

Chemical Analysis Report

NW-DIST-2020-09-04-01

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

Event Description: **Shoal River**
Request ID: **RQ-2020-08-31-27**
Customer: **NW-DIST**
Project ID: **SMP**

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

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

Certified by: Liang Lin, Environmental Administrator

Date Certified: 28-SEP-2020 11:27

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

NON-CONFORMANCE REPORT INCLUDED

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: Metals, 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: Shoal River Near Rattlesnake Bluff

Collection Date/Time: 09/02/2020 11:27

Field ID: G4NW0493

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2194431	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P387045	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P387198	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P387136	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P387730	
	SM 5310 B-2011	Organic Carbon	9.1		mg C/L	P387239	
2194438	EPA 8321B	2,4-D	0.0034	I	ug/L	P386980	
		Acesulfame K**	0.10	U	ug/L	P386984	MS
		AMPA**	0.10	U	ug/L	P386984	
		Sucralose**	0.18		ug/L	P386984	
		Acetaminophen**	0.0080	U	ug/L	P386980	
		Endothall**	0.25	U	ug/L	P386984	
		Acetamiprid**	0.0020	U	ug/L	P386980	
		Glufosinate**	0.10	U	ug/L	P386984	
		Glyphosate**	0.10	U	ug/L	P386984	
		Afidopyropen**	0.0020	U	ug/L	P386980	
		Bentazon	8.0E-04	U	ug/L	P386980	
		Benzovindiflupyr**	0.0020	U	ug/L	P386980	
		Carbamazepine**	8.0E-04	U	ug/L	P386980	
		Clothianidin**	0.0020	U	ug/L	P386980	
		Dinotefuran**	0.0020	U	ug/L	P386980	
		Diuron	0.0020	U	ug/L	P386980	
		Fenuron	0.016	U	ug/L	P386980	
		Fluridone**	8.0E-04	U	ug/L	P386980	
		Imazapyr**	0.012	I	ug/L	P386980	
		Hydrocodone**	0.0020	U	ug/L	P386980	
		Ibuprofen**	0.020	U	ug/L	P386980	
		Imidacloprid	0.0035	I	ug/L	P386980	MS
		Linuron	0.0040	U	ug/L	P386980	
		Mandestrobin**	0.0020	U	ug/L	P386980	
		MCP	0.0020	U	ug/L	P386980	
		Naproxen**	0.0080	U	ug/L	P386980	
		Primidone**	0.0040	U	ug/L	P386980	
		Pyraclostrobin**	0.0020	U	ug/L	P386980	
		Thiamethoxam**	0.0020	U	ug/L	P386980	
		Tolfenpyrad**	0.0020	U	ug/L	P386980	
		Triclopyr**	0.0040	U	ug/L	P386980	
2194439	EPA 200.7 Rev. 4.4	Barium	17.3		ug/L	P387083	
		Calcium	2.13		mg/L	P387083	
		Iron	880		ug/L	P387083	
		Magnesium	0.84		mg/L	P387083	
		Potassium	0.58	I	mg/L	P387083	
		Sodium	2.0	I	mg/L	P387083	
		Zinc	5.0	U	ug/L	P387083	
	EPA 200.8 Rev. 5.4	Aluminum	355		ug/L	P387083	

Field ID: G4NW0493

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2194439	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P387083	
		Arsenic	0.42		ug/L	P387083	
		Boron**	11.2		ug/L	P387083	
		Cadmium	0.020	U	ug/L	P387083	
		Chromium	0.48	I	ug/L	P387083	
		Copper	0.40	U	ug/L	P387083	
		Lead	0.40		ug/L	P387083	
		Nickel	0.50	U	ug/L	P387083	
		Selenium	0.20	U	ug/L	P387083	
		Silver	0.010	U	ug/L	P387083	
		Thallium	0.10	U	ug/L	P387083	
		Hardness	8.8		mg/L	P387083	
	SM 2340B						

Ref. Method and Comment:

EPA 8321B: MS accuracy for endothall could not be assessed due to a high concentration in the spiked sample.

Sample Location: Yellow River Below Nichols Creek Confluence Collection Date/Time: 09/02/2020 14:39

Field ID: G4NW0270

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2194432	EPA 180.1 Rev. 2.0	Turbidity	5.9	A	NTU	P386998	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P387330	
		Sulfate	1.0		mg SO4/L	P387333	
	SM 2120 B-2011	Color (true)	110	AQ	PCU	P386996	
	SM 2320 B-2011	Total Alkalinity	8.6		mg CaCO3/L	P387126	
	SM 2540 C-2011	TDS	44		mg/L	P387384	
	SM 2540 D-2011	TSS	5	I	mg/L	P387377	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P387130	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P387045	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30		mg N/L	P387198	
2194433	EPA 353.2 Rev. 2.0	NO2NO3-N	0.082		mg N/L	P387136	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P387730	
	SM 5310 B-2011	Organic Carbon	8.2		mg C/L	P387239	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	UQ	mg P/L	P387011	
	dissolved						

Ref. Method and Comment:

SM 2120 B-2011: The sample expired upon receipt.

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt.

Non-Conformance Report

NCR ID: 8412

Event(s)

NW-DIST-2020-09-04-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived one or more days late by FedEx, samples received within the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.

Authorized by/Date: Joshua Ayres 9/8/2020

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386998

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387083

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387083

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387330

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387333

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387045

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P387198

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P387136

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P387730

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P387011

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

Reference Method: EPA 8321B
 Batch ID: P386980

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P386984

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: P386996

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P387126

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

Reference Method: SM 2540 C-2011
Batch ID: P387384

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P387377

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P387130

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P387239

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	104		P	85 - 115
Iron	102		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	99.4		P	85 - 115
Sodium	104		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	93.5		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	94.7		P	85 - 115
Boron	98.9		P	85 - 115
Cadmium	99.0		P	85 - 115
Chromium	105		P	85 - 115
Copper	93.5		P	85 - 115
Lead	100		P	85 - 115
Nickel	93.1		P	85 - 115
Selenium	92.5		P	85 - 115
Silver	101		P	85 - 115
Thallium	99.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387330

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387333

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387045

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387198

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387136

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387730

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387011

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

Reference Method: EPA 8321B
Batch ID: P386980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	115		P	30 - 160
Acetaminophen	70.4		P	30 - 160
Acetamiprid	75.9		P	30 - 160
Afidopyropen	56.7		P	30 - 160
Bentazon	64.0		P	30 - 160
Benzovindiflupyr	49.7		P	30 - 160
Carbamazepine	58.3		P	30 - 160
Clothianidin	76.1		P	30 - 160
Dinotefuran	87.3		P	30 - 160
Diuron	52.1		P	30 - 160
Fenuron	86.0		P	30 - 160
Fluridone	70.5		P	30 - 160
Hydrocodone	73.4		P	30 - 160
Ibuprofen	93.3		P	30 - 160
Imazapyr	121		P	30 - 160
Imidacloprid	96.9		P	30 - 160
Linuron	55.4		P	30 - 160
Mandestrobin	68.5		P	30 - 160
MCPP	126		P	30 - 160
Naproxen	61.8		P	30 - 160
Primidone	74.1		P	30 - 160
Pyraclostrobin	58.4		P	30 - 160
Thiamethoxam	75.4		P	30 - 160
Tolfenpyrad	45.3		P	30 - 160
Triclopyr	86.3		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P386984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	50.5		P	40 - 150
AMPA	41.0		P	40 - 150
Endothall	114		P	40 - 150
Glufosinate	89.8		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P386984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	112		P	40 - 140
Sucralose	106		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P386996

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	95.8		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P387126

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P387130

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P387239

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194273	Barium	104	103	P/P	80 - 120
2194273	Calcium	104		P	80 - 120
2194273	Iron	105	104	P/P	80 - 120
2194273	Magnesium	105	104	P/P	80 - 120
2194273	Potassium	99.3	99.9	P/P	80 - 120
2194273	Sodium	102		P	80 - 120
2194273	Zinc	109	106	P/P	80 - 120
2194439	Barium	103		P	80 - 120
2194439	Calcium	99.2		P	80 - 120
2194439	Iron	101		P	80 - 120
2194439	Magnesium	102		P	80 - 120
2194439	Potassium	97.0		P	80 - 120
2194439	Sodium	99.5		P	80 - 120
2194439	Zinc	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194273	Aluminum	92.9	92.9	P/P	80 - 120
2194273	Antimony	105	105	P/P	80 - 120
2194273	Arsenic	97.3	97.4	P/P	80 - 120
2194273	Boron	96.0	95.8	P/P	80 - 120
2194273	Cadmium	101	102	P/P	80 - 120
2194273	Chromium	107	107	P/P	80 - 120
2194273	Copper	95.7	95.4	P/P	80 - 120
2194273	Lead	102	102	P/P	80 - 120
2194273	Nickel	94.4	94.2	P/P	80 - 120
2194273	Selenium	94.1	94.5	P/P	80 - 120
2194273	Silver	100	100	P/P	80 - 120
2194273	Thallium	104	105	P/P	80 - 120
2194439	Aluminum	94.7		P	80 - 120
2194439	Antimony	104		P	80 - 120
2194439	Arsenic	95.2		P	80 - 120
2194439	Boron	98.5		P	80 - 120
2194439	Cadmium	101		P	80 - 120
2194439	Chromium	105		P	80 - 120
2194439	Copper	96.5		P	80 - 120
2194439	Lead	103		P	80 - 120
2194439	Nickel	97.7		P	80 - 120
2194439	Selenium	90.4		P	80 - 120
2194439	Silver	100		P	80 - 120
2194439	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387330

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194039	Chloride	97.7		P	90 - 110
2194132	Chloride	96.6		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194039	Sulfate	95.8		P	90 - 110
2194132	Sulfate	96.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194479	Ammonia-N	95.1	93.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194411	Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194411	NO2NO3-N	99.2	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194382	Total-P	108	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194434	O-Phosphate-P	98.5	99.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P386980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194244	2,4-D	111	117	P/P	30 - 160
2194244	Acetaminophen	71.2	92.4	P/P	30 - 160
2194244	Acetamiprid	83.6	93.2	P/P	30 - 160
2194244	Afidopyropen	59.3	66.3	P/P	30 - 160
2194244	Bentazon	57.0	63.6	P/P	30 - 160
2194244	Benzovindiflupyr	49.0	53.9	P/P	30 - 160
2194244	Carbamazepine	61.3	65.4	P/P	30 - 160
2194244	Clothianidin	79.2	98.3	P/P	30 - 160
2194244	Dinotefuran	98.0	117	P/P	30 - 160
2194244	Diuron	52.3	58.3	P/P	30 - 160
2194244	Fenuron	82.4	92.1	P/P	30 - 160
2194244	Fluridone	76.3	87.9	P/P	30 - 160
2194244	Hydrocodone	72.0	82.2	P/P	30 - 160
2194244	Ibuprofen	88.2	84.7	P/P	30 - 160
2194244	Imazapyr	106	100	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P386980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194244	Imidacloprid	134	162	P/F	30 - 160
2194244	Linuron	58.8	64.5	P/P	30 - 160
2194244	Mandestrobin	74.1	88.3	P/P	30 - 160
2194244	MCCP	123	126	P/P	30 - 160
2194244	Naproxen	57.2	53.6	P/P	30 - 160
2194244	Primidone	78.7	97.9	P/P	30 - 160
2194244	Pyraclostrobin	59.2	61.1	P/P	30 - 160
2194244	Thiamethoxam	91.1	108	P/P	30 - 160
2194244	Tolfenpyrad	40.8	49.4	P/P	30 - 160
2194244	Triclopyr	98.0	93.0	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P386984

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194415	Acesulfame K	30.4	33.8	F/F	40 - 150
2194415	AMPA	72.1	72.4	P/P	40 - 150
2194415	Glufosinate	71.6	82.0	P/P	40 - 150
2194415	Glyphosate	64.5	94.7	P/P	40 - 140
2194415	Sucralose	51.5	58.2	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P387130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194618	Fluoride	98.5	99.6	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P387239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194433	Organic Carbon	99.4	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194432	Turbidity	1.35	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194273	Barium	1.54	Spike	P	0 - 20
2194273	Calcium	0.997	Spike	P	0 - 20
2194273	Iron	0.697	Spike	P	0 - 20
2194273	Magnesium	0.477	Spike	P	0 - 20
2194273	Potassium	0.511	Spike	P	0 - 20
2194273	Sodium	0.415	Spike	P	0 - 20
2194273	Zinc	2.47	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194273	Aluminum	0.0430	Spike	P	0 - 20
2194273	Antimony	0.0302	Spike	P	0 - 20
2194273	Arsenic	0.0480	Spike	P	0 - 20
2194273	Boron	0.226	Spike	P	0 - 20
2194273	Cadmium	0.827	Spike	P	0 - 20
2194273	Chromium	0.159	Spike	P	0 - 20
2194273	Copper	0.374	Spike	P	0 - 20
2194273	Lead	0.0788	Spike	P	0 - 20
2194273	Nickel	0.197	Spike	P	0 - 20
2194273	Selenium	0.510	Spike	P	0 - 20
2194273	Silver	0.114	Spike	P	0 - 20
2194273	Thallium	0.536	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194039	Chloride	0.680	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194039	Sulfate	0.689	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194479	Ammonia-N	1.41	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194411	Kjeldahl Nitrogen	1.71	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194411	NO2NO3-N	0.797	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194382	Total-P	0.684	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194434	O-Phosphate-P	0.607	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P386980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194244	2,4-D	4.98	Spike	P	0 - 30
2194244	Acetaminophen	25.9	Spike	P	0 - 30
2194244	Acetamiprid	10.8	Spike	P	0 - 30
2194244	Afidopyropen	11.2	Spike	P	0 - 30
2194244	Bentazon	8.98	Spike	P	0 - 30
2194244	Benzovindiflupyr	9.50	Spike	P	0 - 30
2194244	Carbamazepine	6.49	Spike	P	0 - 30
2194244	Clothianidin	21.5	Spike	P	0 - 30
2194244	Dinotefuran	17.3	Spike	P	0 - 30
2194244	Diuron	10.8	Spike	P	0 - 30
2194244	Fenuron	11.2	Spike	P	0 - 30
2194244	Fluridone	14.2	Spike	P	0 - 30
2194244	Hydrocodone	13.2	Spike	P	0 - 30
2194244	Ibuprofen	3.95	Spike	P	0 - 30
2194244	Imazapyr	5.67	Spike	P	0 - 30
2194244	Imidacloprid	18.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P386980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194244	Linuron	9.25	Spike	P	0 - 30
2194244	Mandestrobin	17.4	Spike	P	0 - 30
2194244	MCCP	1.91	Spike	P	0 - 30
2194244	Naproxen	6.44	Spike	P	0 - 30
2194244	Primidone	21.8	Spike	P	0 - 30
2194244	Pyraclostrobin	3.11	Spike	P	0 - 30
2194244	Thiamethoxam	17.2	Spike	P	0 - 30
2194244	Tolfenpyrad	19.0	Spike	P	0 - 30
2194244	Triclopyr	5.23	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P386984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194415	Acesulfame K	10.6	Spike	P	0 - 30
2194415	AMPA	0.198	Spike	P	0 - 30
2194415	Endothall	2.72	Spike	P	0 - 30
2194415	Glufosinate	13.6	Spike	P	0 - 30
2194415	Glyphosate	6.72	Spike	P	0 - 30
2194415	Sucralose	11.6	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P386996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194432	Color (true)	1.36	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P387126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194618	Total Alkalinity	3.90	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P387384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194410	TDS	2.51	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P387130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194618	Fluoride	0.921	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P387239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194433	Organic Carbon	1.17	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2194438
Field Sample ID: G4NW0493

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	42.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	53.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.4	P	30 - 160
EPA 8321B	Diuron-d6	61.6	P	30 - 160
EPA 8321B	Endothall-d6	116	P	30 - 160
EPA 8321B	Endothall-d6	116	P	30 - 160
EPA 8321B	Ibuprofen-d3	45.1	P	30 - 160
EPA 8321B	Primidone-d5	74.7	P	30 - 160
EPA 8321B	Sucralose-d6	95.8	P	30 - 160
EPA 8321B	Sucralose-d6	95.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A100827

Included Lab Sample IDs: 2194432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.2	96.9	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A100828

Included Lab Sample IDs: 2194432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100831

Included Lab Sample IDs: 2194434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.2	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100836

Included Lab Sample IDs: 2194431, 2194433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	94.8	96.6	P/P	90 - 110
Ammonia-N	96.6	94.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A100873

Included Lab Sample IDs: 2194432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.2	103	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100873

Included Lab Sample IDs: 2194432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	96.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100874

Included Lab Sample IDs: 2194431, 2194433

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100889

Included Lab Sample IDs: 2194439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.5	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100889

Included Lab Sample IDs: 2194439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.0	100	P/P	90 - 110
Iron	98.4	99.3	P/P	90 - 110
Magnesium	97.8	98.5	P/P	90 - 110
Potassium	95.8	96.2	P/P	90 - 110
Sodium	97.9	97.7	P/P	90 - 110
Zinc	99.9	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100901

Included Lab Sample IDs: 2194438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	61.0	60.0	P/P	60 - 160
Endothall	123	121	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A100905

Included Lab Sample IDs: 2194438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	82.0	79.9	P/P	60 - 160
Glufosinate	92.8	99.7	P/P	60 - 160
Glyphosate	146	148	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A100921

Included Lab Sample IDs: 2194431, 2194433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.7	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100938

Included Lab Sample IDs: 2194431, 2194433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100956

Included Lab Sample IDs: 2194438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	99.2	106	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100958

Included Lab Sample IDs: 2194432

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100958

Included Lab Sample IDs: 2194432

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100965

Included Lab Sample IDs: 2194439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.4	94.7	P/P	90 - 110
Antimony	107	106	P/P	90 - 110
Arsenic	94.3	94.6	P/P	90 - 110
Boron	98.6	96.9	P/P	90 - 110
Cadmium	98.5	98.3	P/P	90 - 110
Chromium	103	102	P/P	90 - 110
Copper	94.1	94.1	P/P	90 - 110
Lead	99.4	98.6	P/P	90 - 110
Nickel	95.6	95.7	P/P	90 - 110
Selenium	96.1	95.2	P/P	90 - 110
Silver	103	102	P/P	90 - 110
Thallium	97.3	96.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101015

Included Lab Sample IDs: 2194438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	66.3	62.0	P/P	50 - 150
Acetaminophen	112	110	P/P	60 - 160
Acetamiprid	132	134	P/P	50 - 150
Afidopyropen	112	101	P/P	50 - 150
Bentazon	69.0	73.0	P/P	50 - 160
Benzovindiflupyr	96.5	106	P/P	50 - 150
Carbamazepine	104	110	P/P	60 - 150
Clothianidin	108	104	P/P	60 - 150
Dinotefuran	103	99.4	P/P	50 - 150
Diuron	122	119	P/P	60 - 160
Fenuron	123	126	P/P	60 - 150
Fluridone	131	128	P/P	60 - 160
Hydrocodone	108	113	P/P	60 - 150
Ibuprofen	113	118	P/P	50 - 160
Imazapyr	67.1	78.1	P/P	50 - 160
Imidacloprid	108	96.0	P/P	60 - 150
Linuron	121	125	P/P	60 - 150
Mandestrobin	111	113	P/P	50 - 150
MCPP	70.8	64.7	P/P	50 - 150
Naproxen	91.0	110	P/P	50 - 160
Primidone	109	89.7	P/P	60 - 150
Pyraclostrobin	107	101	P/P	60 - 150
Thiamethoxam	105	105	P/P	50 - 150
Tolfenpyrad	101	105	P/P	60 - 150
Triclopyr	86.1	83.9	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101180

Included Lab Sample IDs: 2194431, 2194433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.2	93.8	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.35	
EPA 200.7 Rev. 4.4	Barium	101	104	103	103			1.54
	Calcium	104	104	99.2				0.997
	Iron	102	105	104	101			0.697
	Magnesium	102	105	104	102			0.477
	Potassium	99.4	99.3	99.9	97.0			0.511
	Sodium	104	102	99.5				0.415
	Zinc	103	109	106	104			2.47
EPA 200.8 Rev. 5.4	Aluminum	93.5	92.9	92.9	94.7			0.0430
	Antimony	103	105	105	104			0.0302
	Arsenic	94.7	97.3	97.4	95.2			0.0480
	Boron	98.9	96.0	95.8	98.5			0.226
	Cadmium	99.0	101	102	101			0.827
	Chromium	105	107	107	105			0.159
	Copper	93.5	95.7	95.4	96.5			0.374
	Lead	100	102	102	103			0.0788
	Nickel	93.1	94.4	94.2	97.7			0.197
	Selenium	92.5	94.1	94.5	90.4			0.510
	Silver	101	100	100	100			0.114
	Thallium	99.3	104	105	104			0.536
EPA 300.0 Rev. 2.1	Chloride	99.1	97.7	96.6			0.680	
	Sulfate	97.6	95.8	96.1			0.689	
EPA 350.1 Rev. 2.0	Ammonia-N	94.0	95.1	93.4				1.41
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	105	101				1.71
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	99.2	98.2				0.797
EPA 365.1 Rev. 2.0	Total-P	109	108	109				0.684
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	98.5	99.1				0.607
EPA 8321B	2,4-D	115	111	117				4.98
	Acesulfame K	50.5	30.4	33.8				10.6
	Acetaminophen	70.4	71.2	92.4				25.9
	Acetamiprid	75.9	83.6	93.2				10.8
	Afidopyropen	56.7	59.3	66.3				11.2
	AMPA	41.0	72.1	72.4				0.198
	Bentazon	64.0	57.0	63.6				8.98
	Benzovindiflupyr	49.7	49.0	53.9				9.50
	Carbamazepine	58.3	61.3	65.4				6.49
	Clothianidin	76.1	79.2	98.3				21.5
	Dinotefuran	87.3	98.0	117				17.3
	Diuron	52.1	52.3	58.3				10.8
	Endothall	114						2.72
	Fenuron	86.0	82.4	92.1				11.2
	Fluridone	70.5	76.3	87.9				14.2
	Glufosinate	89.8	71.6	82.0				13.6
	Glyphosate	112	64.5	94.7				6.72
	Hydrocodone	73.4	72.0	82.2				13.2
	Ibuprofen	93.3	88.2	84.7				3.95
	Imazapyr	121	106	100				5.67
	Imidacloprid	96.9	134	162				18.8
	Linuron	55.4	58.8	64.5				9.25
	Mandestrobin	68.5	74.1	88.3				17.4
	MCPP	126	123	126				1.91
	Naproxen	61.8	57.2	53.6				6.44
	Primidone	74.1	78.7	97.9				21.8
	Pyraclostrobin	58.4	59.2	61.1				3.11

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Sucralose	106	51.5	58.2		11.6
	Thiamethoxam	75.4	91.1	108		17.2
	Tolfenpyrad	45.3	40.8	49.4		19.0
	Triclopyr	86.3	98.0	93.0		5.23
SM 2120 B-2011	Color (true)	95.8			1.36	
SM 2320 B-2011	Total Alkalinity	99.4			3.90	
SM 2540 C-2011	TDS				2.51	
SM 4500 F-C-2011	Fluoride	98.8	98.5	99.6		0.921
SM 5310 B-2011	Organic Carbon	99.6	99.4	101		1.17

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2194432
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2194439
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2194439
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2194432
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2194432
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2194431, 2194433
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2194431, 2194433
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2194431, 2194433
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2194431, 2194433
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2194434
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2194438
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2194438
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2194432
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2194432
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2194439
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2194432
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2194432
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2194432
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2194431, 2194433

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	09/04/2020			09/04/2020 14:17	Yen Ta	2194432
EPA 200.7 Rev. 4.4	09/04/2020	09/08/2020 14:40	Elliott D. Healy	09/09/2020 16:53	Betina Topolski	2194439
EPA 200.8 Rev. 5.4	09/04/2020	09/08/2020 14:40	Elliott D. Healy	09/14/2020 21:32	Alexander Thompson	2194439
EPA 300.0 Rev. 2.1	09/04/2020			09/11/2020 07:26	Elliott Rodriguez	2194432
EPA 350.1 Rev. 2.0	09/04/2020			09/07/2020 19:04	Ping Hua	2194431
	09/04/2020			09/07/2020 19:11	Ping Hua	2194433
EPA 351.2 Rev. 2.0	09/04/2020	09/10/2020 09:57	Sima Feizi	09/11/2020 10:31	Elliott Rodriguez	2194431
	09/04/2020	09/10/2020 09:57	Sima Feizi	09/11/2020 10:33	Elliott Rodriguez	2194433
EPA 353.2 Rev. 2.0	09/04/2020			09/09/2020 10:37	Beverly Y. Sanders	2194431
	09/04/2020			09/09/2020 10:38	Beverly Y. Sanders	2194433
EPA 365.1 Rev. 2.0	09/04/2020	09/23/2020 12:23	Yen Ta	09/24/2020 12:48	Lipi Saha	2194431
	09/04/2020	09/23/2020 12:23	Yen Ta	09/24/2020 12:49	Lipi Saha	2194433
EPA 365.1 Rev. 2.0 dissolved	09/04/2020			09/04/2020 14:48	Samantha Davila	2194434
EPA 8321B	09/04/2020	09/04/2020 14:30	Rebecca Ware	09/08/2020 16:15	Rebecca Ware	2194438
	09/04/2020	09/04/2020 14:30	Rebecca Ware	09/09/2020 09:53	Rebecca Ware	2194438
	09/04/2020	09/04/2020 14:30	Rebecca Ware	09/10/2020 21:29	Rebecca Ware	2194438
	09/04/2020	09/08/2020 09:00	Hoor Shaik	09/16/2020 10:06	Juyoung Kim	2194438
SM 2120 B-2011	09/04/2020			09/04/2020 14:51	Samantha Davila	2194432
SM 2320 B-2011	09/04/2020			09/08/2020 17:53	Dale L. Simmons	2194432
SM 2340B	09/04/2020			09/09/2020 16:53	Betina Topolski	2194439
SM 2540 C-2011	09/04/2020			09/08/2020 15:01	Yijie Li	2194432
SM 2540 D-2011	09/04/2020			09/08/2020 15:26	Yijie Li	2194432
SM 4500 F-C-2011	09/04/2020			09/08/2020 17:53	Dale L. Simmons	2194432
SM 5310 B-2011	09/04/2020			09/10/2020 20:08	David Boose	2194433
	09/04/2020			09/10/2020 20:56	David Boose	2194431