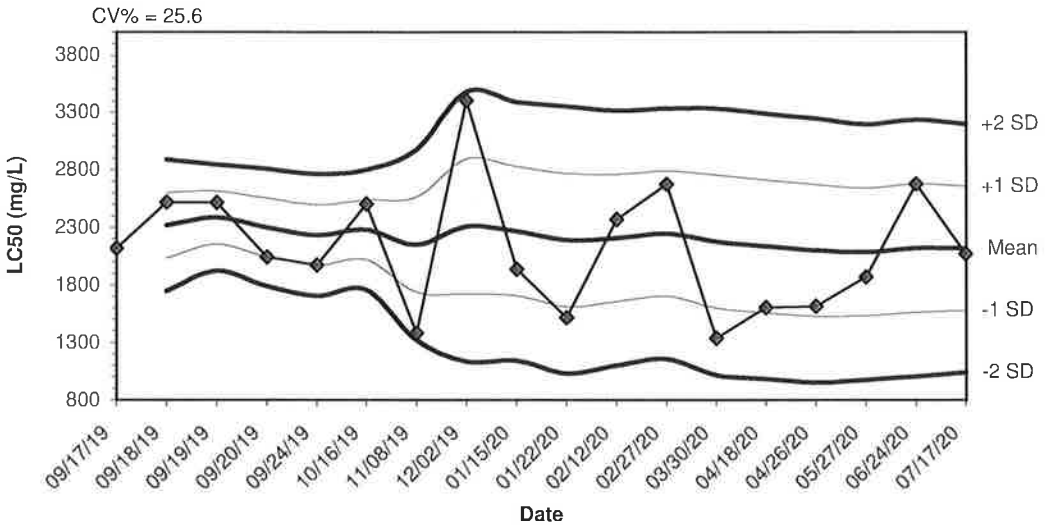
Discharger	WACKER	Dilution Water Used	Mod. Hard Synthetic Fresh
Location	GRAB 4	Dilution Water Batch Number	L031004
Sample Number	L0E0019-04	Source Culture	L32012
Test Initiated Date/Time/Analyst	8/6/20 15:15 BWS	Organism Age	3 DAYS
Test Terminated Date/Time/Analyst	08/08/2020 16:00 MDW	Date/time Sample Collected	8/6/20 7:06

Sample (%Eff.)	Replicate ID	Live Organism at Hour			pH (Standard Units)			Dissolved Oxygen (mg.L)			Conductivity (umhos/cm)			Temperature (Deg. C)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
Control	1	10	10	10	7.28	7.91	7.93	7.80	6.0	5.6	326.2	348	363	25.4	25.1	24.2
	2	10	10	10												
0.31	3	10	10	10	7.95	7.82	7.87	7.18	6.1	5.8	651.2	375	378	25.4	25.2	24.3
	4	10	10	10												
0.61	5	10	10	10	7.99	7.79	7.84	7.34	6.1	5.9	409.8	421	436	25.4	25.1	24.3
	6	10	10	10												
1.22	7	10	10	10	8.03	7.83	7.87	7.35	6.2	6.1	477.9	487	491	25.4	25.2	24.4
	8	10	10	10												
2.44	9	10	10	10	8.09	7.87	7.95	7.23	6.0	6.1	659.2	671	667	25.4	25.2	24.4
	10	10	10	10												
4.88	11	10	10	10	8.18	7.84	8.01	7.03	6.1	5.9	936.8	949	966	25.4	25.1	24.5
	12	10	10	10												
METER ID					P95	P95	P95	DOM22	DOM22	DOM22	COND4	COND4	COND4	L12	L12	L12
ANALYST		BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW	BWS	MDW	MDW

Sample Water TRC (mg/L)	Control H_2O Alkalinity (mg/L)	Control H_2O Hardness (mg/L)		Undiluted Sample DO		Randomization Template ID	
<0.02	57	100		7.4		AF-3	

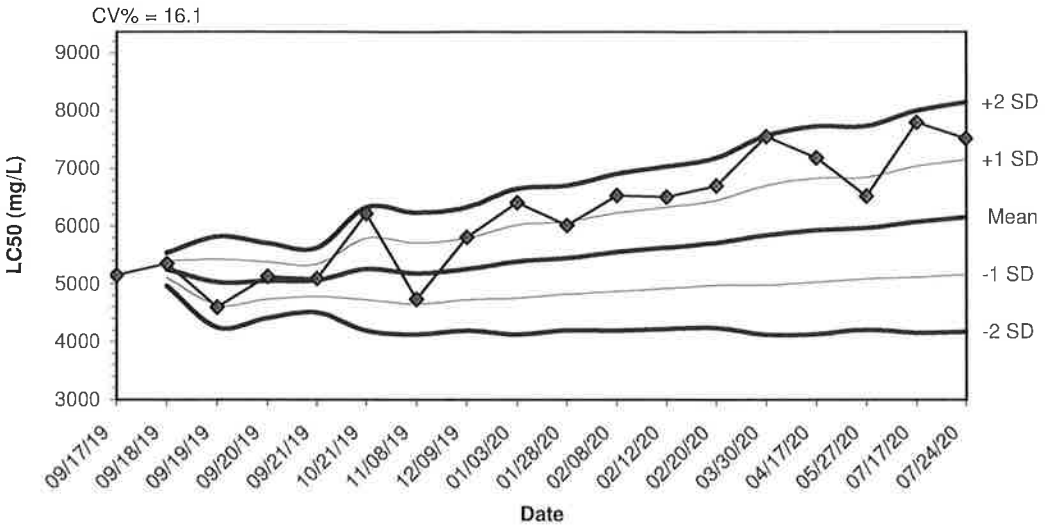
Comments:

Reference Toxicant - 48-hour Survival - Ceriodaphnia dubia



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
09/17/19	2116.6700					
09/18/19	2520.0000	2318.3350	2033.1376	1747.9402	2603.5324	2888.7298
09/19/19	2515.6300	2384.1000	2152.4885	1920.8770	2615.7115	2847.3230
09/20/19	2040.9100	2298.3025	2042.9450	1787.5876	2553.6600	2809.0174
09/24/19	1972.7300	2233.1880	1968.4144	1703.6408	2497.9616	2762.7352
10/16/19	2502.5000	2278.0733	2016.9753	1755.8772	2539.1714	2800.2695
11/08/19	1380.5400	2149.8543	1735.2568	1320.6594	2564.4517	2979.0492
12/02/19	3405.3900	2306.7963	1719.9560	1133.1158	2893.6365	3480.4767
01/15/20	1934.4600	2265.4256	1702.6311	1139.8367	2828.2200	3391.0144
01/22/20	1514.3900	2190.3220	1608.9874	1027.6528	2771.6566	3352.9912
02/12/20	2369.3500	2206.5973	1652.4595	1098.3217	2760.7350	3314.8728
02/27/20	2674.4600	2245.5858	1700.2468	1154.9078	2790.9248	3336.2638
03/30/20	1336.0600	2175.6223	1595.7556	1015.8889	2755.4890	3335.3557
04/18/20	1601.2600	2134.5964	1556.7175	978.8386	2712.4754	3290.3543
04/26/20	1612.9500	2099.8200	1526.9047	953.9894	2672.7353	3245.6506
05/27/20	1867.8500	2085.3219	1528.8033	972.2847	2641.8404	3198.3590
06/24/20	2676.6800	2120.1076	1562.4996	1004.8916	2677.7157	3235.3237
07/17/20	2068.6500	2117.2489	1576.1537	1035.0585	2658.3441	3199.4393

Reference Toxicant - 96 hour Survival Pimephales promelas



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
09/17/19	5147.0600					
09/18/19	5350.0000	5248.5300	5105.0297	4961.5295	5392.0303	5535.5305
09/19/19	4593.7500	5030.2700	4638.8515	4247.4330	5421.6885	5813.1070
09/20/19	5129.6900	5055.1250	4731.6902	4408.2555	5378.5598	5701.9945
09/21/19	5090.9100	5062.2820	4781.7225	4501.1629	5342.8415	5623.4011
10/21/19	6216.8600	5254.7117	4720.7211	4186.7304	5788.7023	6322.6929
11/08/19	4730.0000	5179.7529	4653.4892	4127.2256	5706.0165	6232.2801
12/09/19	5802.5800	5257.6063	4722.9308	4188.2553	5792.2817	6326.9572
01/03/20	6409.0100	5385.5400	4755.1064	4124.6728	6015.9736	6646.4072
01/28/20	6010.0400	5447.9900	4821.6628	4195.3355	6074.3172	6700.6445
02/08/20	6531.5000	5546.4909	4868.4172	4190.3435	6224.5646	6902.6383
02/12/20	6501.0100	5626.0342	4923.2462	4220.4582	6328.8222	7031.6102
02/20/20	6694.7600	5708.2438	4972.9811	4237.7183	6443.5066	7178.7694
03/30/20	7549.0000	5839.7264	4978.8820	4118.0375	6700.5709	7561.4154
04/17/20	7177.1600	5928.8887	5030.3513	4131.8139	6827.4260	7725.9634
05/27/20	6518.0500	5965.7113	5085.2345	4204.7578	6846.1880	7726.6647
07/17/20	7790.5600	6073.0553	5112.4964	4151.9375	7033.6142	7994.1731
07/24/20	7517.5900	6153.3072	5161.1756	4169.0439	7145.4389	8137.5705

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Adrien Partridge
553 Wacker Blvd
Charleston, TN 37310-0446
Phone: 423-780-8021

Project Name: Biomonitoring

Project/PO Number: 9105233038
Tenatively Scheduled: 5/1/2020
Lab Manager: Blair Schneider
Route:

Client Sample ID: Outfall 001 - Grab 1

Lab Sample ID: L0E0019-01

Matrix: Aqueous

Type: Grab

Sampled Date & Time: 2020-08-05 13:19

Analysis	Method	Field Results/Comments	Hold Time
HARDNESS PKG. By ICP - [CALC] 200.7	NA		180.00 days
TOXICITY, ACUTE - C. DUBIA	EPA 2002.0 - Ceriodaphnia du		36.00 hrs
TOXICITY, ACUTE - P. PROMELAS	EPA 2000.0 - Fathead Minnow		36.00 hrs
ALKALINITY, TOTAL AS CaCO3	SM 2320 B-2011		14.00 days
CHLORINE, TOTAL RESIDUAL - LOU WET	HACH 8167		15.00 mins

Container(s)	Designator
A-250 ML PLASTIC - GEN CHEM-4°C	A
B-250 ML PLASTIC-METALS-HNO3	B
A-CUBITAINER/1 GAL PLASTIC-4°C	C

Sampled/Relinquished by: Courtney Kile	Date/Time: 8-5-13:24 2020-08-05 13:24	Received by: Adrien Partridge	
Printed Name: Courtney Kile		Printed Name: Adrien Partridge	
Relinquished by: Adrien Partridge	Date/Time: 8-6-2020/0750 8-6-2020 0750	Received by: Gary Barclay	
Printed Name: Adrien Partridge		Printed Name: Gary Barclay	
Relinquished by: Gary Barclay	Date/Time: 8-6-20 13:15	Received by:	
Printed Name: Gary Barclay		Printed Name: JOAN HENSON	

As Received at Laboratory: On Ice: Yes / No Temp 5.6 °C Total Containers: 3

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Microbac Laboratories, Inc., Louisville

Chain of Custody

L0E0019

WACKER POLYSILICON NORTH AMERICAN LLC

Adrien Partridge
553 Wacker Blvd
Charleston, TN 37310-0446
Phone: 423-780-8021

Project Name: Biomonitoring

Project/PO Number: 9105233038
Tenatively Scheduled: 5/1/2020
Lab Manager: Blair Schneider
Route:

Client Sample ID: Outfall 001 - Grab 2

Lab Sample ID: L0E0019-02

Matrix: Aqueous

Type: Grab

Sampled Date & Time: 20200805 1903

Analysis	Method	Field Results/Comments	Hold Time
HARDNESS PKG. By ICP - [CALC] 200.7	NA		180.00 days
TOXICITY, ACUTE - C. DUBIA	EPA 2002.0 - Ceriodaphnia du		36.00 hrs
TOXICITY, ACUTE - P. PROMELAS	EPA 2000.0 - Fathead Minnow		36.00 hrs
ALKALINITY, TOTAL AS CaCO3	SM 2320 B-2011		14.00 days
CHLORINE, TOTAL RESIDUAL - LOU WET	HACH 8167		15.00 mins

Container(s)	Designator
A-250 ML PLASTIC - GEN CHEM-4°C	A
B-250 ML PLASTIC-METALS-HNO3	B
A-CUBITAINER/1 GAL PLASTIC-4°C	C

Sampled/Relinquished by: Chad S Pruett	Date/Time: 1922 2020 0805	Received by: Adrien Partridge	
Printed Name: Chad S Pruett	8/5/2020/19:22	Printed Name: Adrien Partridge	
Relinquished by: Adrien Partridge	Date/Time: 8/6-2020/0750	Received by: Gary Barclay	
Printed Name: Adrien Partridge	8-6-2020 07:56	Printed Name: Gary Barclay	
Relinquished by: Gary Barclay	Date/Time: 8-6-20 13:15	Received by:	
Printed Name: Gary Barclay		Printed Name: JOAN HENSON	

As Received at Laboratory: On Ice: Yes / No Temp 5.6 °C (-0.4) Total Containers: 8 3 FWT

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Microbac Laboratories, Inc., Louisville

Chain of Custody

L0E0019

WACKER POLYSILICON NORTH AMERICAN LLC

Adrien Partridge
553 Wacker Blvd
Charleston, TN 37310-0446
Phone: 423-780-8021

Project Name: Biomonitoring

Project/PO Number: 9105233038
Tenatively Scheduled: 5/1/2020
Lab Manager: Blair Schneider
Route:

Client Sample ID: Outfall 001 - Grab 3

Lab Sample ID: L0E0019-03

Matrix: Aqueous

Type: Grab

Sampled Date & Time: 2020 08 06 0103

Analysis	Method	Field Results/Comments	Hold Time
HARDNESS PKG. By ICP - [CALC] 200.7	NA		180.00 days
TOXICITY, ACUTE - C. DUBIA	EPA 2002.0 - Ceriodaphnia du		36.00 hrs
TOXICITY, ACUTE - P. PROMELAS	EPA 2000.0 - Fathead Minnow		36.00 hrs
ALKALINITY, TOTAL AS CaCO3	SM 2320 B-2011		14.00 days
CHLORINE, TOTAL RESIDUAL - LOU WET	HACH 8167		15.00 mins

Container(s)	Designator
A-250 ML PLASTIC - GEN CHEM-4°C	A
B-250 ML PLASTIC-METALS-HNO3	B
A-CUBITAINER/1 GAL PLASTIC-4°C	C

Sampled/Relinquished by: Chad S Prueitt	Date/Time: 1115 CSP 06 Aug 2020	Received by: Dan Scott	
Printed Name: Chad S Prueitt	2020 08 06 1115 8-6-20 0115	Printed Name: DAVID Scott	
Relinquished by: Adrien Partridge	Date/Time: 8-6-2020/0750	Received by: Gary Barclay	
Printed Name: Adrien Partridge	8-6-2020 0750	Printed Name: Gary Barclay	
Relinquished by: Gary Barclay	Date/Time: 8-6-20 13:15	Received by:	
Printed Name: Gary Barclay		Printed Name: JOAN HEINSOHN	

As Received at Laboratory: On Ice: Yes / No Temp 5.6 °C Total Containers: 8 3 JWT

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Microbac Laboratories, Inc., Louisville

Chain of Custody

L0E0019

WACKER POLYSILICON NORTH AMERICAN LLC

Adrien Partridge
553 Wacker Blvd
Charleston, TN 37310-0446
Phone: 423-780-8021

Project Name: Biomonitoring

Project/PO Number: 9105233038
Tenatively Scheduled: 5/1/2020
Lab Manager: Blair Schneider
Route:

Client Sample ID: Outfall 001 - Grab 4

Lab Sample ID: L0E0019-04

Matrix: Aqueous

Sampled Date & Time: 2020 0806 0706

Type: Grab

Analysis	Method	Field Results/Comments	Hold Time
HARDNESS PKG. By ICP - [CALC] 200.7	NA		180.00 days
TOXICITY, ACUTE - C. DUBIA	EPA 2002.0 - Ceriodaphnia du		36.00 hrs
TOXICITY, ACUTE - P. PROMELAS	EPA 2000.0 - Fathead Minnow		36.00 hrs
ALKALINITY, TOTAL AS CaCO3	SM 2320 B-2011		14.00 days
CHLORINE, TOTAL RESIDUAL - LOU WET	HACH 8167		15.00 mins

Container(s)	Designator
A-250 ML PLASTIC - GEN CHEM-4°C	A
B-250 ML PLASTIC-METALS-HNO3	B
A-CUBITAINER/1 GAL PLASTIC-4°C	C

Sampled/Relinquished by: [signature]	Date/Time: 2020 0806 0723	Received by: Adrien Partridge	
Printed Name: AARON OLIVER	B-6-2020/0723	Printed Name: Adrien Partridge	
Relinquished by: Adrien Partridge	Date/Time: 8-6-2020/0750	Received by: Gary Barclay	
Printed Name: Adrien Partridge	8-6-20/0750	Printed Name: Gary Barclay	
* Relinquished by: Gary Barclay	Date/Time: 8-6-20 13:15	Received by: [signature]	
Printed Name: Gary Barclay		Printed Name: JOAN HIGGINBOTHAM	

As Received at Laboratory: On Ice: Yes / No Temp 5.6 °C Total Containers: ~~12~~ 3 TWT

L24

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