



Saxitoxin ELISA Summary Report

Office of Water Quality - Watershed Assessment and Planning Branch

Sample #	Location	Date Collected	Date Analyzed	Conc. (ppb)
AC03253	Cecil M. Harden Lake - Raccoon Lake SRA Beach	6/26/2023	6/29/2023	< 0.05
AC03254	Starve Hollow SRA - Starve Hollow Lake Beach	6/26/2023	6/29/2023	0.63
AC03255	Hardy Lake SRA - Hardy Lake SRA Beach	6/26/2023	6/29/2023	< 0.05
AC03256	Whitewater Memorial SP - Whitewater Lake Beach	6/26/2023	6/29/2023	< 0.05
AC03257	Starve Hollow SRA - Starve Hollow Lake Beach (Field Duplicate)	6/26/2023	6/29/2023	0.68
AC03258	Field Blank	6/26/2023	6/29/2023	< 0.05

Test Report (by Request)

Test Information

Request: 6/29/2023 1:41:42 PM
Date: 6/29/2023

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
STX Std 0	SAXITOXIN	1.404 Abs	0.000 µg/L	R^2=0.99975, 100.2			M22L2865
STX Std 0	SAXITOXIN	1.398 Abs [1.4010] {0.3 C	0.000 µg/L [0.000]	R^2=0.99975, 99.78			M22L2865
STX Std 1	SAXITOXIN	1.165 Abs	0.019 µg/L	R^2=0.99975, 83.15			M22L2865
STX Std 1	SAXITOXIN	1.138 Abs [1.1515] {1.7 C	0.021 µg/L [0.020]	R^2=0.99975, 81.22			M22L2865
STX Std 2	SAXITOXIN	0.880 Abs	0.047 µg/L	R^2=0.99975, 62.81			M22L2865
STX Std 2	SAXITOXIN	0.849 Abs [0.8645] {2.5 C	0.051 µg/L [0.049]	R^2=0.99975, 60.60			M22L2865
STX Std 3	SAXITOXIN	0.587 Abs	0.100 µg/L	R^2=0.99975, 41.85			M22L2865
STX Std 3	SAXITOXIN	0.565 Abs [0.5760] {2.7 C	0.106 µg/L [0.103]	R^2=0.99975, 40.32			M22L2865
STX Std 4	SAXITOXIN	0.385 Abs	0.188 µg/L	R^2=0.99975, 27.48			M22L2865
STX Std 4	SAXITOXIN	0.371 Abs [0.3780] {2.6 C	0.199 µg/L [0.193]	R^2=0.99975, 26.48			M22L2865
STX Std 5	SAXITOXIN	0.238 Abs	0.399 µg/L	R^2=0.99975, 16.98			M22L2865
STX Std 5	SAXITOXIN	0.231 Abs [0.2345] {2.1 C	> 0.400 µg/L [0.39	16.488 %Abs			M22L2865
STX Control (0.060-0.090)	SAXITOXIN	0.760 Abs	0.064 µg/L	54.247 %Abs			M22L2865
STX Control (0.060-0.090)	SAXITOXIN	0.729 Abs [0.7445] {2.9 C	0.069 µg/L [0.067]	52.034 %Abs [53.1			M22L2865

Note

Signature _____

Test Report (by Request)

Test Information

 Request: 6/29/2023 1:42:35 PM
 Date: 6/29/2023

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
LRB	SAXITOXIN	1.390 Abs	0.001 µg/L	Low, 99.215 %Abs		0.020 - 0.400	M22L2865
LRB	SAXITOXIN	1.346 Abs [1.3680] {2.3 C	0.005 µg/L [0.003]	Low, 96.074 %Abs		0.020 - 0.400	M22L2865
LFB (SAX)	SAXITOXIN	0.589 Abs	0.099 µg/L	42.041 %Abs		0.020 - 0.400	M22L2865
LFB (SAX)	SAXITOXIN	0.584 Abs [0.5865] {0.6 C	0.101 µg/L [0.100]	41.685 %Abs [41.8		0.020 - 0.400	M22L2865
AC03253	SAXITOXIN	1.363 Abs	0.004 µg/L	Low, 97.288 %Abs		0.020 - 0.400	M22L2865
AC03253	SAXITOXIN	1.321 Abs [1.3420] {2.2 C	0.007 µg/L [0.006]	Low, 94.290 %Abs		0.020 - 0.400	M22L2865
AC03254	SAXITOXIN	0.175 Abs	> 0.400	High, Out Adjust Dil	MDF=1.100		M22L2865
AC03254	SAXITOXIN	0.161 Abs [0.1680] {5.9 C	> 0.400 [> 0.400]	High, Out Adjust Dil	MDF=1.100		M22L2865
AC03255	SAXITOXIN	1.278 Abs	< LOD	Low, Out Adjust Dil	MDF=1.100		M22L2865
AC03255	SAXITOXIN	1.278 Abs [1.2780] {0.0 C	< LOD [< LOD]	Low, Out Adjust Dil	MDF=1.100		M22L2865
AC03255MS	SAXITOXIN	0.572 Abs	0.104 µg/L	40.828 %Abs		0.020 - 0.400	M22L2865
AC03255MS	SAXITOXIN	0.567 Abs [0.5695] {0.6 C	0.106 µg/L [0.105]	40.471 %Abs [40.6		0.020 - 0.400	M22L2865
AC03255MSD	SAXITOXIN	0.587 Abs	0.100 µg/L	41.899 %Abs		0.020 - 0.400	M22L2865
AC03255MSD	SAXITOXIN	0.568 Abs [0.5775] {2.3 C	0.105 µg/L [0.102]	40.542 %Abs [41.2		0.020 - 0.400	M22L2865
AC03256	SAXITOXIN	1.311 Abs	< LOD	Low, Out Adjust Dil	MDF=1.100		M22L2865
AC03256	SAXITOXIN	1.301 Abs [1.3060] {0.5 C	< LOD [< LOD]	Low, Out Adjust Dil	MDF=1.100		M22L2865
AC03257	SAXITOXIN	0.172 Abs	> 0.400	High, Out Adjust Dil	MDF=1.100		M22L2865
AC03257	SAXITOXIN	0.163 Abs [0.1675] {3.8 C	> 0.400 [> 0.400]	High, Out Adjust Dil	MDF=1.100		M22L2865
AC03258	SAXITOXIN	1.383 Abs	< LOD	Low, Out Adjust Dil	MDF=1.100		M22L2865
AC03258	SAXITOXIN	1.379 Abs [1.3810] {0.2 C	< LOD [< LOD]	Low, Out Adjust Dil	MDF=1.100		M22L2865

Note

Signature _____

Charles Hostetter 6/29/2023

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: M22L2865

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
6/29/2023 1:41:42 PM				
STX Std 0	1.404 Abs	0.000 µg/L	R ² =0.99975, 100.214 %Abs	RK1:30->A07@2
STX Std 0	1.398 Abs [1.4010] {0.3 CV}	0.000 µg/L [0.000]	R ² =0.99975, 99.786 %Abs	RK1:30->B07@2
STX Std 1	1.165 Abs	0.019 µg/L	R ² =0.99975, 83.155 %Abs	RK1:31->C07@2
STX Std 1	1.138 Abs [1.1515] {1.7 CV}	0.021 µg/L [0.020] {7.1 CV}	R ² =0.99975, 81.228 %Abs	RK1:31->D07@2
STX Std 2	0.880 Abs	0.047 µg/L	R ² =0.99975, 62.812 %Abs	RK1:32->E07@2
STX Std 2	0.849 Abs [0.8645] {2.5 CV}	0.051 µg/L [0.049] {5.8 CV}	R ² =0.99975, 60.600 %Abs	RK1:32->F07@3
STX Std 3	0.587 Abs	0.100 µg/L	R ² =0.99975, 41.899 %Abs	RK1:33->G07@3
STX Std 3	0.565 Abs [0.5760] {2.7 CV}	0.106 µg/L [0.103] {4.1 CV}	R ² =0.99975, 40.328 %Abs	RK1:33->H07@3
STX Std 4	0.385 Abs	0.188 µg/L	R ² =0.99975, 27.480 %Abs	RK1:34->A08@2
STX Std 4	0.371 Abs [0.3780] {2.6 CV}	0.199 µg/L [0.193] {4.0 CV}	R ² =0.99975, 26.481 %Abs	RK1:34->B08@2
STX Std 5	0.238 Abs	0.399 µg/L	R ² =0.99975, 16.988 %Abs	RK1:35->C08@2
STX Std 5	0.231 Abs [0.2345] {2.1 CV}	> 0.400 µg/L [0.399]	16.488 %Abs	RK1:35->D08@2

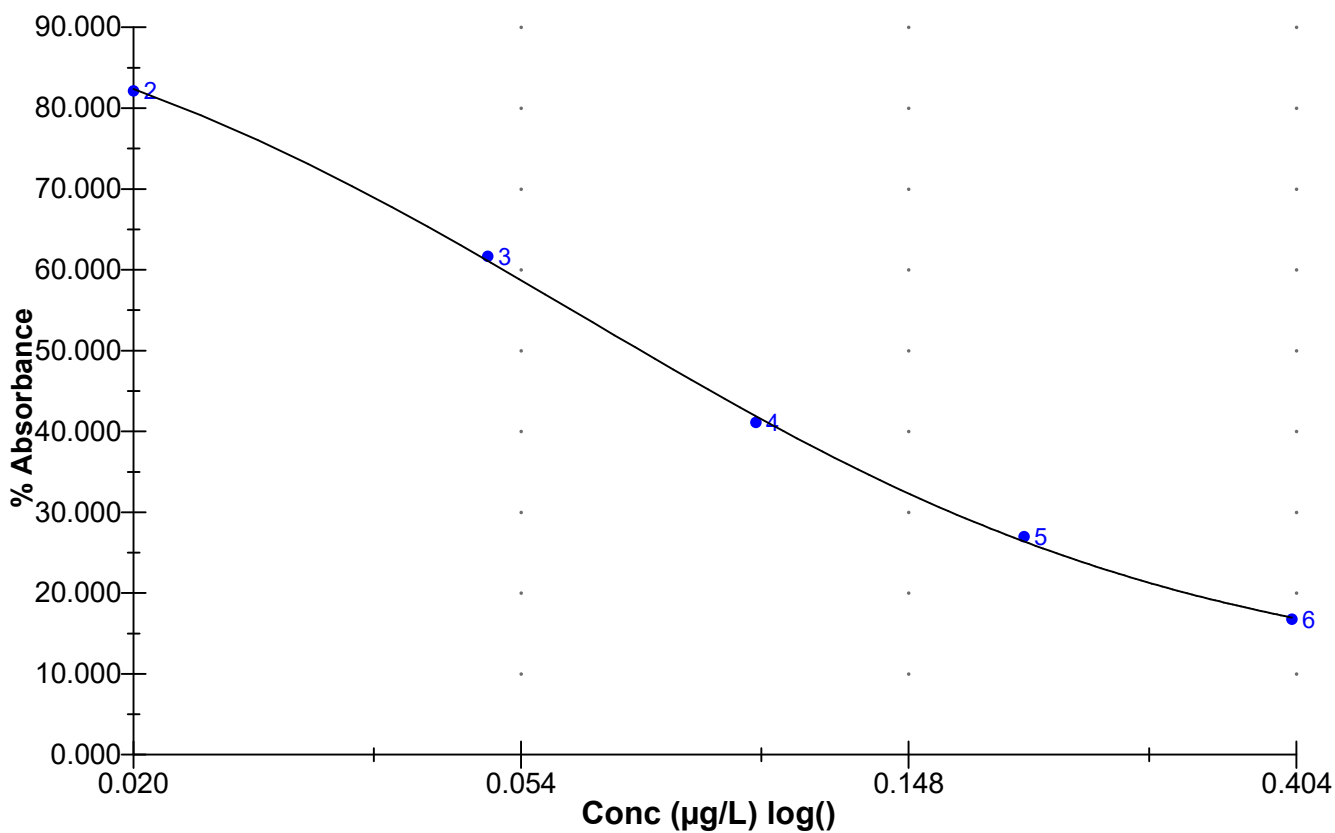
6/29/2023 1:41:42 PM				
STX Control (0.060-0.090)	0.760 Abs	0.064 µg/L	54.247 %Abs	RK1:36->E08@2
STX Control (0.060-0.090)	0.729 Abs [0.7445] {2.9 CV}	0.069 µg/L [0.067] {5.3 CV}	52.034 %Abs [53.141 %Abs]	RK1:36->F08@3

Statistic				
STX Std 0 [MEAN]	1.4010	0.0000		
STX Std 0 [SD]	0.0042	0.0000		
STX Std 0 [%CV]	0.3028	0.0000		
STX Std 1 [MEAN]	1.1515	0.0200		
STX Std 1 [SD]	0.0191	0.0014		
STX Std 1 [%CV]	1.6580	7.0711		
STX Std 1 [%DIFF]		0.0000		
STX Std 2 [MEAN]	0.8645	0.0490		
STX Std 2 [SD]	0.0219	0.0028		
STX Std 2 [%CV]	2.5356	5.7723		
STX Std 2 [%DIFF]		-2.0000		
STX Std 3 [MEAN]	0.5760	0.1030		
STX Std 3 [SD]	0.0156	0.0042		
STX Std 3 [%CV]	2.7008	4.1191		
STX Std 3 [%DIFF]		3.0000		
STX Std 4 [MEAN]	0.3780	0.1935		
STX Std 4 [SD]	0.0099	0.0078		
STX Std 4 [%CV]	2.6189	4.0197		
STX Std 4 [%DIFF]		-3.2500		
STX Std 5 [MEAN]	0.2345			
STX Std 5 [SD]	0.0049			
STX Std 5 [%CV]	2.1108			

Name	Absorbance	Concentration	Interpretation	Position
STX Control (0.060-0.090) [MEAN]	0.7445	0.0665		
STX Control (0.060-0.090) [SD]	0.0219	0.0035		
STX Control (0.060-0.090) [%CV]	2.9443	5.3166		

Assay Curve

$y = (A-D)/(1+(x/C)^B) + D$
 Weight: NONE
 A = 1.4005
 B = 1.2330
 C = 0.064164
 D = 0.11601
 R2 coef = 0.99975
 50% = 0.074



Test Report (by Request)

Test Information

 Request: 6/29/2023 3:20:36 PM
 Date: 6/29/2023

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
STX Std 0	SAXITOXIN	1.317 Abs	0.000 µg/L	R ² =0.99971, 99.84			M22L2865
STX Std 0	SAXITOXIN	1.322 Abs [1.3195] {0.3 C	0.000 µg/L [0.000]	R ² =0.99971, 100.2			M22L2865
STX Std 1	SAXITOXIN	1.100 Abs	0.018 µg/L	R ² =0.99971, 83.35			M22L2865
STX Std 1	SAXITOXIN	1.061 Abs [1.0805] {2.6 C	0.022 µg/L [0.020]	R ² =0.99971, 80.44			M22L2865
STX Std 2	SAXITOXIN	0.824 Abs	0.047 µg/L	R ² =0.99971, 62.47			M22L2865
STX Std 2	SAXITOXIN	0.777 Abs [0.8005] {4.2 C	0.053 µg/L [0.050]	R ² =0.99971, 58.90			M22L2865
STX Std 3	SAXITOXIN	0.545 Abs	0.100 µg/L	R ² =0.99971, 41.31			M22L2865
STX Std 3	SAXITOXIN	0.529 Abs [0.5370] {2.1 C	0.105 µg/L [0.102]	R ² =0.99971, 40.10			M22L2865
STX Std 4	SAXITOXIN	0.359 Abs	0.189 µg/L	R ² =0.99971, 27.21			M22L2865
STX Std 4	SAXITOXIN	0.357 Abs [0.3580] {0.4 C	0.191 µg/L [0.190]	R ² =0.99971, 27.06			M22L2865
STX Std 5	SAXITOXIN	0.227 Abs	0.394 µg/L	R ² =0.99971, 17.21			M22L2865
STX Std 5	SAXITOXIN	0.212 Abs [0.2195] {4.8 C	> 0.400 µg/L [0.39	16.073 %Abs			M22L2865
STX Control (0.060-0.090)	SAXITOXIN	0.723 Abs	0.061 µg/L	54.814 %Abs			M22L2865
STX Control (0.060-0.090)	SAXITOXIN	0.688 Abs [0.7055] {3.5 C	0.067 µg/L [0.064]	52.161 %Abs [53.4			M22L2865

Note

Signature _____

Charles Hostetter 6/29/2023

Test Report (by Request)

Test Information

Request: 6/29/2023 3:20:53 PM
 Date: 6/29/2023

Name/ID	Assay	Absorbance	Concentration	Interpretation	Note	Reference	Lot#
LRB	SAXITOXIN	1.294 Abs	0.003 µg/L	Low, 98.105 %Abs		0.020 - 0.400	M22L2865
LRB	SAXITOXIN	1.271 Abs [1.2825] {1.3 C	0.005 µg/L [0.004]	Low, 96.361 %Abs		0.020 - 0.400	M22L2865
LFB (SAX)	SAXITOXIN	0.565 Abs	0.095 µg/L	42.835 %Abs		0.020 - 0.400	M22L2865
LFB (SAX)	SAXITOXIN	0.560 Abs [0.5625] {0.6 C	0.096 µg/L [0.095]	42.456 %Abs [42.6		0.020 - 0.400	M22L2865
AC03254 10X	SAXITOXIN	0.757 Abs	0.616 µg/L	High, 57.392 %Abs	MDF=11.000	0.020 - 0.400	M22L2865
AC03254 10X	SAXITOXIN	0.739 Abs [0.7480] {1.7 C	0.649 µg/L [0.632]	High, 56.027 %Abs	MDF=11.000	0.020 - 0.400	M22L2865
AC03254D 10X	SAXITOXIN	0.754 Abs	0.616 µg/L	High, 57.165 %Abs	MDF=11.000	0.020 - 0.400	M22L2865
AC03254D 10X	SAXITOXIN	0.729 Abs [0.7415] {2.4 C	0.660 µg/L [0.638]	High, 55.269 %Abs	MDF=11.000	0.020 - 0.400	M22L2865
AC03257 10x	SAXITOXIN	0.740 Abs	0.649 µg/L	High, 56.103 %Abs	MDF=11.000	0.020 - 0.400	M22L2865
AC03257 10x	SAXITOXIN	0.704 Abs [0.7220] {3.5 C	0.715 µg/L [0.682]	High, 53.374 %Abs	MDF=11.000	0.020 - 0.400	M22L2865

Note

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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: M22L2865

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: "

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Name	Absorbance	Concentration	Interpretation	Position
6/29/2023 3:20:36 PM				
STX Std 0	1.317 Abs	0.000 µg/L	R ² =0.99971, 99.848 %Abs	RK1:23->A01@2
STX Std 0	1.322 Abs [1.3195] {0.3 CV}	0.000 µg/L [0.000]	R ² =0.99971, 100.227 %Abs	RK1:23->B01@2
STX Std 1	1.100 Abs	0.018 µg/L	R ² =0.99971, 83.397 %Abs	RK1:24->C01@2
STX Std 1	1.061 Abs [1.0805] {2.6 CV}	0.022 µg/L [0.020] {14.1 CV}	R ² =0.99971, 80.440 %Abs	RK1:24->D01@2
STX Std 2	0.824 Abs	0.047 µg/L	R ² =0.99971, 62.472 %Abs	RK1:25->E01@2
STX Std 2	0.777 Abs [0.8005] {4.2 CV}	0.053 µg/L [0.050] {8.5 CV}	R ² =0.99971, 58.908 %Abs	RK1:25->F01@3
STX Std 3	0.545 Abs	0.100 µg/L	R ² =0.99971, 41.319 %Abs	RK1:26->G01@3
STX Std 3	0.529 Abs [0.5370] {2.1 CV}	0.105 µg/L [0.102] {3.4 CV}	R ² =0.99971, 40.106 %Abs	RK1:26->H01@3
STX Std 4	0.359 Abs	0.189 µg/L	R ² =0.99971, 27.218 %Abs	RK1:27->A02@2
STX Std 4	0.357 Abs [0.3580] {0.4 CV}	0.191 µg/L [0.190] {0.7 CV}	R ² =0.99971, 27.066 %Abs	RK1:27->B02@2
STX Std 5	0.227 Abs	0.394 µg/L	R ² =0.99971, 17.210 %Abs	RK1:28->C02@2
STX Std 5	0.212 Abs [0.2195] {4.8 CV}	> 0.400 µg/L [0.394]	16.073 %Abs	RK1:28->D02@2

6/29/2023 3:20:36 PM				
STX Control (0.060-0.090)	0.723 Abs	0.061 µg/L	54.814 %Abs	RK1:29->E02@2
STX Control (0.060-0.090)	0.688 Abs [0.7055] {3.5 CV}	0.067 µg/L [0.064] {6.6 CV}	52.161 %Abs [53.487 %Abs]	RK1:29->F02@3

Statistic				
STX Std 0 [MEAN]	1.3195	0.0000		
STX Std 0 [SD]	0.0035	0.0000		
STX Std 0 [%CV]	0.2679	0.0000		
STX Std 1 [MEAN]	1.0805	0.0200		
STX Std 1 [SD]	0.0276	0.0028		
STX Std 1 [%CV]	2.5523	14.1421		
STX Std 1 [%DIFF]		0.0000		
STX Std 2 [MEAN]	0.8005	0.0500		
STX Std 2 [SD]	0.0332	0.0042		
STX Std 2 [%CV]	4.1517	8.4853		
STX Std 2 [%DIFF]		-0.0000		
STX Std 3 [MEAN]	0.5370	0.1025		
STX Std 3 [SD]	0.0113	0.0035		
STX Std 3 [%CV]	2.1068	3.4493		
STX Std 3 [%DIFF]		2.5000		
STX Std 4 [MEAN]	0.3580	0.1900		
STX Std 4 [SD]	0.0014	0.0014		
STX Std 4 [%CV]	0.3950	0.7443		
STX Std 4 [%DIFF]		-5.0000		
STX Std 5 [MEAN]	0.2195			
STX Std 5 [SD]	0.0106			
STX Std 5 [%CV]	4.8322			

Name	Absorbance	Concentration	Interpretation	Position
STX Control (0.060-0.090) [MEAN]	0.7055	0.0640		
STX Control (0.060-0.090) [SD]	0.0247	0.0042		
STX Control (0.060-0.090) [%CV]	3.5080	6.6291		

Assay Curve

$y = (A-D)/(1+(x/C)^B) + D$
 Weight: NONE
 A = 1.3195
 B = 1.2277
 C = 0.062421
 D = 0.11328
 R2 coef = 0.99971
 50% = 0.073

