

Chemical Analysis Report

SO-DIST-2021-04-28-01

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

Event Description: **2021 SMP : Placid Lakes**

Request ID: **RQ-2021-04-26-49**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Chris Hormuth

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: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 24-MAY-2021 13:40



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 June in Winter

Collection Date/Time: 04/27/2021 12:10

Field ID: G4SD0186

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243583	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P397354	
	EPA 300.0 Rev. 2.1	Chloride	19	A	mg Cl/L	P398375	
		Sulfate	25	A	mg SO4/L	P398377	
	SM 2120 B-2011	Color (true)	9.6		PCU	P397356	
	SM 2320 B-2011	Total Alkalinity	22		mg CaCO3/L	P397928	
	SM 2540 C-2011	TDS	100		mg/L	P397786	
	SM 2540 D-2011	TSS	6	I	mg/L	P397594	
	SM 4500 F-C-2011	Fluoride	0.063	I	mg F/L	P397524	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P397990	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P397603	MS
2243585	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397638	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P397604	
	SM 5310 B-2011	Organic Carbon	6.8		mg C/L	P397803	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P397349	
	dissolved						
2243605	EPA 8321B	2,4-D	0.0094		ug/L	P397178	
		Acesulfame K	0.10	U	ug/L	P397317	
		2,4,5-T	0.0040	U	ug/L	P397178	
		AMPA	0.10	U	ug/L	P397317	
		Sucralose	0.42		ug/L	P397317	
		Acetaminophen	0.057		ug/L	P397178	
		Acetamiprid	0.0020	U	ug/L	P397178	
		Endothall	0.25	U	ug/L	P397317	
		Glufosinate	0.10	U	ug/L	P397317	
		Glyphosate	0.10	U	ug/L	P397317	
		Afidopyropen	0.0020	U	ug/L	P397178	
		Bentazon	0.0097		ug/L	P397178	
		Benzovindiflupyr	0.0020	U	ug/L	P397178	
		Carbamazepine	8.0E-04	U	ug/L	P397178	
		Clothianidin	0.0092		ug/L	P397178	
		Dinotefuran	0.0020	U	ug/L	P397178	
		Diuron	0.0022	I	ug/L	P397178	
		Fenuron	0.016	U	ug/L	P397178	
		Fluridone	8.0E-04	U	ug/L	P397178	
		Imazapyr	0.0040	U	ug/L	P397178	
		Hydrocodone	0.0020	U	ug/L	P397178	
		Ibuprofen	0.020	U	ug/L	P397178	RPD
		Imidacloprid	0.052		ug/L	P397178	MS
		Linuron	0.0040	U	ug/L	P397178	
		Mandestrobin	0.0020	U	ug/L	P397178	
		MCP	0.0020	U	ug/L	P397178	MS
		Naproxen	0.0080	U	ug/L	P397178	
		Primidone	0.0040	U	ug/L	P397178	
		Pyraclostrobin	0.0020	U	ug/L	P397178	

Field ID: G4SD0186

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243605	EPA 8321B	Thiamethoxam	0.012		ug/L	P397178	MS
		Tolfenpyrad	0.0020	U	ug/L	P397178	
		Triclopyr	0.0040	U	ug/L	P397178	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: PlacidJuneCnl@LkeGrvsRd.

Collection Date/Time: 04/27/2021 11:30

Field ID: G4SD0209

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243589	EPA 180.1 Rev. 2.0	Turbidity	0.30		NTU	P397354	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P398375	
		Sulfate	19		mg SO4/L	P398377	
	SM 2120 B-2011	Color (true)	57	A	PCU	P397356	
	SM 2320 B-2011	Total Alkalinity	3.7		mg CaCO3/L	P397928	
	SM 2540 C-2011	TDS	75		mg/L	P397786	
	SM 2540 D-2011	TSS	2	I	mg/L	P397594	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P397524	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P397990	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P397603	MS
2243591	EPA 353.2 Rev. 2.0	NO2NO3-N	1.6		mg N/L	P397638	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P397604	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P397803	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.022		mg P/L	P397349	
	dissolved						

Ref. Method and Comment:

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

Sample Location: Lake Francis

Collection Date/Time: 04/27/2021 13:00

Field ID: G4SD0187

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243595	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P397354	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P398375	
		Sulfate	24		mg SO4/L	P398377	
	SM 2120 B-2011	Color (true)	10		PCU	P397356	
	SM 2320 B-2011	Total Alkalinity	24	A	mg CaCO3/L	P397928	
	SM 2540 C-2011	TDS	93		mg/L	P397786	
	SM 2540 D-2011	TSS	5	I	mg/L	P397594	
	SM 4500 F-C-2011	Fluoride	0.037	I	mg F/L	P397576	
2243596	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P397990	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61	J	mg N/L	P397602	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397638	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P397675	
	SM 5310 B-2011	Organic Carbon	6.9		mg C/L	P397803	
2243597	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397349	

Ref. Method and Comment:

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

Sample Location: Lake Placid @ Center

Collection Date/Time: 04/27/2021 11:00

Field ID: G4SD0191

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243584	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P397354	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P398375	
		Sulfate	17		mg SO4/L	P398377	
	SM 2120 B-2011	Color (true)	8.1		PCU	P397356	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P397928	
	SM 2540 C-2011	TDS	72		mg/L	P397786	
	SM 2540 D-2011	TSS	4	I	mg/L	P397594	
	SM 4500 F-C-2011	Fluoride	0.052	I	mg F/L	P397524	
2243586	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P397990	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P397603	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397638	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P397604	
	SM 5310 B-2011	Organic Carbon	5.2		mg C/L	P397803	
2243588	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397349	
2243606	EPA 8321B	2,4-D	0.0020	U	ug/L	P397178	
		Acesulfame K	0.10	U	ug/L	P397317	
		2,4,5-T	0.0040	U	ug/L	P397178	
		AMPA	0.10	U	ug/L	P397317	
		Sucralose	0.036	I	ug/L	P397317	
		Acetaminophen	0.0080	U	ug/L	P397178	
		Acetamiprid	0.0020	U	ug/L	P397178	
		Endothall	0.25	U	ug/L	P397317	
		Glufosinate	0.10	U	ug/L	P397317	
		Glyphosate	0.10	U	ug/L	P397317	
		Afidopyropen	0.0020	U	ug/L	P397178	
		Bentazon	1.0E-03	I	ug/L	P397178	
		Benzovindiflupyr	0.0020	U	ug/L	P397178	
		Carbamazepine	8.0E-04	U	ug/L	P397178	
		Clothianidin	0.0020	U	ug/L	P397178	
		Dinotefuran	0.0020	U	ug/L	P397178	
		Diuron	0.0020	U	ug/L	P397178	
		Fenuron	0.016	U	ug/L	P397178	
		Fluridone	8.0E-04	U	ug/L	P397178	
		Imazapyr	0.0040	U	ug/L	P397178	
		Hydrocodone	0.0020	U	ug/L	P397178	
		Ibuprofen	0.020	U	ug/L	P397178	RPD
		Imidacloprid	0.016		ug/L	P397178	MS
		Linuron	0.0040	U	ug/L	P397178	
		Mandestrobin	0.0020	U	ug/L	P397178	
		MCP	0.0020	U	ug/L	P397178	MS
		Naproxen	0.0080	U	ug/L	P397178	
		Primidone	0.0040	U	ug/L	P397178	
		Pyraclostrobin	0.0020	U	ug/L	P397178	

Field ID: G4SD0191

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243606	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P397178	MS
		Tolfenpyrad	0.0020	U	ug/L	P397178	
		Triclopyr	0.0040	U	ug/L	P397178	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Lake Placid @ Center

Collection Date/Time: 04/27/2021 11:00

Field ID: G4SD0191DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243607	EPA 8321B	2,4-D	0.0020	U	ug/L	P397178	
		Acesulfame K	0.10	U	ug/L	P397317	
		2,4,5-T	0.0040	U	ug/L	P397178	
		AMPA	0.10	U	ug/L	P397317	
		Sucralose	0.037	I	ug/L	P397317	
		Acetaminophen	0.0080	U	ug/L	P397178	
		Acetamiprid	0.0020	U	ug/L	P397178	
		Endothall	0.25	U	ug/L	P397317	
		Glufosinate	0.10	U	ug/L	P397317	
		Glyphosate	0.10	U	ug/L	P397317	
		Afidopyropen	0.0020	U	ug/L	P397178	
		Bentazon	9.0E-04	I	ug/L	P397178	
		Benzovindiflupyr	0.0020	U	ug/L	P397178	
		Carbamazepine	8.0E-04	U	ug/L	P397178	
		Clothianidin	0.0020	U	ug/L	P397178	
		Dinotefuran	0.0020	U	ug/L	P397178	
		Diuron	0.0020	U	ug/L	P397178	
		Fenuron	0.016	U	ug/L	P397178	
		Fluridone	8.0E-04	U	ug/L	P397178	
		Imazapyr	0.0040	U	ug/L	P397178	
		Hydrocodone	0.0020	U	ug/L	P397178	
		Ibuprofen	0.020	U	ug/L	P397178	RPD
		Imidacloprid	0.014		ug/L	P397178	MS
		Linuron	0.0040	U	ug/L	P397178	
		Mandestrobin	0.0020	U	ug/L	P397178	
		MCPP	0.0020	U	ug/L	P397178	MS
		Naproxen	0.0080	U	ug/L	P397178	
		Primidone	0.0040	U	ug/L	P397178	
		Pyraclostrobin	0.0020	U	ug/L	P397178	
		Thiamethoxam	0.0020	U	ug/L	P397178	MS
		Tolfenpyrad	0.0020	U	ug/L	P397178	
		Triclopyr	0.0040	U	ug/L	P397178	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: JacksonCreek@Weir

Collection Date/Time: 04/27/2021 13:55

Field ID: G4SD0204

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243590	EPA 180.1 Rev. 2.0	Turbidity	19		NTU	P397354	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P398375	
		Sulfate	17		mg SO4/L	P398377	
	SM 2120 B-2011	Color (true)	110		PCU	P397357	
	SM 2320 B-2011	Total Alkalinity	6.9		mg CaCO3/L	P397928	
	SM 2540 C-2011	TDS	95		mg/L	P397786	
	SM 2540 D-2011	TSS	51		mg/L	P397594	
	SM 4500 F-C-2011	Fluoride	0.045	I	mg F/L	P397524	
2243592	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P397990	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P397603	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P397638	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P397604	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P397803	
2243594	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P397349	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397354

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398375

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398377

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397990

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397602

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397603

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397638

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397604

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397675

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 dissolved
Batch ID: P397349

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

Reference Method: EPA 8321B
Batch ID: P397178

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P397317

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

Reference Method: SM 2120 B-2011
Batch ID: P397356

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P397357

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P397928

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

Reference Method: SM 2540 C-2011
Batch ID: P397786

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P397594

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P397524

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P397576

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P397803

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: P398375

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398377

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397990

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397602

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397603

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397638

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397604

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: P397675

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397349

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P397178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	158		P	30 - 160
2,4,5-T	133		P	30 - 160
Acetaminophen	99.2		P	30 - 150
Acetamiprid	103		P	30 - 160
Afidopyropen	84.6		P	30 - 160
Bentazon	48.6		P	30 - 150
Benzovindiflupyr	104		P	30 - 160
Carbamazepine	106		P	30 - 160
Clothianidin	115		P	30 - 160
Dinotefuran	113		P	30 - 160
Diuron	78.6		P	30 - 160
Fenuron	112		P	30 - 160
Fluridone	122		P	30 - 160
Hydrocodone	123		P	30 - 160
Ibuprofen	109		P	30 - 160
Imazapyr	123		P	30 - 160
Imidacloprid	132		P	30 - 160
Linuron	83.7		P	30 - 160
Mandestrobin	91.4		P	30 - 160
MCPP	152		P	30 - 160
Naproxen	86.4		P	30 - 160
Primidone	101		P	30 - 160
Pyraclostrobin	90.8		P	30 - 160
Thiamethoxam	138		P	30 - 160
Tolfenpyrad	74.3		P	30 - 160
Triclopyr	150		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P397317

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	116		P	40 - 150
AMPA	98.5		P	40 - 150
Endothall	99.3		P	40 - 150
Glufosinate	78.1		P	40 - 150
Glyphosate	88.0		P	40 - 140
Sucralose	97.5		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P397356

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

Reference Method: SM 2120 B-2011
Batch ID: P397357

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P397928

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.8		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P397524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P397576

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P397803

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243583	Chloride	99.9		P	90 - 110
2243616	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243583	Sulfate	98.8		P	90 - 110
2243616	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243586	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243596	Kjeldahl Nitrogen	110	114	F/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397603

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243578	Kjeldahl Nitrogen	111	104	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397638

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243578	NO2NO3-N	96.0	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243125	Total-P	107	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397675

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243596	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243579	O-Phosphate-P	96.4	98.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P397178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242748	2,4,5-T	133	133	P/P	30 - 160
2242748	Acetaminophen	76.1	68.7	P/P	30 - 150
2242748	Acetamiprid	115	114	P/P	30 - 160
2242748	Afidopyropen	110	101	P/P	30 - 160
2242748	Benzovindiflupyr	99.0	92.5	P/P	30 - 160
2242748	Carbamazepine	97.1	90.2	P/P	30 - 160
2242748	Clothianidin	119	117	P/P	30 - 160
2242748	Dinotefuran	157	139	P/P	30 - 160
2242748	Diuron	65.3	59.4	P/P	30 - 160
2242748	Fenuron	110	100	P/P	30 - 160
2242748	Hydrocodone	125	121	P/P	30 - 160
2242748	Ibuprofen	102	70.2	P/P	30 - 160
2242748	Imidacloprid	240	219	F/F	30 - 160
2242748	Linuron	92.8	76.5	P/P	30 - 160
2242748	Mandestrobin	112	96.4	P/P	30 - 160
2242748	MCP	167	157	F/P	30 - 160
2242748	Naproxen	97.7	79.2	P/P	30 - 160
2242748	Primidone	113	131	P/P	30 - 160
2242748	Pyraclostrobin	98.1	87.3	P/P	30 - 160
2242748	Thiamethoxam	193	190	F/F	30 - 160
2242748	Tolfenpyrad	74.2	73.5	P/P	30 - 160
2242748	Triclopyr	141	131	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P397317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243483	Acesulfame K	93.0	95.2	P/P	40 - 150
2243483	AMPA	96.9	85.6	P/P	40 - 150
2243483	Endothall	108	108	P/P	40 - 150
2243483	Glufosinate	72.5	88.5	P/P	40 - 150
2243483	Glyphosate	70.5	70.2	P/P	40 - 140
2243483	Sucralose	67.8	68.1	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P397524

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243503	Fluoride	97.4	98.5	P/P	94 - 107

Reference Method: SM 4500 F-C-2011

Batch ID: P397576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243829	Fluoride	101	101	P/P	94 - 107

Reference Method: SM 5310 B-2011

Batch ID: P397803

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243469	Organic Carbon	95.5	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397354

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243502	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243583	Chloride	1.20	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243583	Sulfate	1.46	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243586	Ammonia-N	0.184	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243596	Kjeldahl Nitrogen	2.23	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397603

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243578	Kjeldahl Nitrogen	4.08	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243578	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243125	Total-P	0.161	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P397675

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243596	Total-P	1.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P397349

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243579	O-Phosphate-P	1.20	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P397178

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242748	2,4-D	13.1	Spike	P	0 - 30
2242748	2,4,5-T	0.240	Spike	P	0 - 30
2242748	Acetaminophen	6.34	Spike	P	0 - 30
2242748	Acetamiprid	1.15	Spike	P	0 - 30
2242748	Afidopyropen	8.41	Spike	P	0 - 30
2242748	Bentazon	10.0	Spike	P	0 - 30
2242748	Benzovindiflupyr	6.88	Spike	P	0 - 30
2242748	Carbamazepine	7.35	Spike	P	0 - 30
2242748	Clothianidin	1.46	Spike	P	0 - 30
2242748	Dinotefuran	12.2	Spike	P	0 - 30
2242748	Diuron	8.74	Spike	P	0 - 30
2242748	Fenuron	9.17	Spike	P	0 - 30
2242748	Fluridone	12.9	Spike	P	0 - 30
2242748	Hydrocodone	3.42	Spike	P	0 - 30
2242748	Ibuprofen	36.6	Spike	F	0 - 30
2242748	Imazapyr	21.2	Spike	P	0 - 30
2242748	Imidacloprid	8.57	Spike	P	0 - 30
2242748	Linuron	19.2	Spike	P	0 - 30
2242748	Mandestrobin	15.2	Spike	P	0 - 30
2242748	MCPP	5.72	Spike	P	0 - 30
2242748	Naproxen	20.9	Spike	P	0 - 30
2242748	Primidone	14.7	Spike	P	0 - 30
2242748	Pyraclostrobin	11.7	Spike	P	0 - 30
2242748	Thiamethoxam	1.55	Spike	P	0 - 30
2242748	Tolfenpyrad	0.894	Spike	P	0 - 30
2242748	Triclopyr	7.50	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P397317

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243483	Acesulfame K	2.34	Spike	P	0 - 30
2243483	AMPA	11.1	Spike	P	0 - 30
2243483	Endothall	0.408	Spike	P	0 - 30
2243483	Glufosinate	19.9	Spike	P	0 - 30
2243483	Glyphosate	0.392	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P397317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243483	Sucralose	0.193	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P397356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243589	Color (true)	4.53	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P397357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243260	Color (true)	17.8	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P397928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243595	Total Alkalinity	1.67	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P397786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243503	TDS	2.10	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P397524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243503	Fluoride	0.929	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P397576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243829	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P397803

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243469	Organic Carbon	0.649	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2243605

Field Sample ID: G4SD0186

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	136	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	110	P	30 - 160
EPA 8321B	Diuron-d6	91.9	P	30 - 160
EPA 8321B	Endothall-d6	79.9	P	40 - 160
EPA 8321B	Endothall-d6	79.9	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	108	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	108	P	40 - 160
EPA 8321B	Ibuprofen-d3	88.5	P	30 - 160
EPA 8321B	Primidone-d5	116	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Lab Sample ID: 2243606

Field Sample ID: G4SD0191

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	138	P	30 - 160
EPA 8321B	Acetaminophen-d4	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	124	P	30 - 160
EPA 8321B	Diuron-d6	87.3	P	30 - 160
EPA 8321B	Endothall-d6	80.1	P	40 - 160
EPA 8321B	Endothall-d6	80.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	117	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	117	P	40 - 160
EPA 8321B	Ibuprofen-d3	105	P	30 - 160
EPA 8321B	Primidone-d5	119	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Lab Sample ID: 2243607

Field Sample ID: G4SD0191DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	137	P	30 - 160
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	124	P	30 - 160
EPA 8321B	Diuron-d6	88.5	P	30 - 160
EPA 8321B	Endothall-d6	77.0	P	40 - 160
EPA 8321B	Endothall-d6	77.0	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	40 - 160
EPA 8321B	Ibuprofen-d3	85.5	P	30 - 160
EPA 8321B	Primidone-d5	130	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A105061

Included Lab Sample IDs: 2243587, 2243588, 2243593, 2243594, 2243597

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.4	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A105062

Included Lab Sample IDs: 2243583, 2243584, 2243589, 2243590, 2243595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A105063

Included Lab Sample IDs: 2243583, 2243584, 2243589, 2243590, 2243595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115
Color (true)	103	103	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A105072

Included Lab Sample IDs: 2243605, 2243606, 2243607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	116	111	P/P	40 - 160
AMPA	78.9	74.4	P/P	40 - 160
Endothall	105	101	P/P	40 - 160
Glufosinate	92.2	86.8	P/P	40 - 160
Glyphosate	90.6	89.5	P/P	40 - 160

Reference Method: EPA 8321B

Run ID: A105098

Included Lab Sample IDs: 2243605, 2243606, 2243607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	108	P/P	50 - 150
2,4,5-T	127	116	P/P	50 - 150
Acetaminophen	116	115	P/P	60 - 160
Acetamiprid	126	119	P/P	50 - 150
Afidopyropen	125	128	P/P	50 - 150
Bentazon	134	141	P/P	50 - 160
Benzovindiflupyr	110	124	P/P	50 - 160
Carbamazepine	114	118	P/P	60 - 150
Clothianidin	132	124	P/P	60 - 150
Dinotefuran	128	127	P/P	50 - 150
Diuron	116	109	P/P	60 - 160
Fenuron	117	115	P/P	60 - 150
Fluridone	122	133	P/P	60 - 160
Hydrocodone	132	134	P/P	60 - 150
Ibuprofen	116	71.3	P/P	50 - 160
Imazapyr	120	131	P/P	50 - 150
Imidacloprid	108	123	P/P	60 - 150
Linuron	106	111	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A105098

Included Lab Sample IDs: 2243605, 2243606, 2243607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mandestrobin	121	119	P/P	50 - 150
MCPD	110	95.6	P/P	50 - 150
Naproxen	151	146	P/P	50 - 160
Primidone	126	112	P/P	60 - 150
Pyraclostrobin	121	115	P/P	60 - 150
Thiamethoxam	136	147	P/P	50 - 150
Tolfenpyrad	108	128	P/P	60 - 150
Triclopyr	123	124	P/P	50 - 150

Reference Method: SM 4500 F-C-2011

Run ID: A105119

Included Lab Sample IDs: 2243583, 2243584, 2243589, 2243590

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

Reference Method: EPA 8321B

Run ID: A105138

Included Lab Sample IDs: 2243605, 2243606, 2243607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	102	103	P/P	60 - 160

Reference Method: SM 4500 F-C-2011

Run ID: A105140

Included Lab Sample IDs: 2243595

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105164

Included Lab Sample IDs: 2243585, 2243586, 2243591, 2243592, 2243596

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.0	95.5	P/P	90 - 110
NO2NO3-N	97.0	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105181

Included Lab Sample IDs: 2243592

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105184

Included Lab Sample IDs: 2243585, 2243586, 2243591

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105188

Included Lab Sample IDs: 2243585, 2243586, 2243591, 2243592, 2243596

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.8	P/P	90 - 110
Kjeldahl Nitrogen	95.1	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105214

Included Lab Sample IDs: 2243596

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

Reference Method: SM 5310 B-2011

Run ID: A105235

Included Lab Sample IDs: 2243585, 2243586, 2243591, 2243592, 2243596

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	96.8	P/P	90 - 110
Organic Carbon	97.8	97.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A105297

Included Lab Sample IDs: 2243583, 2243584, 2243589, 2243590, 2243595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	97.0	P/P	90 - 110
Total Alkalinity	98.0	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105340

Included Lab Sample IDs: 2243585, 2243586, 2243591, 2243592, 2243596

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A105509

Included Lab Sample IDs: 2243583, 2243584, 2243589, 2243590, 2243595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Sulfate	101	102	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					0.0	
EPA 300.0 Rev. 2.1	Chloride	102	99.9	102		1.20	
	Sulfate	102	98.8	102		1.46	
EPA 350.1 Rev. 2.0	Ammonia-N	100	100	100			0.184
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	110	114			2.23
	Kjeldahl Nitrogen	103	111	104			4.08
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	96.0	96.0			0.0
EPA 365.1 Rev. 2.0	Total-P	105	107	107			0.161
	Total-P	106	104	105			1.25
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8	96.4	98.0			1.20
EPA 8321B	2,4-D	158					13.1
	2,4,5-T	133	133	133			0.240
	Acesulfame K	116	93.0	95.2			2.34
	Acetaminophen	99.2	76.1	68.7			6.34
	Acetamiprid	103	115	114			1.15
	Afidopyropen	84.6	110	101			8.41
	AMPA	98.5	96.9	85.6			11.1
	Bentazon	48.6					10.0
	Benzovindiflupyr	104	99.0	92.5			6.88
	Carbamazepine	106	97.1	90.2			7.35
	Clothianidin	115	119	117			1.46
	Dinotefuran	113	157	139			12.2
	Diuron	78.6	65.3	59.4			8.74
	Endothall	99.3	108	108			0.408
	Fenuron	112	110	100			9.17
	Fluridone	122					12.9
	Glufosinate	78.1	72.5	88.5			19.9
	Glyphosate	88.0	70.5	70.2			0.392
	Hydrocodone	123	125	121			3.42
	Ibuprofen	109	102	70.2			36.6
	Imazapyr	123					21.2
	Imidacloprid	132	240	219			8.57
	Linuron	83.7	92.8	76.5			19.2
	Mandestrobin	91.4	112	96.4			15.2
	MCPP	152	167	157			5.72
	Naproxen	86.4	97.7	79.2			20.9
	Primidone	101	113	131			14.7
	Pyraclostrobin	90.8	98.1	87.3			11.7
	Sucralose	97.5	67.8	68.1			0.193
	Thiamethoxam	138	193	190			1.55
	Tolfenpyrad	74.3	74.2	73.5			0.894
	Triclopyr	150	141	131			7.50
SM 2120 B-2011	Color (true)	101				4.53	
	Color (true)	101				17.8	
SM 2320 B-2011	Total Alkalinity	98.8				1.67	
SM 2540 C-2011	TDS					2.10	
SM 4500 F-C-2011	Fluoride	99.6	97.4	98.5			0.929
	Fluoride	98.2	101	101			0.0
SM 5310 B-2011	Organic Carbon	95.2	95.5	96.4			0.649

Reference Method Descriptions

Method	Description	Associated Samples
--------	-------------	--------------------

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2243583, 2243584, 2243589, 2243590, 2243595
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2243583, 2243584, 2243589, 2243590, 2243595
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2243583, 2243584, 2243589, 2243590, 2243595
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2243585, 2243586, 2243591, 2243592, 2243596
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2243585, 2243586, 2243591, 2243592, 2243596
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2243585, 2243586, 2243591, 2243592, 2243596
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2243585, 2243586, 2243591, 2243592, 2243596
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2243587, 2243588, 2243593, 2243594, 2243597
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2243605, 2243606, 2243607
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2243605, 2243606, 2243607
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2243583, 2243584, 2243589, 2243590, 2243595
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2243583, 2243584, 2243589, 2243590, 2243595
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2243583, 2243584, 2243589, 2243590, 2243595
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2243583, 2243584, 2243589, 2243590, 2243595
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2243583, 2243584, 2243589, 2243590, 2243595
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2243585, 2243586, 2243591, 2243592, 2243596

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	04/28/2021			04/28/2021 16:51	Sarah A Nixon	2243583, 2243584, 2243589, 2243590, 2243595
EPA 300.0 Rev. 2.1	04/28/2021			05/18/2021 00:04	Lipi Saha	2243583
	04/28/2021			05/18/2021 02:37	Lipi Saha	2243584
	04/28/2021			05/18/2021 02:57	Lipi Saha	2243589
	04/28/2021			05/18/2021 03:16	Lipi Saha	2243590
	04/28/2021			05/18/2021 03:35	Lipi Saha	2243595
EPA 350.1 Rev. 2.0	04/28/2021			05/11/2021 13:42	Ping Hua	2243586
	04/28/2021			05/11/2021 13:52	Ping Hua	2243585
	04/28/2021			05/11/2021 13:53	Ping Hua	2243591
	04/28/2021			05/11/2021 13:54	Ping Hua	2243592
	04/28/2021			05/11/2021 13:56	Ping Hua	2243596
EPA 351.2 Rev. 2.0	04/28/2021	05/04/2021 12:37	Benjamin T. Nordmann	05/05/2021 12:31	Virginia P. Brown	2243596
	04/28/2021	05/04/2021 12:37	Benjamin T. Nordmann	05/05/2021 12:54	Virginia P. Brown	2243585
	04/28/2021	05/04/2021 12:37	Benjamin T. Nordmann	05/05/2021 12:56	Virginia P. Brown	2243586
	04/28/2021	05/04/2021 12:37	Benjamin T. Nordmann	05/05/2021 12:57	Virginia P. Brown	2243591
	04/28/2021	05/04/2021 12:37	Benjamin T. Nordmann	05/05/2021 12:59	Virginia P. Brown	2243592
EPA 353.2 Rev. 2.0	04/28/2021			05/04/2021 11:07	Beverly Y. Sanders	2243585
	04/28/2021			05/04/2021 11:08	Beverly Y. Sanders	2243586
	04/28/2021			05/04/2021 11:12	Beverly Y. Sanders	2243596
	04/28/2021			05/04/2021 12:47	Beverly Y. Sanders	2243591
	04/28/2021			05/04/2021 12:48	Beverly Y. Sanders	2243592
EPA 365.1 Rev. 2.0	04/28/2021	05/04/2021 12:55	Yen Ta	05/05/2021 11:03	Shengyu Ding	2243592
	04/28/2021	05/04/2021 12:55	Yen Ta	05/05/2021 12:10	Shengyu Ding	2243585
	04/28/2021	05/04/2021 12:55	Yen Ta	05/05/2021 12:11	Shengyu Ding	2243586
	04/28/2021	05/04/2021 12:55	Yen Ta	05/05/2021 12:12	Shengyu Ding	2243591
	04/28/2021	05/05/2021 14:05	Yen Ta	05/06/2021 10:43	Shengyu Ding	2243596
EPA 365.1 Rev. 2.0 dissolved	04/28/2021			04/28/2021 16:06	Patrick M. Roche	2243587
	04/28/2021			04/28/2021 16:07	Patrick M. Roche	2243588
	04/28/2021			04/28/2021 16:08	Patrick M. Roche	2243593
	04/28/2021			04/28/2021 16:09	Patrick M. Roche	2243594
	04/28/2021			04/28/2021 16:10	Patrick M. Roche	2243597
EPA 8321B	04/28/2021	04/28/2021 15:00	Hoor Shaik	05/01/2021 22:09	Juyoung Kim	2243605
	04/28/2021	04/28/2021 15:00	Hoor Shaik	05/01/2021 22:44	Juyoung Kim	2243606
	04/28/2021	04/28/2021 15:00	Hoor Shaik	05/01/2021 23:18	Juyoung Kim	2243607
	04/28/2021	04/28/2021 15:30	Rebecca Ware	04/28/2021 17:34	Rebecca Ware	2243605
	04/28/2021	04/28/2021 15:30	Rebecca Ware	04/28/2021 17:48	Rebecca Ware	2243606
	04/28/2021	04/28/2021 15:30	Rebecca Ware	04/28/2021 18:01	Rebecca Ware	2243607
	04/28/2021	04/28/2021 15:30	Rebecca Ware	04/29/2021 13:43	Rebecca Ware	2243605
	04/28/2021	04/28/2021 15:30	Rebecca Ware	04/29/2021 13:55	Rebecca Ware	2243606

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	04/28/2021	04/28/2021 15:30	Rebecca Ware	04/29/2021 14:06	Rebecca Ware	2243607
SM 2120 B-2011	04/28/2021			04/28/2021 17:32	Madeline Gruver	2243583
	04/28/2021			04/28/2021 17:33	Madeline Gruver	2243584
	04/28/2021			04/28/2021 17:34	Madeline Gruver	2243589
	04/28/2021			04/28/2021 17:36	Madeline Gruver	2243595
	04/28/2021			04/28/2021 17:45	Madeline Gruver	2243590
SM 2320 B-2011	04/28/2021			05/11/2021 03:42	Dale L. Simmons	2243595
	04/28/2021			05/11/2021 04:08	Dale L. Simmons	2243583
	04/28/2021			05/11/2021 04:18	Dale L. Simmons	2243584
	04/28/2021			05/11/2021 04:25	Dale L. Simmons	2243589
	04/28/2021			05/11/2021 04:56	Dale L. Simmons	2243590
SM 2540 C-2011	04/28/2021			04/30/2021 15:21	Yijie Li	2243583, 2243584, 2243589, 2243590, 2243595
SM 2540 D-2011	04/28/2021			04/30/2021 15:17	Yijie Li	2243583, 2243584, 2243589, 2243590, 2243595
SM 4500 F-C-2011	04/28/2021			05/02/2021 07:42	Dale L. Simmons	2243583
	04/28/2021			05/02/2021 07:55	Dale L. Simmons	2243584
	04/28/2021			05/02/2021 08:05	Dale L. Simmons	2243589
	04/28/2021			05/02/2021 08:16	Dale L. Simmons	2243590
	04/28/2021			05/03/2021 18:50	Dale L. Simmons	2243595
SM 5310 B-2011	04/28/2021			05/06/2021 00:54	Madeline Gruver	2243591
	04/28/2021			05/06/2021 03:02	Madeline Gruver	2243585
	04/28/2021			05/06/2021 03:21	Madeline Gruver	2243586
	04/28/2021			05/06/2021 03:31	Madeline Gruver	2243592
	04/28/2021			05/06/2021 03:43	Madeline Gruver	2243596