



## Saxitoxin ELISA Summary Report

Office of Water Quality - Watershed Assessment and Planning Branch

Sample #	Location	Date Collected	Date Analyzed	Conc. (ppb)
AB52058	Summit Lake State Park	7/19/2022	7/21/2022	< 0.050
AB52059	Kunkel Lake @ Oubache State Park	7/18/2022	7/21/2022	0.097
AB52060	Pokagon State Park	7/18/2022	7/21/2022	< 0.050
AB52061	Potawatomi Inn's Beach	7/18/2022	7/21/2022	< 0.050
AB52062	Chain O'Lakes SP	7/18/2022	7/21/2022	< 0.050
AB52063	Potato Creek State Park	7/19/2022	7/21/2022	< 0.050
AB52064	Lost Bridge West SRA	7/19/2022	7/21/2022	0.066
AB52065	Mississinewa Lake Miami SRA	7/19/2022	7/21/2022	< 0.050
AB52072	Summit Lake State Park (Field Dup)	7/19/2022	7/21/2022	< 0.050
AB52073	Field Blank	7/19/2022	7/21/2022	< 0.050
AB52074	Lincoln State Park	7/18/2022	7/21/2022	0.68
AB52075	Ferdinand State Forest Lake	7/18/2022	7/21/2022	< 0.050
AB52076	Patoka SRA Beach	7/18/2022	7/21/2022	< 0.050

# Test Report (by Request)

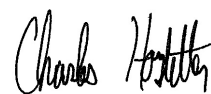
## Test Information

Request: 7/21/2022 10:51:59 AM  
Date: 7/21/2022

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
STX Std 0	SAXITOXIN	1.230 Abs	0.000 µg/L	R <sup>2</sup> =0.99963, 100.2			M22B127
STX Std 0	SAXITOXIN	1.223 Abs [1.2265] {0.4 C	0.001 µg/L [0.001]	R <sup>2</sup> =0.99963, 99.67			M22B127
STX Std 1	SAXITOXIN	1.045 Abs	0.019 µg/L	R <sup>2</sup> =0.99963, 85.16			M22B127
STX Std 1	SAXITOXIN	1.032 Abs [1.0385] {0.9 C	0.021 µg/L [0.020]	R <sup>2</sup> =0.99963, 84.10			M22B127
STX Std 2	SAXITOXIN	0.806 Abs	0.048 µg/L	R <sup>2</sup> =0.99963, 65.68			M22B127
STX Std 2	SAXITOXIN	0.783 Abs [0.7945] {2.0 C	0.051 µg/L [0.049]	R <sup>2</sup> =0.99963, 63.81			M22B127
STX Std 3	SAXITOXIN	0.551 Abs	0.101 µg/L	R <sup>2</sup> =0.99963, 44.90			M22B127
STX Std 3	SAXITOXIN	0.537 Abs [0.5440] {1.8 C	0.105 µg/L [0.103]	R <sup>2</sup> =0.99963, 43.76			M22B127
STX Std 4	SAXITOXIN	0.375 Abs	0.187 µg/L	R <sup>2</sup> =0.99963, 30.56			M22B127
STX Std 4	SAXITOXIN	0.367 Abs [0.3710] {1.5 C	0.194 µg/L [0.191]	R <sup>2</sup> =0.99963, 29.91			M22B127
STX Std 5	SAXITOXIN	0.238 Abs	> 0.400 µg/L	19.397 %Abs			M22B127
STX Std 5	SAXITOXIN	0.235 Abs [0.2365] {0.9 C	> 0.400 µg/L	19.152 %Abs			M22B127
STX Control (0.060-0.090)	SAXITOXIN	0.661 Abs	0.073 µg/L	53.871 %Abs			M22B127
STX Control (0.060-0.090)	SAXITOXIN	0.648 Abs [0.6545] {1.4 C	0.076 µg/L [0.074]	52.812 %Abs [53.3			M22B127

## Note

Signature



Charles Hostetter 7/21/2022

# Test Report (by Request)

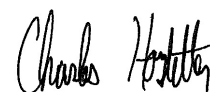
## Test Information

Request: 7/21/2022 10:53:06 AM  
Date: 7/21/2022

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
LRB	SAXITOXIN	1.229 Abs	0.000 µg/L	Low, 100.163 %Abs		0.020 - 0.400	M22B127
LRB	SAXITOXIN	1.222 Abs [1.2255] {0.4 C	0.001 µg/L [0.001]	Low, 99.593 %Abs		0.020 - 0.400	M22B127
LFB (SAX)	SAXITOXIN	0.612 Abs	0.084 µg/L	49.878 %Abs		0.020 - 0.400	M22B127
LFB (SAX)	SAXITOXIN	0.586 Abs [0.5990] {3.1 C	0.091 µg/L [0.087]	47.759 %Abs [48.8		0.020 - 0.400	M22B127
AB52058	SAXITOXIN	1.203 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52058	SAXITOXIN	1.214 Abs [1.2085] {0.6 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52059	SAXITOXIN	0.597 Abs	0.097 µg/L	48.655 %Abs	MDF=1.100	0.020 - 0.400	M22B127
AB52059	SAXITOXIN	0.594 Abs [0.5955] {0.4 C	0.098 µg/L [0.097]	48.411 %Abs [48.5	MDF=1.100	0.020 - 0.400	M22B127
AB52060	SAXITOXIN	1.153 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52060	SAXITOXIN	1.149 Abs [1.1510] {0.2 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52061	SAXITOXIN	1.186 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52061	SAXITOXIN	1.179 Abs [1.1825] {0.4 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52061MS	SAXITOXIN	0.597 Abs	0.088 µg/L	48.655 %Abs		0.020 - 0.400	M22B127
AB52061MS	SAXITOXIN	0.574 Abs [0.5855] {2.8 C	0.094 µg/L [0.091]	46.781 %Abs [47.7		0.020 - 0.400	M22B127
AB52061MSD	SAXITOXIN	0.576 Abs	0.094 µg/L	46.944 %Abs		0.020 - 0.400	M22B127
AB52061MSD	SAXITOXIN	0.553 Abs [0.5645] {2.9 C	0.100 µg/L [0.097]	45.069 %Abs [46.0		0.020 - 0.400	M22B127
AB52062	SAXITOXIN	0.857 Abs	0.045 µg/L	69.845 %Abs	MDF=1.100	0.020 - 0.400	M22B127
AB52062	SAXITOXIN	0.849 Abs [0.8530] {0.7 C	0.046 µg/L [0.046]	69.193 %Abs [69.5	MDF=1.100	0.020 - 0.400	M22B127
AB52063	SAXITOXIN	0.885 Abs	0.041 µg/L	72.127 %Abs	MDF=1.100	0.020 - 0.400	M22B127
AB52063	SAXITOXIN	0.866 Abs [0.8755] {1.5 C	0.043 µg/L [0.042]	70.579 %Abs [71.3	MDF=1.100	0.020 - 0.400	M22B127
AB52064	SAXITOXIN	0.734 Abs	0.065 µg/L	59.821 %Abs	MDF=1.100	0.020 - 0.400	M22B127
AB52064	SAXITOXIN	0.723 Abs [0.7285] {1.1 C	0.067 µg/L [0.066]	58.924 %Abs [59.3	MDF=1.100	0.020 - 0.400	M22B127
AB52065	SAXITOXIN	1.136 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52065	SAXITOXIN	1.129 Abs [1.1325] {0.4 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52072	SAXITOXIN	1.182 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52072	SAXITOXIN	1.189 Abs [1.1855] {0.4 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52073	SAXITOXIN	1.247 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52073	SAXITOXIN	1.237 Abs [1.2420] {0.6 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52074	SAXITOXIN	0.148 Abs	> 0.400	High, Out Adjust Dil	MDF=1.100		M22B127
AB52074	SAXITOXIN	0.145 Abs [0.1465] {1.4 C	> 0.400 [> 0.400]	High, Out Adjust Dil	MDF=1.100		M22B127
AB52075	SAXITOXIN	1.141 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52075	SAXITOXIN	1.126 Abs [1.1335] {0.9 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52076	SAXITOXIN	1.211 Abs	< LOD	Low, Out Adjust Dilu	MDF=1.100		M22B127
AB52076	SAXITOXIN	1.215 Abs [1.2130] {0.2 C	< LOD [< LOD]	Low, Out Adjust Dilu	MDF=1.100		M22B127

## Note

Signature



Charles Hostetter 7/21/2022

## Assay Information

Assay Name: SAXITOXIN  
Version: 2  
Temperature: Room Temperature  
Last Modified By: Security disabled  
Units: µg/L  
Assay Description: PN. 52255B  
Assay Substances: Controls:

Assay Mode: 4-Parameter Logistic Weight by:None  
Well Type: Flat bottom  
Last Modified On: 7/25/2019 3:55:28 PM  
Normal: 0.020 - 0.400  
# of decimals: 3  
Kit Lot Number: M22B1271

STX Control (0.060-0.090)  
Standards:  
STX Std 0, Concentration = 0.000, Minimum number to use: 2  
STX Std 1, Concentration = 0.020, Minimum number to use: 2  
STX Std 2, Concentration = 0.050, Minimum number to use: 2  
STX Std 3, Concentration = 0.100, Minimum number to use: 2  
STX Std 4, Concentration = 0.200, Minimum number to use: 2  
STX Std 5, Concentration = 0.400, Minimum number to use: 2  
Curve valid interval: 1 days 0 hours  
Axis Mode: Y = Abs, X = Log(Conc)

## Assay Calibration

Current Calibration Status: "

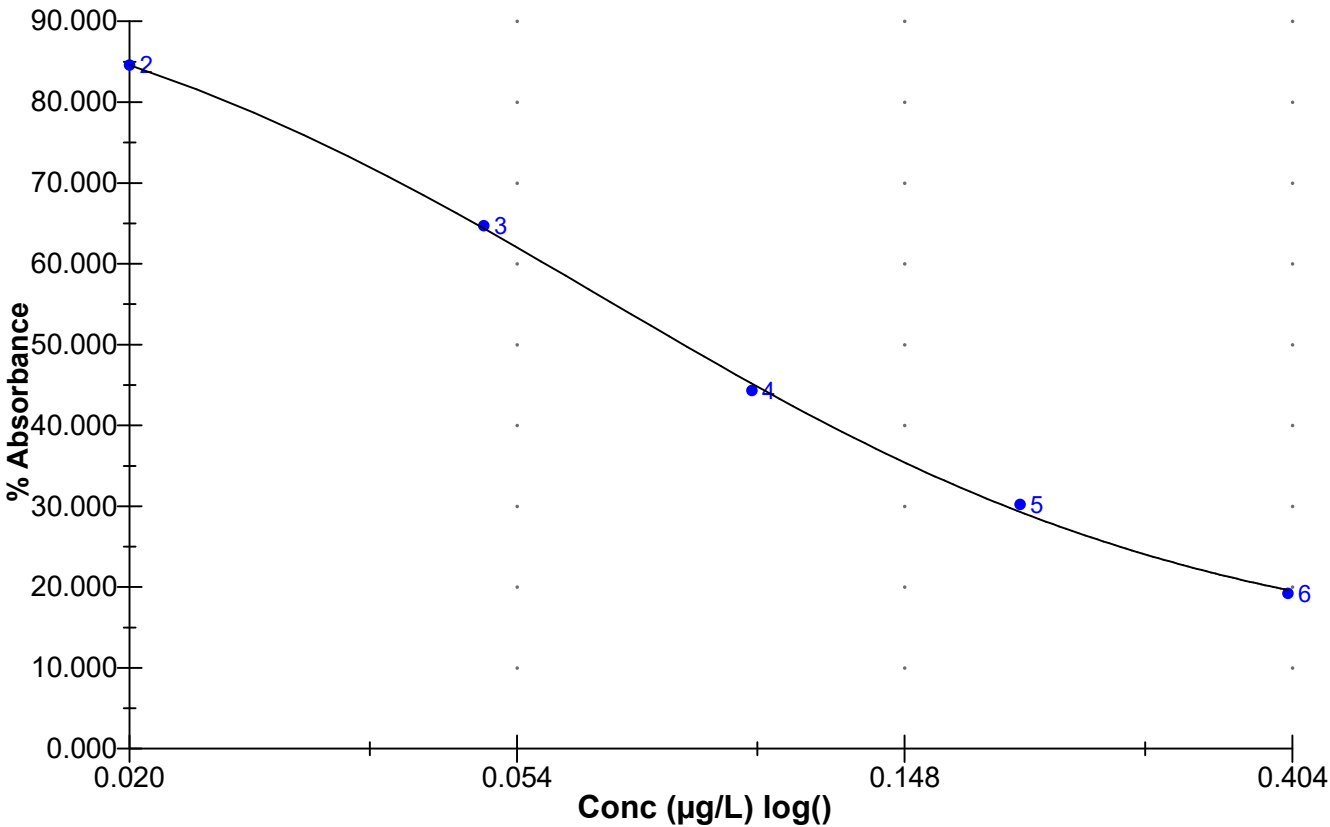
"

Name	Absorbance	Concentration	Interpretation	Position
7/21/2022 10:51:59 AM				
STX Std 0	1.230 Abs	0.000 µg/L	R <sup>2</sup> =0.99963, 100.244 %Abs	RK1:30->A07@2
STX Std 0	1.223 Abs [1.2265] {0.4 CV}	0.001 µg/L [0.001] {141.4 CV}	R <sup>2</sup> =0.99963, 99.674 %Abs	RK1:30->B07@2
STX Std 1	1.045 Abs	0.019 µg/L	R <sup>2</sup> =0.99963, 85.167 %Abs	RK1:31->C07@2
STX Std 1	1.032 Abs [1.0385] {0.9 CV}	0.021 µg/L [0.020] {7.1 CV}	R <sup>2</sup> =0.99963, 84.108 %Abs	RK1:31->D07@2
STX Std 2	0.806 Abs	0.048 µg/L	R <sup>2</sup> =0.99963, 65.689 %Abs	RK1:32->E07@2
STX Std 2	0.783 Abs [0.7945] {2.0 CV}	0.051 µg/L [0.049] {4.3 CV}	R <sup>2</sup> =0.99963, 63.814 %Abs	RK1:32->F07@3
STX Std 3	0.551 Abs	0.101 µg/L	R <sup>2</sup> =0.99963, 44.906 %Abs	RK1:33->G07@3
STX Std 3	0.537 Abs [0.5440] {1.8 CV}	0.105 µg/L [0.103] {2.7 CV}	R <sup>2</sup> =0.99963, 43.765 %Abs	RK1:33->H07@3
STX Std 4	0.375 Abs	0.187 µg/L	R <sup>2</sup> =0.99963, 30.562 %Abs	RK1:34->A08@2
STX Std 4	0.367 Abs [0.3710] {1.5 CV}	0.194 µg/L [0.191] {2.6 CV}	R <sup>2</sup> =0.99963, 29.910 %Abs	RK1:34->B08@2
STX Std 5	0.238 Abs	> 0.400 µg/L	19.397 %Abs	RK1:35->C08@2
STX Std 5	0.235 Abs [0.2365] {0.9 CV}	> 0.400 µg/L	19.152 %Abs	RK1:35->D08@2
*****				
7/21/2022 10:51:59 AM				
STX Control (0.060-0.090)	0.661 Abs	0.073 µg/L	53.871 %Abs	RK1:36->E08@2
STX Control (0.060-0.090)	0.648 Abs [0.6545] {1.4 CV}	0.076 µg/L [0.074] {2.8 CV}	52.812 %Abs [53.341 %Abs]	RK1:36->F08@3
*****				
Statistic				
STX Std 0 [MEAN]	1.2265	0.0005		
STX Std 0 [SD]	0.0049	0.0007		
STX Std 0 [%CV]	0.4036	141.4214		
STX Std 1 [MEAN]	1.0385	0.0200		
STX Std 1 [SD]	0.0092	0.0014		
STX Std 1 [%CV]	0.8852	7.0711		
STX Std 1 [%DIFF]		0.0000		
STX Std 2 [MEAN]	0.7945	0.0495		
STX Std 2 [SD]	0.0163	0.0021		
STX Std 2 [%CV]	2.0470	4.2855		
STX Std 2 [%DIFF]		-1.0000		
STX Std 3 [MEAN]	0.5440	0.1030		
STX Std 3 [SD]	0.0099	0.0028		
STX Std 3 [%CV]	1.8198	2.7460		
STX Std 3 [%DIFF]		3.0000		
STX Std 4 [MEAN]	0.3710	0.1905		
STX Std 4 [SD]	0.0057	0.0049		
STX Std 4 [%CV]	1.5248	2.5983		
STX Std 4 [%DIFF]		-4.7500		
STX Std 5 [MEAN]	0.2365			
STX Std 5 [SD]	0.0021			
STX Std 5 [%CV]	0.8970			

Name	Absorbance	Concentration	Interpretation	Position	
STX Control (0.060-0.090) [MEAN]	0.6545	0.0745			
STX Control (0.060-0.090) [SD]	0.0092	0.0021			
STX Control (0.060-0.090) [%CV]	1.4045	2.8474			

Assay Curve

$y = (A-D)/(1+(x/C)^B) + D$   
 Weight: NONE  
 A = 1.2274  
 B = 1.2633  
 C = 0.068895  
 D = 0.13385  
 R2 coef = 0.99963  
 50% = 0.084



# Test Report (by Request)

## Test Information

Request: 7/21/2022 2:52:21 PM  
Date: 7/21/2022

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
STX Std 0	SAXITOXIN	1.184 Abs	0.000 µg/L	R <sup>2</sup> =0.99941, 100.2			M22B127
STX Std 0	SAXITOXIN	1.179 Abs [1.1815] {0.3 C	0.001 µg/L [0.001]	R <sup>2</sup> =0.99941, 99.83			M22B127
STX Std 1	SAXITOXIN	1.000 Abs	0.019 µg/L	R <sup>2</sup> =0.99941, 84.67			M22B127
STX Std 1	SAXITOXIN	0.997 Abs [0.9985] {0.2 C	0.020 µg/L [0.019]	R <sup>2</sup> =0.99941, 84.42			M22B127
STX Std 2	SAXITOXIN	0.761 Abs	0.049 µg/L	R <sup>2</sup> =0.99941, 64.43			M22B127
STX Std 2	SAXITOXIN	0.742 Abs [0.7515] {1.8 C	0.052 µg/L [0.050]	R <sup>2</sup> =0.99941, 62.82			M22B127
STX Std 3	SAXITOXIN	0.522 Abs	0.101 µg/L	R <sup>2</sup> =0.99941, 44.20			M22B127
STX Std 3	SAXITOXIN	0.511 Abs [0.5165] {1.5 C	0.105 µg/L [0.103]	R <sup>2</sup> =0.99941, 43.26			M22B127
STX Std 4	SAXITOXIN	0.361 Abs	0.182 µg/L	R <sup>2</sup> =0.99941, 30.56			M22B127
STX Std 4	SAXITOXIN	0.351 Abs [0.3560] {2.0 C	0.191 µg/L [0.186]	R <sup>2</sup> =0.99941, 29.72			M22B127
STX Std 5	SAXITOXIN	0.224 Abs	> 0.400 µg/L	18.967 %Abs			M22B127
STX Std 5	SAXITOXIN	0.217 Abs [0.2205] {2.2 C	> 0.400 µg/L	18.374 %Abs			M22B127
STX Control (0.060-0.090)	SAXITOXIN	0.633 Abs	0.072 µg/L	53.599 %Abs			M22B127
STX Control (0.060-0.090)	SAXITOXIN	0.608 Abs [0.6205] {2.8 C	0.078 µg/L [0.075]	51.482 %Abs [52.5			M22B127

## Note

Signature



# Test Report (by Request)

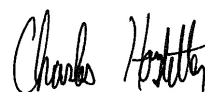
## Test Information

Request: 7/21/2022 2:54:00 PM  
Date: 7/21/2022

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
LRB	SAXITOXIN	1.167 Abs	0.002 µg/L	Low, 98.815 %Abs		0.020 - 0.400	M22B127
LRB	SAXITOXIN	1.183 Abs [1.1750] {1.0 C	0.000 µg/L [0.001]	Low, 100.169 %Abs		0.020 - 0.400	M22B127
LFB	SAXITOXIN	0.580 Abs	0.084 µg/L	49.111 %Abs		0.020 - 0.400	M22B127
LFB	SAXITOXIN	0.564 Abs [0.5720] {2.0 C	0.089 µg/L [0.087]	47.756 %Abs [48.4		0.020 - 0.400	M22B127
AB52074 10X	SAXITOXIN	0.693 Abs	0.660 µg/L	High, 58.679 %Abs	MDF=11.000	0.020 - 0.400	M22B127
AB52074 10X	SAXITOXIN	0.672 Abs [0.6825] {2.2 C	0.704 µg/L [0.682]	High, 56.901 %Abs	MDF=11.000	0.020 - 0.400	M22B127

## Note

Signature



## Assay Information

Assay Name: SAXITOXIN  
 Version: 2  
 Temperature: Room Temperature  
 Last Modified By: Security disabled  
 Units: µg/L  
 Assay Description: PN. 52255B  
 Assay Substances: Controls:

Assay Mode: 4-Parameter Logistic Weight by:None  
 Well Type: Flat bottom  
 Last Modified On: 7/25/2019 3:55:28 PM  
 Normal: 0.020 - 0.400  
 # of decimals: 3  
 Kit Lot Number: M22B1271

STX Control (0.060-0.090)  
 Standards:  
 STX Std 0, Concentration = 0.000, Minimum number to use: 2  
 STX Std 1, Concentration = 0.020, Minimum number to use: 2  
 STX Std 2, Concentration = 0.050, Minimum number to use: 2  
 STX Std 3, Concentration = 0.100, Minimum number to use: 2  
 STX Std 4, Concentration = 0.200, Minimum number to use: 2  
 STX Std 5, Concentration = 0.400, 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
7/21/2022 2:52:21 PM				
STX Std 0	1.184 Abs	0.000 µg/L	R^2=0.99941, 100.254 %Abs	RK1:23->A01@2
STX Std 0	1.179 Abs [1.1815] {0.3 CV}	0.001 µg/L [0.001] {141.4 CV}	R^2=0.99941, 99.831 %Abs	RK1:23->B01@2
STX Std 1	1.000 Abs	0.019 µg/L	R^2=0.99941, 84.674 %Abs	RK1:24->C01@2
STX Std 1	0.997 Abs [0.9985] {0.2 CV}	0.020 µg/L [0.019] {3.6 CV}	R^2=0.99941, 84.420 %Abs	RK1:24->D01@2
STX Std 2	0.761 Abs	0.049 µg/L	R^2=0.99941, 64.437 %Abs	RK1:25->E01@2
STX Std 2	0.742 Abs [0.7515] {1.8 CV}	0.052 µg/L [0.050] {4.2 CV}	R^2=0.99941, 62.828 %Abs	RK1:25->F01@3
STX Std 3	0.522 Abs	0.101 µg/L	R^2=0.99941, 44.200 %Abs	RK1:26->G01@3
STX Std 3	0.511 Abs [0.5165] {1.5 CV}	0.105 µg/L [0.103] {2.7 CV}	R^2=0.99941, 43.268 %Abs	RK1:26->H01@3
STX Std 4	0.361 Abs	0.182 µg/L	R^2=0.99941, 30.567 %Abs	RK1:27->A02@2
STX Std 4	0.351 Abs [0.3560] {2.0 CV}	0.191 µg/L [0.186] {3.4 CV}	R^2=0.99941, 29.721 %Abs	RK1:27->B02@2
STX Std 5	0.224 Abs	> 0.400 µg/L	18.967 %Abs	RK1:28->C02@2
STX Std 5	0.217 Abs [0.2205] {2.2 CV}	> 0.400 µg/L	18.374 %Abs	RK1:28->D02@2
*****				
7/21/2022 2:52:21 PM				
STX Control (0.060-0.090)	0.633 Abs	0.072 µg/L	53.599 %Abs	RK1:29->E02@2
STX Control (0.060-0.090)	0.608 Abs [0.6205] {2.8 CV}	0.078 µg/L [0.075] {5.7 CV}	51.482 %Abs [52.540 %Abs]	RK1:29->F02@3
*****				
Statistic				
STX Std 0 [MEAN]	1.1815	0.0005		
STX Std 0 [SD]	0.0035	0.0007		
STX Std 0 [%CV]	0.2992	141.4214		
STX Std 1 [MEAN]	0.9985	0.0195		
STX Std 1 [SD]	0.0021	0.0007		
STX Std 1 [%CV]	0.2125	3.6262		
STX Std 1 [%DIFF]		-2.5000		
STX Std 2 [MEAN]	0.7515	0.0505		
STX Std 2 [SD]	0.0134	0.0021		
STX Std 2 [%CV]	1.7878	4.2006		
STX Std 2 [%DIFF]		1.0000		
STX Std 3 [MEAN]	0.5165	0.1030		
STX Std 3 [SD]	0.0078	0.0028		
STX Std 3 [%CV]	1.5059	2.7460		
STX Std 3 [%DIFF]		3.0000		
STX Std 4 [MEAN]	0.3560	0.1865		
STX Std 4 [SD]	0.0071	0.0064		
STX Std 4 [%CV]	1.9863	3.4123		
STX Std 4 [%DIFF]		-6.7500		
STX Std 5 [MEAN]	0.2205			
STX Std 5 [SD]	0.0049			
STX Std 5 [%CV]	2.2448			



Name	Absorbance	Concentration	Interpretation	Position	
STX Control (0.060-0.090) [MEAN]	0.6205	0.0750			
STX Control (0.060-0.090) [SD]	0.0177	0.0042			
STX Control (0.060-0.090) [%CV]	2.8489	5.6569			

Assay Curve

$$y = (A-D)/(1+(x/C)^B) + D$$
 Weight: NONE  
 A = 1.1826  
 B = 1.2566  
 C = 0.067473  
 D = 0.12542  
 R2 coef = 0.99941  
 50% = 0.082

