

Chemical Analysis Report

SO-DIST-2020-02-20-01

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

Event Description: **2020 SMP : Placid Lakes**
Request ID: **RQ-2020-02-17-52**
Customer: **SO-DIST**
Project ID: **SMP**

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

Date Certified: 13-MAR-2020 12:42

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Lake Apthorpe @ Center

Collection Date/Time: 02/19/2020 10:20

Field ID: G4SD0185

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159547	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P379299	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P379813	
		Sulfate	32		mg SO4/L	P379816	
	SM 2120 B-2011	Color (true)	20	A	PCU	P379378	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P379788	
	SM 2540 C-2011	TDS	98		mg/L	P379939	
	SM 2540 D-2011	TSS	2	I	mg/L	P379965	
	SM 4500 F-C-2011	Fluoride	0.049	I	mg F/L	P379749	
2159549	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P379729	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P380193	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.72		mg N/L	P380022	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P379892	
	SM 5310 B-2011	Organic Carbon	7.1		mg C/L	P379590	
2159551	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P379319	
2159570	EPA 8321B	2,4-D	0.0031	I	ug/L	P379423	
		Acesulfame K**	0.10	UJ	ug/L	P379265	MS
		AMPA**	0.10	U	ug/L	P379265	
		Sucralose**	0.66		ug/L	P379265	
		Acetaminophen**	0.0080	U	ug/L	P379423	
		Acetamiprid**	0.0020	U	ug/L	P379423	
		Endothall**	0.25	U	ug/L	P379265	
		Glufosinate**	0.10	UJ	ug/L	P379265	MS
		Glyphosate**	0.10	UJ	ug/L	P379265	MS
		Afidopyropen**	0.0020	UJ	ug/L	P379423	
		Bentazon	0.0046		ug/L	P379423	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P379423	
		Carbamazepine**	8.0E-04	U	ug/L	P379423	
		Clothianidin**	0.014		ug/L	P379423	
		Dinotefuran**	0.0020	U	ug/L	P379423	
		Diuron	0.0038	I	ug/L	P379423	
		Fenuron	0.016	U	ug/L	P379423	
		Fluridone**	0.0044		ug/L	P379423	
		Imazapyr**	0.010	I	ug/L	P379423	
		Hydrocodone**	0.0020	U	ug/L	P379423	
		Ibuprofen**	0.020	U	ug/L	P379423	
		Imidacloprid	0.14		ug/L	P379423	
		Linuron	0.0040	U	ug/L	P379423	
		Mandestrobin**	0.0020	UJ	ug/L	P379423	
		MCP	0.0020	U	ug/L	P379423	MS
		Naproxen**	0.0080	U	ug/L	P379423	
		Primidone**	0.0060	I	ug/L	P379423	
		Pyraclostrobin**	0.0020	U	ug/L	P379423	
		Thiamethoxam**	0.030		ug/L	P379423	

Field ID: G4SD0185

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159570	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P379423	
		Triclopyr**	0.0040	U	ug/L	P379423	

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: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Buck Lake @ Middle

Collection Date/Time: 02/19/2020 11:00

Field ID: G4SD0158

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159548	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P379299	
	EPA 300.0 Rev. 2.1	Chloride	19	A	mg Cl/L	P379814	
		Sulfate	56	A	mg SO4/L	P379817	
	SM 2120 B-2011	Color (true)	3.4	I	PCU	P379378	
	SM 2320 B-2011	Total Alkalinity	16		mg CaCO3/L	P379788	
	SM 2540 C-2011	TDS	183		mg/L	P379939	
	SM 2540 D-2011	TSS	2	U	mg/L	P379965	
	SM 4500 F-C-2011	Fluoride	0.078	I	mg F/L	P379749	
2159550	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P379729	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	IJ	mg N/L	P380194	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	12		mg N/L	P380022	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P379892	
	SM 5310 B-2011	Organic Carbon	3.6		mg C/L	P379590	
2159552	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P379319	
2159571	EPA 8321B	2,4-D	0.0061	I	ug/L	P379423	
		Acesulfame K**	0.10	U	ug/L	P379265	MS
		AMPA**	0.10	U	ug/L	P379265	
		Sucralose**	0.012	I	ug/L	P379265	
		Acetaminophen**	0.0080	U	ug/L	P379423	
		Acetamiprid**	0.0020	U	ug/L	P379423	
		Endothall**	0.25	U	ug/L	P379265	
		Glufosinate**	0.10	U	ug/L	P379265	MS
		Glyphosate**	0.10	U	ug/L	P379265	MS
		Afidopyrophen**	0.0020	UJ	ug/L	P379423	
		Bentazon	8.0E-04	U	ug/L	P379423	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P379423	
		Carbamazepine**	8.0E-04	U	ug/L	P379423	
		Clothianidin**	0.14		ug/L	P379423	
		Dinotefuran**	0.0020	U	ug/L	P379423	
		Diuron	0.057		ug/L	P379423	
		Fenuron	0.016	U	ug/L	P379423	
		Fluridone**	8.0E-04	U	ug/L	P379423	
		Imazapyr**	0.0040	U	ug/L	P379423	
		Hydrocodone**	0.0020	U	ug/L	P379423	
		Ibuprofen**	0.020	U	ug/L	P379423	
		Imidacloprid	0.42		ug/L	P379423	
		Linuron	0.0040	U	ug/L	P379423	
		Mandestrobin**	0.0020	UJ	ug/L	P379423	
		MCP	0.0020	U	ug/L	P379423	MS
		Naproxen**	0.0080	U	ug/L	P379423	
		Primidone**	0.0040	U	ug/L	P379423	
		Pyraclostrobin**	0.0020	U	ug/L	P379423	
		Thiamethoxam**	0.21		ug/L	P379423	

Field ID: G4SD0158

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159571	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P379423	
		Triclopyr**	0.0040	U	ug/L	P379423	

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 351.2 Rev. 2.0: The PQL was elevated because of high nitrate concentration in the sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Lake Francis @ Center

Collection Date/Time: 02/19/2020 11:50

Field ID: G4SD0187

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159553	EPA 180.1 Rev. 2.0	Turbidity	4.0	A	NTU	P379299	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P379814	
		Sulfate	24		mg SO4/L	P379817	
	SM 2120 B-2011	Color (true)	7.8		PCU	P379378	
	SM 2320 B-2011	Total Alkalinity	27		mg CaCO3/L	P379788	
	SM 2540 C-2011	TDS	99		mg/L	P379939	
	SM 2540 D-2011	TSS	6	I	mg/L	P379965	
	SM 4500 F-C-2011	Fluoride	0.054	I	mg F/L	P379749	
2159556	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P379729	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P380193	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P380022	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P379892	
	SM 5310 B-2011	Organic Carbon	6.4		mg C/L	P379590	
2159559	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P379319	

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 June @ Center

Collection Date/Time: 02/19/2020 12:25

Field ID: G4SD0186

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159554	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P379299	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P379814	
		Sulfate	26		mg SO4/L	P379817	
		Color (true)	7.7		PCU	P379378	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P379788	
	SM 2540 C-2011	TDS	89		mg/L	P379939	
	SM 2540 D-2011	TSS	5	I	mg/L	P379965	
	SM 4500 F-C-2011	Fluoride	0.062	I	mg F/L	P379749	
2159557	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P379729	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P380193	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P380022	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P379894	
	SM 5310 B-2011	Organic Carbon	6.4		mg C/L	P379590	
2159560	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P379319	

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 Placid

Collection Date/Time: 02/19/2020 13:15

Field ID: G4SD0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159555	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P379299	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P379814	
		Sulfate	17		mg SO4/L	P379817	
		Color (true)	8.5		PCU	P379378	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P379788	
	SM 2540 C-2011	TDS	69		mg/L	P379939	
	SM 2540 D-2011	TSS	8	I	mg/L	P379965	
	SM 4500 F-C-2011	Fluoride	0.052	I	mg F/L	P379749	
2159558	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P379729	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P380193	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P380022	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P379894	
	SM 5310 B-2011	Organic Carbon	6.1		mg C/L	P379590	
2159561	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P379319	

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 Placid

Collection Date/Time: 02/19/2020 13:30

Field ID: FB_02192020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159562	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P379299	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P379814	
		Sulfate	0.20	U	mg SO4/L	P379817	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P379379	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P379788	
	SM 2540 C-2011	TDS	15	U	mg/L	P379935	
	SM 2540 D-2011	TSS	2	U	mg/L	P379961	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P379749	
2159563	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P379729	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P380193	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P380099	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P379894	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P379590	
2159564	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P379320	

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P379299

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379813

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379814

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379816

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379817

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379729

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380193

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380194

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380022

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: P380099

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379892

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379894

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379319

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379320

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

Reference Method: EPA 8321B
Batch ID: P379265

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: P379423

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379423

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

Reference Method: SM 2120 B-2011
Batch ID: P379378

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P379379

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P379788

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

Reference Method: SM 2540 C-2011
Batch ID: P379935

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P379939

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P379961

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P379965

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P379749

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P379590

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: P379813

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379814

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379816

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379817

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379729

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380193

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380194

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380022

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	100		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380099

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	98.5		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379892

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379894

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379319

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379320

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

Reference Method: EPA 8321B
Batch ID: P379265

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	88.5		P	40 - 150
AMPA	71.4		P	40 - 150
Endothall	103		P	40 - 150
Glufosinate	97.7		P	40 - 150
Glyphosate	104		P	40 - 140
Sucralose	118		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	135		P	30 - 160
Acetaminophen	61.4		P	30 - 160
Acetamiprid	83.6		P	30 - 160
Afidopyropen	79.0		P	30 - 160
Bentazon	90.1		P	30 - 160
Benzovindiflupyr	70.5		P	30 - 160
Carbamazepine	91.6		P	30 - 160
Clothianidin	71.3		P	30 - 160
Dinotefuran	74.2		P	30 - 160
Diuron	72.8		P	30 - 160
Fenuron	91.1		P	30 - 160
Fluridone	87.5		P	30 - 160
Hydrocodone	76.4		P	30 - 160
Ibuprofen	72.2		P	30 - 160
Imazapyr	82.6		P	30 - 160
Imidacloprid	87.1		P	30 - 160
Linuron	68.7		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mandestrobin	87.5		P	30 - 160
MCP	143		P	30 - 160
Naproxen	71.0		P	30 - 160
Primidone	82.2		P	30 - 160
Pyraclostrobin	69.8		P	30 - 160
Thiamethoxam	67.7		P	30 - 160
Tolfenpyrad	44.1		P	30 - 160
Triclopyr	107		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P379378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P379379

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P379788

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

Reference Method: SM 4500 F-C-2011
Batch ID: P379749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P379590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159337	Chloride	101		P	90 - 110
2159456	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159548	Chloride	101		P	90 - 110
2159619	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159337	Sulfate	100		P	90 - 110
2159456	Sulfate	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159619	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159549	Ammonia-N	99.7	99.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2161949	Kjeldahl Nitrogen	95.8	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159550	Kjeldahl Nitrogen	81.8	90.7	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159556	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380099

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159580	NO2NO3-N	100	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159448	Total-P	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379894

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159417	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P379319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159418	O-Phosphate-P	98.8	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P379320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159582	O-Phosphate-P	94.2	95.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P379265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159570	Acesulfame K	20.9	20.4	F/F	40 - 150
2159570	AMPA	75.2	81.3	P/P	40 - 150
2159570	Endothall	125	145	P/P	40 - 150
2159570	Glufosinate	169	172	F/F	40 - 150
2159570	Glyphosate	163	170	F/F	40 - 140
2159570	Sucralose	108	117	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P379423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159296	2,4-D	153	140	P/P	30 - 160
2159296	Acetaminophen	61.4	52.4	P/P	30 - 160
2159296	Acetamiprid	89.9	90.6	P/P	30 - 160
2159296	Afidopyropen	91.2	84.3	P/P	30 - 160
2159296	Benzovindiflupyr	76.7	70.1	P/P	30 - 160
2159296	Carbamazepine	99.7	88.1	P/P	30 - 160
2159296	Clothianidin	93.1	79.4	P/P	30 - 160
2159296	Dinotefuran	101	84.7	P/P	30 - 160
2159296	Diuron	67.0	58.4	P/P	30 - 160
2159296	Fenuron	78.9	72.7	P/P	30 - 160
2159296	Hydrocodone	101	107	P/P	30 - 160
2159296	Ibuprofen	79.5	66.9	P/P	30 - 160
2159296	Imidacloprid	156	139	P/P	30 - 160
2159296	Linuron	70.2	60.6	P/P	30 - 160
2159296	Mandestrobin	86.2	78.8	P/P	30 - 160
2159296	MCP	166	150	F/P	30 - 160
2159296	Naproxen	101	121	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P379423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159296	Primidone	87.5	78.1	P/P	30 - 160
2159296	Pyraclostrobin	82.8	73.8	P/P	30 - 160
2159296	Thiamethoxam	124	123	P/P	30 - 160
2159296	Tolfenpyrad	50.7	48.8	P/P	30 - 160
2159296	Triclopyr	135	121	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P379749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159368	Fluoride	99.0	99.0	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P379590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159449	Organic Carbon	103	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P379299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159553	Turbidity	3.00	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159456	Chloride	0.0785	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159548	Chloride	0.323	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159456	Sulfate	0.351	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159548	Sulfate	0.278	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159549	Ammonia-N	0.155	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2161949	Kjeldahl Nitrogen	4.69	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159550	Kjeldahl Nitrogen	8.68	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P380022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159556	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P380099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159580	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159448	Total-P	0.600	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159417	Total-P	0.546	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P379319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159418	O-Phosphate-P	1.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P379320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159582	O-Phosphate-P	1.16	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P379265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159570	Acesulfame K	2.29	Spike	P	0 - 30
2159570	AMPA	7.74	Spike	P	0 - 30
2159570	Endothall	15.1	Spike	P	0 - 30
2159570	Glufosinate	1.68	Spike	P	0 - 30
2159570	Glyphosate	4.04	Spike	P	0 - 30
2159570	Sucralose	6.02	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P379423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159296	2,4-D	8.91	Spike	P	0 - 30
2159296	Acetaminophen	15.8	Spike	P	0 - 30
2159296	Acetamiprid	0.739	Spike	P	0 - 30
2159296	Afidopyropen	7.83	Spike	P	0 - 30
2159296	Benzovindiflupyr	9.09	Spike	P	0 - 30
2159296	Carbamazepine	11.8	Spike	P	0 - 30
2159296	Clothianidin	15.9	Spike	P	0 - 30
2159296	Dinotefuran	17.3	Spike	P	0 - 30
2159296	Diuron	13.7	Spike	P	0 - 30
2159296	Fenuron	8.14	Spike	P	0 - 30
2159296	Fluridone	9.29	Spike	P	0 - 30
2159296	Hydrocodone	5.48	Spike	P	0 - 30
2159296	Ibuprofen	17.2	Spike	P	0 - 30
2159296	Imazapyr	10.9	Spike	P	0 - 30
2159296	Imidacloprid	11.7	Spike	P	0 - 30
2159296	Linuron	14.7	Spike	P	0 - 30
2159296	Mandestrobin	8.94	Spike	P	0 - 30
2159296	MCPP	9.80	Spike	P	0 - 30
2159296	Naproxen	18.5	Spike	P	0 - 30
2159296	Primidone	11.3	Spike	P	0 - 30
2159296	Pyraclostrobin	11.6	Spike	P	0 - 30
2159296	Thiamethoxam	0.677	Spike	P	0 - 30
2159296	Tolfenpyrad	3.82	Spike	P	0 - 30
2159296	Triclopyr	10.7	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
 Batch ID: P379378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159547	Color (true)	2.45	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
 Batch ID: P379379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159613	Color (true)	1.37	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P379788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159368	Total Alkalinity	0.0315	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
 Batch ID: P379935

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

Reference Method: SM 2540 C-2011
Batch ID: P379935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159108	TDS	3.67	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P379939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159369	TDS	1.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P379749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159368	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P379590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159449	Organic Carbon	0.0	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2159570
Field Sample ID: G4SD0185

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	90.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	54.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.7	P	30 - 160
EPA 8321B	Diuron-d6	74.0	P	30 - 160
EPA 8321B	Endothall-d6	74.3	P	30 - 160
EPA 8321B	Endothall-d6	74.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Ibuprofen-d3	73.1	P	30 - 160
EPA 8321B	Primidone-d5	76.9	P	30 - 160
EPA 8321B	Sucralose-d6	110	P	30 - 160
EPA 8321B	Sucralose-d6	110	P	30 - 160

Lab Sample ID: 2159571
Field Sample ID: G4SD0158

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	35.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	78.4	P	30 - 160
EPA 8321B	Endothall-d6	58.1	P	30 - 160
EPA 8321B	Endothall-d6	58.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	115	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	115	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.8	P	30 - 160
EPA 8321B	Primidone-d5	87.7	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97689

Included Lab Sample IDs: 2159547, 2159548, 2159553, 2159554, 2159555, 2159562

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97691

Included Lab Sample IDs: 2159551, 2159552, 2159559, 2159560, 2159561, 2159564

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.8	97.9	P/P	90 - 110
O-Phosphate-P	97.7	96.8	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A97728

Included Lab Sample IDs: 2159547, 2159548, 2159553, 2159554, 2159555, 2159562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	101	P/P	90 - 115
Color (true)	99.5	99.3	P/P	90 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97771

Included Lab Sample IDs: 2159547, 2159548, 2159553, 2159554, 2159555, 2159562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	99.5	P/P	90 - 110
Chloride	99.5	99.8	P/P	90 - 110
Sulfate	98.6	99.1	P/P	90 - 110
Sulfate	99.1	99.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A97799

Included Lab Sample IDs: 2159549, 2159550, 2159556, 2159557, 2159558, 2159563

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

Reference Method: EPA 8321B

Run ID: A97819

Included Lab Sample IDs: 2159570, 2159571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	73.5	76.2	P/P	60 - 160
Glufosinate	102	91.9	P/P	60 - 160
Glyphosate	98.7	103	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97843

Included Lab Sample IDs: 2159549, 2159550, 2159556, 2159557, 2159558, 2159563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	99.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97843

Included Lab Sample IDs: 2159549, 2159550, 2159556, 2159557, 2159558, 2159563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97845

Included Lab Sample IDs: 2159547, 2159548, 2159553, 2159554, 2159555, 2159562

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

Reference Method: SM 2320 B-2011

Run ID: A97872

Included Lab Sample IDs: 2159547, 2159548, 2159553, 2159554, 2159555, 2159562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A97908

Included Lab Sample IDs: 2159570, 2159571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	125	119	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A97914

Included Lab Sample IDs: 2159570, 2159571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	108	73.9	P/P	60 - 160
Endothall	84.0	92.6	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97974

Included Lab Sample IDs: 2159549, 2159550, 2159556, 2159557, 2159558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A98012

Included Lab Sample IDs: 2159563

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98038

Included Lab Sample IDs: 2159549, 2159550, 2159556, 2159557, 2159558, 2159563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98038

Included Lab Sample IDs: 2159549, 2159550, 2159556, 2159557, 2159558, 2159563

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A98065

Included Lab Sample IDs: 2159549, 2159550, 2159556, 2159557, 2159558, 2159563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	97.0	P/P	90 - 110
Kjeldahl Nitrogen	97.0	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A98067

Included Lab Sample IDs: 2159570, 2159571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	109	95.4	P/P	50 - 150
Acetaminophen	99.9	111	P/P	60 - 160
Acetamiprid	98.6	102	P/P	50 - 150
Afidopyropen	86.3	87.2	P/P	50 - 150
Bentazon	104	99.2	P/P	50 - 160
Benzovindiflupyr	101	100	P/P	50 - 150
Carbamazepine	106	98.8	P/P	60 - 150
Clothianidin	82.1	80.5	P/P	60 - 150
Dinotefuran	90.5	60.8	P/P	50 - 150
Diuron	101	80.1	P/P	60 - 150
Fenuron	95.0	86.6	P/P	60 - 150
Fluridone	102	98.8	P/P	60 - 160
Hydrocodone	99.6	98.1	P/P	60 - 150
Ibuprofen	84.3	77.2	P/P	50 - 160
Imazapyr	91.6	88.3	P/P	50 - 150
Imidacloprid	91.4	82.8	P/P	60 - 150
Linuron	93.4	99.8	P/P	60 - 150
Mandestrobin	108	104	P/P	50 - 150
MCPP	93.8	101	P/P	50 - 150
Naproxen	103	115	P/P	50 - 160
Primidone	99.0	97.3	P/P	60 - 150
Pyraclostrobin	100	101	P/P	60 - 150
Thiamethoxam	101	93.2	P/P	50 - 150
Tolfenpyrad	97.2	101	P/P	60 - 150
Triclopyr	93.6	104	P/P	50 - 150

* 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					3.00	
EPA 300.0 Rev. 2.1	Chloride	99.9	99.9	101		0.0785	
	Chloride	101	101	101		0.323	
	Sulfate	100	100	100		0.351	
	Sulfate	101	100			0.278	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	99.7	99.9			0.155
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	95.8	103			4.69
	Kjeldahl Nitrogen	100	81.8	90.7			8.68
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	101			0.0
	NO2NO3-N	98.5	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	102	106	105			0.600
	Total-P	103	104	105			0.546
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	98.8	100			1.31
	O-Phosphate-P	103	94.2	95.3			1.16
EPA 8321B	2,4-D	135	153	140			8.91
	Acesulfame K	88.5	20.9	20.4			2.29
	Acetaminophen	61.4	61.4	52.4			15.8
	Acetamiprid	83.6	89.9	90.6			0.739
	Afidopyropen	79.0	91.2	84.3			7.83
	AMPA	71.4	75.2	81.3			7.74
	Bentazon	90.1					
	Benzovindiflupyr	70.5	76.7	70.1			9.09
	Carbamazepine	91.6	99.7	88.1			11.8
	Clothianidin	71.3	93.1	79.4			15.9
	Dinotefuran	74.2	101	84.7			17.3
	Diuron	72.8	67.0	58.4			13.7
	Endothall	103	125	145			15.1
	Fenuron	91.1	78.9	72.7			8.14
	Fluridone	87.5					9.29
	Glufosinate	97.7	169	172			1.68
	Glyphosate	104	163	170			4.04
	Hydrocodone	76.4	101	107			5.48
	Ibuprofen	72.2	79.5	66.9			17.2
	Imazapyr	82.6					10.9
	Imidacloprid	87.1	156	139			11.7
	Linuron	68.7	70.2	60.6			14.7
	Mandestrobin	87.5	86.2	78.8			8.94
	MCPP	143	166	150			9.80
	Naproxen	71.0	101	121			18.5
	Primidone	82.2	87.5	78.1			11.3
	Pyraclostrobin	69.8	82.8	73.8			11.6
	Sucralose	118	108	117			6.02
	Thiamethoxam	67.7	124	123			0.677
	Tolfenpyrad	44.1	50.7	48.8			3.82
	Triclopyr	107	135	121			10.7
SM 2120 B-2011	Color (true)	99.0				2.45	
	Color (true)	99.9				1.37	
SM 2320 B-2011	Total Alkalinity	102				0.0315	
SM 2540 C-2011	TDS					3.67	
	TDS					1.80	
SM 4500 F-C-2011	Fluoride	99.5	99.0	99.0			0.0
SM 5310 B-2011	Organic Carbon	100	103	103			0.0

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2159549, 2159550, 2159556, 2159557, 2159558, 2159563
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2159549, 2159550, 2159556, 2159557, 2159558, 2159563
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2159549, 2159550, 2159556, 2159557, 2159558, 2159563
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2159549, 2159550, 2159556, 2159557, 2159558, 2159563
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2159551, 2159552, 2159559, 2159560, 2159561, 2159564
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2159570, 2159571
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2159570, 2159571
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2159549, 2159550, 2159556, 2159557, 2159558, 2159563

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	02/20/2020			02/20/2020 17:14	Julia Storbeck	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
EPA 300.0 Rev. 2.1	02/20/2020			02/28/2020 02:41	Elliott Rodriguez	2159547
	02/20/2020			02/28/2020 04:06	Elliott Rodriguez	2159548
	02/20/2020			02/28/2020 04:54	Elliott Rodriguez	2159553
	02/20/2020			02/28/2020 05:06	Elliott Rodriguez	2159554
	02/20/2020			02/28/2020 05:18	Elliott Rodriguez	2159555
	02/20/2020			02/28/2020 05:31	Elliott Rodriguez	2159562
EPA 350.1 Rev. 2.0	02/20/2020			02/26/2020 10:42	Ping Hua	2159549
	02/20/2020			02/26/2020 10:57	Ping Hua	2159550
	02/20/2020			02/26/2020 10:59	Ping Hua	2159556
	02/20/2020			02/26/2020 11:00	Ping Hua	2159557
	02/20/2020			02/26/2020 11:02	Ping Hua	2159558
	02/20/2020			02/26/2020 11:05	Ping Hua	2159563
EPA 351.2 Rev. 2.0	02/20/2020	03/06/2020 12:00	Sima Feizi	03/09/2020 12:07	Jhamieka S. Greenwood	2159549
	02/20/2020	03/06/2020 12:00	Sima Feizi	03/09/2020 12:08	Jhamieka S. Greenwood	2159556
	02/20/2020	03/06/2020 12:00	Sima Feizi	03/09/2020 12:10	Jhamieka S. Greenwood	2159557
	02/20/2020	03/06/2020 12:00	Sima Feizi	03/09/2020 12:11	Jhamieka S. Greenwood	2159558
	02/20/2020	03/06/2020 12:00	Sima Feizi	03/09/2020 12:13	Jhamieka S. Greenwood	2159563
	02/20/2020	03/06/2020 12:00	Sima Feizi	03/09/2020 12:22	Jhamieka S. Greenwood	2159550
EPA 353.2 Rev. 2.0	02/20/2020			03/03/2020 11:00	Beverly Y. Sanders	2159549
	02/20/2020			03/03/2020 11:12	Beverly Y. Sanders	2159557
	02/20/2020			03/03/2020 11:13	Beverly Y. Sanders	2159558
	02/20/2020			03/03/2020 12:38	Beverly Y. Sanders	2159556
	02/20/2020			03/03/2020 12:41	Beverly Y. Sanders	2159550
	02/20/2020			03/05/2020 09:54	Beverly Y. Sanders	2159563
EPA 365.1 Rev. 2.0	02/20/2020	03/02/2020 16:52	Yen Ta	03/06/2020 12:56	Benjamin T. Nordmann	2159549
	02/20/2020	03/02/2020 16:52	Yen Ta	03/06/2020 12:57	Benjamin T. Nordmann	2159550
	02/20/2020	03/02/2020 16:52	Yen Ta	03/06/2020 13:05	Benjamin T. Nordmann	2159556
	02/20/2020	03/02/2020 16:52	Yen Ta	03/06/2020 13:24	Benjamin T. Nordmann	2159563
	02/20/2020	03/02/2020 16:52	Yen Ta	03/06/2020 13:25	Benjamin T. Nordmann	2159557
	02/20/2020	03/02/2020 16:52	Yen Ta	03/06/2020 13:26	Benjamin T. Nordmann	2159558
EPA 365.1 Rev. 2.0 dissolved	02/20/2020			02/20/2020 17:18	Samantha Davila	2159551
	02/20/2020			02/20/2020 17:19	Samantha Davila	2159552
	02/20/2020			02/20/2020 17:20	Samantha Davila	2159559, 2159560
	02/20/2020			02/20/2020 17:21	Samantha Davila	2159561
	02/20/2020			02/20/2020 17:31	Samantha Davila	2159564
EPA 8321B	02/20/2020	02/20/2020 14:30	Rebecca Ware	02/21/2020 04:26	Rebecca Ware	2159570
	02/20/2020	02/20/2020 14:30	Rebecca Ware	02/21/2020 04:37	Rebecca Ware	2159571
	02/20/2020	02/20/2020 14:30	Rebecca Ware	02/24/2020 11:37	Rebecca Ware	2159570

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/20/2020	02/20/2020 14:30	Rebecca Ware	02/24/2020 11:51	Rebecca Ware	2159571
	02/20/2020	02/20/2020 14:30	Rebecca Ware	02/27/2020 06:11	Rebecca Ware	2159570
	02/20/2020	02/20/2020 14:30	Rebecca Ware	02/27/2020 06:23	Rebecca Ware	2159571
	02/20/2020	02/24/2020 10:00	Hoor Shaik	03/07/2020 01:11	Juyoung Kim	2159570
	02/20/2020	02/24/2020 10:00	Hoor Shaik	03/07/2020 01:46	Juyoung Kim	2159571
SM 2120 B-2011	02/20/2020			02/20/2020 17:28	Madeline Funaro	2159547, 2159548
	02/20/2020			02/20/2020 17:29	Madeline Funaro	2159553
	02/20/2020			02/20/2020 17:30	Madeline Funaro	2159554
	02/20/2020			02/20/2020 17:31	Madeline Funaro	2159555
	02/20/2020			02/20/2020 17:35	Madeline Funaro	2159562
SM 2320 B-2011	02/20/2020			02/28/2020 01:03	Dale L. Simmons	2159547
	02/20/2020			02/28/2020 01:12	Dale L. Simmons	2159548
	02/20/2020			02/28/2020 01:21	Dale L. Simmons	2159553
	02/20/2020			02/28/2020 01:29	Dale L. Simmons	2159554
	02/20/2020			02/28/2020 01:38	Dale L. Simmons	2159555
SM 2540 C-2011	02/20/2020			02/28/2020 01:46	Dale L. Simmons	2159562
	02/20/2020			02/24/2020 15:24	Yijie Li	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
SM 2540 D-2011	02/20/2020			02/24/2020 15:24	Yijie Li	2159547, 2159548, 2159553, 2159554, 2159555, 2159562
SM 4500 F-C-2011	02/20/2020			02/26/2020 18:02	Dale L. Simmons	2159547
	02/20/2020			02/26/2020 18:13	Dale L. Simmons	2159548
	02/20/2020			02/26/2020 18:25	Dale L. Simmons	2159553
	02/20/2020			02/26/2020 18:35	Dale L. Simmons	2159554
	02/20/2020			02/26/2020 18:46	Dale L. Simmons	2159555
SM 5310 B-2011	02/20/2020			02/26/2020 19:01	Dale L. Simmons	2159562
	02/20/2020			02/25/2020 02:04	Madeline Funaro	2159549
	02/20/2020			02/25/2020 02:44	Madeline Funaro	2159550
	02/20/2020			02/25/2020 02:56	Madeline Funaro	2159556
	02/20/2020			02/25/2020 03:12	Madeline Funaro	2159557
	02/20/2020			02/25/2020 03:27	Madeline Funaro	2159558
	02/20/2020			02/25/2020 03:39	Madeline Funaro	2159563