



Anatoxin-a ELISA Summary Report

Office of Water Quality - Watershed Assessment and Planning Branch

Sample #	Location	Date Collected	Date Analyzed	Conc. (ppb)
AB42919	Kunkel Beach @ Ouabache State Park	6/22/2020	7/1/2020	< 0.40
AB42917	Kunkel Beach (Field Duplicate)	6/22/2020	7/1/2020	< 0.40
AB42918	Field Blank	6/22/2020	7/1/2020	< 0.40
AB42994	Cagles Mill Lake Beach	6/29/2020	7/1/2020	< 0.40
AB42995	Quakertown SRA	6/29/2020	7/1/2020	< 0.40
AB42996	Raccoon Lake SRA	6/29/2020	7/1/2020	< 0.40
AB42997	Mounds SRA	6/29/2020	7/1/2020	< 0.40
AB42998	Whitewater Memorial SP	6/29/2020	7/1/2020	< 0.40
AB42999	Mounds SRA (Field Duplicate)	6/29/2020	7/1/2020	< 0.40
AB42300	Field Blank	6/29/2020	7/1/2020	< 0.40

Test Information

Request: 7/1/2020 4:05:32 PM

Date: 7/1/2020 - 7/2/2020

Name/ID	Assay	Absorbance	Concentration	Interpretation	Reference	Lot #
ATX Std 0	ANATOXIN	1.306 Abs	0.007 µg/L	R ² =0.99912, 99.695		20A2174
ATX Std 0	ANATOXIN	1.314 Abs [1.3100] {0.4 CV}	0.000 µg/L [0.004] {1}	R ² =0.99912, 100.30		20A2174
ATX Std 1	ANATOXIN	1.151 Abs	0.143 µg/L	R ² =0.99912, 87.863		20A2174
ATX Std 1	ANATOXIN	1.150 Abs [1.1505] {0.1 CV}	0.144 µg/L [0.144] {0}	R ² =0.99912, 87.786		20A2174
ATX Std 2	ANATOXIN	0.928 Abs	0.393 µg/L	R ² =0.99912, 70.840		20A2174
ATX Std 2	ANATOXIN	0.917 Abs [0.9225] {0.8 CV}	0.408 µg/L [0.400] {2}	R ² =0.99912, 70.000		20A2174
ATX Std 3	ANATOXIN	0.612 Abs	1.028 µg/L	R ² =0.99912, 46.718		20A2174
ATX Std 3	ANATOXIN	0.601 Abs [0.6065] {1.3 CV}	1.061 µg/L [1.044] {2}	R ² =0.99912, 45.878		20A2174
ATX Std 4	ANATOXIN	0.370 Abs	2.245 µg/L	R ² =0.99912, 28.244		20A2174
ATX Std 4	ANATOXIN	0.359 Abs [0.3645] {2.1 CV}	2.341 µg/L [2.293] {3}	R ² =0.99912, 27.405		20A2174
ATX Std 5	ANATOXIN	0.194 Abs	> 5.000 µg/L	14.809 %Abs		20A2174
ATX Std 5	ANATOXIN	0.188 Abs [0.1910] {2.2 CV}	> 5.000 µg/L	14.351 %Abs		20A2174
ATX Control	ANATOXIN	0.707 Abs	0.779 µg/L	53.969 %Abs		20A2174
ATX Control	ANATOXIN	0.679 Abs [0.6930] {2.9 CV}	0.845 µg/L [0.812] {4}	51.832 %Abs [52.90]		20A2174

Note

Signature *David Jordan*

Date: 7/01/2020

Test Report (by Request)

Test Information

 Request: 7/1/2020 4:41:15 PM
 Date: 7/1/2020 - 7/2/2020

Name/ID	Assay	Absorbance	Concentration	Interpretation	Reference	Lot #
LRB	ANATOXIN	1.239 Abs	0.065 µg/L	LOW, 94.580 %ABS	0.150 - 5.000	20A2174
LRB	ANATOXIN	1.205 Abs [1.2220] {2.0 CV}	0.094 µg/L [0.079] {2}		0.150 - 5.000	20A2174
LFB	ANATOXIN	0.839 Abs	0.525 µg/L	64.046 %Abs	0.150 - 5.000	20A2174
LFB	ANATOXIN	0.813 Abs [0.8260] {2.2 CV}	0.569 µg/L [0.547] {5}	62.061 %Abs [63.05]	0.150 - 5.000	20A2174
AB42917	ANATOXIN	1.219 Abs	0.090 µg/L	LOW, 93.053 %ABS	0.150 - 5.000	20A2174
AB42917	ANATOXIN	1.217 Abs [1.2180] {0.1 CV}	0.092 µg/L [0.091] {1}		0.150 - 5.000	20A2174
AB42919	ANATOXIN	1.230 Abs	0.080 µg/L	LOW, 93.893 %ABS	0.150 - 5.000	20A2174
AB42919	ANATOXIN	1.230 Abs [1.2300] {0.0 CV}	0.080 µg/L [0.080] {0}		0.150 - 5.000	20A2174
AB42918	ANATOXIN	1.198 Abs	0.111 µg/L	LOW, 91.450 %ABS	0.150 - 5.000	20A2174
AB42918	ANATOXIN	1.178 Abs [1.1880] {1.2 CV}	0.130 µg/L [0.120] {1}		0.150 - 5.000	20A2174
AB42994	ANATOXIN	1.024 Abs	0.301 µg/L	78.168 %Abs	0.150 - 5.000	20A2174
AB42994	ANATOXIN	1.001 Abs [1.0125] {1.6 CV}	0.331 µg/L [0.316] {6}	76.412 %Abs [77.290]	0.150 - 5.000	20A2174
AB42995	ANATOXIN	0.781 Abs	0.690 µg/L	59.618 %Abs	0.150 - 5.000	20A2174
AB42995	ANATOXIN	0.750 Abs [0.7655] {2.9 CV}	0.756 µg/L [0.723] {6}	57.252 %Abs [58.43]	0.150 - 5.000	20A2174
AB42995MS	ANATOXIN	0.767 Abs	0.653 µg/L	58.550 %Abs	0.150 - 5.000	20A2174
AB42995MS	ANATOXIN	0.749 Abs [0.7580] {1.7 CV}	0.689 µg/L [0.671] {3}	57.176 %Abs [57.86]	0.150 - 5.000	20A2174
AB42995MSD	ANATOXIN	1.183 Abs	0.114 µg/L	LOW, 90.305 %ABS	0.150 - 5.000	20A2174
AB42995MSD	ANATOXIN	1.170 Abs [1.1765] {0.8 CV}	0.126 µg/L [0.120] {7}		0.150 - 5.000	20A2174
AB42996	ANATOXIN	1.212 Abs	0.097 µg/L	LOW, 92.519 %ABS	0.150 - 5.000	20A2174
AB42996	ANATOXIN	1.194 Abs [1.2030] {1.1 CV}	0.114 µg/L [0.105] {1}		0.150 - 5.000	20A2174
AB42997	ANATOXIN	1.224 Abs	0.086 µg/L	LOW, 93.435 %ABS	0.150 - 5.000	20A2174
AB42997	ANATOXIN	1.197 Abs [1.2105] {1.6 CV}	0.111 µg/L [0.098] {1}		0.150 - 5.000	20A2174
AB42998	ANATOXIN	1.201 Abs	0.108 µg/L	LOW, 91.679 %ABS	0.150 - 5.000	20A2174
AB42998	ANATOXIN	1.185 Abs [1.1930] {0.9 CV}	0.123 µg/L [0.116] {9}		0.150 - 5.000	20A2174
AB42999	ANATOXIN	1.187 Abs	0.121 µg/L	LOW, 90.611 %ABS	0.150 - 5.000	20A2174
AB42999	ANATOXIN	1.186 Abs [1.1865] {0.1 CV}	0.122 µg/L [0.122] {0}		0.150 - 5.000	20A2174
AB43000	ANATOXIN	1.237 Abs	0.074 µg/L	LOW, 94.427 %ABS	0.150 - 5.000	20A2174
AB43000	ANATOXIN	1.162 Abs [1.1995] {4.4 CV}	0.146 µg/L [0.110] {4}		0.150 - 5.000	20A2174

Note

 Signature *David Jordan*

Date: 7/01/2020

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: 20A2174

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
7/1/2020 4:05:32 PM				
ATX Std 0	1.306 Abs		R ² =0.99912, 99.695 %Abs	RK1:23->A01@2
ATX Std 0	1.314 Abs [1.3100] {0.4 CV}		R ² =0.99912, 100.305 %Abs	RK1:23->B01@2
ATX Std 1	1.151 Abs		R ² =0.99912, 87.863 %Abs	RK1:24->C01@2
ATX Std 1	1.150 Abs [1.1505] {0.1 CV}		R ² =0.99912, 87.786 %Abs	RK1:24->D01@2
ATX Std 2	0.928 Abs		R ² =0.99912, 70.840 %Abs	RK1:25->E01@2
ATX Std 2	0.917 Abs [0.9225] {0.8 CV}		R ² =0.99912, 70.000 %Abs	RK1:25->F01@3
ATX Std 3	0.612 Abs		R ² =0.99912, 46.718 %Abs	RK1:26->G01@3
ATX Std 3	0.601 Abs [0.6065] {1.3 CV}		R ² =0.99912, 45.878 %Abs	RK1:26->H01@3
ATX Std 4	0.370 Abs		R ² =0.99912, 28.244 %Abs	RK1:27->A02@2
ATX Std 4	0.359 Abs [0.3645] {2.1 CV}		R ² =0.99912, 27.405 %Abs	RK1:27->B02@2
ATX Std 5	0.194 Abs		14.809 %Abs	RK1:28->C02@2
ATX Std 5	0.188 Abs [0.1910] {2.2 CV}		14.351 %Abs	RK1:28->D02@2

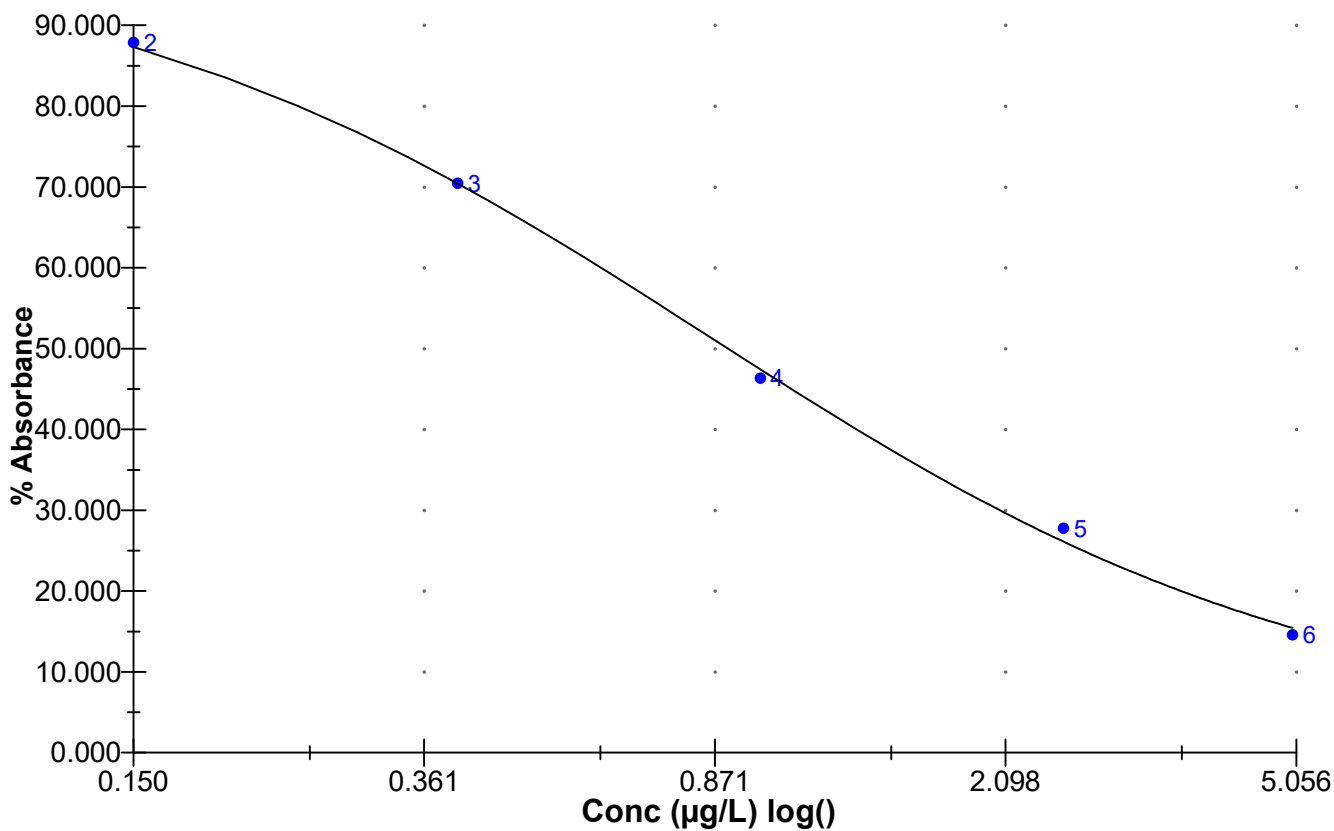
7/1/2020 4:05:32 PM				
ATX Control	0.707 Abs		53.969 %Abs	RK1:29->E02@2
ATX Control	0.679 Abs [0.6930] {2.9 CV}		51.832 %Abs [52.901 %Abs]	RK1:29->F02@3

Statistic				
ATX Std 0 [MEAN]	1.3100			
ATX Std 0 [SD]	0.0057			
ATX Std 0 [%CV]	0.4318			
ATX Std 1 [MEAN]	1.1505			
ATX Std 1 [SD]	0.0007			
ATX Std 1 [%CV]	0.0615			
ATX Std 1 [%DIFF]				
ATX Std 2 [MEAN]	0.9225			
ATX Std 2 [SD]	0.0078			
ATX Std 2 [%CV]	0.8432			
ATX Std 2 [%DIFF]				
ATX Std 3 [MEAN]	0.6065			
ATX Std 3 [SD]	0.0078			
ATX Std 3 [%CV]	1.2825			
ATX Std 3 [%DIFF]				
ATX Std 4 [MEAN]	0.3645			
ATX Std 4 [SD]	0.0078			
ATX Std 4 [%CV]	2.1339			
ATX Std 4 [%DIFF]				
ATX Std 5 [MEAN]	0.1910			
ATX Std 5 [SD]	0.0042			
ATX Std 5 [%CV]	2.2213			

Name	Absorbance	Concentration	Interpretation	Position
ATX Control [MEAN]	0.6930			
ATX Control [SD]	0.0198			
ATX Control [%CV]	2.8570			

Assay Curve

$y = (A-D)/(1+(x/C)^B) + D$
 Weight: NONE
 A = 1.3135
 B = 1.0782
 C = 0.85481
 D = 0.036838
 R2 coef = 0.99912
 50% = 0.906



Test Information

Request: 7/2/2020 11:25:16 AM

Date: 7/2/2020

Name/ID	Assay	Absorbance	Concentration	Interpretation	Reference	Lot #
ATX Std 0	ANATOXIN	1.168 Abs	0.000 µg/L	R ² =0.99961, 100.34		20A2174
ATX Std 0	ANATOXIN	1.161 Abs [1.1645] {0.4 CV}	0.005 µg/L [0.003] {1}	R ² =0.99961, 99.742		20A2174
ATX Std 1	ANATOXIN	1.029 Abs	0.142 µg/L	R ² =0.99961, 88.402		20A2174
ATX Std 1	ANATOXIN	1.024 Abs [1.0265] {0.3 CV}	0.147 µg/L [0.145] {2}	R ² =0.99961, 87.973		20A2174
ATX Std 2	ANATOXIN	0.841 Abs	0.396 µg/L	R ² =0.99961, 72.251		20A2174
ATX Std 2	ANATOXIN	0.837 Abs [0.8390] {0.3 CV}	0.402 µg/L [0.399] {1}	R ² =0.99961, 71.907		20A2174
ATX Std 3	ANATOXIN	0.567 Abs	1.041 µg/L	R ² =0.99961, 48.711		20A2174
ATX Std 3	ANATOXIN	0.573 Abs [0.5700] {0.7 CV}	1.020 µg/L [1.030] {1}	R ² =0.99961, 49.227		20A2174
ATX Std 4	ANATOXIN	0.337 Abs	2.339 µg/L	R ² =0.99961, 28.952		20A2174
ATX Std 4	ANATOXIN	0.328 Abs [0.3325] {1.9 CV}	2.425 µg/L [2.382] {2}	R ² =0.99961, 28.179		20A2174
ATX Std 5	ANATOXIN	0.176 Abs	> 5.000 µg/L	15.120 %Abs		20A2174
ATX Std 5	ANATOXIN	0.173 Abs [0.1745] {1.2 CV}	> 5.000 µg/L	14.863 %Abs		20A2174
ATX Control	ANATOXIN	0.659 Abs	0.767 µg/L	56.615 %Abs		20A2174
ATX Control	ANATOXIN	0.652 Abs [0.6555] {0.8 CV}	0.786 µg/L [0.776] {1}	56.014 %Abs [56.314]		20A2174

Note

Signature David Jordan

Date: 7/02/2020

Test Report (by Request)

Test Information

Request: 7/2/2020 11:25:31 AM

Date: 7/2/2020

Name/ID	Assay	Absorbance	Concentration	Interpretation	Reference	Lot #
LRB	ANATOXIN	1.161 Abs	0.005 µg/L	LOW, 99.742 %ABS	0.150 - 5.000	20A2174
LRB	ANATOXIN	1.172 Abs [1.1665] {0.7 CV}	0.000 µg/L [0.003] {1.0 CV}	LOW, 100.687 %ABS	0.150 - 5.000	20A2174
LFB	ANATOXIN	0.785 Abs	0.493 µg/L	67.440 %Abs	0.150 - 5.000	20A2174
LFB	ANATOXIN	0.780 Abs [0.7825] {0.5 CV}	0.502 µg/L [0.498] {1.0 CV}	67.010 %Abs [67.225]	0.150 - 5.000	20A2174
AB42995	ANATOXIN	1.111 Abs	0.060 µg/L	LOW, 95.447 %ABS	0.150 - 5.000	20A2174
AB42995	ANATOXIN	1.107 Abs [1.1090] {0.3 CV}	0.065 µg/L [0.063] {5.0 CV}	LOW, 95.103 %ABS	0.150 - 5.000	20A2174
AB42995MS	ANATOXIN	0.731 Abs	0.599 µg/L	62.801 %Abs	0.150 - 5.000	20A2174
AB42995MS	ANATOXIN	0.730 Abs [0.7305] {0.1 CV}	0.602 µg/L [0.600] {0.1 CV}	62.715 %Abs [62.758]	0.150 - 5.000	20A2174
AB42995MSD	ANATOXIN	0.737 Abs	0.587 µg/L	63.316 %Abs	0.150 - 5.000	20A2174
AB42995MSD	ANATOXIN	0.752 Abs [0.7445] {1.4 CV}	0.556 µg/L [0.572] {3.0 CV}	64.605 %Abs [63.960]	0.150 - 5.000	20A2174

Note

 Signature David Jordan

Date: 7/02/2020

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: 20A2174

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
7/2/2020 11:25:16 AM				
ATX Std 0	1.168 Abs		R ² =0.99961, 100.344 %Abs	RK1:30->A04@1
ATX Std 0	1.161 Abs [1.1645] {0.4 CV}		R ² =0.99961, 99.742 %Abs	RK1:30->B04@1
ATX Std 1	1.029 Abs		R ² =0.99961, 88.402 %Abs	RK1:31->C04@1
ATX Std 1	1.024 Abs [1.0265] {0.3 CV}		R ² =0.99961, 87.973 %Abs	RK1:31->D04@1
ATX Std 2	0.841 Abs		R ² =0.99961, 72.251 %Abs	RK1:32->E04@1
ATX Std 2	0.837 Abs [0.8390] {0.3 CV}		R ² =0.99961, 71.907 %Abs	RK1:32->F04@4
ATX Std 3	0.567 Abs		R ² =0.99961, 48.711 %Abs	RK1:33->G04@4
ATX Std 3	0.573 Abs [0.5700] {0.7 CV}		R ² =0.99961, 49.227 %Abs	RK1:33->H04@4
ATX Std 4	0.337 Abs		R ² =0.99961, 28.952 %Abs	RK1:34->A05@1
ATX Std 4	0.328 Abs [0.3325] {1.9 CV}		R ² =0.99961, 28.179 %Abs	RK1:34->B05@1
ATX Std 5	0.176 Abs		15.120 %Abs	RK1:35->C05@1
ATX Std 5	0.173 Abs [0.1745] {1.2 CV}		14.863 %Abs	RK1:35->D05@1

7/2/2020 11:25:16 AM				
ATX Control	0.659 Abs		56.615 %Abs	RK1:36->E05@1
ATX Control	0.652 Abs [0.6555] {0.8 CV}		56.014 %Abs [56.314 %Abs]	RK1:36->F05@4

Statistic				
ATX Std 0 [MEAN]	1.1645			
ATX Std 0 [SD]	0.0049			
ATX Std 0 [%CV]	0.4251			
ATX Std 1 [MEAN]	1.0265			
ATX Std 1 [SD]	0.0035			
ATX Std 1 [%CV]	0.3444			
ATX Std 1 [%DIFF]				
ATX Std 2 [MEAN]	0.8390			
ATX Std 2 [SD]	0.0028			
ATX Std 2 [%CV]	0.3371			
ATX Std 2 [%DIFF]				
ATX Std 3 [MEAN]	0.5700			
ATX Std 3 [SD]	0.0042			
ATX Std 3 [%CV]	0.7443			
ATX Std 3 [%DIFF]				
ATX Std 4 [MEAN]	0.3325			
ATX Std 4 [SD]	0.0064			
ATX Std 4 [%CV]	1.9140			
ATX Std 4 [%DIFF]				
ATX Std 5 [MEAN]	0.1745			
ATX Std 5 [SD]	0.0021			
ATX Std 5 [%CV]	1.2157			

Name	Absorbance	Concentration	Interpretation	Position
ATX Control [MEAN]	0.6555			
ATX Control [SD]	0.0049			
ATX Control [%CV]	0.7551			

Assay Curve

$y = (A-D)/(1+(x/C)^B) + D$
 Weight: NONE
 A = 1.1661
 B = 1.0369
 C = 0.99483
 D = -0.0047378
 R2 coef = 0.99961
 50% = 0.991

