

Chemical Analysis Report

TLH-ROC-2021-01-25-02

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

Event Description: **Run 11**
Request ID: **RQ-2021-01-11-52**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
Tallahassee, FL 32399
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 16-FEB-2021 18:05



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: Boggy Creek @ Sr22

Collection Date/Time: 01/25/2021 10:45

Field ID: G3TLHR0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2221122	EPA 180.1 Rev. 2.0	Turbidity	5.5		NTU	P392997	
	EPA 300.0 Rev. 2.1	Bromide	0.032	I	mg Br/L	P393038	
		Chloride	6.4		mg Cl/L	P393267	
	SM 2120 B-2011	Color (true)	140		PCU	P392932	
	SM 2320 B-2011	Total Alkalinity	1.2	I	mg CaCO3/L	P393051	
	SM 2540 C-2011	TDS	35		mg/L	P393480	
	SM 2540 D-2011	TSS	3	I	mg/L	P393354	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P393054	
2221124	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P393458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P393300	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P392885	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P393135	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P393049	
2221126	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392943	

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: Mule Creek @ Alvie Holmes Rd

Collection Date/Time: 01/25/2021 11:10

Field ID: G3TLHR0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2221123	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P392997	
	EPA 300.0 Rev. 2.1	Bromide	0.026	I	mg Br/L	P393038	
		Chloride	5.1		mg Cl/L	P393267	
		Color (true)	33	A	PCU	P392932	
	SM 2320 B-2011	Total Alkalinity	3.0		mg CaCO3/L	P393051	
	SM 2540 C-2011	TDS	15	U	mg/L	P393480	
	SM 2540 D-2011	TSS	2	I	mg/L	P393354	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P393054	
2221125	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P393458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P393300	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P393105	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P393135	
	SM 5310 B-2011	Organic Carbon	2.1		mg C/L	P393049	
2221127	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392943	

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: Sandy Creek Upstream Boat Ramp

Collection Date/Time: 01/25/2021 11:35

Field ID: G3TLHR0037

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2221128	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P392997	
	EPA 300.0 Rev. 2.1	Bromide	0.082		mg Br/L	P393038	
	SM 2320 B-2011	Total Alkalinity	3.2		mg CaCO3/L	P393051	
	SM 2540 D-2011	TSS	2	I	mg/L	P393360	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P393054	
2221130	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P393458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P393300	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P393105	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P393135	
	SM 5310 B-2011	Organic Carbon	4.6		mg C/L	P393049	
2221132	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392943	

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: Eagle Nest Continuous Monitoring

Collection Date/Time: 01/25/2021 12:15

Field ID: G3TLHR0019

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2221129	EPA 180.1 Rev. 2.0	Turbidity	5.5	A	NTU	P392998	
	EPA 300.0 Rev. 2.1	Bromide	4.4		mg Br/L	P393038	
	SM 2320 B-2011	Total Alkalinity	25		mg CaCO3/L	P393339	
	SM 2540 D-2011	TSS	4	IA	mg/L	P393362	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P393220	
2221131	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P393459	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P393124	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.060		mg N/L	P392961	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P393151	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P393050	
2221133	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P392945	

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: Sandy Creek

Collection Date/Time: 01/25/2021 13:10

Field ID: G3TLHR0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2221195	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P392998	
	EPA 300.0 Rev. 2.1	Bromide	0.029	I	mg Br/L	P393038	
		Chloride	4.3		mg Cl/L	P393267	
	SM 2120 B-2011	Color (true)	58		PCU	P392932	
	SM 2320 B-2011	Total Alkalinity	2.5	I	mg CaCO3/L	P393052	
	SM 2540 C-2011	TDS	30		mg/L	P393481	
	SM 2540 D-2011	TSS	3	I	mg/L	P393355	
2221196	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P393055	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P393460	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P393303	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.045		mg N/L	P392885	
	EPA 365.1 Rev. 2.0	Total-P	0.005		mg P/L	P393135	
2221197	SM 5310 B-2011	Organic Carbon	5.0		mg C/L	P393049	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392943	
2221199	EPA 8321B	2,4-D	0.0020	U	ug/L	P392788	
		Acesulfame K	0.10	U	ug/L	P392897	
		AMPA	0.10	U	ug/L	P392897	
		Sucralose	0.010	U	ug/L	P392897	
		Acetaminophen**	0.0080	U	ug/L	P392788	
		Acetamiprid**	0.0020	U	ug/L	P392788	
		Endothall	0.25	U	ug/L	P392897	
		Glufosinate	0.10	U	ug/L	P392897	
		Glyphosate	0.10	U	ug/L	P392897	
		Afidopyropen**	0.0020	U	ug/L	P392788	
		Bentazon	8.0E-04	U	ug/L	P392788	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P392788	
		Carbamazepine**	8.0E-04	U	ug/L	P392788	
		Clothianidin**	0.0020	U	ug/L	P392788	
		Dinotefuran**	0.0020	U	ug/L	P392788	
		Diuron	0.0020	U	ug/L	P392788	
		Fenuron	0.016	U	ug/L	P392788	
		Fluridone**	8.0E-04	U	ug/L	P392788	
		Imazapyr**	0.029		ug/L	P392788	
		Hydrocodone**	0.0020	U	ug/L	P392788	
		Ibuprofen**	0.020	U	ug/L	P392788	
		Imidacloprid	0.0020	U	ug/L	P392788	
		Linuron	0.0040	U	ug/L	P392788	
		Mandestrobin**	0.0020	U	ug/L	P392788	
		MCP	0.0020	U	ug/L	P392788	
		Naproxen**	0.0080	U	ug/L	P392788	
		Primidone**	0.0040	U	ug/L	P392788	
		Pyraclostrobin**	0.0020	U	ug/L	P392788	
		Thiamethoxam**	0.0020	U	ug/L	P392788	

Field ID: G3TLHR0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2221199	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P392788	
		Triclopyr**	0.0040	U	ug/L	P392788	

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: P392997

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392998

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393038

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393267

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393458

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393459

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393460

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393124

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393300

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393303

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392885

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392961

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393105

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393135

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393151

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392943

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392945

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

Reference Method: EPA 8321B
Batch ID: P392788

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P392788

Component	Result	Code	Units
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
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: P392897

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: P392932

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P393051

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

Reference Method: SM 2320 B-2011

Batch ID: P393052

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P393339

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P393480

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P393481

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P393354

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P393355

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P393360

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P393362

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P393054

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P393055

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P393220

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P393049

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

Reference Method: SM 5310 B-2011
Batch ID: P393050

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: P393038

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393267

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393458

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393459

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393460

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393124

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393300

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393303

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392885

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	101		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392961

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393105

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393135

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393151

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392943

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392945

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

Reference Method: EPA 8321B
Batch ID: P392788

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	117		P	30 - 160
Acetaminophen	73.6		P	30 - 160
Acetamiprid	95.3		P	30 - 160
Afidopyropen	75.8		P	30 - 160
Bentazon	75.1		P	30 - 160
Benzovindiflupyr	77.3		P	30 - 160
Carbamazepine	85.2		P	30 - 160
Clothianidin	95.4		P	30 - 160
Dinotefuran	84.6		P	30 - 160
Diuron	60.0		P	30 - 160
Fenuron	94.1		P	30 - 160
Fluridone	83.7		P	30 - 160
Hydrocodone	93.9		P	30 - 160
Ibuprofen	99.1		P	30 - 160
Imazapyr	120		P	30 - 160
Imidacloprid	107		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P392788

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	71.6		P	30 - 160
Mandestrobin	77.6		P	30 - 160
MCPD	115		P	30 - 160
Naproxen	72.2		P	30 - 160
Primidone	102		P	30 - 160
Pyraclostrobin	74.9		P	30 - 160
Thiamethoxam	107		P	30 - 160
Tolfenpyrad	52.0		P	30 - 160
Triclopyr	108		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P392897

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	104		P	40 - 150
Endothall	93.7		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	80.8		P	40 - 140
Sucralose	108		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P392932

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.5		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P393051

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.0		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P393052

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.5		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P393339

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.1		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P393054

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	90 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P393055

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P393220

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P393049

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P393050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393038

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221122	Bromide	98.8	98.5	P/P	90 - 110
2221195	Bromide	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393267

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220858	Chloride	96.1		P	90 - 110
2221156	Chloride	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220861	Ammonia-N	95.3	94.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220828	Ammonia-N	98.9	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393460

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221157	Ammonia-N	98.8	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220723	Kjeldahl Nitrogen	106	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221124	Kjeldahl Nitrogen	104	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221158	Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220896	NO2NO3-N	100	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P392961

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220722	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P393105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221130	NO2NO3-N	98.8	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P393135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221124	Total-P	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P393151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220828	Total-P	106	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P392943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221127	O-Phosphate-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P392945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221133	O-Phosphate-P	97.7	97.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P392788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220844	2,4-D	78.3	84.5	P/P	30 - 160
2220844	Acetaminophen	87.5	84.3	P/P	30 - 160
2220844	Acetamiprid	57.5	61.1	P/P	30 - 160
2220844	Afidopyropen	59.1	62.8	P/P	30 - 160
2220844	Bentazon	20.0	19.1	F/F	30 - 160
2220844	Benzovindiflupyr	64.8	62.4	P/P	30 - 160
2220844	Carbamazepine	50.7	47.8	P/P	30 - 160
2220844	Clothianidin	60.3	62.3	P/P	30 - 160
2220844	Dinotefuran	84.8	79.0	P/P	30 - 160
2220844	Diuron	34.6	34.2	P/P	30 - 160
2220844	Fenuron	48.0	50.9	P/P	30 - 160
2220844	Fluridone	65.3	63.8	P/P	30 - 160
2220844	Hydrocodone	71.1	57.9	P/P	30 - 160
2220844	Ibuprofen	82.7	79.4	P/P	30 - 160
2220844	Imazapyr	102	96.4	P/P	30 - 160
2220844	Imidacloprid	102	97.0	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P392788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220844	Linuron	54.4	51.5	P/P	30 - 160
2220844	Mandestrobin	71.6	67.8	P/P	30 - 160
2220844	MCP	82.4	80.6	P/P	30 - 160
2220844	Naproxen	85.2	98.3	P/P	30 - 160
2220844	Primidone	62.9	52.5	P/P	30 - 160
2220844	Pyraclostrobin	70.5	66.9	P/P	30 - 160
2220844	Thiamethoxam	93.3	91.9	P/P	30 - 160
2220844	Tolfenpyrad	50.5	51.0	P/P	30 - 160
2220844	Triclopyr	88.2	90.4	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P392897

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220641	Acesulfame K	107	106	P/P	40 - 150
2220641	AMPA	126	126	P/P	40 - 150
2220641	Endothall	103	106	P/P	40 - 150
2220641	Glufosinate	95.4	113	P/P	40 - 150
2220641	Glyphosate	94.1	87.8	P/P	40 - 140
2220641	Sucralose	105	106	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P393054

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221369	Fluoride	101	101	P/P	94 - 107

Reference Method: SM 4500 F-C-2011

Batch ID: P393055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221212	Fluoride	102	102	P/P	94 - 107

Reference Method: SM 4500 F-C-2011

Batch ID: P393220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221661	Fluoride	101	101	P/P	94 - 107

Reference Method: SM 5310 B-2011

Batch ID: P393049

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221160	Organic Carbon	97.8	97.9	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P393050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220721	Organic Carbon	93.1	92.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392997

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221536	Turbidity	2.52	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221129	Turbidity	0.731	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393038

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221122	Bromide	0.286	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220858	Chloride	0.391	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220861	Ammonia-N	0.643	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220828	Ammonia-N	3.34	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221157	Ammonia-N	0.00405	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220723	Kjeldahl Nitrogen	1.87	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221124	Kjeldahl Nitrogen	2.84	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221158	Kjeldahl Nitrogen	2.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220896	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392961

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220722	NO2NO3-N	0.645	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221130	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221124	Total-P	0.972	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220828	Total-P	1.04	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221127	O-Phosphate-P	0.972	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P392945

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221133	O-Phosphate-P	0.383	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P392788

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220844	2,4-D	6.77	Spike	P	0 - 30
2220844	Acetaminophen	3.72	Spike	P	0 - 30
2220844	Acetamiprid	6.14	Spike	P	0 - 30
2220844	Afidopyropen	6.13	Spike	P	0 - 30
2220844	Bentazon	2.64	Spike	P	0 - 30
2220844	Benzovindiflupyr	3.86	Spike	P	0 - 30
2220844	Carbamazepine	5.85	Spike	P	0 - 30
2220844	Clothianidin	3.22	Spike	P	0 - 30
2220844	Dinotefuran	7.04	Spike	P	0 - 30
2220844	Diuron	0.971	Spike	P	0 - 30
2220844	Fenuron	5.95	Spike	P	0 - 30
2220844	Fluridone	2.35	Spike	P	0 - 30
2220844	Hydrocodone	20.5	Spike	P	0 - 30
2220844	Ibuprofen	4.03	Spike	P	0 - 30
2220844	Imazapyr	4.81	Spike	P	0 - 30
2220844	Imidacloprid	5.22	Spike	P	0 - 30
2220844	Linuron	5.34	Spike	P	0 - 30
2220844	Mandestrobin	5.39	Spike	P	0 - 30
2220844	MCP	2.23	Spike	P	0 - 30
2220844	Naproxen	14.3	Spike	P	0 - 30
2220844	Primidone	18.1	Spike	P	0 - 30
2220844	Pyraclostrobin	5.22	Spike	P	0 - 30
2220844	Thiamethoxam	1.60	Spike	P	0 - 30
2220844	Tolfenpyrad	0.995	Spike	P	0 - 30
2220844	Triclopyr	2.48	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P392897

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220641	Acesulfame K	0.905	Spike	P	0 - 30
2220641	AMPA	0.326	Spike	P	0 - 30
2220641	Endothall	2.53	Spike	P	0 - 30
2220641	Glufosinate	17.1	Spike	P	0 - 30
2220641	Glyphosate	7.01	Spike	P	0 - 30
2220641	Sucralose	0.971	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P392932

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221123	Color (true)	5.90	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P393051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221369	Total Alkalinity	0.979	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P393052

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221212	Total Alkalinity	1.25	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P393339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2222960	Total Alkalinity	1.84	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P393480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221211	TDS	0.905	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P393481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221212	TDS	2.88	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P393054

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221369	Fluoride	0.451	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P393055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221212	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P393220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221661	Fluoride	0.0	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P393049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221160	Organic Carbon	0.100	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P393050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220721	Organic Carbon	0.422	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2221199

Field Sample ID: G3TLHR0001

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	90.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.1	P	30 - 160
EPA 8321B	Diuron-d6	46.9	P	30 - 160
EPA 8321B	Endothall-d6	94.9	P	40 - 160
EPA 8321B	Endothall-d6	94.9	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	71.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	71.1	P	40 - 160
EPA 8321B	Ibuprofen-d3	79.1	P	30 - 160
EPA 8321B	Primidone-d5	77.0	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103226

Included Lab Sample IDs: 2221122, 2221123, 2221195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.4	97.8	P/P	90 - 110
Chloride	98.8	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103236

Included Lab Sample IDs: 2221124, 2221196

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

Reference Method: SM 2120 B-2011

Run ID: A103249

Included Lab Sample IDs: 2221122, 2221123, 2221195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	99.2	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103257

Included Lab Sample IDs: 2221126, 2221127, 2221132, 2221133, 2221197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	101	101	P/P	90 - 110
O-Phosphate-P	98.7	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103259

Included Lab Sample IDs: 2221131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103266

Included Lab Sample IDs: 2221122, 2221123, 2221128, 2221129, 2221195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	95.1	94.4	P/P	90 - 110
Bromide	96.8	97.2	P/P	90 - 110
Bromide	97.2	97.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103269

Included Lab Sample IDs: 2221122, 2221123, 2221128, 2221129, 2221195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A103282

Included Lab Sample IDs: 2221199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	97.1	P/P	60 - 160
AMPA	108	115	P/P	60 - 160
Endothall	98.9	104	P/P	60 - 160
Glufosinate	94.9	91.2	P/P	60 - 160
Glyphosate	90.8	88.8	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A103283

Included Lab Sample IDs: 2221124, 2221125, 2221130, 2221131, 2221196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	95.2	P/P	90 - 110
Organic Carbon	96.7	95.6	P/P	90 - 110
Organic Carbon	98.2	96.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A103284

Included Lab Sample IDs: 2221122, 2221123, 2221128, 2221195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.1	95.8	P/P	90 - 110
Total Alkalinity	95.8	91.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A103284

Included Lab Sample IDs: 2221122, 2221123, 2221128, 2221195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	104	P/P	90 - 110
Fluoride	104	107	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A103292

Included Lab Sample IDs: 2221199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	107	P/P	50 - 150
Acetaminophen	78.7	79.1	P/P	60 - 160
Acetamiprid	107	102	P/P	50 - 150
Afidopyropen	84.5	103	P/P	50 - 150
Bentazon	120	117	P/P	50 - 160
Benzovindiflupyr	101	90.8	P/P	50 - 160
Carbamazepine	101	97.8	P/P	60 - 150
Clothianidin	94.1	83.5	P/P	60 - 150
Dinotefuran	93.9	80.8	P/P	50 - 150
Diuron	109	94.1	P/P	60 - 160
Fenuron	96.9	88.0	P/P	60 - 150
Fluridone	100	89.8	P/P	60 - 160
Hydrocodone	99.8	93.3	P/P	60 - 150
Ibuprofen	104	89.4	P/P	50 - 160
Imazapyr	94.8	118	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A103292
Included Lab Sample IDs: 2221199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	99.1	91.2	P/P	60 - 150
Linuron	96.5	92.8	P/P	60 - 150
Mandestrobin	99.2	98.4	P/P	50 - 150
MCPP	128	118	P/P	50 - 150
Naproxen	100	118	P/P	50 - 160
Primidone	87.3	85.1	P/P	60 - 150
Pyraclostrobin	103	94.7	P/P	60 - 150
Thiamethoxam	117	98.0	P/P	50 - 150
Tolfenpyrad	103	104	P/P	60 - 150
Triclopyr	118	109	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A103300
Included Lab Sample IDs: 2221125, 2221130

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A103346
Included Lab Sample IDs: 2221124, 2221125, 2221130, 2221131, 2221196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	97.8	P/P	90 - 110
Total-P	98.8	98.0	P/P	90 - 110
Total-P	99.8	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A103347
Included Lab Sample IDs: 2221131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	104	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A103352
Included Lab Sample IDs: 2221129

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

Reference Method: SM 2320 B-2011
Run ID: A103397
Included Lab Sample IDs: 2221129

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	91.8	95.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A103409

Included Lab Sample IDs: 2221124, 2221125, 2221130, 2221196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	107	P/P	90 - 110
Kjeldahl Nitrogen	107	102	P/P	90 - 110
Kjeldahl Nitrogen	97.7	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103454

Included Lab Sample IDs: 2221124, 2221125, 2221130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	97.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103455

Included Lab Sample IDs: 2221131, 2221196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.2	P/P	90 - 110
Ammonia-N	98.5	98.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A103516

Included Lab Sample IDs: 2221199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	110	108	P/P	60 - 160

* 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			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					2.52	
	Turbidity					0.731	
EPA 300.0 Rev. 2.1	Bromide	101	98.8	98.5	99.1		0.286
	Chloride	98.0	96.1	96.9		0.391	
EPA 350.1 Rev. 2.0	Ammonia-N	98.1	95.3	94.6			0.643
	Ammonia-N	100	98.9	103			3.34
	Ammonia-N	99.8	98.8	98.8			0.0040
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	106	104			1.87
	Kjeldahl Nitrogen	108	104	100			2.84
	Kjeldahl Nitrogen	106	105	102			2.04
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	100			0.0
	NO2NO3-N	99.0	99.5	100			0.645
	NO2NO3-N	99.5	98.8	98.8			0.0
EPA 365.1 Rev. 2.0	Total-P	104	106	105			0.972
	Total-P	108	106	104			1.04
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	102	103			0.972
	O-Phosphate-P	103	97.7	97.3			0.383
EPA 8321B	2,4-D	117	78.3	84.5			6.77
	Acesulfame K	101	107	106			0.905
	Acetaminophen	73.6	87.5	84.3			3.72
	Acetamiprid	95.3	57.5	61.1			6.14
	Afidopyropen	75.8	59.1	62.8			6.13
	AMPA	104	126	126			0.326
	Bentazon	75.1	20.0	19.1			2.64
	Benzovindiflupyr	77.3	64.8	62.4			3.86
	Carbamazepine	85.2	50.7	47.8			5.85
	Clothianidin	95.4	60.3	62.3			3.22
	Dinotefuran	84.6	84.8	79.0			7.04
	Diuron	60.0	34.6	34.2			0.971
	Endothall	93.7	103	106			2.53
	Fenuron	94.1	48.0	50.9			5.95
	Fluridone	83.7	65.3	63.8			2.35
	Glufosinate	102	95.4	113			17.1
	Glyphosate	80.8	94.1	87.8			7.01
	Hydrocodone	93.9	71.1	57.9			20.5
	Ibuprofen	99.1	82.7	79.4			4.03
	Imazapyr	120	102	96.4			4.81
	Imidacloprid	107	102	97.0			5.22
	Linuron	71.6	54.4	51.5			5.34
	Mandestrobin	77.6	71.6	67.8			5.39
	MCPP	115	82.4	80.6			2.23
	Naproxen	72.2	85.2	98.3			14.3
	Primidone	102	62.9	52.5			18.1
	Pyraclostrobin	74.9	70.5	66.9			5.22
	Sucralose	108	105	106			0.971
	Thiamethoxam	107	93.3	91.9			1.60
	Tolfenpyrad	52.0	50.5	51.0			0.995
	Triclopyr	108	88.2	90.4			2.48
SM 2120 B-2011	Color (true)	99.5				5.90	
SM 2320 B-2011	Total Alkalinity	96.0				0.979	
	Total Alkalinity	95.5				1.25	
	Total Alkalinity	98.1				1.84	
SM 2540 C-2011	TDS					0.905	
	TDS					2.88	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-2011	Fluoride	100	101	101		0.451
	Fluoride	103	102	102		0.0
	Fluoride	100	101	101		0.0
SM 5310 B-2011	Organic Carbon	96.4	97.8	97.9		0.100
	Organic Carbon	94.4	93.1	92.6		0.422

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2221122, 2221123, 2221128, 2221129, 2221195
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2221122, 2221123, 2221128, 2221129, 2221195
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2221122, 2221123, 2221195
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2221124, 2221125, 2221130, 2221131, 2221196
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2221124, 2221125, 2221130, 2221131, 2221196
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2221124, 2221125, 2221130, 2221131, 2221196
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2221124, 2221125, 2221130, 2221131, 2221196
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2221126, 2221127, 2221132, 2221133, 2221197
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2221199
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2221199
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2221122, 2221123, 2221195
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2221122, 2221123, 2221128, 2221129, 2221195
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2221122, 2221123, 2221195
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2221122, 2221123, 2221128, 2221129, 2221195
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2221122, 2221123, 2221128, 2221129, 2221195
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2221124, 2221125, 2221130, 2221131, 2221196

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	01/25/2021			01/26/2021 16:32	Yen Ta	2221122, 2221123, 2221128, 2221129, 2221195
EPA 300.0 Rev. 2.1	01/25/2021			01/27/2021 23:39	Lipi Saha	2221122
	01/25/2021			01/28/2021 00:33	Lipi Saha	2221195
	01/25/2021			01/28/2021 03:16	Lipi Saha	2221123
	01/25/2021			01/28/2021 04:10	Lipi Saha	2221128
	01/25/2021			01/28/2021 14:07	Lipi Saha	2221129
	01/25/2021			01/28/2021 16:47	Lipi Saha	2221122
	01/25/2021			01/28/2021 16:59	Lipi Saha	2221123
	01/25/2021			01/28/2021 18:36	Lipi Saha	2221195
EPA 350.1 Rev. 2.0	01/25/2021			02/05/2021 18:56	Ping Hua	2221124
	01/25/2021			02/05/2021 18:57	Ping Hua	2221125
	01/25/2021			02/05/2021 18:59	Ping Hua	2221130
	01/25/2021			02/07/2021 10:08	Ping Hua	2221131
	01/25/2021			02/07/2021 10:48	Ping Hua	2221196
EPA 351.2 Rev. 2.0	01/25/2021	01/29/2021 12:30	Yen Ta	02/01/2021 14:55	Julia Storbeck	2221131
	01/25/2021	02/03/2021 12:10	Yen Ta	02/03/2021 18:59	Julia Storbeck	2221124
	01/25/2021	02/03/2021 12:10	Yen Ta	02/03/2021 19:17	Julia Storbeck	2221125
	01/25/2021	02/03/2021 12:10	Yen Ta	02/03/2021 19:19	Julia Storbeck	2221130
	01/25/2021	02/03/2021 12:10	Yen Ta	02/03/2021 19:39	Julia Storbeck	2221196
EPA 353.2 Rev. 2.0	01/25/2021			01/26/2021 10:12	Beverly Y. Sanders	2221124
	01/25/2021			01/26/2021 10:20	Beverly Y. Sanders	2221196
	01/25/2021			01/27/2021 10:29	Beverly Y. Sanders	2221131
	01/25/2021			01/28/2021 10:08	Beverly Y. Sanders	2221130
	01/25/2021			01/28/2021 10:18	Beverly Y. Sanders	2221125
EPA 365.1 Rev. 2.0	01/25/2021	01/29/2021 17:05	Shengyu Wang	02/01/2021 14:40	Shengyu Wang	2221124
	01/25/2021	01/29/2021 17:05	Shengyu Wang	02/01/2021 14:41	Shengyu Wang	2221125
	01/25/2021	01/29/2021 17:05	Shengyu Wang	02/01/2021 14:42	Shengyu Wang	2221130
	01/25/2021	01/29/2021 17:05	Shengyu Wang	02/01/2021 14:55	Shengyu Wang	2221196
	01/25/2021	01/29/2021 17:05	Shengyu Wang	02/01/2021 15:30	Shengyu Wang	2221131
EPA 365.1 Rev. 2.0 dissolved	01/25/2021			01/26/2021 15:12	Blanca Fach	2221127
	01/25/2021			01/26/2021 15:15	Blanca Fach	2221126, 2221132
	01/25/2021			01/26/2021 15:26	Blanca Fach	2221197
	01/25/2021			01/26/2021 15:43	Blanca Fach	2221133
EPA 8321B	01/25/2021	01/26/2021 13:30	Rebecca Ware	01/27/2021 20:24	Rebecca Ware	2221199
	01/25/2021	01/26/2021 13:30	Rebecca Ware	02/09/2021 15:44	Rebecca Ware	2221199
	01/25/2021	01/27/2021 09:00	Hoor Shaik	01/28/2021 22:50	Juyoung Kim	2221199
SM 2120 B-2011	01/25/2021			01/26/2021 18:56	Madeline Gruver	2221122
	01/25/2021			01/26/2021 18:58	Madeline Gruver	2221123
	01/25/2021			01/26/2021 19:03	Madeline Gruver	2221195

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	01/25/2021			01/27/2021 23:27	Dale L. Simmons	2221122
	01/25/2021			01/27/2021 23:37	Dale L. Simmons	2221123
	01/25/2021			01/27/2021 23:47	Dale L. Simmons	2221128
	01/25/2021			01/28/2021 04:05	Dale L. Simmons	2221195
	01/25/2021			02/03/2021 18:49	Dale L. Simmons	2221129
SM 2540 C-2011	01/25/2021			01/29/2021 15:32	Yijie Li	2221122, 2221123, 2221195
SM 2540 D-2011	01/25/2021			01/29/2021 15:32	Yijie Li	2221122, 2221123, 2221128, 2221129, 2221195
SM 4500 F-C-2011	01/25/2021			01/27/2021 23:27	Dale L. Simmons	2221122
	01/25/2021			01/27/2021 23:37	Dale L. Simmons	2221123
	01/25/2021			01/27/2021 23:47	Dale L. Simmons	2221128
	01/25/2021			01/28/2021 04:05	Dale L. Simmons	2221195
	01/25/2021			01/30/2021 11:04	Dale L. Simmons	2221129
SM 5310 B-2011	01/25/2021			01/27/2021 05:55	Touraj Touran	2221124
	01/25/2021			01/27/2021 06:07	Touraj Touran	2221125
	01/25/2021			01/27/2021 06:20	Touraj Touran	2221130
	01/25/2021			01/27/2021 08:01	Touraj Touran	2221196
	01/25/2021			01/27/2021 11:31	Touraj Touran	2221131