



## Anatoxin-a ELISA Summary Report

Office of Water Quality - Watershed Assessment and Planning Branch

<b>Sample #</b>	<b>Location</b>	<b>Date Collected</b>	<b>Date Analyzed</b>	<b>Conc. (ppb)</b>
AC00569	Summit Lake - State Park	5/23/2023	5/24/2023	< 0.40
AC00572	Kunkel Beach @ Oubache State Park	5/22/2023	5/24/2023	< 0.40
AC00573	Pokagon State Park	5/22/2023	5/24/2023	< 0.40
AC00574	Potawatomi Inn's Beach	5/22/2023	5/24/2023	< 0.40
AC00575	Chain O'Lakes SP	5/22/2023	5/24/2023	< 0.40
AC00576	Potato Creek State Park	5/23/2023	5/24/2023	< 0.40
AC00577	Lost Bridge West SRA	5/23/2023	5/24/2023	< 0.40
AC00578	Mississinewa Lake Miami SRA	5/23/2023	5/24/2023	< 0.40
AC00579	Lincoln State Park	5/22/2023	5/24/2023	< 0.40
AC00570	Ferdinand State Forest Lake	5/22/2023	5/24/2023	< 0.40
AC00571	Patoka SRA Beach	5/22/2023	5/24/2023	< 0.40
AC00582	Potato Creek State Park (Field Dup)	5/23/2023	5/24/2023	< 0.40
AC00583	Field Blank	5/23/2023	5/24/2023	< 0.40
AC02941	Ft. Ben Harrison SP Dog Lake	5/23/2023	5/24/2023	< 0.40

# Test Report (by Request)

**Test Information**

Request: 5/24/2023 2:49:50 PM  
 Date: 5/24/2023

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
ATX Std 0	ANATOXIN	1.403 Abs	0.000 µg/L	R^2=0.99975, 101.0			P23B2044
ATX Std 0	ANATOXIN	1.372 Abs [1.3875] {1.6 C	0.005 µg/L [0.003]	R^2=0.99975, 98.84			P23B2044
ATX Std 1	ANATOXIN	1.104 Abs	0.139 µg/L	R^2=0.99975, 79.53			P23B2044
ATX Std 1	ANATOXIN	1.077 Abs [1.0905] {1.8 C	0.158 µg/L [0.148]	R^2=0.99975, 77.59			P23B2044
ATX Std 2	ANATOXIN	0.849 Abs	0.367 µg/L	R^2=0.99975, 61.16			P23B2044
ATX Std 2	ANATOXIN	0.797 Abs [0.8230] {4.5 C	0.433 µg/L [0.400]	R^2=0.99975, 57.42			P23B2044
ATX Std 3	ANATOXIN	0.520 Abs	1.031 µg/L	R^2=0.99975, 37.46			P23B2044
ATX Std 3	ANATOXIN	0.523 Abs [0.5215] {0.4 C	1.021 µg/L [1.026]	R^2=0.99975, 37.68			P23B2044
ATX Std 4	ANATOXIN	0.306 Abs	2.285 µg/L	R^2=0.99975, 22.04			P23B2044
ATX Std 4	ANATOXIN	0.293 Abs [0.2995] {3.1 C	2.422 µg/L [2.353]	R^2=0.99975, 21.11			P23B2044
ATX Std 5	ANATOXIN	0.161 Abs	> 5.000 µg/L	11.599 %Abs			P23B2044
ATX Std 5	ANATOXIN	0.154 Abs [0.1575] {3.1 C	> 5.000 µg/L	11.095 %Abs			P23B2044
ATX Control	ANATOXIN	0.656 Abs	0.671 µg/L	47.262 %Abs			P23B2044
ATX Control	ANATOXIN	0.633 Abs [0.6445] {2.5 C	0.720 µg/L [0.696]	45.605 %Abs [46.4			P23B2044

**Note**

Signature \_\_\_\_\_

# Test Report (by Request)

**Test Information**

 Request: 5/24/2023 2:51:17 PM  
 Date: 5/24/2023

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
LRB	ANATOXIN	1.229 Abs	0.067 µg/L	Low, 88.545 %Abs		0.150 - 5.000	P23B2044
LRB	ANATOXIN	1.196 Abs [1.2125] {1.9 C	0.084 µg/L [0.075]	Low, 86.167 %Abs		0.150 - 5.000	P23B2044
LFB	ANATOXIN	0.699 Abs	0.587 µg/L	50.360 %Abs		0.150 - 5.000	P23B2044
LFB	ANATOXIN	0.668 Abs [0.6835] {3.2 C	0.646 µg/L [0.617]	48.127 %Abs [49.2		0.150 - 5.000	P23B2044
AC00569	ANATOXIN	1.257 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00569	ANATOXIN	1.223 Abs [1.2400] {1.9 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00572	ANATOXIN	1.191 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00572	ANATOXIN	1.191 Abs [1.1910] {0.0 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00573	ANATOXIN	1.214 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00573	ANATOXIN	1.174 Abs [1.1940] {2.4 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00574	ANATOXIN	1.352 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00574	ANATOXIN	1.310 Abs [1.3310] {2.2 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00575	ANATOXIN	1.275 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00575	ANATOXIN	1.260 Abs [1.2675] {0.8 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00575MS	ANATOXIN	0.621 Abs	0.747 µg/L	44.741 %Abs		0.150 - 5.000	P23B2044
AC00575MS	ANATOXIN	0.608 Abs [0.6145] {1.5 C	0.778 µg/L [0.762]	43.804 %Abs [44.2		0.150 - 5.000	P23B2044
AC00575MSD	ANATOXIN	0.633 Abs	0.720 µg/L	45.605 %Abs		0.150 - 5.000	P23B2044
AC00575MSD	ANATOXIN	0.619 Abs [0.6260] {1.6 C	0.752 µg/L [0.736]	44.597 %Abs [45.1		0.150 - 5.000	P23B2044
AC00576	ANATOXIN	1.333 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00576	ANATOXIN	1.300 Abs [1.3165] {1.8 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00577	ANATOXIN	1.243 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00577	ANATOXIN	1.236 Abs [1.2395] {0.4 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00578	ANATOXIN	1.237 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00578	ANATOXIN	1.237 Abs [1.2370] {0.0 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00579	ANATOXIN	1.200 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00579	ANATOXIN	1.169 Abs [1.1845] {1.9 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00570	ANATOXIN	1.304 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00570	ANATOXIN	1.289 Abs [1.2965] {0.8 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00571	ANATOXIN	1.273 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00571	ANATOXIN	1.280 Abs [1.2765] {0.4 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00582	ANATOXIN	1.276 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00582	ANATOXIN	1.279 Abs [1.2775] {0.2 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00583	ANATOXIN	1.273 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC00583	ANATOXIN	1.234 Abs [1.2535] {2.2 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC02941	ANATOXIN	1.253 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		P23B2044
AC02941	ANATOXIN	1.156 Abs [1.2045] {5.7 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		P23B2044

**Note**

Signature \_\_\_\_\_

Charles Hostetter 5/25/2023

**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: P23B2044

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
<b>5/24/2023 2:49:50 PM</b>				
ATX Std 0	1.403 Abs	0.000 µg/L	R <sup>2</sup> =0.99975, 101.081 %Abs	RK1:23->A01@2
ATX Std 0	1.372 Abs [1.3875] {1.6 CV}	0.005 µg/L [0.003] {141.4 CV}	R <sup>2</sup> =0.99975, 98.847 %Abs	RK1:23->B01@2
ATX Std 1	1.104 Abs	0.139 µg/L	R <sup>2</sup> =0.99975, 79.539 %Abs	RK1:24->C01@2
ATX Std 1	1.077 Abs [1.0905] {1.8 CV}	0.158 µg/L [0.148] {9.0 CV}	R <sup>2</sup> =0.99975, 77.594 %Abs	RK1:24->D01@2
ATX Std 2	0.849 Abs	0.367 µg/L	R <sup>2</sup> =0.99975, 61.167 %Abs	RK1:25->E01@2
ATX Std 2	0.797 Abs [0.8230] {4.5 CV}	0.433 µg/L [0.400] {11.7 CV}	R <sup>2</sup> =0.99975, 57.421 %Abs	RK1:25->F01@3
ATX Std 3	0.520 Abs	1.031 µg/L	R <sup>2</sup> =0.99975, 37.464 %Abs	RK1:26->G01@3
ATX Std 3	0.523 Abs [0.5215] {0.4 CV}	1.021 µg/L [1.026] {0.7 CV}	R <sup>2</sup> =0.99975, 37.680 %Abs	RK1:26->H01@3
ATX Std 4	0.306 Abs	2.285 µg/L	R <sup>2</sup> =0.99975, 22.046 %Abs	RK1:27->A02@2
ATX Std 4	0.293 Abs [0.2995] {3.1 CV}	2.422 µg/L [2.353] {4.1 CV}	R <sup>2</sup> =0.99975, 21.110 %Abs	RK1:27->B02@2
ATX Std 5	0.161 Abs	> 5.000 µg/L	11.599 %Abs	RK1:28->C02@2
ATX Std 5	0.154 Abs [0.1575] {3.1 CV}	> 5.000 µg/L	11.095 %Abs	RK1:28->D02@2
*****				
<b>5/24/2023 2:49:50 PM</b>				
ATX Control	0.656 Abs	0.671 µg/L	47.262 %Abs	RK1:29->E02@2
ATX Control	0.633 Abs [0.6445] {2.5 CV}	0.720 µg/L [0.696] {5.0 CV}	45.605 %Abs [46.434 %Abs]	RK1:29->F02@3
*****				
<b>Statistic</b>				
ATX Std 0 [MEAN]	1.3875	0.0025		
ATX Std 0 [SD]	0.0219	0.0035		
ATX Std 0 [%CV]	1.5798	141.4214		
ATX Std 1 [MEAN]	1.0905	0.1485		
ATX Std 1 [SD]	0.0191	0.0134		
ATX Std 1 [%CV]	1.7507	9.0472		
ATX Std 1 [%DIFF]		-1.0000		
ATX Std 2 [MEAN]	0.8230	0.4000		
ATX Std 2 [SD]	0.0368	0.0467		
ATX Std 2 [%CV]	4.4677	11.6673		
ATX Std 2 [%DIFF]		-0.0000		
ATX Std 3 [MEAN]	0.5215	1.0260		
ATX Std 3 [SD]	0.0021	0.0071		
ATX Std 3 [%CV]	0.4068	0.6892		
ATX Std 3 [%DIFF]		2.6000		
ATX Std 4 [MEAN]	0.2995	2.3535		
ATX Std 4 [SD]	0.0092	0.0969		
ATX Std 4 [%CV]	3.0692	4.1161		
ATX Std 4 [%DIFF]		-5.8600		
ATX Std 5 [MEAN]	0.1575			
ATX Std 5 [SD]	0.0049			
ATX Std 5 [%CV]	3.1427			

Name	Absorbance	Concentration	Interpretation	Position
ATX Control [MEAN]	0.6445	0.6955		
ATX Control [SD]	0.0163	0.0346		
ATX Control [%CV]	2.5234	4.9818		

**Assay Curve**

$y = (A-D)/(1+(x/C)^B) + D$   
 Weight: NONE  
 A = 1.3887  
 B = 0.92965  
 C = 0.60304  
 D = -0.0078030  
 R2 coef = 0.99975  
 50% = 0.597

