

Chemical Analysis Report

NW-DIST-2020-01-24-02

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

Event Description: **Eastern Lakes**
Request ID: **RQ-2020-01-20-19**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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: Liang Lin, Environmental Administrator

Date Certified: 13-FEB-2020 16:29

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: SPRING LAKE CENTER

Collection Date/Time: 01/23/2020 10:35

Field ID: G3NW0164

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151682	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P377787	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P378151	
		Sulfate	0.55		mg SO4/L	P378156	
		Color (true)	11		PCU	P377719	
	SM 2320 B-2011	Total Alkalinity	2.8		mg CaCO3/L	P378052	
	SM 2540 C-2011	TDS	15	U	mg/L	P378275	
	SM 2540 D-2011	TSS	2	U	mg/L	P378065	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378057	
2151684	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P378392	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P378172	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P377938	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P378028	
	SM 5310 B-2011	Organic Carbon	4.5		mg C/L	P377956	
2151686	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P377759	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: LAKE JUNIPER CENTER

Collection Date/Time: 01/23/2020 11:45

Field ID: G3NW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151688	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P377787	
	EPA 300.0 Rev. 2.1	Chloride	6.4		mg Cl/L	P378151	
		Sulfate	1.1		mg SO4/L	P378156	
	SM 2120 B-2011	Color (true)	24		PCU	P377719	
	SM 2320 B-2011	Total Alkalinity	2.2	I	mg CaCO3/L	P378052	
	SM 2540 C-2011	TDS	19	I	mg/L	P378275	
	SM 2540 D-2011	TSS	2	U	mg/L	P378065	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378057	
2151690	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P378178	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P378172	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.091		mg N/L	P377938	
	EPA 365.1 Rev. 2.0	Total-P	0.006	J	mg P/L	P378029	MS
	SM 5310 B-2011	Organic Carbon	4.7		mg C/L	P377957	
2151692	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P377760	
2151712	EPA 8321B	2,4-D	0.0020	U	ug/L	P377753	
		Acesulfame K**	0.10	U	ug/L	P377680	
		AMPA**	0.10	U	ug/L	P377680	
		Sucralose**	1.5		ug/L	P377680	
		Acetaminophen**	0.0080	U	ug/L	P377753	
		Acetamiprid**	0.0020	U	ug/L	P377753	
		Endothall**	0.25	U	ug/L	P377680	
		Glufosinate**	0.10	U	ug/L	P377680	
		Glyphosate**	0.10	U	ug/L	P377680	
		Afidopyrophen**	0.0020	UJ	ug/L	P377753	
		Bentazon	8.0E-04	U	ug/L	P377753	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P377753	
		Carbamazepine**	0.0012	I	ug/L	P377753	
		Clothianidin**	0.0020	U	ug/L	P377753	
		Dinotefuran**	0.0020	U	ug/L	P377753	
		Diuron	0.0020	U	ug/L	P377753	
		Fenuron	0.016	U	ug/L	P377753	
		Fluridone**	8.0E-04	U	ug/L	P377753	
		Imazapyr**	0.0040	U	ug/L	P377753	
		Hydrocodone**	0.0020	U	ug/L	P377753	
		Ibuprofen**	0.020	U	ug/L	P377753	
		Imidacloprid	0.0020	U	ug/L	P377753	
		Linuron	0.0040	U	ug/L	P377753	
		Mandestrobin**	0.0020	UJ	ug/L	P377753	
		MCPD	0.0020	U	ug/L	P377753	
		Naproxen**	0.0080	U	ug/L	P377753	
		Primidone**	0.0063	I	ug/L	P377753	
		Pyraclostrobin**	0.0020	U	ug/L	P377753	
		Thiamethoxam**	0.0020	U	ug/L	P377753	

Field ID: G3NW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151712	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P377753	
		Triclopyr**	0.0040	U	ug/L	P377753	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 365.1 Rev. 2.0: Total-P: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of analytical difficulties.

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

Sample Location: LAKE JUNIPER CENTER

Collection Date/Time: 01/23/2020 11:50

Field ID: G3NW0119_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151689	EPA 180.1 Rev. 2.0	Turbidity	0.45		NTU	P377787	
	EPA 300.0 Rev. 2.1	Chloride	6.3		mg Cl/L	P378151	
		Sulfate	1.1		mg SO4/L	P378156	
	SM 2120 B-2011	Color (true)	25		PCU	P377719	
	SM 2320 B-2011	Total Alkalinity	2.2	I	mg CaCO3/L	P378052	
	SM 2540 C-2011	TDS	22	I	mg/L	P378275	
	SM 2540 D-2011	TSS	2	I	mg/L	P378065	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378057	
2151691	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P378178	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P378172	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.094		mg N/L	P377938	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P378029	MS
	SM 5310 B-2011	Organic Carbon	4.7		mg C/L	P377957	
2151693	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P377760	
2151713	EPA 8321B	2,4-D	0.0020	U	ug/L	P377753	
		Acesulfame K**	0.10	U	ug/L	P377680	
		AMPA**	0.10	U	ug/L	P377680	
		Sucralose**	1.4		ug/L	P377680	
		Acetaminophen**	0.0080	U	ug/L	P377753	
		Acetamiprid**	0.0020	U	ug/L	P377753	
		Endothall**	0.25	U	ug/L	P377680	
		Glufosinate**	0.10	U	ug/L	P377680	
		Glyphosate**	0.10	U	ug/L	P377680	
		Afidopyropen**	0.0020	UJ	ug/L	P377753	
		Bentazon	8.0E-04	U	ug/L	P377753	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P377753	
		Carbamazepine**	0.0013	I	ug/L	P377753	
		Clothianidin**	0.0020	U	ug/L	P377753	
		Dinotefuran**	0.0020	U	ug/L	P377753	
		Diuron	0.0020	U	ug/L	P377753	
		Fenuron	0.016	U	ug/L	P377753	
		Fluridone**	8.0E-04	U	ug/L	P377753	
		Imazapyr**	0.0040	U	ug/L	P377753	
		Hydrocodone**	0.0020	U	ug/L	P377753	
		Ibuprofen**	0.020	U	ug/L	P377753	
		Imidacloprid	0.0020	U	ug/L	P377753	
		Linuron	0.0040	U	ug/L	P377753	
		Mandestrobin**	0.0020	UJ	ug/L	P377753	
		MCP	0.0020	U	ug/L	P377753	
		Naproxen**	0.0080	U	ug/L	P377753	
		Primidone**	0.0051	I	ug/L	P377753	
		Pyraclostrobin**	0.0020	U	ug/L	P377753	
		Thiamethoxam**	0.0020	U	ug/L	P377753	

Field ID: G3NW0119_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151713	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P377753	
		Triclopyr**	0.0040	U	ug/L	P377753	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of analytical difficulties.

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

Sample Location: CASSIDY LAKE CENTER

Collection Date/Time: 01/23/2020 13:05

Field ID: G3NW0183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151683	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P377787	
	EPA 300.0 Rev. 2.1	Chloride	2.9		mg Cl/L	P378151	
		Sulfate	0.94		mg SO4/L	P378156	
	SM 2120 B-2011	Color (true)	2.8	I	PCU	P377719	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P378052	
	SM 2540 C-2011	TDS	15	U	mg/L	P378275	
	SM 2540 D-2011	TSS	2	I	mg/L	P378065	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378057	
2151685	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P378178	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P378172	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P377938	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P378028	
	SM 5310 B-2011	Organic Carbon	2.5		mg C/L	P377956	
2151687	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P377760	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of analytical difficulties.

Sample Location: JUNIPER LAKE, CENTER

Collection Date/Time: 01/23/2020 12:15

Field ID: FB_01232020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151694	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P377787	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P378151	
		Sulfate	0.20	U	mg SO4/L	P378156	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P377720	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P378052	
	SM 2540 C-2011	TDS	15	U	mg/L	P378276	
	SM 2540 D-2011	TSS	2	U	mg/L	P378070	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378057	
2151695	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P378178	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P378172	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P378001	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P378029	MS
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P377956	
2151696	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P377760	
2151714	EPA 8321B	2,4-D	0.0020	U	ug/L	P377753	
		Acesulfame K**	0.10	U	ug/L	P377680	
		AMPA**	0.10	U	ug/L	P377680	
		Sucralose**	0.010	U	ug/L	P377680	
		Acetaminophen**	0.0080	U	ug/L	P377753	
		Acetamiprid**	0.0020	U	ug/L	P377753	
		Endothall**	0.25	U	ug/L	P377680	
		Glufosinate**	0.10	U	ug/L	P377680	
		Glyphosate**	0.10	U	ug/L	P377680	
		Afidopyrophen**	0.0020	UJ	ug/L	P377753	
		Bentazon	8.0E-04	U	ug/L	P377753	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P377753	
		Carbamazepine**	8.0E-04	U	ug/L	P377753	
		Clothianidin**	0.0020	U	ug/L	P377753	
		Dinotefuran**	0.0020	U	ug/L	P377753	
		Diuron	0.0020	U	ug/L	P377753	
		Fenuron	0.016	U	ug/L	P377753	
		Fluridone**	8.0E-04	U	ug/L	P377753	
		Imazapyr**	0.0040	U	ug/L	P377753	
		Hydrocodone**	0.0020	U	ug/L	P377753	
		Ibuprofen**	0.020	U	ug/L	P377753	
		Imidacloprid	0.0020	U	ug/L	P377753	
		Linuron	0.0040	U	ug/L	P377753	
		Mandestrobin**	0.0020	UJ	ug/L	P377753	
		MCPD	0.0020	U	ug/L	P377753	
		Naproxen**	0.0080	U	ug/L	P377753	
		Primidone**	0.0040	U	ug/L	P377753	
		Pyraclostrobin**	0.0020	U	ug/L	P377753	
		Thiamethoxam**	0.0020	U	ug/L	P377753	

Field ID: FB_01232020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151714	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P377753	
		Triclopyr**	0.0040	U	ug/L	P377753	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of analytical difficulties.

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P377787

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378151

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378156

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378178

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378392

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378172

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P377938

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378001

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378028

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378029

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377759

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377760

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

Reference Method: EPA 8321B
Batch ID: P377680

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: EPA 8321B
Batch ID: P377753

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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P377753

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

Reference Method: SM 2120 B-2011
Batch ID: P377719

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P377720

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P378052

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

Reference Method: SM 2540 C-2011
Batch ID: P378275

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P378276

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P378065

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P378070

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P378057

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P377956

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

Reference Method: SM 5310 B-2011
Batch ID: P377957

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: P378151

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378156

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378392

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378172

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P377938

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378001

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378028

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378029

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377759

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377760

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

Reference Method: EPA 8321B
Batch ID: P377680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	126		P	40 - 150
AMPA	85.5		P	40 - 150
Endothall	118		P	40 - 150
Glufosinate	89.6		P	40 - 150
Glyphosate	80.1		P	40 - 140
Sucralose	80.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P377753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	124		P	30 - 160
Acetaminophen	102		P	30 - 160
Acetamiprid	91.4		P	30 - 160
Afidopyropen	88.8		P	30 - 160
Bentazon	71.2		P	30 - 160
Benzovindiflupyr	83.8		P	30 - 160
Carbamazepine	100		P	30 - 160
Clothianidin	89.4		P	30 - 160
Dinotefuran	92.5		P	30 - 160
Diuron	77.9		P	30 - 160
Fenuron	100		P	30 - 160
Fluridone	98.3		P	30 - 160
Hydrocodone	96.1		P	30 - 160
Ibuprofen	93.3		P	30 - 160
Imazapyr	89.6		P	30 - 160
Imidacloprid	97.1		P	30 - 160
Linuron	73.6		P	30 - 160
Mandestrobin	92.2		P	30 - 160
MCPP	125		P	30 - 160
Naproxen	87.4		P	30 - 160
Primidone	92.7		P	30 - 160
Pyraclostrobin	84.5		P	30 - 160
Thiamethoxam	97.8		P	30 - 160
Tolfenpyrad	59.8		P	30 - 160
Triclopyr	81.4		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P377719

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P377720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P378052

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378057

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P377956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P377957

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151580	Chloride	102		P	90 - 110
2151682	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378156

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151682	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151685	Ammonia-N	98.4	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378392

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151610	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378172

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151684	Kjeldahl Nitrogen	98.5	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P377938

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151685	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378001

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151262	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151611	Total-P	109	110	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151690	Total-P	108	110	P/F	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P377759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151629	O-Phosphate-P	97.1	97.1	P/P	90 - 110
2151629	O-Phosphate-P	97.1		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P377680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151558	Acesulfame K	41.2	41.2	P/P	40 - 150
2151558	AMPA	95.4	96.6	P/P	40 - 150
2151558	Endothall	125	130	P/P	40 - 150
2151558	Glufosinate	86.4	97.1	P/P	40 - 150
2151558	Glyphosate	68.0	72.5	P/P	40 - 140
2151558	Sucralose	82.5	82.3	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P377753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151974	2,4-D	109	112	P/P	30 - 160
2151974	Acetaminophen	85.7	84.2	P/P	30 - 160
2151974	Acetamiprid	97.4	84.9	P/P	30 - 160
2151974	Afidopyropen	93.6	95.7	P/P	30 - 160
2151974	Bentazon	38.5	39.4	P/P	30 - 160
2151974	Benzovindiflupyr	79.2	81.3	P/P	30 - 160
2151974	Carbamazepine	77.8	80.2	P/P	30 - 160
2151974	Clothianidin	94.7	103	P/P	30 - 160
2151974	Dinotefuran	114	117	P/P	30 - 160
2151974	Diuron	65.5	65.3	P/P	30 - 160
2151974	Fenuron	83.4	81.8	P/P	30 - 160
2151974	Fluridone	89.3	98.5	P/P	30 - 160
2151974	Hydrocodone	87.8	106	P/P	30 - 160
2151974	Ibuprofen	72.3	74.6	P/P	30 - 160
2151974	Imazapyr	81.4	77.6	P/P	30 - 160
2151974	Imidacloprid	142	150	P/P	30 - 160
2151974	Linuron	65.6	64.2	P/P	30 - 160
2151974	Mandestrobin	84.7	85.5	P/P	30 - 160
2151974	MCPD	109	109	P/P	30 - 160
2151974	Naproxen	69.7	62.3	P/P	30 - 160
2151974	Primidone	87.5	89.9	P/P	30 - 160
2151974	Pyraclostrobin	79.9	82.9	P/P	30 - 160
2151974	Thiamethoxam	142	136	P/P	30 - 160
2151974	Tolfenpyrad	46.7	45.7	P/P	30 - 160
2151974	Triclopyr	80.7	88.9	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
 Batch ID: P378057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151851	Fluoride	104	105	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P377956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151547	Organic Carbon	95.8	97.0	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P377957

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151986	Organic Carbon	97.8	99.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P377787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151636	Turbidity	12.1	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151580	Chloride	0.871	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378156

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151580	Sulfate	0.418	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151685	Ammonia-N	1.55	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151610	Ammonia-N	1.91	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151684	Kjeldahl Nitrogen	1.66	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P377938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151685	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378001

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151262	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151611	Total-P	1.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151690	Total-P	2.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151629	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151696	O-Phosphate-P	1.29	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P377680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151558	Acesulfame K	0.0146	Spike	P	0 - 30
2151558	AMPA	1.24	Spike	P	0 - 30
2151558	Endothall	3.89	Spike	P	0 - 30
2151558	Glufosinate	11.7	Spike	P	0 - 30
2151558	Glyphosate	6.44	Spike	P	0 - 30
2151558	Sucralose	0.220	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P377753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151974	2,4-D	2.48	Spike	P	0 - 30
2151974	Acetaminophen	1.84	Spike	P	0 - 30
2151974	Acetamiprid	13.8	Spike	P	0 - 30
2151974	Afidopyropen	2.26	Spike	P	0 - 30
2151974	Bentazon	0.914	Spike	P	0 - 30
2151974	Benzovindiflupyr	2.55	Spike	P	0 - 30
2151974	Carbamazepine	3.04	Spike	P	0 - 30
2151974	Clothianidin	8.11	Spike	P	0 - 30
2151974	Dinotefuran	1.72	Spike	P	0 - 30
2151974	Diuron	0.285	Spike	P	0 - 30
2151974	Fenuron	1.97	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P377753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151974	Fluridone	9.79	Spike	P	0 - 30
2151974	Hydrocodone	18.9	Spike	P	0 - 30
2151974	Ibuprofen	3.20	Spike	P	0 - 30
2151974	Imazapyr	4.80	Spike	P	0 - 30
2151974	Imidacloprid	4.58	Spike	P	0 - 30
2151974	Linuron	2.16	Spike	P	0 - 30
2151974	Mandestrobin	1.05	Spike	P	0 - 30
2151974	MCP	0.159	Spike	P	0 - 30
2151974	Naproxen	11.1	Spike	P	0 - 30
2151974	Primidone	2.76	Spike	P	0 - 30
2151974	Pyraclostrobin	3.72	Spike	P	0 - 30
2151974	Thiamethoxam	4.42	Spike	P	0 - 30
2151974	Tolfenpyrad	2.17	Spike	P	0 - 30
2151974	Triclopyr	9.64	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P377719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151627	Color (true)	0.622	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P377720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151624	Color (true)	3.34	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P378052

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151851	Total Alkalinity	0.134	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P378275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151639	TDS	0.993	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P378276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151851	TDS	4.65	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P378057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151851	Fluoride	0.968	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P377956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151547	Organic Carbon	1.12	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P377957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151986	Organic Carbon	1.00	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2151712
Field Sample ID: G3NW0119

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.5	P	30 - 160
EPA 8321B	Diuron-d6	61.0	P	30 - 160
EPA 8321B	Endothall-d6	54.9	P	30 - 160
EPA 8321B	Endothall-d6	54.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	64.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	64.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.5	P	30 - 160
EPA 8321B	Primidone-d5	95.9	P	30 - 160
EPA 8321B	Sucralose-d6	91.6	P	30 - 160
EPA 8321B	Sucralose-d6	91.6	P	30 - 160

Lab Sample ID: 2151713
Field Sample ID: G3NW0119_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	116	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.4	P	30 - 160
EPA 8321B	Diuron-d6	72.1	P	30 - 160
EPA 8321B	Endothall-d6	106	P	30 - 160
EPA 8321B	Endothall-d6	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	61.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	61.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.2	P	30 - 160
EPA 8321B	Primidone-d5	91.9	P	30 - 160
EPA 8321B	Sucralose-d6	83.1	P	30 - 160
EPA 8321B	Sucralose-d6	83.1	P	30 - 160

Lab Sample ID: 2151714
Field Sample ID: FB_01232020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.8	P	30 - 160
EPA 8321B	Diuron-d6	82.1	P	30 - 160
EPA 8321B	Endothall-d6	119	P	30 - 160
EPA 8321B	Endothall-d6	119	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.2	P	30 - 160
EPA 8321B	Primidone-d5	96.9	P	30 - 160
EPA 8321B	Sucralose-d6	86.5	P	30 - 160
EPA 8321B	Sucralose-d6	86.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A97115

Included Lab Sample IDs: 2151682, 2151683, 2151688, 2151689, 2151694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.8	P/P	90 - 115
Color (true)	99.3	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97136

Included Lab Sample IDs: 2151686, 2151687, 2151692, 2151693, 2151696

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.6	P/P	90 - 110
O-Phosphate-P	98.6	96.2	P/P	90 - 110
O-Phosphate-P	98.6	99.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97142

Included Lab Sample IDs: 2151682, 2151683, 2151688, 2151689, 2151694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97170

Included Lab Sample IDs: 2151682, 2151683, 2151688, 2151689, 2151694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.3	99.6	P/P	90 - 110
Chloride	99.6	99.7	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110
Sulfate	99.0	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97186

Included Lab Sample IDs: 2151684, 2151685, 2151690, 2151691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A97198

Included Lab Sample IDs: 2151684, 2151685, 2151690, 2151691, 2151695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	99.4	P/P	90 - 110
Organic Carbon	99.4	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A97203

Included Lab Sample IDs: 2151712, 2151713, 2151714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	66.1	60.2	P/P	60 - 160
Endothall	136	150	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97204

Included Lab Sample IDs: 2151712, 2151713, 2151714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	82.1	79.5	P/P	60 - 160
Glufosinate	91.7	89.5	P/P	60 - 160
Glyphosate	77.6	86.8	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97211

Included Lab Sample IDs: 2151695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A97228

Included Lab Sample IDs: 2151682, 2151683, 2151688, 2151689, 2151694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97228

Included Lab Sample IDs: 2151682, 2151683, 2151688, 2151689, 2151694

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

Reference Method: EPA 8321B

Run ID: A97267

Included Lab Sample IDs: 2151712, 2151713, 2151714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.6	97.1	P/P	50 - 150
2,4-D	97.8	97.6	P/P	50 - 150
Acetaminophen	100	98.4	P/P	60 - 160
Acetaminophen	98.4	99.7	P/P	60 - 160
Acetamiprid	100	102	P/P	50 - 150
Acetamiprid	105	100	P/P	50 - 150
Afidopyropen	107	99.9	P/P	50 - 150
Afidopyropen	95.9	107	P/P	50 - 150
Bentazon	84.3	99.2	P/P	50 - 160
Bentazon	99.2	90.4	P/P	50 - 160
Benzovindiflupyr	107	107	P/P	50 - 150
Benzovindiflupyr	107	108	P/P	50 - 150
Carbamazepine	100	90.3	P/P	60 - 150
Carbamazepine	104	100	P/P	60 - 150
Clothianidin	113	119	P/P	60 - 150
Clothianidin	115	113	P/P	60 - 150
Dinotefuran	91.7	97.0	P/P	50 - 150
Dinotefuran	97.0	108	P/P	50 - 150
Diuron	106	108	P/P	60 - 150
Diuron	108	101	P/P	60 - 150
Fenuron	103	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97267

Included Lab Sample IDs: 2151712, 2151713, 2151714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	104	107	P/P	60 - 150
Fluridone	102	101	P/P	60 - 160
Fluridone	104	102	P/P	60 - 160
Hydrocodone	104	111	P/P	60 - 150
Hydrocodone	111	111	P/P	60 - 150
Ibuprofen	105	91.8	P/P	50 - 160
Ibuprofen	96.2	105	P/P	50 - 160
Imazapyr	107	107	P/P	50 - 150
Imazapyr	114	107	P/P	50 - 150
Imidacloprid	95.0	97.8	P/P	60 - 150
Imidacloprid	97.8	103	P/P	60 - 150
Linuron	101	95.6	P/P	60 - 150
Linuron	95.6	99.3	P/P	60 - 150
Mandestrobin	107	111	P/P	50 - 150
Mandestrobin	108	107	P/P	50 - 150
MCPP	89.8	96.7	P/P	50 - 150
MCPP	91.5	89.8	P/P	50 - 150
Naproxen	100	98.6	P/P	50 - 160
Naproxen	115	100	P/P	50 - 160
Primidone	102	96.3	P/P	60 - 150
Primidone	108	102	P/P	60 - 150
Pyraclostrobin	105	103	P/P	60 - 150
Pyraclostrobin	109	105	P/P	60 - 150
Thiamethoxam	108	114	P/P	50 - 150
Thiamethoxam	114	108	P/P	50 - 150
Tolfenpyrad	103	107	P/P	60 - 150
Tolfenpyrad	107	100	P/P	60 - 150
Triclopyr	104	92.7	P/P	50 - 150
Triclopyr	92.7	107	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A97273

Included Lab Sample IDs: 2151712, 2151713, 2151714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	89.2	83.8	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97280

Included Lab Sample IDs: 2151685, 2151690, 2151691, 2151695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	100	P/P	90 - 110
Ammonia-N	99.3	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97282

Included Lab Sample IDs: 2151684, 2151685, 2151690, 2151691, 2151695

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97282

Included Lab Sample IDs: 2151684, 2151685, 2151690, 2151691, 2151695

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97302

Included Lab Sample IDs: 2151684, 2151685, 2151690, 2151691, 2151695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	101	P/P	90 - 110
Kjeldahl Nitrogen	101	96.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97349

Included Lab Sample IDs: 2151684

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					12.1	
EPA 300.0 Rev. 2.1	Chloride	101	102	101		0.871	
	Sulfate	101	100			0.418	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	98.4	100			1.55
	Ammonia-N	102	101	103			1.91
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.0	98.5	101			1.66
EPA 353.2 Rev. 2.0	NO2NO3-N	103	103	103			0.0
	NO2NO3-N	101	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	105	109	110			1.02
	Total-P	104	108	110			2.32
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	104	97.1	97.1	97.1		0.0
	O-Phosphate-P	99.5					1.29
EPA 8321B	2,4-D	124	109	112			2.48
	Acesulfame K	126	41.2	41.2			0.0146
	Acetaminophen	102	84.2	85.7			1.84
	Acetamiprid	91.4	84.9	97.4			13.8
	Afidopyropen	88.8	95.7	93.6			2.26
	AMPA	85.5	95.4	96.6			1.24
	Bentazon	71.2	39.4	38.5			0.914
	Benzovindiflupyr	83.8	81.3	79.2			2.55
	Carbamazepine	100	80.2	77.8			3.04
	Clothianidin	89.4	103	94.7			8.11
	Dinotefuran	92.5	117	114			1.72
	Diuron	77.9	65.3	65.5			0.285
	Endothall	118	125	130			3.89
	Fenuron	100	81.8	83.4			1.97
	Fluridone	98.3	98.5	89.3			9.79
	Glufosinate	89.6	86.4	97.1			11.7
	Glyphosate	80.1	68.0	72.5			6.44
	Hydrocodone	96.1	106	87.8			18.9
	Ibuprofen	93.3	72.3	74.6			3.20
	Imazapyr	89.6	77.6	81.4			4.80
	Imidacloprid	97.1	150	142			4.58
	Linuron	73.6	64.2	65.6			2.16
	Mandestrobin	92.2	85.5	84.7			1.05
	MCPP	125	109	109			0.159
	Naproxen	87.4	69.7	62.3			11.1
	Primidone	92.7	89.9	87.5			2.76
	Pyraclostrobin	84.5	82.9	79.9			3.72
	Sucralose	80.9	82.5	82.3			0.220
	Thiamethoxam	97.8	136	142			4.42
	Tolfenpyrad	59.8	45.7	46.7			2.17
	Triclopyr	81.4	80.7	88.9			9.64
SM 2120 B-2011	Color (true)	101				0.622	
	Color (true)	101				3.34	
SM 2320 B-2011	Total Alkalinity	103				0.134	
SM 2540 C-2011	TDS					0.993	
	TDS					4.65	
SM 4500 F-C-2011	Fluoride	97.2	104	105			0.968
SM 5310 B-2011	Organic Carbon	99.2	95.8	97.0			1.12
	Organic Carbon	98.6	99.2	97.8			1.00

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2151682, 2151683, 2151688, 2151689, 2151694
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2151682, 2151683, 2151688, 2151689, 2151694
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2151682, 2151683, 2151688, 2151689, 2151694
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2151684, 2151685, 2151690, 2151691, 2151695
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2151684, 2151685, 2151690, 2151691, 2151695
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2151684, 2151685, 2151690, 2151691, 2151695
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2151684, 2151685, 2151690, 2151691, 2151695
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2151686, 2151687, 2151692, 2151693, 2151696
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2151712, 2151713, 2151714
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2151712, 2151713, 2151714
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2151682, 2151683, 2151688, 2151689, 2151694
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2151682, 2151683, 2151688, 2151689, 2151694
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2151682, 2151683, 2151688, 2151689, 2151694
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2151682, 2151683, 2151688, 2151689, 2151694
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2151682, 2151683, 2151688, 2151689, 2151694
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2151684, 2151685, 2151690, 2151691, 2151695

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	01/24/2020			01/24/2020 16:34	Yen Ta	2151682, 2151683, 2151688, 2151689, 2151694
EPA 300.0 Rev. 2.1	01/24/2020			01/30/2020 22:46	Lipi Saha	2151682
	01/24/2020			01/31/2020 01:48	Lipi Saha	2151683
	01/24/2020			01/31/2020 02:00	Lipi Saha	2151688
	01/24/2020			01/31/2020 02:12	Lipi Saha	2151689
	01/24/2020			01/31/2020 02:24	Lipi Saha	2151694
EPA 350.1 Rev. 2.0	01/24/2020			02/03/2020 12:22	Ping Hua	2151685
	01/24/2020			02/03/2020 12:37	Ping Hua	2151690
	01/24/2020			02/03/2020 12:38	Ping Hua	2151691
	01/24/2020			02/03/2020 12:43	Ping Hua	2151695
	01/24/2020			02/04/2020 12:55	Ping Hua	2151684
EPA 351.2 Rev. 2.0	01/24/2020	02/03/2020 11:45	Jhamieka S. Greenwood	02/04/2020 14:11	Jhamieka S. Greenwood	2151684
	01/24/2020	02/03/2020 11:45	Jhamieka S. Greenwood	02/04/2020 14:15	Jhamieka S. Greenwood	2151685
	01/24/2020	02/03/2020 11:45	Jhamieka S. Greenwood	02/04/2020 14:17	Jhamieka S. Greenwood	2151690
	01/24/2020	02/03/2020 11:45	Jhamieka S. Greenwood	02/04/2020 14:18	Jhamieka S. Greenwood	2151691
	01/24/2020	02/03/2020 11:45	Jhamieka S. Greenwood	02/04/2020 14:23	Jhamieka S. Greenwood	2151695
EPA 353.2 Rev. 2.0	01/24/2020			01/29/2020 10:36	Beverly Y. Sanders	2151684
	01/24/2020			01/29/2020 10:37	Beverly Y. Sanders	2151685
	01/24/2020			01/29/2020 10:39	Beverly Y. Sanders	2151690
	01/24/2020			01/29/2020 10:40	Beverly Y. Sanders	2151691
	01/24/2020			01/30/2020 10:27	Beverly Y. Sanders	2151695
EPA 365.1 Rev. 2.0	01/24/2020	01/30/2020 14:58	Yen Ta	02/03/2020 12:34	Benjamin T. Nordmann	2151684
	01/24/2020	01/30/2020 14:58	Yen Ta	02/03/2020 12:35	Benjamin T. Nordmann	2151685
	01/24/2020	01/30/2020 14:58	Yen Ta	02/03/2020 12:38	Benjamin T. Nordmann	2151690
	01/24/2020	01/30/2020 14:58	Yen Ta	02/03/2020 12:39	Benjamin T. Nordmann	2151691
	01/24/2020	01/30/2020 14:58	Yen Ta	02/03/2020 13:11	Benjamin T. Nordmann	2151695
EPA 365.1 Rev. 2.0 dissolved	01/24/2020			01/24/2020 16:29	Carlos Miranda	2151696
	01/24/2020			01/24/2020 16:59	Carlos Miranda	2151686
	01/24/2020			01/24/2020 17:00	Carlos Miranda	2151687
	01/24/2020			01/24/2020 17:01	Carlos Miranda	2151692
	01/24/2020			01/24/2020 17:06	Carlos Miranda	2151693
EPA 8321B	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/28/2020 12:33	Rebecca Ware	2151712
	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/28/2020 12:44	Rebecca Ware	2151713
	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/28/2020 12:55	Rebecca Ware	2151714
	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/29/2020 13:39	Rebecca Ware	2151712
	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/29/2020 13:53	Rebecca Ware	2151713
	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/29/2020 14:07	Rebecca Ware	2151714
	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/30/2020 02:59	Rebecca Ware	2151712
	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/30/2020 03:11	Rebecca Ware	2151713

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	01/24/2020	01/28/2020 11:30	Rebecca Ware	01/30/2020 03:23	Rebecca Ware	2151714
	01/24/2020	01/29/2020 10:00	Hoor Shaik	01/31/2020 22:35	Juyoung Kim	2151712
	01/24/2020	01/29/2020 10:00	Hoor Shaik	01/31/2020 23:09	Juyoung Kim	2151713
	01/24/2020	01/29/2020 10:00	Hoor Shaik	02/01/2020 00:19	Juyoung Kim	2151714
SM 2120 B-2011	01/24/2020			01/24/2020 17:46	Madeline Funaro	2151682
	01/24/2020			01/24/2020 17:47	Madeline Funaro	2151683
	01/24/2020			01/24/2020 17:48	Madeline Funaro	2151688, 2151689
	01/24/2020			01/24/2020 17:55	Madeline Funaro	2151694
SM 2320 B-2011	01/24/2020			01/30/2020 09:29	Dale L. Simmons	2151682
	01/24/2020			01/30/2020 09:42	Dale L. Simmons	2151683
	01/24/2020			01/30/2020 09:57	Dale L. Simmons	2151688
	01/24/2020			01/30/2020 10:11	Dale L. Simmons	2151689
SM 2540 C-2011	01/24/2020			01/30/2020 10:25	Dale L. Simmons	2151694
	01/24/2020			01/29/2020 17:00	Blanca Fach	2151682, 2151683, 2151688, 2151689, 2151694
SM 2540 D-2011	01/24/2020			01/29/2020 17:00	Blanca Fach	2151682, 2151683, 2151688, 2151689, 2151694
SM 4500 F-C-2011	01/24/2020			01/30/2020 09:29	Dale L. Simmons	2151682
	01/24/2020			01/30/2020 09:42	Dale L. Simmons	2151683
	01/24/2020			01/30/2020 09:57	Dale L. Simmons	2151688
	01/24/2020			01/30/2020 10:11	Dale L. Simmons	2151689
SM 5310 B-2011	01/24/2020			01/30/2020 10:25	Dale L. Simmons	2151694
	01/24/2020			01/29/2020 22:06	Madeline Funaro	2151684
	01/24/2020			01/29/2020 22:18	Madeline Funaro	2151685
	01/24/2020			01/29/2020 22:30	Madeline Funaro	2151695
	01/24/2020			01/30/2020 00:28	Madeline Funaro	2151690
	01/24/2020			01/30/2020 00:40	Madeline Funaro	2151691