

Chemical Analysis Report

TLH-ROC-2021-03-23-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Run 12**
Request ID: **RQ-2021-03-15-31**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 13-APR-2021 11:51

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the "T" and a long horizontal stroke at the end.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Watson Bayou South

Collection Date/Time: 03/23/2021 11:25

Field ID: G3TLHR0006

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233241	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P395388	
	EPA 300.0 Rev. 2.1	Bromide	54		mg Br/L	P395577	
	SM 2320 B-2011	Total Alkalinity	97		mg CaCO3/L	P395513	
	SM 2540 D-2011	TSS	3	U	mg/L	P395856	
	SM 4500 F-C-2011	Fluoride	0.94		mg F/L	P395518	
2233242	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P395903	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29	I	mg N/L	P395790	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P395596	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P395542	
	SM 5310 B-2011	Organic Carbon	3.9		mg C/L	P395844	
2233243	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P395437	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FB_03232021

Collection Date/Time: 03/23/2021 10:45

Field ID: FB_03232021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233244	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P395388	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P395577	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P395512	
	SM 2540 D-2011	TSS	2	U	mg/L	P395855	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P395517	
2233245	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P395909	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P395719	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P395462	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P395543	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P395668	
2233246	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P395435	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Parker Creek @ Park

Collection Date/Time: 03/23/2021 10:15

Field ID: G3TLHR0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233235	EPA 180.1 Rev. 2.0	Turbidity	2.7	A	NTU	P395388	
	EPA 300.0 Rev. 2.1	Chloride	10	A	mg Cl/L	P395584	
		Sulfate	16	A	mg SO4/L	P395586	
	SM 2120 B-2011	Color (true)	25	A	PCU	P395440	
	SM 2320 B-2011	Total Alkalinity	18		mg CaCO3/L	P395512	
	SM 2540 C-2011	TDS	71		mg/L	P395816	
	SM 2540 D-2011	TSS	2	U	mg/L	P395853	
	SM 4500 F-C-2011	Fluoride	0.062	I	mg F/L	P395517	
2233236	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P395904	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P395719	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.069		mg N/L	P395462	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P395487	
	SM 5310 B-2011	Organic Carbon	4.1		mg C/L	P395668	
2233237	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P395435	
2233255	EPA 8321B	2,4-D	0.013		ug/L	P395318	
		Acesulfame K	0.16	I	ug/L	P395329	MS
		2,4,5-T	0.0040	U	ug/L	P395318	
		AMPA	0.10	U	ug/L	P395329	
		Sucralose	0.13		ug/L	P395329	
		Acetaminophen	0.0080	UJ	ug/L	P395318	LCS
		Acetamiprid	0.0020	U	ug/L	P395318	
		Endothall	0.25	U	ug/L	P395329	
		Glufosinate	0.10	U	ug/L	P395329	
		Glyphosate	0.10	U	ug/L	P395329	
		Afidopyropen	0.0020	U	ug/L	P395318	
		Bentazon	0.023		ug/L	P395318	
		Benzovindiflupyr	0.0020	U	ug/L	P395318	
		Carbamazepine	8.0E-04	U	ug/L	P395318	
		Clothianidin	0.0020	U	ug/L	P395318	
		Dinotefuran	0.0020	U	ug/L	P395318	
		Diuron	0.0020	U	ug/L	P395318	
		Fenuron	0.016	U	ug/L	P395318	
		Fluridone	8.0E-04	U	ug/L	P395318	
		Imazapyr	0.017		ug/L	P395318	
		Hydrocodone	0.0020	U	ug/L	P395318	
		Ibuprofen	0.020	U	ug/L	P395318	
		Imidacloprid	0.044		ug/L	P395318	
		Linuron	0.0040	U	ug/L	P395318	
		Mandestrobin	0.0020	U	ug/L	P395318	
		MCP	0.0023	I	ug/L	P395318	
		Naproxen	0.0080	U	ug/L	P395318	
		Primidone	0.0040	U	ug/L	P395318	
		Pyraclostrobin	0.0020	U	ug/L	P395318	

Field ID: G3TLHR0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233255	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P395318	
		Tolfenpyrad	0.0020	U	ug/L	P395318	
		Triclopyr	0.0040	U	ug/L	P395318	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Parker Bayou @ Mouth

Collection Date/Time: 03/23/2021 10:35

Field ID: G3TLHR0043

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233238	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P395388	
	EPA 300.0 Rev. 2.1	Bromide	24		mg Br/L	P395577	
	SM 2320 B-2011	Total Alkalinity	61		mg CaCO3/L	P395513	
	SM 2540 D-2011	TSS	2	I	mg/L	P395855	
	SM 4500 F-C-2011	Fluoride	0.44	I	mg F/L	P395518	
2233239	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P395903	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29	I	mg N/L	P395790	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P395596	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P395542	
	SM 5310 B-2011	Organic Carbon	4.2		mg C/L	P395668	
2233240	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P395437	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P395388

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395577

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395584

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395586

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395903

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395904

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395909

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395719

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395790

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395462

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395596

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395487

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395542

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395543

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395435

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395437

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8321B
Batch ID: P395318

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.030	I	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P395318

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P395329

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B-2011

Batch ID: P395440

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P395512

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-2011

Batch ID: P395513

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2011

Batch ID: P395816

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P395853

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P395855

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P395856

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P395517

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P395518

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P395668

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P395844

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	92.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395584

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395586

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395719

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	106		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395790

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395596

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395487

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395542

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395543

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395435

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395437

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.3		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P395318

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	126		P	30 - 160
2,4,5-T	96.7		P	30 - 160
Acetaminophen	203		F	30 - 160
Acetamiprid	83.0		P	30 - 160
Afidopyropen	70.3		P	30 - 160
Bentazon	62.6		P	30 - 160
Benzovindiflupyr	86.8		P	30 - 160
Carbamazepine	91.1		P	30 - 160
Clothianidin	93.6		P	30 - 160
Dinotefuran	82.0		P	30 - 160
Diuron	68.1		P	30 - 160
Fenuron	87.9		P	30 - 160
Fluridone	79.5		P	30 - 160
Hydrocodone	91.3		P	30 - 160
Ibuprofen	80.2		P	30 - 160
Imazapyr	78.9		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P395318

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	103		P	30 - 160
Linuron	67.1		P	30 - 160
Mandestrobin	85.2		P	30 - 160
MCPPP	110		P	30 - 160
Naproxen	62.8		P	30 - 160
Primidone	91.1		P	30 - 160
Pyraclostrobin	78.8		P	30 - 160
Thiamethoxam	99.4		P	30 - 160
Tolfenpyrad	44.4		P	30 - 160
Triclopyr	111		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P395329

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	146		P	40 - 150
AMPA	97.4		P	40 - 150
Endothall	95.3		P	40 - 150
Glufosinate	111		P	40 - 150
Glyphosate	119		P	40 - 140
Sucralose	92.2		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P395440

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.9		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P395512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 2320 B-2011

Batch ID: P395513

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.8		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P395517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.9		P	90 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P395518

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.9		P	90 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P395668

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P395844

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233097	Bromide	97.7	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395584

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233010	Chloride	100		P	90 - 110
2233235	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233010	Sulfate	99.0		P	90 - 110
2233235	Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233142	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233236	Ammonia-N	95.8	95.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233281	Ammonia-N	96.0	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233098	Kjeldahl Nitrogen	101	90.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2232840	Kjeldahl Nitrogen	95.0	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233195	NO2NO3-N	99.5	99.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P395596

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233956	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P395487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233085	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P395542

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2232839	Total-P	98.2	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P395543

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233262	Total-P	106	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P395435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233237	O-Phosphate-P	97.6	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P395437

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233240	O-Phosphate-P	99.0	99.8	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P395318

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2232693	2,4-D	112	98.8	P/P	30 - 160
2232693	2,4,5-T	104	97.7	P/P	30 - 160
2232693	Acetaminophen	108	98.9	P/P	30 - 160
2232693	Acetamiprid	93.9	75.5	P/P	30 - 160
2232693	Afidopyropen	80.5	64.6	P/P	30 - 160
2232693	Bentazon	36.4	37.6	P/P	30 - 160
2232693	Benzovindiflupyr	91.8	81.8	P/P	30 - 160
2232693	Carbamazepine	75.9	74.6	P/P	30 - 160
2232693	Clothianidin	83.2	96.8	P/P	30 - 160
2232693	Dinotefuran	120	113	P/P	30 - 160
2232693	Diuron	53.1	48.9	P/P	30 - 160
2232693	Fenuron	67.5	65.6	P/P	30 - 160
2232693	Fluridone	84.5	68.2	P/P	30 - 160
2232693	Hydrocodone	99.5	96.2	P/P	30 - 160
2232693	Ibuprofen	82.8	71.7	P/P	30 - 160
2232693	Imazapyr	93.7	83.8	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P395318

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2232693	Imidacloprid	152	142	P/P	30 - 160
2232693	Linuron	61.9	56.1	P/P	30 - 160
2232693	Mandestrobin	91.4	82.9	P/P	30 - 160
2232693	MCPP	103	94.5	P/P	30 - 160
2232693	Naproxen	58.5	48.2	P/P	30 - 160
2232693	Primidone	102	97.6	P/P	30 - 160
2232693	Pyraclostrobin	86.9	76.6	P/P	30 - 160
2232693	Thiamethoxam	135	127	P/P	30 - 160
2232693	Tolfenpyrad	55.5	55.3	P/P	30 - 160
2232693	Triclopyr	117	107	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P395329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233034	Acesulfame K	279	282	F/F	40 - 150
2233034	AMPA	117	114	P/P	40 - 150
2233034	Endothall	81.0	75.1	P/P	40 - 150
2233034	Glufosinate	138	138	P/P	40 - 150
2233034	Glyphosate	112	94.6	P/P	40 - 140
2233034	Sucralose	108	111	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P395517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233059	Fluoride	98.7	96.9	P/P	94 - 107

Reference Method: SM 4500 F-C-2011

Batch ID: P395518

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2232838	Fluoride	96.7	96.7	P/P	94 - 107

Reference Method: SM 5310 B-2011

Batch ID: P395668

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233281	Organic Carbon	99.6		P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P395844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233343	Organic Carbon	87.2	87.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P395388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233235	Turbidity	1.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233097	Bromide	3.21	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233235	Chloride	0.570	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233235	Sulfate	0.441	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233142	Ammonia-N	1.41	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233236	Ammonia-N	0.326	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233281	Ammonia-N	2.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233098	Kjeldahl Nitrogen	5.80	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2232840	Kjeldahl Nitrogen	8.40	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233195	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395596

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233956	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233085	Total-P	0.157	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2232839	Total-P	1.83	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395543

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233262	Total-P	2.55	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233237	O-Phosphate-P	0.0956	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233240	O-Phosphate-P	0.805	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P395318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2232693	2,4-D	12.1	Spike	P	0 - 30
2232693	2,4,5-T	5.77	Spike	P	0 - 30
2232693	Acetaminophen	8.43	Spike	P	0 - 30
2232693	Acetamiprid	21.7	Spike	P	0 - 30
2232693	Afidopyropen	21.8	Spike	P	0 - 30
2232693	Bentazon	3.25	Spike	P	0 - 30
2232693	Benzovindiflupyr	11.5	Spike	P	0 - 30
2232693	Carbamazepine	1.75	Spike	P	0 - 30
2232693	Clothianidin	15.1	Spike	P	0 - 30
2232693	Dinotefuran	5.98	Spike	P	0 - 30
2232693	Diuron	8.12	Spike	P	0 - 30
2232693	Fenuron	2.80	Spike	P	0 - 30
2232693	Fluridone	21.4	Spike	P	0 - 30
2232693	Hydrocodone	3.36	Spike	P	0 - 30
2232693	Ibuprofen	14.4	Spike	P	0 - 30
2232693	Imazapyr	5.74	Spike	P	0 - 30
2232693	Imidacloprid	7.06	Spike	P	0 - 30
2232693	Linuron	9.67	Spike	P	0 - 30
2232693	Mandestrobin	9.80	Spike	P	0 - 30
2232693	MCP	8.54	Spike	P	0 - 30
2232693	Naproxen	19.3	Spike	P	0 - 30
2232693	Primidone	4.40	Spike	P	0 - 30
2232693	Pyraclostrobin	12.6	Spike	P	0 - 30
2232693	Thiamethoxam	5.64	Spike	P	0 - 30
2232693	Tolfenpyrad	0.337	Spike	P	0 - 30
2232693	Triclopyr	8.82	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P395329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233034	Acesulfame K	1.15	Spike	P	0 - 30
2233034	AMPA	2.46	Spike	P	0 - 30
2233034	Endothall	7.53	Spike	P	0 - 30
2233034	Glufosinate	0.110	Spike	P	0 - 30
2233034	Glyphosate	13.0	Spike	P	0 - 30
2233034	Sucralose	2.92	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P395440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233235	Color (true)	0.00787	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P395512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
 Batch ID: P395512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233059	Total Alkalinity	0.279	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
 Batch ID: P395513

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233141	Total Alkalinity	0.239	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
 Batch ID: P395816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233280	TDS	4.29	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P395517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233059	Fluoride	0.946	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
 Batch ID: P395518

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2232838	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
 Batch ID: P395668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233281	Organic Carbon	0.273	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
 Batch ID: P395844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233343	Organic Carbon	0.507	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2233255

Field Sample ID: G3TLHR0040

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.6	P	30 - 160
EPA 8321B	Diuron-d6	76.0	P	30 - 160
EPA 8321B	Endothall-d6	120	P	40 - 160
EPA 8321B	Endothall-d6	120	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	73.7	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	73.7	P	40 - 160
EPA 8321B	Ibuprofen-d3	89.8	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A104216

Included Lab Sample IDs: 2233235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.8	99.0	P/P	90 - 110
Sulfate	98.5	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A104229

Included Lab Sample IDs: 2233235, 2233238, 2233241, 2233244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A104244

Included Lab Sample IDs: 2233238, 2233241, 2233244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	97.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A104252

Included Lab Sample IDs: 2233237, 2233240, 2233243, 2233246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.8	98.1	P/P	90 - 110
O-Phosphate-P	98.1	98.0	P/P	90 - 110
O-Phosphate-P	99.5	98.7	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A104253

Included Lab Sample IDs: 2233235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.4	101	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104267

Included Lab Sample IDs: 2233236, 2233245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A104288

Included Lab Sample IDs: 2233235, 2233238, 2233241, 2233244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.8	99.8	P/P	90 - 110
Total Alkalinity	99.8	97.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A104288

Included Lab Sample IDs: 2233235, 2233238, 2233241, 2233244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A104297

Included Lab Sample IDs: 2233255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	112	P/P	50 - 150
2,4,5-T	99.0	98.4	P/P	50 - 150
Acetaminophen	102	101	P/P	60 - 160
Acetamiprid	107	108	P/P	50 - 150
Afidopyropen	105	93.3	P/P	50 - 150
Bentazon	81.3	82.8	P/P	50 - 160
Benzovindiflupyr	118	118	P/P	50 - 160
Carbamazepine	107	110	P/P	60 - 150
Clothianidin	112	113	P/P	60 - 150
Dinotefuran	102	111	P/P	50 - 150
Diuron	107	115	P/P	60 - 160
Fenuron	98.8	103	P/P	60 - 150
Fluridone	114	115	P/P	60 - 160
Hydrocodone	111	108	P/P	60 - 150
Ibuprofen	105	100	P/P	50 - 160
Imazapyr	84.2	75.7	P/P	50 - 160
Imidacloprid	104	107	P/P	60 - 150
Linuron	106	106	P/P	60 - 150
Mandestrobin	110	109	P/P	50 - 150
MCPP	112	103	P/P	50 - 150
Naproxen	124	73.0	P/P	50 - 160
Primidone	97.0	99.5	P/P	60 - 150
Pyraclostrobin	108	112	P/P	60 - 150
Thiamethoxam	111	119	P/P	50 - 150
Tolfenpyrad	112	110	P/P	60 - 150
Triclopyr	108	103	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104298

Included Lab Sample IDs: 2233236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104327

Included Lab Sample IDs: 2233239, 2233242

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104334

Included Lab Sample IDs: 2233239, 2233245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A104350

Included Lab Sample IDs: 2233255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	153	127	P/P	40 - 160
AMPA	99.2	105	P/P	40 - 160
Endothall	98.6	95.4	P/P	40 - 160
Glufosinate	114	111	P/P	40 - 160
Glyphosate	111	143	P/P	40 - 160

Reference Method: EPA 8321B

Run ID: A104354

Included Lab Sample IDs: 2233255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	99.0	93.1	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A104362

Included Lab Sample IDs: 2233236, 2233239, 2233245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104363

Included Lab Sample IDs: 2233242

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A104425

Included Lab Sample IDs: 2233236, 2233245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.4	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A104442

Included Lab Sample IDs: 2233242

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	96.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A104453

Included Lab Sample IDs: 2233239, 2233242

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.2	93.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A104463

Included Lab Sample IDs: 2233236, 2233239, 2233242

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	99.9	P/P	90 - 110
Ammonia-N	99.9	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A104465

Included Lab Sample IDs: 2233245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	99.3	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					1.13	
EPA 300.0 Rev. 2.1	Bromide	92.6	97.7	102			3.21
	Chloride	97.9	100	100		0.570	
	Sulfate	97.3	98.1	99.0		0.441	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	101	102			1.41
	Ammonia-N	99.0	95.8	95.4			0.326
	Ammonia-N	95.6	96.0	99.0			2.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	101	90.1			5.80
	Kjeldahl Nitrogen	98.2	95.0	105			8.40
EPA 353.2 Rev. 2.0	NO2NO3-N	103	99.5	99.5			0.0
	NO2NO3-N	99.0	99.5	99.5			0.0
EPA 365.1 Rev. 2.0	Total-P	106	104	104			0.157
	Total-P	108	98.2	100			1.83
	Total-P	106	106	100			2.55
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	97.6	97.5			0.0956
	O-Phosphate-P	97.3	99.0	99.8			0.805
EPA 8321B	2,4-D	126	112	98.8			12.1
	2,4,5-T	96.7	104	97.7			5.77
	Acesulfame K	146	279	282			1.15
	Acetaminophen	203	108	98.9			8.43
	Acetamiprid	83.0	93.9	75.5			21.7
	Afidopyropen	70.3	80.5	64.6			21.8
	AMPA	97.4	117	114			2.46
	Bentazon	62.6	36.4	37.6			3.25
	Benzovindiflupyr	86.8	91.8	81.8			11.5
	Carbamazepine	91.1	75.9	74.6			1.75
	Clothianidin	93.6	83.2	96.8			15.1
	Dinotefuran	82.0	120	113			5.98
	Diuron	68.1	53.1	48.9			8.12
	Endothall	95.3	81.0	75.1			7.53
	Fenuron	87.9	67.5	65.6			2.80
	Fluridone	79.5	84.5	68.2			21.4
	Glufosinate	111	138	138			0.110
	Glyphosate	119	112	94.6			13.0
	Hydrocodone	91.3	99.5	96.2			3.36
	Ibuprofen	80.2	82.8	71.7			14.4
	Imazapyr	78.9	93.7	83.8			5.74
	Imidacloprid	103	152	142			7.06
	Linuron	67.1	61.9	56.1			9.67
	Mandestrobin	85.2	91.4	82.9			9.80
	MCPP	110	103	94.5			8.54
	Naproxen	62.8	58.5	48.2			19.3
	Primidone	91.1	102	97.6			4.40
	Pyraclostrobin	78.8	86.9	76.6			12.6
	Sucralose	92.2	108	111			2.92
	Thiamethoxam	99.4	135	127			5.64
	Tolfenpyrad	44.4	55.5	55.3			0.337
	Triclopyr	111	117	107			8.82
SM 2120 B-2011	Color (true)	98.9				0.0078	
SM 2320 B-2011	Total Alkalinity	101				0.279	
	Total Alkalinity	99.8				0.239	
SM 2540 C-2011	TDS					4.29	
SM 4500 F-C-2011	Fluoride	98.9	98.7	96.9			0.946
	Fluoride	98.9	96.7	96.7			0.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 5310 B-2011	Organic Carbon	95.4	99.6			0.273
	Organic Carbon	95.8	87.2 87.8			0.507

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2233235, 2233238, 2233241, 2233244
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2233238, 2233241, 2233244
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2233235
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2233235
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2233236, 2233239, 2233242, 2233245
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2233236, 2233239, 2233242, 2233245
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2233236, 2233239, 2233242, 2233245
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2233236, 2233239, 2233242, 2233245
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2233237, 2233240, 2233243, 2233246
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2233255
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2233255
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2233235
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2233235, 2233238, 2233241, 2233244
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2233235
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2233235, 2233238, 2233241, 2233244
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2233235, 2233238, 2233241, 2233244
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2233236, 2233239, 2233242, 2233245

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/23/2021			03/23/2021 15:57	Yen Ta	2233235, 2233238, 2233241, 2233244
EPA 300.0 Rev. 2.1	03/23/2021			03/25/2021 14:48	Lipi Saha	2233235
	03/23/2021			03/25/2021 15:02	Lipi Saha	2233238
	03/23/2021			03/25/2021 15:20	Lipi Saha	2233241
	03/23/2021			03/25/2021 15:38	Lipi Saha	2233244
EPA 350.1 Rev. 2.0	03/23/2021			04/02/2021 18:15	Ping Hua	2233239
	03/23/2021			04/02/2021 18:16	Ping Hua	2233242
	03/23/2021			04/02/2021 18:34	Ping Hua	2233236
	03/23/2021			04/03/2021 10:06	Ping Hua	2233245
EPA 351.2 Rev. 2.0	03/23/2021	03/31/2021 13:16	Benjamin T. Nordmann	04/01/2021 13:21	Virginia P. Brown	2233236
	03/23/2021	03/31/2021 13:16	Benjamin T. Nordmann	04/01/2021 13:23	Virginia P. Brown	2233245
	03/23/2021	04/01/2021 12:36	Benjamin T. Nordmann	04/02/2021 12:46	Virginia P. Brown	2233239
	03/23/2021	04/01/2021 12:36	Benjamin T. Nordmann	04/02/2021 12:47	Virginia P. Brown	2233242
EPA 353.2 Rev. 2.0	03/23/2021			03/25/2021 09:30	Beverly Y. Sanders	2233236
	03/23/2021			03/25/2021 09:32	Beverly Y. Sanders	2233245
	03/23/2021			03/29/2021 10:57	Beverly Y. Sanders	2233239
	03/23/2021			03/29/2021 10:58	Beverly Y. Sanders	2233242
EPA 365.1 Rev. 2.0	03/23/2021	03/25/2021 12:45	Yen Ta	03/26/2021 13:25	Shengyu Ding	2233236
	03/23/2021	03/26/2021 12:49	Yen Ta	03/29/2021 13:48	Shengyu Ding	2233239
	03/23/2021	03/26/2021 12:49	Yen Ta	03/29/2021 13:51	Shengyu Ding	2233245
	03/23/2021	03/26/2021 12:49	Yen Ta	03/30/2021 11:05	Shengyu Ding	2233242
EPA 365.1 Rev. 2.0 dissolved	03/23/2021			03/24/2021 14:27	Patrick M. Roche	2233237
	03/23/2021			03/24/2021 14:31	Patrick M. Roche	2233246
	03/23/2021			03/24/2021 15:05	Patrick M. Roche	2233240
	03/23/2021			03/24/2021 15:16	Patrick M. Roche	2233243
EPA 8321B	03/23/2021	03/23/2021 15:50	Rebecca Ware	03/23/2021 15:56	Rebecca Ware	2233255
	03/23/2021	03/23/2021 16:00	Rebecca Ware	03/25/2021 13:04	Rebecca Ware	2233255
	03/23/2021	03/25/2021 09:00	Hoor Shaik	03/27/2021 01:36	Juyoung Kim	2233255
SM 2120 B-2011	03/23/2021			03/24/2021 15:39	Benjamin T. Nordmann	2233235
SM 2320 B-2011	03/23/2021			03/24/2021 21:34	Dale L. Simmons	2233235
	03/23/2021			03/24/2021 21:42	Dale L. Simmons	2233244
	03/23/2021			03/25/2021 00:12	Dale L. Simmons	2233238
	03/23/2021			03/25/2021 00:26	Dale L. Simmons	2233241
SM 2540 C-2011	03/23/2021			03/26/2021 15:08	Yijie Li	2233235
SM 2540 D-2011	03/23/2021			03/26/2021 15:08	Yijie Li	2233235, 2233238, 2233241, 2233244
SM 4500 F-C-2011	03/23/2021			03/24/2021 21:34	Dale L. Simmons	2233235
	03/23/2021			03/24/2021 21:42	Dale L. Simmons	2233244
	03/23/2021			03/24/2021 22:45	Dale L. Simmons	2233238
	03/23/2021			03/24/2021 22:50	Dale L. Simmons	2233241
SM 5310 B-2011	03/23/2021			03/30/2021 06:53	Madeline Gruver	2233236

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	03/23/2021			03/30/2021 07:03	Madeline Gruver	2233239
	03/23/2021			03/30/2021 07:15	Madeline Gruver	2233245
	03/23/2021			04/01/2021 04:19	Madeline Gruver	2233242