

Chemical Analysis Report

NE-DIST-2020-07-08-01

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

Event Description: **LSJR South West Boat**

Request ID: **RQ-2020-04-20-26**

Customer: **NE-DIST**

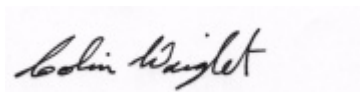
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 28-JUL-2020 16:35

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: Mill Log CR Downstream of Test Site

Collection Date/Time: 07/07/2020 09:40

Field ID: 20030304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181303	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P384252	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P384526	
		Sulfate	6.0		mg SO4/L	P384530	
	SM 2120 B-2011	Color (true)	270		PCU	P384255	
	SM 2320 B-2011	Total Alkalinity	21		mg CaCO3/L	P384687	
	SM 2540 C-2011	TDS	147	A	mg/L	P384733	
	SM 2540 D-2011	TSS	3	IA	mg/L	P384725	
	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P384690	
2181304	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P384434	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P384337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.052		mg N/L	P384913	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P384403	
	SM 5310 B-2011	Organic Carbon	25		mg C/L	P384346	
2181305	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P384227	
2181328	EPA 8321B	2,4-D	0.0020	U	ug/L	P384189	
		Acesulfame K**	0.10	U	ug/L	P384190	
		AMPA**	0.10	U	ug/L	P384190	
		Sucralose**	0.17		ug/L	P384190	
		Acetaminophen**	0.0080	U	ug/L	P384189	
		Acetamiprid**	0.0020	U	ug/L	P384189	
		Endothall**	0.25	U	ug/L	P384190	
		Glufosinate**	0.10	U	ug/L	P384190	
		Glyphosate**	0.10	U	ug/L	P384190	
		Afidopyropen**	0.0020	U	ug/L	P384189	
		Bentazon	0.0034		ug/L	P384189	
		Benzovindiflupyr**	0.0020	U	ug/L	P384189	
		Carbamazepine**	8.0E-04	U	ug/L	P384189	
		Clothianidin**	0.0020	U	ug/L	P384189	
		Dinotefuran**	0.0020	U	ug/L	P384189	
		Diuron	0.0020	U	ug/L	P384189	
		Fenuron	0.016	U	ug/L	P384189	
		Fluridone**	0.0043		ug/L	P384189	
		Imazapyr**	0.038		ug/L	P384189	
		Hydrocodone**	0.0020	U	ug/L	P384189	
		Ibuprofen**	0.020	U	ug/L	P384189	
		Imidacloprid	0.0023	I	ug/L	P384189	
		Linuron	0.0040	U	ug/L	P384189	
		Mandestrobin**	0.0020	U	ug/L	P384189	
		MCP	0.0020	U	ug/L	P384189	
		Naproxen**	0.0080	U	ug/L	P384189	
		Primidone**	0.0040	U	ug/L	P384189	
		Pyraclostrobin**	0.0020	U	ug/L	P384189	
		Thiamethoxam**	0.0020	U	ug/L	P384189	

Field ID: 20030304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181328	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P384189	
		Triclopyr**	0.0040	U	ug/L	P384189	

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: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Black CR @ RR Bridge Below Mill Log CR

Collection Date/Time: 07/07/2020 09:55

Field ID: 20030204

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181306	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P384252	
	EPA 300.0 Rev. 2.1	Chloride	12	A	mg Cl/L	P384526	
		Sulfate	7.3	A	mg SO4/L	P384530	
	SM 2120 B-2011	Color (true)	250		PCU	P384255	
	SM 2320 B-2011	Total Alkalinity	12		mg CaCO3/L	P384687	
	SM 2540 C-2011	TDS	90		mg/L	P384733	
	SM 2540 D-2011	TSS	2	I	mg/L	P384725	
	SM 4500 F-C-2011	Fluoride	0.070	I	mg F/L	P384690	
2181310	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P384434	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P384337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.047		mg N/L	P384913	
	EPA 365.1 Rev. 2.0	Total-P	0.085		mg P/L	P384403	
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P384346	
2181314	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P384227	

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: Little Black Creek 200m above mouth

Collection Date/Time: 07/07/2020 10:10

Field ID: G2NE1184

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181307	EPA 180.1 Rev. 2.0	Turbidity	2.1	A	NTU	P384253	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P384526	
		Sulfate	5.2		mg SO4/L	P384530	
	SM 2120 B-2011	Color (true)	180		PCU	P384255	
	SM 2320 B-2011	Total Alkalinity	29		mg CaCO3/L	P384687	
	SM 2540 C-2011	TDS	101		mg/L	P384733	
	SM 2540 D-2011	TSS	2	I	mg/L	P384725	
	SM 4500 F-C-2011	Fluoride	0.063	I	mg F/L	P384690	
2181311	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P384434	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P384337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.031		mg N/L	P384913	
	EPA 365.1 Rev. 2.0	Total-P	0.051		mg P/L	P384403	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P384346	
2181315	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P384227	

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: South fork Black creek upstream of North Fork Black CR **Collection Date/Time:** 07/07/2020 10:45

Field ID: G2NE1127

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181308	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P384253	
	EPA 300.0 Rev. 2.1	Chloride	9.4		mg Cl/L	P384526	
		Sulfate	4.5		mg SO4/L	P384530	
	SM 2120 B-2011	Color (true)	180		PCU	P384256	
	SM 2320 B-2011	Total Alkalinity	8.4		mg CaCO3/L	P384687	
	SM 2540 C-2011	TDS	76		mg/L	P384733	
	SM 2540 D-2011	TSS	2	I	mg/L	P384725	
	SM 4500 F-C-2011	Fluoride	0.080	I	mg F/L	P384690	
2181312	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P384434	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P384337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.055		mg N/L	P384913	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P384403	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P384347	
2181316	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.090		mg P/L	P384227	

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: Swimming Pen CR @ SR 220

Collection Date/Time: 07/07/2020 11:35

Field ID: 20030191

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181309	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P384253	
	EPA 300.0 Rev. 2.1	Chloride	2.2E+03		mg Cl/L	P384526	
		Sulfate	320		mg SO4/L	P384530	
	SM 2120 B-2011	Color (true)	73		PCU	P384256	
	SM 2320 B-2011	Total Alkalinity	60		mg CaCO3/L	P384687	
	SM 2540 C-2011	TDS	4.05E+03		mg/L	P384732	
	SM 2540 D-2011	TSS	6	I	mg/L	P384724	
	SM 4500 F-C-2011	Fluoride	0.24		mg F/L	P384690	
2181313	EPA 350.1 Rev. 2.0	Ammonia-N	0.046		mg N/L	P384436	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P384326	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P384858	
	EPA 365.1 Rev. 2.0	Total-P	0.082		mg P/L	P384401	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P384347	
2181317	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P384226	

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: P384252

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384253

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384526

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384530

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384434

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384436

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384326

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384337

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384858

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384913

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384401

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384403

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384226

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384227

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

Reference Method: EPA 8321B
Batch ID: P384189

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
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
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P384189

Component	Result	Code	Units
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P384190

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: P384255

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P384256

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P384687

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

Reference Method: SM 2540 C-2011
Batch ID: P384732

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P384733

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P384724

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P384725

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P384690

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P384346

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

Reference Method: SM 5310 B-2011
Batch ID: P384347

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: P384526

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384530

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384434

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384436

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384326

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384337

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384858

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384913

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: P384401

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384403

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384226

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384227

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

Reference Method: EPA 8321B
Batch ID: P384189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	112		P	30 - 160
Acetaminophen	78.8		P	30 - 160
Acetamiprid	81.8		P	30 - 160
Afidopyropen	71.4		P	30 - 160
Bentazon	69.9		P	30 - 160
Benzovindiflupyr	75.6		P	30 - 160
Carbamazepine	71.9		P	30 - 160
Clothianidin	82.2		P	30 - 160
Dinotefuran	94.0		P	30 - 160
Diuron	62.6		P	30 - 160
Fenuron	99.8		P	30 - 160
Fluridone	104		P	30 - 160
Hydrocodone	86.7		P	30 - 160
Ibuprofen	90.7		P	30 - 160
Imazapyr	84.0		P	30 - 160
Imidacloprid	102		P	30 - 160
Linuron	59.7		P	30 - 160
Mandestrobin	84.9		P	30 - 160
MCPP	105		P	30 - 160
Naproxen	75.5		P	30 - 160
Primidone	74.3		P	30 - 160
Pyraclostrobin	75.4		P	30 - 160
Thiamethoxam	88.1		P	30 - 160
Tolfenpyrad	51.7		P	30 - 160
Triclopyr	78.9		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P384190

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	86.3		P	40 - 150
AMPA	74.9		P	40 - 150
Endothall	90.6		P	40 - 150
Glufosinate	83.2		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P384190

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	79.7		P	40 - 140
Sucralose	77.9		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P384255

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.6		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P384256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P384687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P384690

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P384346

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.5		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P384347

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384526

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181115	Chloride	103		P	90 - 110
2181306	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181115	Sulfate	102		P	90 - 110
2181306	Sulfate	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384434

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181133	Ammonia-N	99.9	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384436

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180872	Ammonia-N	101	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181283	Kjeldahl Nitrogen	100	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384337

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181311	Kjeldahl Nitrogen	93.7	92.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181313	NO2NO3-N	97.4	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181395	NO2NO3-N	96.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180393	Total-P	104	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P384403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181133	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181317	O-Phosphate-P	93.8	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384227

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181314	O-Phosphate-P	97.7	96.7	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P384189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180960	Acetaminophen	67.9	68.0	P/P	30 - 160
2180960	Acetamiprid	57.2	56.1	P/P	30 - 160
2180960	Afidopyropen	61.6	63.3	P/P	30 - 160
2180960	Bentazon	39.6	35.4	P/P	30 - 160
2180960	Benzovindiflupyr	67.1	69.4	P/P	30 - 160
2180960	Carbamazepine	48.1	49.1	P/P	30 - 160
2180960	Clothianidin	53.6	50.5	P/P	30 - 160
2180960	Dinotefuran	69.5	63.5	P/P	30 - 160
2180960	Diuron	41.0	41.0	P/P	30 - 160
2180960	Fenuron	55.3	55.1	P/P	30 - 160
2180960	Fluridone	100	98.6	P/P	30 - 160
2180960	Hydrocodone	58.6	56.8	P/P	30 - 160
2180960	Ibuprofen	76.2	69.6	P/P	30 - 160
2180960	Imazapyr	94.3	77.8	P/P	30 - 160
2180960	Imidacloprid	95.8	93.2	P/P	30 - 160
2180960	Linuron	49.1	53.3	P/P	30 - 160
2180960	Mandestrobin	75.0	73.9	P/P	30 - 160
2180960	MCP	86.6	80.7	P/P	30 - 160
2180960	Naproxen	61.5	67.1	P/P	30 - 160
2180960	Primidone	63.5	67.9	P/P	30 - 160
2180960	Pyraclostrobin	71.6	71.6	P/P	30 - 160
2180960	Thiamethoxam	68.1	66.8	P/P	30 - 160
2180960	Tolfenpyrad	61.3	62.6	P/P	30 - 160
2180960	Triclopyr	74.7	60.6	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P384190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180714	Acesulfame K	49.7	51.1	P/P	40 - 150
2180714	AMPA	80.3	80.0	P/P	40 - 150
2180714	Endothall	93.1	97.4	P/P	40 - 150
2180714	Glufosinate	88.9	88.1	P/P	40 - 150
2180714	Glyphosate	66.0	77.6	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P384190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180714	Sucralose	83.5	86.8	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P384690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181392	Fluoride	104	103	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P384346

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181129	Organic Carbon	95.0	96.3	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P384347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181543	Organic Carbon	94.2	94.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181117	Turbidity	0.161	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181307	Turbidity	4.81	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181306	Chloride	0.121	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181306	Sulfate	0.166	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181133	Ammonia-N	0.448	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180872	Ammonia-N	2.32	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181283	Kjeldahl Nitrogen	5.83	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181311	Kjeldahl Nitrogen	0.828	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181313	NO2NO3-N	0.490	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181395	NO2NO3-N	1.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180393	Total-P	0.798	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181133	Total-P	1.18	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181317	O-Phosphate-P	1.74	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181314	O-Phosphate-P	0.656	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P384189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180960	2,4-D	5.32	Spike	P	0 - 30
2180960	Acetaminophen	0.148	Spike	P	0 - 30
2180960	Acetamiprid	1.98	Spike	P	0 - 30
2180960	Afidopyropen	2.72	Spike	P	0 - 30
2180960	Bentazon	5.86	Spike	P	0 - 30
2180960	Benzovindiflupyr	3.40	Spike	P	0 - 30
2180960	Carbamazepine	1.67	Spike	P	0 - 30
2180960	Clothianidin	5.38	Spike	P	0 - 30
2180960	Dinotefuran	9.03	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P384189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180960	Diuron	0.0735	Spike	P	0 - 30
2180960	Fenuron	0.424	Spike	P	0 - 30
2180960	Fluridone	1.35	Spike	P	0 - 30
2180960	Hydrocodone	3.00	Spike	P	0 - 30
2180960	Ibuprofen	9.15	Spike	P	0 - 30
2180960	Imazapyr	10.7	Spike	P	0 - 30
2180960	Imidacloprid	2.59	Spike	P	0 - 30
2180960	Linuron	8.26	Spike	P	0 - 30
2180960	Mandestrobin	1.40	Spike	P	0 - 30
2180960	MCPP	7.09	Spike	P	0 - 30
2180960	Naproxen	8.72	Spike	P	0 - 30
2180960	Primidone	6.62	Spike	P	0 - 30
2180960	Pyraclostrobin	0.0440	Spike	P	0 - 30
2180960	Thiamethoxam	1.90	Spike	P	0 - 30
2180960	Tolfenpyrad	2.17	Spike	P	0 - 30
2180960	Triclopyr	20.8	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P384190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180714	Acesulfame K	2.77	Spike	P	0 - 30
2180714	AMPA	0.322	Spike	P	0 - 30
2180714	Endothall	4.57	Spike	P	0 - 30
2180714	Glufosinate	0.963	Spike	P	0 - 30
2180714	Glyphosate	13.4	Spike	P	0 - 30
2180714	Sucralose	2.89	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P384255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181132	Color (true)	4.42	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P384256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181391	Color (true)	4.96	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P384687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181392	Total Alkalinity	0.0828	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
 Batch ID: P384732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181083	TDS	6.33	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
 Batch ID: P384733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181303	TDS	6.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P384690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181392	Fluoride	0.457	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
 Batch ID: P384346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181129	Organic Carbon	1.02	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
 Batch ID: P384347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181543	Organic Carbon	0.0603	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2181328
Field Sample ID: 20030304

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	72.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	49.4	P	30 - 160
EPA 8321B	Diuron-d6	48.1	P	30 - 160
EPA 8321B	Endothall-d6	91.2	P	30 - 160
EPA 8321B	Endothall-d6	91.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	57.1	P	30 - 160
EPA 8321B	Primidone-d5	60.9	P	30 - 160
EPA 8321B	Sucralose-d6	78.2	P	30 - 160
EPA 8321B	Sucralose-d6	78.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99740

Included Lab Sample IDs: 2181305, 2181314, 2181315, 2181316, 2181317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	96.7	P/P	90 - 110
O-Phosphate-P	96.7	97.4	P/P	90 - 110
O-Phosphate-P	97.4	97.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99748

Included Lab Sample IDs: 2181303, 2181306, 2181307, 2181308, 2181309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	103	P/P	95 - 105
Turbidity	103	102	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A99749

Included Lab Sample IDs: 2181303, 2181306, 2181307, 2181308, 2181309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 115
Color (true)	102	102	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A99760

Included Lab Sample IDs: 2181328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	77.7	76.9	P/P	60 - 160
Glufosinate	99.8	101	P/P	60 - 160
Glyphosate	107	109	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A99787

Included Lab Sample IDs: 2181304, 2181310, 2181311, 2181312, 2181313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.2	94.6	P/P	90 - 110
Organic Carbon	94.0	93.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99793

Included Lab Sample IDs: 2181328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	70.3	67.6	P/P	60 - 160
Endothall	104	104	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99808

Included Lab Sample IDs: 2181304, 2181310, 2181311, 2181312, 2181313

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99808

Included Lab Sample IDs: 2181304, 2181310, 2181311, 2181312, 2181313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	102	P/P	90 - 110
Ammonia-N	103	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99824

Included Lab Sample IDs: 2181304, 2181310, 2181312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.9	98.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99828

Included Lab Sample IDs: 2181328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.3	88.1	P/P	50 - 150
Acetaminophen	114	112	P/P	60 - 160
Acetamiprid	114	111	P/P	50 - 150
Afidopyropen	95.8	119	P/P	50 - 150
Bentazon	109	143	P/P	50 - 160
Benzovindiflupyr	98.1	89.0	P/P	50 - 150
Carbamazepine	101	107	P/P	60 - 150
Clothianidin	97.5	89.8	P/P	60 - 150
Dinotefuran	97.2	92.9	P/P	50 - 150
Diuron	109	110	P/P	60 - 160
Fenuron	95.1	91.2	P/P	60 - 150
Fluridone	112	124	P/P	60 - 160
Hydrocodone	111	118	P/P	60 - 150
Ibuprofen	70.7	94.9	P/P	50 - 160
Imazapyr	84.4	73.5	P/P	50 - 150
Imidacloprid	96.5	95.3	P/P	60 - 150
Linuron	93.2	93.8	P/P	60 - 150
Mandestrobin	101	104	P/P	50 - 150
MCPP	102	96.9	P/P	50 - 150
Naproxen	73.5	85.3	P/P	50 - 160
Primidone	84.4	91.8	P/P	60 - 150
Pyraclostrobin	97.7	97.8	P/P	60 - 150
Thiamethoxam	118	108	P/P	50 - 150
Tolfenpyrad	110	97.6	P/P	60 - 150
Triclopyr	86.9	88.6	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99836

Included Lab Sample IDs: 2181303, 2181306, 2181307, 2181308, 2181309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Chloride	102	103	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99844

Included Lab Sample IDs: 2181311, 2181313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.0	97.0	P/P	90 - 110
Total-P	98.5	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99850

Included Lab Sample IDs: 2181304, 2181310, 2181311, 2181312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.2	94.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99855

Included Lab Sample IDs: 2181313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99878

Included Lab Sample IDs: 2181328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	89.1	90.0	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A99904

Included Lab Sample IDs: 2181303, 2181306, 2181307, 2181308, 2181309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.4	99.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99904

Included Lab Sample IDs: 2181303, 2181306, 2181307, 2181308, 2181309

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99968

Included Lab Sample IDs: 2181313

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99985

Included Lab Sample IDs: 2181304, 2181310, 2181311, 2181312

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

Quality Assurance Report

Calibration Verification

* 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					0.161	
	Turbidity					4.81	
EPA 300.0 Rev. 2.1	Chloride	101	101	103		0.121	
	Sulfate	101	99.3	102		0.166	
EPA 350.1 Rev. 2.0	Ammonia-N	102	99.9	100			0.448
	Ammonia-N	103	101	98.0			2.32
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	100	109			5.83
	Kjeldahl Nitrogen	98.5	93.7	92.4			0.828
EPA 353.2 Rev. 2.0	NO2NO3-N	102	97.4	96.9			0.490
	NO2NO3-N	99.5	96.5	98.0			1.54
EPA 365.1 Rev. 2.0	Total-P	107	104	103			0.798
	Total-P	104	104	106			1.18
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	93.8	95.7			1.74
	O-Phosphate-P	102	97.7	96.7			0.656
EPA 8321B	2,4-D	112					5.32
	Acesulfame K	86.3	49.7	51.1			2.77
	Acetaminophen	78.8	67.9	68.0			0.148
	Acetamiprid	81.8	57.2	56.1			1.98
	Afidopyropen	71.4	63.3	61.6			2.72
	AMPA	74.9	80.3	80.0			0.322
	Bentazon	69.9	35.4	39.6			5.86
	Benzovindiflupyr	75.6	69.4	67.1			3.40
	Carbamazepine	71.9	49.1	48.1			1.67
	Clothianidin	82.2	53.6	50.5			5.38
	Dinotefuran	94.0	69.5	63.5			9.03
	Diuron	62.6	41.0	41.0			0.0735
	Endothall	90.6	93.1	97.4			4.57
	Fenuron	99.8	55.3	55.1			0.424
	Fluridone	104	98.6	100			1.35
	Glufosinate	83.2	88.9	88.1			0.963
	Glyphosate	79.7	66.0	77.6			13.4
	Hydrocodone	86.7	58.6	56.8			3.00
	Ibuprofen	90.7	69.6	76.2			9.15
	Imazapyr	84.0	77.8	94.3			10.7
	Imidacloprid	102	95.8	93.2			2.59
	Linuron	59.7	53.3	49.1			8.26
	Mandestrobin	84.9	73.9	75.0			1.40
	MCPP	105	80.7	86.6			7.09
	Naproxen	75.5	67.1	61.5			8.72
	Primidone	74.3	63.5	67.9			6.62
	Pyraclostrobin	75.4	71.6	71.6			0.0440
	Sucralose	77.9	83.5	86.8			2.89
	Thiamethoxam	88.1	68.1	66.8			1.90
	Tolfenpyrad	51.7	62.6	61.3			2.17
	Triclopyr	78.9	60.6	74.7			20.8
SM 2120 B-2011	Color (true)	99.6				4.42	
	Color (true)	102				4.96	
SM 2320 B-2011	Total Alkalinity	99.1				0.0828	
SM 2540 C-2011	TDS					6.33	
	TDS					6.80	
SM 4500 F-C-2011	Fluoride	99.5	104	103			0.457
SM 5310 B-2011	Organic Carbon	96.5	95.0	96.3			1.02
	Organic Carbon	97.8	94.2	94.1			0.0603

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2181303, 2181306, 2181307, 2181308, 2181309
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2181303, 2181306, 2181307, 2181308, 2181309
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2181303, 2181306, 2181307, 2181308, 2181309
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2181304, 2181310, 2181311, 2181312, 2181313
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2181304, 2181310, 2181311, 2181312, 2181313
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2181304, 2181310, 2181311, 2181312, 2181313
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2181304, 2181310, 2181311, 2181312, 2181313
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2181305, 2181314, 2181315, 2181316, 2181317
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2181328
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2181328
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2181303, 2181306, 2181307, 2181308, 2181309
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2181303, 2181306, 2181307, 2181308, 2181309
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2181303, 2181306, 2181307, 2181308, 2181309
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2181303, 2181306, 2181307, 2181308, 2181309
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2181303, 2181306, 2181307, 2181308, 2181309
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2181304, 2181310, 2181311, 2181312, 2181313

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	07/08/2020			07/08/2020 17:06	Yen Ta	2181303, 2181306, 2181307, 2181308, 2181309
EPA 300.0 Rev. 2.1	07/08/2020			07/10/2020 08:40	Julia Storbeck	2181306
	07/08/2020			07/10/2020 11:53	Julia Storbeck	2181303
	07/08/2020			07/10/2020 12:05	Julia Storbeck	2181307
	07/08/2020			07/10/2020 12:17	Julia Storbeck	2181308
	07/08/2020			07/10/2020 12:29	Julia Storbeck	2181309
EPA 350.1 Rev. 2.0	07/08/2020			07/11/2020 13:48	Ping Hua	2181304
	07/08/2020			07/11/2020 13:57	Ping Hua	2181310
	07/08/2020			07/11/2020 13:59	Ping Hua	2181311
	07/08/2020			07/11/2020 14:00	Ping Hua	2181312
	07/08/2020			07/11/2020 14:48	Ping Hua	2181313
EPA 351.2 Rev. 2.0	07/08/2020	07/09/2020 17:00	Jhamieka S. Greenwood	07/14/2020 11:13	Jhamieka S. Greenwood	2181313
	07/08/2020	07/10/2020 09:30	Sima Feizi	07/13/2020 18:26	Jhamieka S. Greenwood	2181311
	07/08/2020	07/10/2020 09:30	Sima Feizi	07/13/2020 18:31	Jhamieka S. Greenwood	2181304
	07/08/2020	07/10/2020 09:30	Sima Feizi	07/13/2020 18:32	Jhamieka S. Greenwood	2181310
	07/08/2020	07/10/2020 09:30	Sima Feizi	07/13/2020 18:34	Jhamieka S. Greenwood	2181312
EPA 353.2 Rev. 2.0	07/08/2020			07/20/2020 09:00	Beverly Y. Sanders	2181313
	07/08/2020			07/21/2020 08:31	Beverly Y. Sanders	2181304
	07/08/2020			07/21/2020 08:32	Beverly Y. Sanders	2181310
	07/08/2020			07/21/2020 08:34	Beverly Y. Sanders	2181311
	07/08/2020			07/21/2020 08:35	Beverly Y. Sanders	2181312
EPA 365.1 Rev. 2.0	07/08/2020	07/10/2020 13:26	Yen Ta	07/13/2020 09:25	Benjamin T. Nordmann	2181304
	07/08/2020	07/10/2020 13:26	Yen Ta	07/13/2020 09:26	Benjamin T. Nordmann	2181310
	07/08/2020	07/10/2020 13:26	Yen Ta	07/13/2020 09:28	Benjamin T. Nordmann	2181312
	07/08/2020	07/10/2020 13:26	Yen Ta	07/14/2020 08:05	Lipi Saha	2181313
	07/08/2020	07/10/2020 13:26	Yen Ta	07/14/2020 08:27	Lipi Saha	2181311
EPA 365.1 Rev. 2.0 dissolved	07/08/2020			07/08/2020 12:41	Jhamieka S. Greenwood	2181317
	07/08/2020			07/08/2020 12:55	Jhamieka S. Greenwood	2181314
	07/08/2020			07/08/2020 13:06	Jhamieka S. Greenwood	2181305
	07/08/2020			07/08/2020 13:07	Jhamieka S. Greenwood	2181315
	07/08/2020			07/08/2020 13:08	Jhamieka S. Greenwood	2181316
EPA 8321B	07/08/2020	07/08/2020 12:30	Rebecca Ware	07/08/2020 17:30	Rebecca Ware	2181328
	07/08/2020	07/08/2020 12:30	Rebecca Ware	07/09/2020 17:03	Rebecca Ware	2181328
	07/08/2020	07/08/2020 12:30	Rebecca Ware	07/14/2020 15:29	Rebecca Ware	2181328
	07/08/2020	07/09/2020 09:00	Hoor Shaik	07/11/2020 22:31	Juyoung Kim	2181328
SM 2120 B-2011	07/08/2020			07/08/2020 17:31	Madeline Gruver	2181309
	07/08/2020			07/08/2020 18:05	Madeline Gruver	2181303
	07/08/2020			07/08/2020 18:06	Madeline Gruver	2181306
	07/08/2020			07/08/2020 18:07	Madeline Gruver	2181307

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B-2011	07/08/2020			07/08/2020 18:08	Madeline Gruver	2181308
SM 2320 B-2011	07/08/2020			07/16/2020 01:03	Lauren Lees	2181303
	07/08/2020			07/16/2020 01:16	Lauren Lees	2181306
	07/08/2020			07/16/2020 01:28	Lauren Lees	2181307
	07/08/2020			07/16/2020 01:40	Lauren Lees	2181308
	07/08/2020			07/16/2020 01:53	Lauren Lees	2181309
SM 2540 C-2011	07/08/2020			07/09/2020 14:12	Yijie Li	2181303, 2181306, 2181307, 2181308, 2181309
SM 2540 D-2011	07/08/2020			07/09/2020 14:12	Yijie Li	2181303, 2181306, 2181307, 2181308, 2181309
SM 4500 F-C-2011	07/08/2020			07/16/2020 01:03	Lauren Lees	2181303
	07/08/2020			07/16/2020 01:16	Lauren Lees	2181306
	07/08/2020			07/16/2020 01:28	Lauren Lees	2181307
	07/08/2020			07/16/2020 01:40	Lauren Lees	2181308
	07/08/2020			07/16/2020 01:53	Lauren Lees	2181309
SM 5310 B-2011	07/08/2020			07/10/2020 02:13	David Boose	2181304
	07/08/2020			07/10/2020 02:25	David Boose	2181310
	07/08/2020			07/10/2020 03:02	David Boose	2181311
	07/08/2020			07/10/2020 04:27	David Boose	2181312
	07/08/2020			07/10/2020 04:39	David Boose	2181313