



Anatoxin-a ELISA Summary Report

Office of Water Quality - Watershed Assessment and Planning Branch

Sample #	Location	Date Collected	Date Analyzed	Conc. (ppb)
AB48118	Summit Lake - State Park	8/16/2021	8/19/2021	< 0.40
AB48119	Kunkel Beach @ Ouabache State Park	8/17/2021	8/19/2021	0.71
AB48120	Pokagon State Park	8/17/2021	8/19/2021	< 0.40
AB48121	Potawatomi Inn's Beach	8/17/2021	8/19/2021	< 0.40
AB48122	Chain O'Lakes SP	8/17/2021	8/19/2021	< 0.40
AB48123	Potato Creek State Park	8/17/2021	8/19/2021	< 0.40
AB48124	Lost Bridge West SRA	8/16/2021	8/19/2021	< 0.40
AB48125	Mississinewa Lake Miami SRA	8/16/2021	8/19/2021	< 0.40
AB48126	Summit Lake State Park (Field Dup)	8/16/2021	8/19/2021	< 0.40
AB48127	Field Blank	8/16/2021	8/19/2021	< 0.40
AB48131	Lincoln State Park	8/16/2021	8/19/2021	< 0.40
AB48132	Ferdinand State Forest Lake	8/16/2021	8/19/2021	< 0.40
AB48133	Patoka SRA Beach	8/16/2021	8/19/2021	< 0.40
AB48328	Ft. Ben Harrison SP Dog Lake - East	8/17/2021	8/19/2021	< 0.40

Test Report (by Request)

Test Information

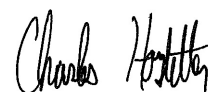
Request: 8/19/2021 5:55:50 PM
Date: 8/19/2021

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
ATX Std 0	ANATOXIN	2.899 Abs	0.000 µg/L	R^2=0.99989, 128.8			20L4352
ATX Std 0	ANATOXIN	1.602 Abs [2.2505] {40.8	0.067 µg/L [0.034]	R^2=0.99989, 71.20			20L4352
ATX Std 1	ANATOXIN	1.374 Abs	0.149 µg/L	R^2=0.99989, 61.06			20L4352
ATX Std 1	ANATOXIN	1.357 Abs [1.3655] {0.9 C	0.157 µg/L [0.153]	R^2=0.99989, 60.31			20L4352
ATX Std 2	ANATOXIN	1.073 Abs	0.369 µg/L	R^2=0.99989, 47.68			20L4352
ATX Std 2	ANATOXIN	1.042 Abs [1.0575] {2.1 C	0.403 µg/L [0.386]	R^2=0.99989, 46.31			20L4352
ATX Std 3	ANATOXIN	0.728 Abs	0.982 µg/L	R^2=0.99989, 32.35			20L4352
ATX Std 3	ANATOXIN	0.701 Abs [0.7145] {2.7 C	1.061 µg/L [1.021]	R^2=0.99989, 31.15			20L4352
ATX Std 4	ANATOXIN	0.420 Abs	2.479 µg/L	R^2=0.99989, 18.66			20L4352
ATX Std 4	ANATOXIN	0.410 Abs [0.4150] {1.7 C	2.561 µg/L [2.520]	R^2=0.99989, 18.22			20L4352
ATX Std 5	ANATOXIN	0.225 Abs	4.855 µg/L	R^2=0.99989, 10.00			20L4352
ATX Std 5	ANATOXIN	0.216 Abs [0.2205] {2.9 C	> 5.000 µg/L [4.85	9.600 %Abs			20L4352
ATX Control	ANATOXIN	0.810 Abs	0.778 µg/L	36.000 %Abs			20L4352
ATX Control	ANATOXIN	0.771 Abs [0.7905] {3.5 C	0.869 µg/L [0.824]	34.267 %Abs [35.1			20L4352

Note

The Absorbance CV% for ATX Std 0 was 40.8. This is outside the acceptable range. All other QA/QC elements passed for this Assay.

Signature



Test Report (by Request)

Test Information

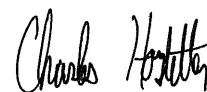
Request: 8/19/2021 5:57:08 PM
Date: 8/19/2021

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
LRB	ANATOXIN	1.521 Abs	0.090 µg/L	Low, 67.600 %Abs		0.150 - 5.000	20L4352
LRB	ANATOXIN	1.431 Abs [1.4760] {4.3 C	0.123 µg/L [0.106]	Low, 63.600 %Abs		0.150 - 5.000	20L4352
LFB	ANATOXIN	0.871 Abs	0.654 µg/L	38.711 %Abs		0.150 - 5.000	20L4352
LFB	ANATOXIN	0.841 Abs [0.8560] {2.5 C	0.712 µg/L [0.683]	37.378 %Abs [38.0		0.150 - 5.000	20L4352
AB48118	ANATOXIN	1.473 Abs	0.107 µg/L	Low, 65.467 %Abs		0.150 - 5.000	20L4352
AB48118	ANATOXIN	1.497 Abs [1.4850] {1.1 C	0.098 µg/L [0.102]	Low, 66.533 %Abs		0.150 - 5.000	20L4352
AB48119	ANATOXIN	0.897 Abs	0.608 µg/L	39.867 %Abs		0.150 - 5.000	20L4352
AB48119	ANATOXIN	0.858 Abs [0.8775] {3.1 C	0.679 µg/L [0.643]	38.133 %Abs [39.0		0.150 - 5.000	20L4352
AB48120	ANATOXIN	1.434 Abs	0.122 µg/L	Low, 63.733 %Abs		0.150 - 5.000	20L4352
AB48120	ANATOXIN	1.441 Abs [1.4375] {0.3 C	0.119 µg/L [0.120]	Low, 64.044 %Abs		0.150 - 5.000	20L4352
AB48121	ANATOXIN	1.574 Abs	0.074 µg/L	Low, 69.956 %Abs		0.150 - 5.000	20L4352
AB48121	ANATOXIN	1.531 Abs [1.5525] {2.0 C	0.087 µg/L [0.080]	Low, 68.044 %Abs		0.150 - 5.000	20L4352
AB48122	ANATOXIN	1.321 Abs	0.176 µg/L	58.711 %Abs		0.150 - 5.000	20L4352
AB48122	ANATOXIN	1.342 Abs [1.3315] {1.1 C	0.165 µg/L [0.171]	59.644 %Abs [59.1		0.150 - 5.000	20L4352
AB48123	ANATOXIN	1.383 Abs	0.144 µg/L	Low, 61.467 %Abs		0.150 - 5.000	20L4352
AB48123	ANATOXIN	1.407 Abs [1.3950] {1.2 C	0.134 µg/L [0.139]	Low, 62.533 %Abs		0.150 - 5.000	20L4352
AB48124	ANATOXIN	1.351 Abs	0.160 µg/L	60.044 %Abs		0.150 - 5.000	20L4352
AB48124	ANATOXIN	1.302 Abs [1.3265] {2.6 C	0.187 µg/L [0.174]	57.867 %Abs [58.9		0.150 - 5.000	20L4352
AB48124MS	ANATOXIN	0.838 Abs	0.718 µg/L	37.244 %Abs		0.150 - 5.000	20L4352
AB48124MS	ANATOXIN	0.792 Abs [0.8150] {4.0 C	0.818 µg/L [0.768]	35.200 %Abs [36.2		0.150 - 5.000	20L4352
AB48124MSD	ANATOXIN	0.777 Abs	0.854 µg/L	34.533 %Abs		0.150 - 5.000	20L4352
AB48124MSD	ANATOXIN	0.767 Abs [0.7720] {0.9 C	0.879 µg/L [0.867]	34.089 %Abs [34.3		0.150 - 5.000	20L4352
AB48125	ANATOXIN	1.432 Abs	0.123 µg/L	Low, 63.644 %Abs		0.150 - 5.000	20L4352
AB48125	ANATOXIN	1.398 Abs [1.4150] {1.7 C	0.138 µg/L [0.131]	Low, 62.133 %Abs		0.150 - 5.000	20L4352
AB48126	ANATOXIN	1.387 Abs	0.143 µg/L	Low, 61.644 %Abs		0.150 - 5.000	20L4352
AB48126	ANATOXIN	1.366 Abs [1.3765] {1.1 C	0.153 µg/L [0.148]	60.711 %Abs [Low,		0.150 - 5.000	20L4352
AB48127	ANATOXIN	1.517 Abs	0.092 µg/L	Low, 67.422 %Abs		0.150 - 5.000	20L4352
AB48127	ANATOXIN	1.425 Abs [1.4710] {4.4 C	0.126 µg/L [0.109]	Low, 63.333 %Abs		0.150 - 5.000	20L4352
AB48131	ANATOXIN	1.425 Abs	0.126 µg/L	Low, 63.333 %Abs		0.150 - 5.000	20L4352
AB48131	ANATOXIN	1.452 Abs [1.4385] {1.3 C	0.115 µg/L [0.120]	Low, 64.533 %Abs		0.150 - 5.000	20L4352
AB48132	ANATOXIN	1.454 Abs	0.114 µg/L	Low, 64.622 %Abs		0.150 - 5.000	20L4352
AB48132	ANATOXIN	1.441 Abs [1.4475] {0.6 C	0.119 µg/L [0.117]	Low, 64.044 %Abs		0.150 - 5.000	20L4352
AB48133	ANATOXIN	1.380 Abs	0.146 µg/L	Low, 61.333 %Abs		0.150 - 5.000	20L4352
AB48133	ANATOXIN	1.348 Abs [1.3640] {1.7 C	0.162 µg/L [0.154]	59.911 %Abs [60.6		0.150 - 5.000	20L4352
AB48328	ANATOXIN	1.580 Abs	0.073 µg/L	Low, 70.222 %Abs		0.150 - 5.000	20L4352
AB48328	ANATOXIN	1.511 Abs [1.5455] {3.2 C	0.094 µg/L [0.083]	Low, 67.156 %Abs		0.150 - 5.000	20L4352

Note

Field Samples have a manual dilution factor of 1.1X. The concentrations shown for these samples are multiplied by 1.1 to get the final result.

Signature



Charles Hostetter 8/20/2021

Assay Information

Assay Name: ANATOXIN
 Version: 2
 Temperature: Room Temperature
 Last Modified By: Security disabled
 Units: µg/L
 Assay Description: PN 520060
 Assay Substances: Controls:

Assay Mode: 4-Parameter Logistic Weight by:None
 Well Type: Flat bottom
 Last Modified On: 7/25/2019 3:49:23 PM
 Normal: 0.150 - 5.000
 # of decimals: 3
 Kit Lot Number: 20L4352

ATX Control
 Standards:
 ATX Std 0, Concentration = 0.000, Minimum number to use: 2
 ATX Std 1, Concentration = 0.150, Minimum number to use: 2
 ATX Std 2, Concentration = 0.400, Minimum number to use: 2
 ATX Std 3, Concentration = 1.000, Minimum number to use: 2
 ATX Std 4, Concentration = 2.500, Minimum number to use: 2
 ATX Std 5, Concentration = 5.000, Minimum number to use: 2
 Curve valid interval: 1 days 0 hours
 Axis Mode: Y = Abs, X = Log(Conc)

Assay Calibration

Current Calibration Status: "

"

Name	Absorbance	Concentration	Interpretation	Position
8/19/2021 5:55:50 PM				
ATX Std 0	2.899 Abs	0.000 µg/L	R ² =0.99989, 128.844 %Abs	RK1:23->A01@2
ATX Std 0	1.602 Abs [2.2505] {40.8 CV}	0.067 µg/L [0.034] {141.4 CV}	R ² =0.99989, 71.200 %Abs	RK1:23->B01@2
ATX Std 1	1.374 Abs	0.149 µg/L	R ² =0.99989, 61.067 %Abs	RK1:24->C01@2
ATX Std 1	1.357 Abs [1.3655] {0.9 CV}	0.157 µg/L [0.153] {3.7 CV}	R ² =0.99989, 60.311 %Abs	RK1:24->D01@2
ATX Std 2	1.073 Abs	0.369 µg/L	R ² =0.99989, 47.689 %Abs	RK1:25->E01@2
ATX Std 2	1.042 Abs [1.0575] {2.1 CV}	0.403 µg/L [0.386] {6.2 CV}	R ² =0.99989, 46.311 %Abs	RK1:25->F01@3
ATX Std 3	0.728 Abs	0.982 µg/L	R ² =0.99989, 32.356 %Abs	RK1:26->G01@3
ATX Std 3	0.701 Abs [0.7145] {2.7 CV}	1.061 µg/L [1.021] {5.5 CV}	R ² =0.99989, 31.156 %Abs	RK1:26->H01@3
ATX Std 4	0.420 Abs	2.479 µg/L	R ² =0.99989, 18.667 %Abs	RK1:27->A02@2
ATX Std 4	0.410 Abs [0.4150] {1.7 CV}	2.561 µg/L [2.520] {2.3 CV}	R ² =0.99989, 18.222 %Abs	RK1:27->B02@2
ATX Std 5	0.225 Abs	4.855 µg/L	R ² =0.99989, 10.000 %Abs	RK1:28->C02@2
ATX Std 5	0.216 Abs [0.2205] {2.9 CV}	> 5.000 µg/L [4.855]	9.600 %Abs	RK1:28->D02@2

8/19/2021 5:55:50 PM				
ATX Control	0.810 Abs	0.778 µg/L	36.000 %Abs	RK1:29->E02@2
ATX Control	0.771 Abs [0.7905] {3.5 CV}	0.869 µg/L [0.824] {7.8 CV}	34.267 %Abs [35.133 %Abs]	RK1:29->F02@3

Statistic				
ATX Std 0 [MEAN]	2.2505	0.0335		
ATX Std 0 [SD]	0.9171	0.0474		
ATX Std 0 [%CV]	40.7517	141.4214		
ATX Std 1 [MEAN]	1.3655	0.1530		
ATX Std 1 [SD]	0.0120	0.0057		
ATX Std 1 [%CV]	0.8803	3.6973		
ATX Std 1 [%DIFF]		2.0000		
ATX Std 2 [MEAN]	1.0575	0.3860		
ATX Std 2 [SD]	0.0219	0.0240		
ATX Std 2 [%CV]	2.0728	6.2284		
ATX Std 2 [%DIFF]		-3.5000		
ATX Std 3 [MEAN]	0.7145	1.0215		
ATX Std 3 [SD]	0.0191	0.0559		
ATX Std 3 [%CV]	2.6721	5.4686		
ATX Std 3 [%DIFF]		2.1500		
ATX Std 4 [MEAN]	0.4150	2.5200		
ATX Std 4 [SD]	0.0071	0.0580		
ATX Std 4 [%CV]	1.7039	2.3009		
ATX Std 4 [%DIFF]		0.8000		
ATX Std 5 [MEAN]	0.2205			
ATX Std 5 [SD]	0.0064			
ATX Std 5 [%CV]	2.8861			

Name	Absorbance	Concentration	Interpretation	Position	
ATX Control [MEAN]	0.7905	0.8235			
ATX Control [SD]	0.0276	0.0643			
ATX Control [%CV]	3.4886	7.8138			

Assay Curve

$y = (A-D)/(1+(x/C)^B) + D$
 Weight: NONE
 A = 2.2497
 B = 0.52251
 C = 0.61336
 D = -0.46186
 R2 coef = 0.99989
 50% = 0.317

