

Chemical Analysis Report

NW-DIST-2020-10-28-01

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

Event Description: **Dune Lakes**
Request ID: **RQ-2020-10-26-21**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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160 Government Center
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Pensacola, FL 32502-5794
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Date Certified: 20-NOV-2020 09:25



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: Allen Lake Input

Collection Date/Time: 10/27/2020 10:37

Field ID: G3NW0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2205184	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P389411	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P389955	
		Sulfate	4.3		mg SO4/L	P389957	
	SM 2120 B-2011	Color (true)	220		PCU	P389413	
	SM 2320 B-2011	Total Alkalinity	0.92	I	mg CaCO3/L	P389621	
	SM 2540 C-2011	TDS	50		mg/L	P389856	
	SM 2540 D-2011	TSS	2	I	mg/L	P389871	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P389625	
2205185	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P389586	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P389762	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P389534	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P389571	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P389521	
2205186	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.038		mg P/L	P389418	
2205195	EPA 8321B	2,4-D	0.0020	U	ug/L	P389267	
		Acesulfame K**	0.10	U	ug/L	P389458	
		AMPA**	0.10	U	ug/L	P389458	
		Sucralose**	0.019	I	ug/L	P389458	
		Acetaminophen**	0.010	I	ug/L	P389267	
		Endothall**	0.25	U	ug/L	P389458	
		Acetamiprid**	0.0020	U	ug/L	P389267	RPD
		Glufosinate**	0.10	U	ug/L	P389458	
		Glyphosate**	0.10	U	ug/L	P389458	
		Afidopyropen**	0.0020	U	ug/L	P389267	MS, RPD
		Bentazon	8.0E-04	U	ug/L	P389267	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P389267	
		Carbamazepine**	8.0E-04	U	ug/L	P389267	
		Clothianidin**	0.0020	U	ug/L	P389267	
		Dinotefuran**	0.0020	U	ug/L	P389267	
		Diuron	0.0020	U	ug/L	P389267	
		Fenuron	0.016	U	ug/L	P389267	
		Fluridone**	8.0E-04	U	ug/L	P389267	
		Imazapyr**	0.0040	U	ug/L	P389267	
		Hydrocodone**	0.0020	U	ug/L	P389267	
		Ibuprofen**	0.020	U	ug/L	P389267	
		Imidacloprid	0.047		ug/L	P389267	
		Linuron	0.0040	U	ug/L	P389267	
		Mandestrobin**	0.0020	U	ug/L	P389267	
		MCP	0.0020	U	ug/L	P389267	
		Naproxen**	0.0080	U	ug/L	P389267	
		Primidone**	0.0040	U	ug/L	P389267	
		Pyraclostrobin**	0.0020	U	ug/L	P389267	
		Thiamethoxam**	0.0020	U	ug/L	P389267	

Field ID: G3NW0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2205195	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P389267	
		Triclopyr**	0.0040	U	ug/L	P389267	

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: Oyster Lake East

Collection Date/Time: 10/27/2020 11:02

Field ID: G3NW0441

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2205181	EPA 180.1 Rev. 2.0	Turbidity	3.3	A	NTU	P389411	
	EPA 300.0 Rev. 2.1	Bromide	20		mg Br/L	P389912	
	SM 2320 B-2011	Total Alkalinity	56		mg CaCO3/L	P389777	
	SM 2540 D-2011	TSS	3	U	mg/L	P389873	
	SM 4500 F-C-2011	Fluoride	0.35		mg F/L	P389779	
2205182	EPA 350.1 Rev. 2.0	Ammonia-N	0.040		mg N/L	P389578	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P389759	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P389462	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P389568	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P389522	
2205183	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.011		mg P/L	P389416	
2205194	EPA 8321B	2,4-D	0.054		ug/L	P389267	
		Acesulfame K**	0.10	UJ	ug/L	P389458	SUR
		AMPA**	1.0	U	ug/L	P389458	
		Sucralose**	0.087		ug/L	P389458	
		Acetaminophen**	0.023	I	ug/L	P389267	
		Acetamiprid**	0.0020	U	ug/L	P389267	RPD
		Endothall**	0.25	UJ	ug/L	P389458	SUR
		Glufosinate**	1.0	U	ug/L	P389458	
		Glyphosate**	1.0	U	ug/L	P389458	
		Afidopyropen**	0.0020	U	ug/L	P389267	MS, RPD
		Bentazon	0.0029	I	ug/L	P389267	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P389267	
		Carbamazepine**	8.0E-04	U	ug/L	P389267	
		Clothianidin**	0.0020	U	ug/L	P389267	
		Dinotefuran**	0.0020	U	ug/L	P389267	
		Diuron	0.0020	U	ug/L	P389267	
		Fenuron	0.016	U	ug/L	P389267	
		Fluridone**	8.0E-04	U	ug/L	P389267	
		Imazapyr**	0.015	I	ug/L	P389267	
		Hydrocodone**	0.0020	U	ug/L	P389267	
		Ibuprofen**	0.020	U	ug/L	P389267	
		Imidacloprid	0.031		ug/L	P389267	
		Linuron	0.0040	U	ug/L	P389267	
		Mandestrobin**	0.0020	U	ug/L	P389267	
		MCP	0.027		ug/L	P389267	
		Naproxen**	0.0080	U	ug/L	P389267	
		Primidone**	0.0040	U	ug/L	P389267	
		Pyraclostrobin**	0.0020	U	ug/L	P389267	
		Thiamethoxam**	0.0020	U	ug/L	P389267	
		Tolfenpyrad**	0.0020	U	ug/L	P389267	
		Triclopyr**	0.0040	U	ug/L	P389267	

Field ID: G3NW0441

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Bromide: Batch relative percent difference is unavailable because of low 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 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P389411

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389912

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389955

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389957

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389578

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389586

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389759

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389762

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389462

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: P389534

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389568

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389571

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389416

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389418

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

Reference Method: EPA 8321B
Batch ID: P389267

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P389267

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

Reference Method: EPA 8321B
Batch ID: P389458

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: P389413

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P389621

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

Reference Method: SM 2320 B-2011
Batch ID: P389777

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

Reference Method: SM 2540 C-2011
Batch ID: P389856

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P389871

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P389873

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P389625

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P389779

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P389521

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

Reference Method: SM 5310 B-2011
Batch ID: P389522

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: P389912

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389955

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389957

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389578

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389586

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389759

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389762

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389462

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: P389534

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	99.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389568

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389571

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389416

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.6		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P389267

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	60.0	73.1	P/P	30 - 160
Acetaminophen	35.8	42.9	P/P	30 - 160
Acetamiprid	58.2	50.3	P/P	30 - 160
Afidopyropen	46.0	36.5	P/P	30 - 160
Bentazon	51.6	49.9	P/P	30 - 160
Benzovindiflupyr	75.1	79.7	P/P	30 - 160
Carbamazepine	68.8	61.1	P/P	30 - 160
Clothianidin	78.7	79.1	P/P	30 - 160
Dinotefuran	60.3	57.1	P/P	30 - 160
Diuron	74.0	70.1	P/P	30 - 160
Fenuron	95.7	92.0	P/P	30 - 160
Fluridone	77.0	74.5	P/P	30 - 160
Hydrocodone	77.1	78.6	P/P	30 - 160
Ibuprofen	62.9	66.1	P/P	30 - 160
Imazapyr	76.3	72.7	P/P	30 - 160
Imidacloprid	78.3	80.4	P/P	30 - 160
Linuron	82.1	91.5	P/P	30 - 160
Mandestrobin	77.8	75.5	P/P	30 - 160
MCPP	71.3	63.3	P/P	30 - 160
Naproxen	59.3	50.9	P/P	30 - 160
Primidone	79.2	82.6	P/P	30 - 160
Pyraclostrobin	51.6	51.6	P/P	30 - 160
Thiamethoxam	72.3	88.3	P/P	30 - 160
Tolfenpyrad	32.3	30.5	P/P	30 - 160
Triclopyr	55.5	45.4	P/P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P389458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	102		P	40 - 150
AMPA	91.9		P	40 - 150
Endothall	88.6		P	40 - 150
Glufosinate	90.0		P	40 - 150
Glyphosate	95.8		P	40 - 140
Sucralose	105		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P389413

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

Reference Method: SM 2320 B-2011
Batch ID: P389621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.2		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P389777

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P389625

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

Reference Method: SM 4500 F-C-2011
Batch ID: P389779

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.5		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P389521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P389522

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205470	Bromide	103		P	90 - 110
2205479	Bromide	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389955

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205184	Chloride	98.4		P	90 - 110
2205240	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389957

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205184	Sulfate	99.1		P	90 - 110
2205240	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204753	Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205155	Ammonia-N	96.4	96.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205182	Kjeldahl Nitrogen	107	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205221	Kjeldahl Nitrogen	103	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205173	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389534

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205142	NO2NO3-N	100	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P389568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204882	Total-P	95.1	95.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P389571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205152	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P389416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205183	O-Phosphate-P	96.6	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P389418

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205069	O-Phosphate-P	94.7	95.1	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P389267

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205160	2,4-D	55.0	46.0	P/P	30 - 160
2205160	Acetaminophen	66.2	68.5	P/P	30 - 160
2205160	Acetamiprid	54.4	31.8	P/P	30 - 160
2205160	Afidopyropen	38.0	26.0	P/F	30 - 160
2205160	Bentazon	29.6	5.43	F/F	30 - 160
2205160	Benzovindiflupyr	64.8	55.8	P/P	30 - 160
2205160	Carbamazepine	49.7	45.5	P/P	30 - 160
2205160	Clothianidin	71.1	52.1	P/P	30 - 160
2205160	Dinotefuran	78.3	67.5	P/P	30 - 160
2205160	Diuron	50.0	38.0	P/P	30 - 160
2205160	Fenuron	74.5	88.2	P/P	30 - 160
2205160	Fluridone	62.6	53.2	P/P	30 - 160
2205160	Hydrocodone	71.5	60.6	P/P	30 - 160
2205160	Ibuprofen	48.2	47.3	P/P	30 - 160
2205160	Imazapyr	99.3	76.1	P/P	30 - 160
2205160	Imidacloprid	120	96.1	P/P	30 - 160
2205160	Linuron	66.1	59.4	P/P	30 - 160
2205160	Mandestrobin	66.2	60.8	P/P	30 - 160
2205160	MCP	57.1	55.6	P/P	30 - 160
2205160	Naproxen	41.4	48.9	P/P	30 - 160
2205160	Primidone	87.4	66.4	P/P	30 - 160
2205160	Pyraclostrobin	52.0	52.0	P/P	30 - 160
2205160	Thiamethoxam	103	77.8	P/P	30 - 160
2205160	Tolfenpyrad	30.0	33.1	P/P	30 - 160
2205160	Triclopyr	43.9	39.8	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P389458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204746	Acesulfame K	129	137	P/P	40 - 150
2204746	AMPA	120	128	P/P	40 - 150
2204746	Endothall	97.2	96.2	P/P	40 - 150
2204746	Glufosinate	90.4	93.1	P/P	40 - 150
2204746	Glyphosate	76.6	83.3	P/P	40 - 140
2204746	Sucralose	105	113	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P389625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205351	Fluoride	104	106	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P389779

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205576	Fluoride	103	104	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P389521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205065	Organic Carbon	103	104	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P389522

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204754	Organic Carbon	98.3	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P389411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205181	Turbidity	4.88	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205240	Chloride	0.129	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205240	Sulfate	0.344	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204753	Ammonia-N	0.181	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205155	Ammonia-N	0.208	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205182	Kjeldahl Nitrogen	5.97	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205221	Kjeldahl Nitrogen	1.25	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205173	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205142	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204882	Total-P	0.367	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205152	Total-P	0.258	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205183	O-Phosphate-P	1.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205069	O-Phosphate-P	0.421	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P389267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205160	2,4-D	16.0	Spike	P	0 - 30
2205160	Acetaminophen	3.34	Spike	P	0 - 30
2205160	Acetamiprid	52.5	Spike	F	0 - 30
2205160	Afidopyropen	37.5	Spike	F	0 - 30
2205160	Bentazon	21.4	Spike	P	0 - 30
2205160	Benzovindiflupyr	14.9	Spike	P	0 - 30
2205160	Carbamazepine	5.68	Spike	P	0 - 30
2205160	Clothianidin	29.2	Spike	P	0 - 30
2205160	Dinotefuran	14.8	Spike	P	0 - 30
2205160	Diuron	27.2	Spike	P	0 - 30
2205160	Fenuron	16.9	Spike	P	0 - 30
2205160	Fluridone	9.06	Spike	P	0 - 30
2205160	Hydrocodone	16.5	Spike	P	0 - 30
2205160	Ibuprofen	1.81	Spike	P	0 - 30
2205160	Imazapyr	15.2	Spike	P	0 - 30
2205160	Imidacloprid	19.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P389267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205160	Linuron	10.7	Spike	P	0 - 30
2205160	Mandestrobin	8.52	Spike	P	0 - 30
2205160	MCP	2.70	Spike	P	0 - 30
2205160	Naproxen	16.4	Spike	P	0 - 30
2205160	Primidone	24.5	Spike	P	0 - 30
2205160	Pyraclostrobin	0.0825	Spike	P	0 - 30
2205160	Thiamethoxam	27.5	Spike	P	0 - 30
2205160	Tolfenpyrad	9.66	Spike	P	0 - 30
2205160	Triclopyr	9.72	Spike	P	0 - 30
LFB	2,4-D	19.7	LCS	P	0 - 30
LFB	Acetaminophen	18.0	LCS	P	0 - 30
LFB	Acetamiprid	14.4	LCS	P	0 - 30
LFB	Afidopyropen	23.0	LCS	P	0 - 30
LFB	Bentazon	3.53	LCS	P	0 - 30
LFB	Benzovindiflupyr	5.96	LCS	P	0 - 30
LFB	Carbamazepine	11.9	LCS	P	0 - 30
LFB	Clothianidin	0.496	LCS	P	0 - 30
LFB	Dinotefuran	5.41	LCS	P	0 - 30
LFB	Diuron	5.41	LCS	P	0 - 30
LFB	Fenuron	4.00	LCS	P	0 - 30
LFB	Fluridone	3.33	LCS	P	0 - 30
LFB	Hydrocodone	1.88	LCS	P	0 - 30
LFB	Ibuprofen	4.84	LCS	P	0 - 30
LFB	Imazapyr	4.73	LCS	P	0 - 30
LFB	Imidacloprid	2.61	LCS	P	0 - 30
LFB	Linuron	10.8	LCS	P	0 - 30
LFB	Mandestrobin	2.97	LCS	P	0 - 30
LFB	MCP	11.8	LCS	P	0 - 30
LFB	Naproxen	15.1	LCS	P	0 - 30
LFB	Primidone	4.20	LCS	P	0 - 30
LFB	Pyraclostrobin	0.118	LCS	P	0 - 30
LFB	Thiamethoxam	20.0	LCS	P	0 - 30
LFB	Tolfenpyrad	5.64	LCS	P	0 - 30
LFB	Triclopyr	19.9	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P389458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204746	Acesulfame K	5.90	Spike	P	0 - 30
2204746	AMPA	6.58	Spike	P	0 - 30
2204746	Endothall	0.961	Spike	P	0 - 30
2204746	Glufosinate	2.96	Spike	P	0 - 30
2204746	Glyphosate	8.41	Spike	P	0 - 30
2204746	Sucralose	6.97	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
Batch ID: P389413

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205220	Color (true)	4.00	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P389621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205351	Total Alkalinity	1.11	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P389777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205576	Total Alkalinity	1.59	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P389856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205063	TDS	7.14	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P389625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205351	Fluoride	0.953	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P389779

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205576	Fluoride	0.487	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P389521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205065	Organic Carbon	0.394	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P389522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204754	Organic Carbon	0.452	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: 2205194
Field Sample ID: G3NW0441

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	58.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	52.6	P	30 - 160
EPA 8321B	Diuron-d6	46.9	P	30 - 160
EPA 8321B	Endothall-d6	459	F	30 - 160
EPA 8321B	Endothall-d6	459	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.9	P	30 - 160
EPA 8321B	Primidone-d5	77.8	P	30 - 160
EPA 8321B	Sucralose-d6	68.6	P	30 - 160
EPA 8321B	Sucralose-d6	68.6	P	30 - 160

Lab Sample ID: 2205195
Field Sample ID: G3NW0177

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	58.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.4	P	30 - 160
EPA 8321B	Diuron-d6	53.3	P	30 - 160
EPA 8321B	Endothall-d6	96.4	P	30 - 160
EPA 8321B	Endothall-d6	96.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.0	P	30 - 160
EPA 8321B	Primidone-d5	87.8	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A101824

Included Lab Sample IDs: 2205181, 2205184

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.5	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A101825

Included Lab Sample IDs: 2205184

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101826

Included Lab Sample IDs: 2205183

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101827

Included Lab Sample IDs: 2205186

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101848

Included Lab Sample IDs: 2205182

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

Reference Method: SM 5310 B-2011

Run ID: A101872

Included Lab Sample IDs: 2205182, 2205185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	104	P/P	90 - 110
Organic Carbon	104	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101873

Included Lab Sample IDs: 2205194, 2205195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	114	111	P/P	50 - 160
Endothall	98.7	100	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101878

Included Lab Sample IDs: 2205185

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101878

Included Lab Sample IDs: 2205185

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

Reference Method: EPA 8321B

Run ID: A101880

Included Lab Sample IDs: 2205194, 2205195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	98.5	P/P	50 - 160
Glufosinate	102	104	P/P	50 - 160
Glyphosate	104	102	P/P	50 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A101890

Included Lab Sample IDs: 2205182

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A101893

Included Lab Sample IDs: 2205185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A101910

Included Lab Sample IDs: 2205184

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.4	97.4	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A101910

Included Lab Sample IDs: 2205184

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101926

Included Lab Sample IDs: 2205185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.8	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101953

Included Lab Sample IDs: 2205182

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: A101953

Included Lab Sample IDs: 2205182

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.5	96.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101966

Included Lab Sample IDs: 2205194, 2205195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.5	106	P/P	50 - 150
Acetaminophen	101	104	P/P	60 - 160
Acetamiprid	103	105	P/P	50 - 150
Afidopyropen	89.8	95.0	P/P	50 - 150
Bentazon	88.1	106	P/P	50 - 160
Benzovindiflupyr	115	127	P/P	50 - 150
Carbamazepine	106	110	P/P	60 - 150
Clothianidin	93.4	103	P/P	60 - 150
Dinotefuran	89.2	88.2	P/P	50 - 150
Diuron	100	106	P/P	60 - 160
Fenuron	105	110	P/P	60 - 150
Fluridone	90.8	101	P/P	60 - 160
Hydrocodone	105	107	P/P	60 - 150
Ibuprofen	91.3	93.4	P/P	50 - 160
Imazapyr	110	115	P/P	50 - 160
Imidacloprid	104	108	P/P	60 - 150
Linuron	93.5	89.1	P/P	60 - 150
Mandestrobin	115	114	P/P	50 - 150
MCPP	106	116	P/P	50 - 150
Naproxen	145	68.2	P/P	50 - 160
Primidone	106	110	P/P	60 - 150
Pyraclostrobin	102	101	P/P	60 - 150
Thiamethoxam	117	117	P/P	50 - 150
Tolfenpyrad	115	115	P/P	60 - 150
Triclopyr	98.4	117	P/P	50 - 150

Reference Method: SM 2320 B-2011

Run ID: A101970

Included Lab Sample IDs: 2205181

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.0	99.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A101970

Included Lab Sample IDs: 2205181

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	95.4	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A101986

Included Lab Sample IDs: 2205181

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	99.8	98.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101999

Included Lab Sample IDs: 2205194, 2205195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	113	106	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102025

Included Lab Sample IDs: 2205185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102026

Included Lab Sample IDs: 2205182

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.5	96.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102065

Included Lab Sample IDs: 2205184

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Sulfate	101	101	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						4.88	
EPA 300.0 Rev. 2.1	Bromide	103		103	104			
	Chloride	101		101	98.4		0.129	
	Sulfate	101		100	99.1		0.344	
EPA 350.1 Rev. 2.0	Ammonia-N	102		105	105			0.181
	Ammonia-N	99.2		96.4	96.7			0.208
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107		107	98.6			5.97
	Kjeldahl Nitrogen	99.5		103	105			1.25
EPA 353.2 Rev. 2.0	NO2NO3-N	100		100	100			0.0
	NO2NO3-N	99.0		100	100			0.499
EPA 365.1 Rev. 2.0	Total-P	103		95.1	95.4			0.367
	Total-P	104		104	104			0.258
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.3		96.6	95.3			1.22
	O-Phosphate-P	96.6		94.7	95.1			0.421
EPA 8321B	2,4-D	60.0	73.1	55.0	46.0	19.7		16.0
	Acesulfame K	102		129	137			5.90
	Acetaminophen	35.8	42.9	66.2	68.5	18.0		3.34
	Acetamiprid	58.2	50.3	54.4	31.8	14.4		52.5
	Afidopyropen	46.0	36.5	38.0	26.0	23.0		37.5
	AMPA	91.9		120	128			6.58
	Bentazon	49.9	51.6	29.6	5.43	3.53		21.4
	Benzovindiflupyr	75.1	79.7	64.8	55.8	5.96		14.9
	Carbamazepine	68.8	61.1	49.7	45.5	11.9		5.68
	Clothianidin	78.7	79.1	71.1	52.1	0.496		29.2
	Dinotefuran	60.3	57.1	78.3	67.5	5.41		14.8
	Diuron	74.0	70.1	50.0	38.0	5.41		27.2
	Endothall	88.6		97.2	96.2			0.961
	Fenuron	95.7	92.0	74.5	88.2	4.00		16.9
	Fluridone	77.0	74.5	62.6	53.2	3.33		9.06
	Glufosinate	90.0		90.4	93.1			2.96
	Glyphosate	95.8		76.6	83.3			8.41
	Hydrocodone	77.1	78.6	71.5	60.6	1.88		16.5
	Ibuprofen	62.9	66.1	48.2	47.3	4.84		1.81
	Imazapyr	76.3	72.7	99.3	76.1	4.73		15.2
	Imidacloprid	78.3	80.4	120	96.1	2.61		19.1
	Linuron	82.1	91.5	66.1	59.4	10.8		10.7
	Mandestrobin	77.8	75.5	66.2	60.8	2.97		8.52
	MCPP	71.3	63.3	57.1	55.6	11.8		2.70
	Naproxen	59.3	50.9	41.4	48.9	15.1		16.4
	Primidone	79.2	82.6	87.4	66.4	4.20		24.5
	Pyraclostrobin	51.6	51.6	52.0	52.0	0.118		0.0825
	Sucralose	105		105	113			6.97
	Thiamethoxam	72.3	88.3	103	77.8	20.0		27.5
	Tolfenpyrad	32.3	30.5	30.0	33.1	5.64		9.66
	Triclopyr	55.5	45.4	43.9	39.8	19.9		9.72
SM 2120 B-2011	Color (true)	102					4.00	
SM 2320 B-2011	Total Alkalinity	98.2					1.11	
	Total Alkalinity	99.3					1.59	
SM 2540 C-2011	TDS						7.14	
SM 4500 F-C-2011	Fluoride	103		104	106			0.953
	Fluoride	94.5		103	104			0.487
SM 5310 B-2011	Organic Carbon	101		103	104			0.394
	Organic Carbon	102		98.3	98.8			0.452

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2205181, 2205184
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2205181
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2205184
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2205184
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2205182, 2205185
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2205182, 2205185
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2205182, 2205185
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2205182, 2205185
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2205183, 2205186
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2205194, 2205195
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2205194, 2205195
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2205184
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2205181, 2205184
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2205184
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2205181, 2205184
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2205181, 2205184
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2205182, 2205185

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	10/28/2020			10/28/2020 15:54	Yen Ta	2205181, 2205184
EPA 300.0 Rev. 2.1	10/28/2020			11/06/2020 19:12	Lipi Saha	2205181
	10/28/2020			11/09/2020 18:52	Lipi Saha	2205184
EPA 350.1 Rev. 2.0	10/28/2020			10/31/2020 14:38	Ping Hua	2205182
	10/28/2020			11/01/2020 10:25	Ping Hua	2205185
EPA 351.2 Rev. 2.0	10/28/2020	11/04/2020 14:53	David Boose	11/05/2020 14:12	Elliott Rodriguez	2205185
	10/28/2020	11/04/2020 15:00	David Boose	11/05/2020 16:00	Elliott Rodriguez	2205182
EPA 353.2 Rev. 2.0	10/28/2020			10/29/2020 09:48	Beverly Y. Sanders	2205182
	10/28/2020			10/30/2020 10:30	Beverly Y. Sanders	2205185
EPA 365.1 Rev. 2.0	10/28/2020	10/30/2020 16:48	Yen Ta	11/03/2020 14:41	Shengyu Wang	2205185
	10/28/2020	10/30/2020 16:48	Yen Ta	11/04/2020 12:14	Shengyu Wang	2205182
EPA 365.1 Rev. 2.0 dissolved	10/28/2020			10/28/2020 16:27	Virginia P. Brown	2205183
	10/28/2020			10/28/2020 17:41	Virginia P. Brown	2205186
EPA 8321B	10/28/2020	10/29/2020 11:30	Rebecca Ware	10/29/2020 14:29	Rebecca Ware	2205194
	10/28/2020	10/29/2020 11:30	Rebecca Ware	10/29/2020 14:43	Rebecca Ware	2205195
	10/28/2020	10/29/2020 11:30	Rebecca Ware	10/30/2020 12:16	Rebecca Ware	2205195
	10/28/2020	10/29/2020 11:30	Rebecca Ware	10/30/2020 12:59	Rebecca Ware	2205194
	10/28/2020	10/29/2020 11:30	Rebecca Ware	11/04/2020 18:36	Rebecca Ware	2205194
	10/28/2020	10/29/2020 11:30	Rebecca Ware	11/04/2020 18:48	Rebecca Ware	2205195
	10/28/2020	11/03/2020 10:30	Hoor Shaik	11/04/2020 11:42	Juyoung Kim	2205194
	10/28/2020	11/03/2020 10:30	Hoor Shaik	11/04/2020 12:16	Juyoung Kim	2205195
SM 2120 B-2011	10/28/2020			10/28/2020 16:45	Benjamin T. Nordmann	2205184
SM 2320 B-2011	10/28/2020			10/31/2020 09:12	Samantha Davila	2205184
	10/28/2020			11/05/2020 03:49	Samantha Davila	2205181
SM 2540 C-2011	10/28/2020			10/29/2020 15:08	Yijie Li	2205184
SM 2540 D-2011	10/28/2020			10/29/2020 15:08	Yijie Li	2205181, 2205184
SM 4500 F-C-2011	10/28/2020			10/31/2020 09:12	Samantha Davila	2205184
	10/28/2020			11/05/2020 00:09	Samantha Davila	2205181
SM 5310 B-2011	10/28/2020			10/29/2020 21:17	Madeline Gruver	2205185
	10/28/2020			10/29/2020 23:31	Madeline Gruver	2205182