

Chemical Analysis Report

SE-DIST-2021-04-23-01

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

Event Description: **SMP - Okeechobee Monthly 04/21**

Request ID: **RQ-2021-04-12-53**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

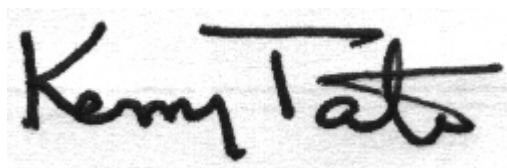
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 17-MAY-2021 12:59

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first few letters.

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: Taylor Creek @ 39th St.

Collection Date/Time: 04/22/2021 12:00

Field ID: G1SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2242041	EPA 180.1 Rev. 2.0	Turbidity	9.1		NTU	P397089	
	EPA 300.0 Rev. 2.1	Chloride	97		mg Cl/L	P398117	
		Sulfate	57		mg SO4/L	P398118	
	SM 2120 B-2011	Color (true)	200		PCU	P397078	
	SM 2320 B-2011	Total Alkalinity	200		mg CaCO3/L	P397395	
	SM 2540 C-2011	TDS	478		mg/L	P397697	
	SM 2540 D-2011	TSS	11		mg/L	P397331	
	SM 4500 F-C-2011	Fluoride	0.15		mg F/L	P397397	
2242042	EPA 350.1 Rev. 2.0	Ammonia-N	12		mg N/L	P397723	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	16		mg N/L	P397602	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.090		mg N/L	P397402	
	EPA 365.1 Rev. 2.0	Total-P	2.0		mg P/L	P397255	
	SM 5310 B-2011	Organic Carbon	29		mg C/L	P397242	
2242043	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	1.4		mg P/L	P397073	
2242053	EPA 8321B	2,4-D	0.10		ug/L	P397178	
		Acesulfame K	0.10	U	ug/L	P397199	
		2,4,5-T	0.0040	U	ug/L	P397178	
		AMPA	0.41		ug/L	P397199	
		Sucralose	0.28		ug/L	P397199	
		Acetaminophen	0.038		ug/L	P397178	
		Acetamiprid	0.0020	U	ug/L	P397178	
		Endothall	0.25	U	ug/L	P397199	
		Glufosinate	0.10	U	ug/L	P397199	
		Glyphosate	1.0		ug/L	P397199	
		Afidopyropen	0.0020	U	ug/L	P397178	
		Bentazon	8.0E-04	I	ug/L	P397178	
		Benzovindiflupyr	0.0020	U	ug/L	P397178	
		Carbamazepine	8.0E-04	U	ug/L	P397178	
		Clothianidin	0.0036	I	ug/L	P397178	
		Dinotefuran	0.0059	I	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	0.54		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	
		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: G1SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2242053	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: Henry Creek @ 710

Collection Date/Time: 04/22/2021 12:40

Field ID: G1SE0002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2242044	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P397089	
	EPA 300.0 Rev. 2.1	Chloride	400		mg Cl/L	P398117	
		Sulfate	140		mg SO4/L	P398118	
	SM 2120 B-2011	Color (true)	190		PCU	P397078	
	SM 2320 B-2011	Total Alkalinity	62		mg CaCO3/L	P397395	
	SM 2540 C-2011	TDS	892		mg/L	P397697	
	SM 2540 D-2011	TSS	2	I	mg/L	P397331	
	SM 4500 F-C-2011	Fluoride	0.20		mg F/L	P397397	
2242045	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P397721	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P397448	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.082		mg N/L	P397402	
	EPA 365.1 Rev. 2.0	Total-P	0.38		mg P/L	P397255	
	SM 5310 B-2011	Organic Carbon	29		mg C/L	P397242	
2242046	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.30		mg P/L	P397073	

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: Lettuce Creek @ 710

Collection Date/Time: 04/22/2021 13:15

Field ID: G1SE0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2242054	EPA 200.7 Rev. 4.4	Barium	18.4		ug/L	P397819	
		Calcium	29.9		mg/L	P397819	
		Iron	1.07E+03		ug/L	P397819	
		Magnesium	5.86		mg/L	P397819	
		Manganese	23.4		ug/L	P397819	
		Potassium	3.9		mg/L	P397819	
		Sodium	26.2		mg/L	P397819	
	EPA 200.8 Rev. 5.4	Zinc	6.8	I	ug/L	P397819	
		Aluminum	227		ug/L	P397819	
		Antimony	0.077	I	ug/L	P397819	
		Arsenic	1.10		ug/L	P397819	
		Beryllium	0.026	I	ug/L	P397819	
		Boron**	41.2		ug/L	P397819	
		Cadmium	0.020	U	ug/L	P397819	
		Chromium	0.91	I	ug/L	P397819	
		Copper	0.60	I	ug/L	P397819	
		Lead	0.20	U	ug/L	P397819	
		Nickel	0.50	U	ug/L	P397819	
		Selenium	0.20	U	ug/L	P397819	
		Silver	0.010	U	ug/L	P397819	
		Thallium	0.10	U	ug/L	P397819	
	SM 2340B	Hardness	98.8		mg/L	P397819	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397089

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P397819

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
Manganese	1.0	U	ug/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: P397819

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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: P398117

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398118

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397721

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397723

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397448

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	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 353.2 Rev. 2.0
Batch ID: P397402

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397255

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397073

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P397178

Component	Result	Code	Units
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: P397199

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: P397078

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P397395

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

Reference Method: SM 2540 C-2011

Batch ID: P397697

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P397331

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P397397

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P397242

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: P397819

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.7		P	85 - 115
Calcium	108		P	85 - 115
Iron	105		P	85 - 115
Magnesium	102		P	85 - 115
Manganese	102		P	85 - 115
Potassium	101		P	85 - 115
Sodium	103		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P397819

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	93.9		P	85 - 115
Antimony	98.7		P	85 - 115
Arsenic	95.6		P	85 - 115
Beryllium	99.6		P	85 - 115
Boron	95.9		P	85 - 115
Cadmium	96.5		P	85 - 115
Chromium	95.1		P	85 - 115
Copper	96.3		P	85 - 115
Lead	102		P	85 - 115
Nickel	96.2		P	85 - 115
Selenium	96.0		P	85 - 115
Silver	94.7		P	85 - 115
Thallium	98.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398117

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398118

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397721

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.8		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397448

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: P397602

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397402

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397255

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: P397073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.4		P	90 - 110

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P397178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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: P397199

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	99.2		P	40 - 150
AMPA	80.6		P	40 - 150
Endothall	87.2		P	40 - 150
Glufosinate	81.5		P	40 - 150
Glyphosate	98.4		P	40 - 140
Sucralose	106		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P397078

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

Reference Method: SM 2320 B-2011

Batch ID: P397395

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P397397

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.9		P	90 - 106

Reference Method: SM 5310 B-2011

Batch ID: P397242

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P397819

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241352	Barium	98.5	97.4	P/P	80 - 120
2241352	Calcium	105		P	80 - 120
2241352	Iron	107	105	P/P	80 - 120
2241352	Magnesium	99.9		P	80 - 120
2241352	Manganese	101	101	P/P	80 - 120
2241352	Potassium	101	97.8	P/P	80 - 120
2241352	Sodium	102		P	80 - 120
2241352	Zinc	103	101	P/P	80 - 120
2241736	Barium	98.6		P	80 - 120
2241736	Calcium	104		P	80 - 120
2241736	Iron	108		P	80 - 120
2241736	Magnesium	99.4		P	80 - 120
2241736	Manganese	102		P	80 - 120
2241736	Potassium	105		P	80 - 120
2241736	Sodium	102		P	80 - 120
2241736	Zinc	107		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P397819

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241352	Aluminum	98.6	89.0	P/P	80 - 120
2241352	Antimony	105	99.2	P/P	80 - 120
2241352	Arsenic	104	94.8	P/P	80 - 120
2241352	Beryllium	101	98.6	P/P	80 - 120
2241352	Boron	104	90.9	P/P	80 - 120
2241352	Cadmium	101	96.3	P/P	80 - 120
2241352	Chromium	101	91.0	P/P	80 - 120
2241352	Copper	102	91.6	P/P	80 - 120
2241352	Lead	105	104	P/P	80 - 120
2241352	Nickel	101	90.1	P/P	80 - 120
2241352	Selenium	101	91.7	P/P	80 - 120
2241352	Silver	101	90.9	P/P	80 - 120
2241352	Thallium	109	104	P/P	80 - 120
2241736	Aluminum	96.6		P	80 - 120
2241736	Antimony	106		P	80 - 120
2241736	Arsenic	102		P	80 - 120
2241736	Beryllium	101		P	80 - 120
2241736	Boron	96.3		P	80 - 120
2241736	Cadmium	104		P	80 - 120
2241736	Chromium	101		P	80 - 120
2241736	Copper	99.5		P	80 - 120
2241736	Lead	105		P	80 - 120
2241736	Nickel	99.7		P	80 - 120
2241736	Selenium	99.9		P	80 - 120
2241736	Silver	100		P	80 - 120
2241736	Thallium	109		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241786	Chloride	98.7		P	90 - 110
2242025	Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398118

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241786	Sulfate	102		P	90 - 110
2242025	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397721

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242683	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242930	Ammonia-N	97.6	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242181	Kjeldahl Nitrogen	112	106	F/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 353.2 Rev. 2.0
Batch ID: P397402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241928	NO2NO3-N	98.6	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397255

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241888	Total-P	106	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241929	O-Phosphate-P	94.5	94.0	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	MCCP	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: P397199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241899	Acesulfame K	64.6	69.6	P/P	40 - 150
2241899	AMPA	97.2	103	P/P	40 - 150
2241899	Endothall	76.8	86.7	P/P	40 - 150
2241899	Glufosinate	95.4	93.6	P/P	40 - 150
2241899	Glyphosate	76.9	76.6	P/P	40 - 140
2241899	Sucralose	50.3	50.1	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P397397

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243040	Fluoride	99.5	100	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P397242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241724	Organic Carbon	97.0	98.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P397089

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242044	Turbidity	7.52	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P397819

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241352	Barium	1.13	Spike	P	0 - 20
2241352	Calcium	1.27	Spike	P	0 - 20
2241352	Iron	1.76	Spike	P	0 - 20
2241352	Magnesium	2.38	Spike	P	0 - 20
2241352	Manganese	0.297	Spike	P	0 - 20
2241352	Potassium	2.32	Spike	P	0 - 20
2241352	Sodium	1.00	Spike	P	0 - 20
2241352	Zinc	2.30	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P397819

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241352	Aluminum	9.85	Spike	P	0 - 20
2241352	Antimony	5.88	Spike	P	0 - 20
2241352	Arsenic	9.43	Spike	P	0 - 20
2241352	Beryllium	2.37	Spike	P	0 - 20
2241352	Boron	9.85	Spike	P	0 - 20
2241352	Cadmium	5.17	Spike	P	0 - 20
2241352	Chromium	10.1	Spike	P	0 - 20
2241352	Copper	10.5	Spike	P	0 - 20
2241352	Lead	1.55	Spike	P	0 - 20
2241352	Nickel	11.8	Spike	P	0 - 20
2241352	Selenium	9.72	Spike	P	0 - 20
2241352	Silver	10.1	Spike	P	0 - 20
2241352	Thallium	4.10	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398117

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241786	Chloride	1.07	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398118

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241786	Sulfate	1.16	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397721

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242683	Ammonia-N	0.995	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242930	Ammonia-N	0.240	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242181	Kjeldahl Nitrogen	4.60	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 353.2 Rev. 2.0
Batch ID: P397402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241928	NO2NO3-N	0.957	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241888	Total-P	1.76	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241929	O-Phosphate-P	0.531	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

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P397178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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: P397199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241899	Acesulfame K	7.51	Spike	P	0 - 30
2241899	AMPA	5.48	Spike	P	0 - 30
2241899	Endothall	12.0	Spike	P	0 - 30
2241899	Glufosinate	1.99	Spike	P	0 - 30
2241899	Glyphosate	0.365	Spike	P	0 - 30
2241899	Sucralose	0.408	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P397078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242179	Color (true)	1.09	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P397395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243040	Total Alkalinity	0.909	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P397697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241790	TDS	6.74	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P397397

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243040	Fluoride	0.467	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P397242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241724	Organic Carbon	0.600	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2242053

Field Sample ID: G1SE0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	117	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.0	P	30 - 160
EPA 8321B	Diuron-d6	64.3	P	30 - 160
EPA 8321B	Endothall-d6	94.3	P	40 - 160
EPA 8321B	Endothall-d6	94.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	112	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	112	P	40 - 160
EPA 8321B	Ibuprofen-d3	82.8	P	30 - 160
EPA 8321B	Primidone-d5	86.4	P	30 - 160
EPA 8321B	Sucralose-d6	83.8	P	30 - 160
EPA 8321B	Sucralose-d6	83.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A104944

Included Lab Sample IDs: 2242043, 2242046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.8	P/P	90 - 110
O-Phosphate-P	99.8	101	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A104946

Included Lab Sample IDs: 2242041, 2242044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	104	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A104949

Included Lab Sample IDs: 2242041, 2242044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	101	P/P	95 - 105

Reference Method: SM 5310 B-2011

Run ID: A105019

Included Lab Sample IDs: 2242042, 2242045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	95.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105047

Included Lab Sample IDs: 2242042, 2242045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	104	P/P	90 - 110
Total-P	105	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A105072

Included Lab Sample IDs: 2242053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	88.1	86.8	P/P	40 - 160
AMPA	72.0	73.5	P/P	40 - 160
Endothall	106	98.4	P/P	40 - 160
Glufosinate	79.0	73.7	P/P	40 - 160
Glyphosate	94.2	87.4	P/P	40 - 160

Reference Method: SM 2320 B-2011

Run ID: A105080

Included Lab Sample IDs: 2242041, 2242044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.7	P/P	90 - 110
Total Alkalinity	97.7	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A105080

Included Lab Sample IDs: 2242041, 2242044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	99.5	P/P	90 - 110
Fluoride	99.0	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105082

Included Lab Sample IDs: 2242042, 2242045

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

Reference Method: EPA 8321B

Run ID: A105083

Included Lab Sample IDs: 2242053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	109	110	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A105098

Included Lab Sample IDs: 2242053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	99.4	P/P	50 - 150
2,4,5-T	103	117	P/P	50 - 150
Acetaminophen	110	113	P/P	60 - 160
Acetamiprid	127	123	P/P	50 - 150
Afidopyropen	139	128	P/P	50 - 150
Bentazon	122	148	P/P	50 - 160
Benzovindiflupyr	128	122	P/P	50 - 160
Carbamazepine	123	125	P/P	60 - 150
Clothianidin	119	117	P/P	60 - 150
Dinotefuran	121	127	P/P	50 - 150
Diuron	98.0	121	P/P	60 - 160
Fenuron	108	111	P/P	60 - 150
Fluridone	133	129	P/P	60 - 160
Hydrocodone	124	138	P/P	60 - 150
Ibuprofen	107	96.1	P/P	50 - 160
Imazapyr	107	121	P/P	50 - 150
Imidacloprid	127	126	P/P	60 - 150
Linuron	104	112	P/P	60 - 150
Mandestrobin	119	115	P/P	50 - 150
MCPP	111	113	P/P	50 - 150
Naproxen	139	132	P/P	50 - 160
Primidone	127	130	P/P	60 - 150
Pyraclostrobin	116	127	P/P	60 - 150
Thiamethoxam	135	143	P/P	50 - 150
Tolfenpyrad	123	130	P/P	60 - 150
Triclopyr	110	118	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105124

Included Lab Sample IDs: 2242045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.3	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105188

Included Lab Sample IDs: 2242042

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105202

Included Lab Sample IDs: 2242042, 2242045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	99.4	P/P	90 - 110
Ammonia-N	99.0	98.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A105270

Included Lab Sample IDs: 2242054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	103	105	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	102	104	P/P	90 - 110
Manganese	102	101	P/P	90 - 110
Potassium	103	104	P/P	90 - 110
Sodium	103	104	P/P	90 - 110
Zinc	104	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105274

Included Lab Sample IDs: 2242054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	104	105	P/P	90 - 110
Antimony	105	106	P/P	90 - 110
Arsenic	102	103	P/P	90 - 110
Boron	107	105	P/P	90 - 110
Cadmium	104	105	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Nickel	102	102	P/P	90 - 110
Selenium	101	103	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Thallium	102	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105306

Included Lab Sample IDs: 2242054

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A105392

Included Lab Sample IDs: 2242041, 2242044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	100	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						7.52	
EPA 200.7 Rev. 4.4	Barium	99.7	98.5	97.4	98.6			1.13
	Calcium	108	105	104				1.27
	Iron	105	107	105	108			1.76
	Magnesium	102	99.9	99.4				2.38
	Manganese	102	101	101	102			0.297
	Potassium	101	101	97.8	105			2.32
	Sodium	103	102	102				1.00
	Zinc	102	103	101	107			2.30
EPA 200.8 Rev. 5.4	Aluminum	93.9	98.6	89.0	96.6			9.85
	Antimony	98.7	105	99.2	106			5.88
	Arsenic	95.6	104	94.8	102			9.43
	Beryllium	99.6	101	98.6	101			2.37
	Boron	95.9	104	90.9	96.3			9.85
	Cadmium	96.5	101	96.3	104			5.17
	Chromium	95.1	101	91.0	101			10.1
	Copper	96.3	102	91.6	99.5			10.5
	Lead	102	105	104	105			1.55
	Nickel	96.2	101	90.1	99.7			11.8
	Selenium	96.0	101	91.7	99.9			9.72
	Silver	94.7	101	90.9	100			10.1
	Thallium	98.4	109	104	109			4.10
EPA 300.0 Rev. 2.1	Chloride	101	98.7	98.4			1.07	
	Sulfate	102	102	98.9			1.16	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	100	101				0.995
	Ammonia-N	96.8	97.6	98.0				0.240
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	112	106				4.60
	Kjeldahl Nitrogen	104	110	114				2.23
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	98.6	99.6				0.957
EPA 365.1 Rev. 2.0	Total-P	104	106	104				1.76
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	94.5	94.0				0.531
EPA 8321B	2,4-D	158						13.1
	2,4,5-T	133	133	133				0.240
	Acesulfame K	99.2	64.6	69.6				7.51
	Acetaminophen	99.2	76.1	68.7				6.34
	Acetamiprid	103	115	114				1.15
	Afidopyropen	84.6	110	101				8.41
	AMPA	80.6	97.2	103				5.48
	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	87.2	76.8	86.7				12.0
	Fenuron	112	110	100				9.17
	Fluridone	122						12.9
	Glufosinate	81.5	95.4	93.6				1.99
	Glyphosate	98.4	76.9	76.6				0.365
	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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Mandestrobin	91.4	112	96.4		15.2
	MCCP	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	106	50.3	50.1		0.408
	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)	102			1.09	
SM 2320 B-2011	Total Alkalinity	100			0.909	
SM 2540 C-2011	TDS				6.74	
SM 4500 F-C-2011	Fluoride	95.9	99.5	100		0.467
SM 5310 B-2011	Organic Carbon	96.2	97.0	98.0		0.600

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2242041, 2242044
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2242054
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2242054
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2242041, 2242044
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2242041, 2242044
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2242042, 2242045
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2242042, 2242045
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2242042, 2242045
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2242042, 2242045
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2242043, 2242046
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2242053
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2242053
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2242041, 2242044
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2242041, 2242044
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2242054
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2242041, 2242044
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2242041, 2242044
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2242041, 2242044
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2242042, 2242045

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	04/23/2021			04/23/2021 16:29	Yen Ta	2242041, 2242044
EPA 200.7 Rev. 4.4	04/23/2021	05/06/2021 16:40	Elliott D. Healy	05/07/2021 17:07	Betina Topolski	2242054
EPA 200.8 Rev. 5.4	04/23/2021	05/06/2021 16:40	Elliott D. Healy	05/07/2021 20:06	McKinley C Carter	2242054
	04/23/2021	05/06/2021 16:40	Elliott D. Healy	05/11/2021 05:47	Alexander Thompson	2242054
EPA 300.0 Rev. 2.1	04/23/2021			05/13/2021 03:14	Lipi Saha	2242041
	04/23/2021			05/13/2021 03:26	Lipi Saha	2242044
EPA 350.1 Rev. 2.0	04/23/2021			05/05/2021 17:03	Ping Hua	2242045
	04/23/2021			05/05/2021 18:54	Ping Hua	2242042
EPA 351.2 Rev. 2.0	04/23/2021	04/29/2021 13:24	Benjamin T. Nordmann	04/30/2021 16:46	Virginia P. Brown	2242045
	04/23/2021	05/04/2021 12:37	Benjamin T. Nordmann	05/05/2021 12:28	Virginia P. Brown	2242042
EPA 353.2 Rev. 2.0	04/23/2021			04/29/2021 11:24	Beverly Y. Sanders	2242042
	04/23/2021			04/29/2021 11:25	Beverly Y. Sanders	2242045
EPA 365.1 Rev. 2.0	04/23/2021	04/27/2021 11:54	Yen Ta	04/28/2021 12:07	Shengyu Ding	2242045
	04/23/2021	04/27/2021 11:54	Yen Ta	04/28/2021 12:52	Shengyu Ding	2242042
EPA 365.1 Rev. 2.0 dissolved	04/23/2021			04/23/2021 14:42	Blanca Fach	2242043
	04/23/2021			04/23/2021 15:24	Blanca Fach	2242046
EPA 8321B	04/23/2021	04/27/2021 11:00	Rebecca Ware	04/28/2021 12:26	Rebecca Ware	2242053
	04/23/2021	04/27/2021 11:00	Rebecca Ware	04/29/2021 04:57	Rebecca Ware	2242053
	04/23/2021	04/28/2021 15:00	Hoor Shaik	05/01/2021 10:36	Juyoung Kim	2242053
SM 2120 B-2011	04/23/2021			04/23/2021 15:21	Madeline Gruver	2242041
	04/23/2021			04/23/2021 15:22	Madeline Gruver	2242044
SM 2320 B-2011	04/23/2021			04/29/2021 00:09	Dale L. Simmons	2242041
	04/23/2021			04/29/2021 02:29	Dale L. Simmons	2242044
SM 2340B	04/23/2021			05/07/2021 17:07	Betina Topolski	2242054
SM 2540 C-2011	04/23/2021			04/27/2021 15:21	Yijie Li	2242041, 2242044
SM 2540 D-2011	04/23/2021			04/27/2021 15:21	Yijie Li	2242041, 2242044
SM 4500 F-C-2011	04/23/2021			04/29/2021 00:09	Dale L. Simmons	2242041
	04/23/2021			04/29/2021 02:29	Dale L. Simmons	2242044
SM 5310 B-2011	04/23/2021			04/27/2021 04:24	Lauren Lees	2242042
	04/23/2021			04/27/2021 04:35	Lauren Lees	2242045