

Chemical Analysis Report

WAS-SECT-2019-10-30-01

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

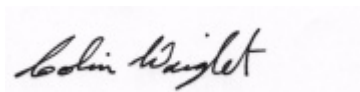
Event Description: **Withlacoochee Creek**
Request ID: **RQ-2019-09-23-30**
Customer: **WAS-SECT**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
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Certified by: Colin Wright, Program Administrator

Date Certified: 27-NOV-2019 13:11

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored background.

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: Little River at Highbridge Road

Collection Date/Time: 10/30/2019 13:52

Field ID: G1WA0086

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2132533	EPA 180.1 Rev. 2.0	Turbidity	25	A	NTU	P373528	
	EPA 300.0 Rev. 2.1	Chloride	8.9		mg Cl/L	P373764	
		Sulfate	3.4		mg SO4/L	P373768	
	SM 2120 B	Color (true)	32	A	PCU	P373536	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P373970	
	SM 2540 C-97	TDS	62		mg/L	P374015	
	SM 2540 D-97	TSS	24		mg/L	P374011	
	SM 4500 F-C-97	Fluoride	0.087	I	mg F/L	P373973	
2132534	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P373636	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P373739	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.32		mg N/L	P373564	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P373905	
	SM 5310 B-00	Organic Carbon	5.9		mg C/L	P373546	
2132535	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.060		mg P/L	P373548	
2132538	EPA 8321B	2,4-D	0.013		ug/L	P373393	
		Acesulfame K**	0.10	U	ug/L	P373428	
		AMPA**	0.11	I	ug/L	P373428	
		Sucralose**	0.35		ug/L	P373428	MS
		Acetaminophen**	0.0080	U	ug/L	P373393	
		Acetamiprid**	0.0020	U	ug/L	P373393	
		Endothall**	0.25	U	ug/L	P373428	
		Glufosinate**	0.10	U	ug/L	P373428	
		Glyphosate**	0.10	U	ug/L	P373428	
		Afidopyropen**	0.0020	UJ	ug/L	P373393	
		Bentazon	0.014		ug/L	P373393	
		Benzovindiflupyr**	0.0065	UJ	ug/L	P373393	
		Carbamazepine**	9.3E-04	I	ug/L	P373393	
		Clothianidin**	0.0020	U	ug/L	P373393	
		Dinotefuran**	0.036		ug/L	P373393	
		Diuron	0.013		ug/L	P373393	
		Fenuron	0.016	U	ug/L	P373393	
		Fluridone**	8.0E-04	U	ug/L	P373393	
		Imazapyr**	0.024		ug/L	P373393	
		Hydrocodone**	0.0020	U	ug/L	P373393	
		Ibuprofen**	0.020	U	ug/L	P373393	
		Imidacloprid	0.016		ug/L	P373393	MS
		Linuron	0.0040	U	ug/L	P373393	
		Mandestrobin**	0.0020	UJ	ug/L	P373393	
		MCP	0.0020	U	ug/L	P373393	
		Naproxen**	0.0080	U	ug/L	P373393	
		Primidone**	0.0040	U	ug/L	P373393	
		Pyraclostrobin**	0.0020	U	ug/L	P373393	
		Thiamethoxam**	0.0020	U	ug/L	P373393	

Field ID: G1WA0086

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2132538	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P373393	
		Triclopyr**	0.0040	U	ug/L	P373393	
2132539	EPA 200.7 Rev. 4.4	Barium	25.6		ug/L	P373527	
		Calcium	7.47		mg/L	P373527	
		Iron	2.02E+03		ug/L	P373527	
		Magnesium	2.97		mg/L	P373527	
		Potassium	1.7		mg/L	P373527	
		Sodium	5.1		mg/L	P373527	
		Zinc	5.0	U	ug/L	P373527	
	EPA 200.8 Rev. 5.4	Aluminum	952	J	ug/L	P373527	
		Antimony	0.051	I	ug/L	P373527	
		Arsenic	1.03		ug/L	P373527	
		Boron**	16.5		ug/L	P373527	
		Cadmium	0.020	U	ug/L	P373527	
		Chromium	1.1	I	ug/L	P374364	
		Copper	0.71	I	ug/L	P373527	
		Lead	0.99	J	ug/L	P373527	
		Nickel	0.50	U	ug/L	P373527	
		Selenium	0.20	U	ug/L	P373527	
		Silver	0.010	U	ug/L	P373527	
		Thallium	0.10	U	ug/L	P373527	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 200.8 Rev. 5.4: The sample was digested and analyzed twice and it appears to be heterogeneous with respect to aluminum and lead. A small amount of particulates was observed in the sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373528

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P373527

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: P373527

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
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 200.8 Rev. 5.4
Batch ID: P374364

Component	Result	Code	Units
Chromium	0.40	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373764

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373768

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373636

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373636

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373739

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373564

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373905

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373548

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

Reference Method: EPA 8321B
Batch ID: P373393

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: P373393

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: P373428

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
Batch ID: P373536

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P373970

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

Reference Method: SM 2540 C-97
Batch ID: P374015

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P374011

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373973

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P373546

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: P373527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	97.2		P	85 - 115
Calcium	105		P	85 - 115
Iron	101		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	100		P	85 - 115
Sodium	100		P	85 - 115
Zinc	96.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P373527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	110		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	105		P	85 - 115
Boron	111		P	85 - 115
Cadmium	99.2		P	85 - 115
Copper	106		P	85 - 115
Lead	101		P	85 - 115
Nickel	106		P	85 - 115
Selenium	104		P	85 - 115
Silver	104		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P374364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	94.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373764

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373768

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P373636

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P373739

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

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P373739

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P373564

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P373905

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P373548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.2		P	90 - 110

Reference Method: EPA 8321B

Batch ID: P373393

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	125		P	40 - 160
Acetaminophen	64.0		P	30 - 160
Acetamiprid	73.7		P	40 - 160
Afidopyropen	102		P	40 - 160
Bentazon	97.6		P	30 - 160
Benzovindiflupyr	91.5		P	40 - 160
Carbamazepine	93.5		P	40 - 160
Clothianidin	74.7		P	40 - 160
Dinotefuran	76.6		P	40 - 160
Diuron	88.5		P	40 - 160
Fenuron	88.6		P	40 - 160
Fluridone	92.6		P	40 - 160
Hydrocodone	68.4		P	40 - 160
Ibuprofen	94.2		P	30 - 160
Imazapyr	73.5		P	40 - 160
Imidacloprid	86.6		P	40 - 160
Linuron	80.0		P	40 - 160
Mandestrobin	91.9		P	40 - 160
MCP	134		P	40 - 160
Naproxen	76.7		P	40 - 160
Primidone	78.2		P	40 - 160
Pyraclostrobin	83.3		P	30 - 160
Thiamethoxam	91.2		P	40 - 160
Tolfenpyrad	59.8		P	40 - 160
Triclopyr	99.2		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P373428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	108		P	40 - 150
AMPA	104		P	40 - 150
Endothall	79.5		P	40 - 150
Glufosinate	85.8		P	40 - 150
Glyphosate	88.9		P	40 - 140
Sucralose	111		P	40 - 150

Reference Method: SM 2120 B

Batch ID: P373536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.4		P	85 - 115

Reference Method: SM 2320 B-97

Batch ID: P373970

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 106

Reference Method: SM 4500 F-C-97

Batch ID: P373973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	92 - 103

Reference Method: SM 5310 B-00

Batch ID: P373546

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P373527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132211	Barium	96.2		P	80 - 120
2132211	Calcium	105		P	80 - 120
2132211	Iron	102		P	80 - 120
2132211	Magnesium	101		P	80 - 120
2132211	Potassium	101		P	80 - 120
2132211	Sodium	102		P	80 - 120
2132211	Zinc	96.7		P	80 - 120
2132282	Barium	99.4	102	P/P	80 - 120
2132282	Calcium	103		P	80 - 120
2132282	Iron	103	104	P/P	80 - 120
2132282	Magnesium	102	102	P/P	80 - 120
2132282	Potassium	102	102	P/P	80 - 120
2132282	Sodium	102	104	P/P	80 - 120
2132282	Zinc	99.4	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P373527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132211	Aluminum	106		P	80 - 120
2132211	Antimony	107		P	80 - 120
2132211	Arsenic	106		P	80 - 120
2132211	Boron	106		P	80 - 120
2132211	Cadmium	105		P	80 - 120
2132211	Copper	102		P	80 - 120
2132211	Lead	103		P	80 - 120
2132211	Nickel	105		P	80 - 120
2132211	Selenium	103		P	80 - 120
2132211	Silver	107		P	80 - 120
2132211	Thallium	111		P	80 - 120
2132282	Aluminum	107	109	P/P	80 - 120
2132282	Antimony	107	108	P/P	80 - 120
2132282	Arsenic	106	106	P/P	80 - 120
2132282	Boron	106	109	P/P	80 - 120
2132282	Cadmium	103	102	P/P	80 - 120
2132282	Copper	103	102	P/P	80 - 120
2132282	Lead	102	103	P/P	80 - 120
2132282	Nickel	104	104	P/P	80 - 120
2132282	Selenium	104	105	P/P	80 - 120
2132282	Silver	107	106	P/P	80 - 120
2132282	Thallium	109	111	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P374364

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136241	Chromium	92.0		P	80 - 120
2136502	Chromium	97.0	95.5	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132347	Chloride	102		P	90 - 110
2132533	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132347	Sulfate	101		P	90 - 110
2132533	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132534	Ammonia-N	99.4	91.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132534	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373564

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132534	NO2NO3-N	96.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132335	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132535	O-Phosphate-P	102	96.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P373393

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132432	2,4-D	115	115	P/P	40 - 160
2132432	Acetaminophen	66.6	66.1	P/P	30 - 160
2132432	Acetamiprid	98.8	89.8	P/P	40 - 160
2132432	Afidopyropen	117	117	P/P	40 - 160
2132432	Benzovindiflupyr	93.6	90.1	P/P	40 - 160
2132432	Carbamazepine	82.2	81.7	P/P	40 - 160
2132432	Clothianidin	95.1	93.5	P/P	40 - 160
2132432	Dinotefuran	109	110	P/P	40 - 160

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P373393

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132432	Diuron	80.4	66.4	P/P	40 - 160
2132432	Fenuron	86.0	85.4	P/P	40 - 160
2132432	Hydrocodone	71.6	74.0	P/P	40 - 160
2132432	Ibuprofen	90.0	87.1	P/P	30 - 160
2132432	Imidacloprid	161	170	F/F	40 - 160
2132432	Linuron	66.7	59.1	P/P	40 - 160
2132432	Mandestrobin	89.7	88.5	P/P	40 - 160
2132432	MCPP	126	123	P/P	40 - 160
2132432	Naproxen	64.6	71.1	P/P	40 - 160
2132432	Primidone	90.0	86.8	P/P	40 - 160
2132432	Pyraclostrobin	90.1	83.2	P/P	30 - 160
2132432	Thiamethoxam	120	123	P/P	40 - 160
2132432	Tolfenpyrad	66.6	59.1	P/P	40 - 160
2132432	Triclopyr	105	105	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P373428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132076	Acesulfame K	47.8	49.1	P/P	40 - 150
2132076	AMPA	74.2	70.7	P/P	40 - 150
2132076	Endothall	89.8	100	P/P	40 - 150
2132076	Glufosinate	90.5	78.0	P/P	40 - 150
2132076	Glyphosate	89.6	103	P/P	40 - 140
2132076	Sucralose	50.3	37.3	P/F	40 - 150

Reference Method: SM 4500 F-C-97

Batch ID: P373973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132826	Fluoride	98.1	98.1	P/P	89 - 106

Reference Method: SM 5310 B-00

Batch ID: P373546

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132406	Organic Carbon	99.2	98.7	P/P	85 - 115

Quality Assurance Report

Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P373528

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132533	Turbidity	11.4	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P373527

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132282	Barium	2.15	Spike	P	0 - 20
2132282	Calcium	0.918	Spike	P	0 - 20
2132282	Iron	0.328	Spike	P	0 - 20
2132282	Magnesium	0.402	Spike	P	0 - 20
2132282	Potassium	0.144	Spike	P	0 - 20
2132282	Sodium	1.24	Spike	P	0 - 20
2132282	Zinc	1.66	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P373527

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132282	Aluminum	1.86	Spike	P	0 - 20
2132282	Antimony	0.607	Spike	P	0 - 20
2132282	Arsenic	0.312	Spike	P	0 - 20
2132282	Boron	2.18	Spike	P	0 - 20
2132282	Cadmium	0.874	Spike	P	0 - 20
2132282	Copper	0.632	Spike	P	0 - 20
2132282	Lead	0.768	Spike	P	0 - 20
2132282	Nickel	0.219	Spike	P	0 - 20
2132282	Selenium	0.916	Spike	P	0 - 20
2132282	Silver	0.324	Spike	P	0 - 20
2132282	Thallium	1.36	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P374364

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136502	Chromium	1.57	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373764

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132347	Chloride	0.619	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373768

Replicated

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132347	Sulfate	1.13	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132534	Ammonia-N	6.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132534	Kjeldahl Nitrogen	0.762	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373564

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132534	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132335	Total-P	0.725	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132535	O-Phosphate-P	3.45	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P373393

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132432	2,4-D	0.211	Spike	P	0 - 30
2132432	Acetaminophen	0.667	Spike	P	0 - 30
2132432	Acetamiprid	9.60	Spike	P	0 - 30
2132432	Afidopyropen	0.235	Spike	P	0 - 30
2132432	Bentazon	11.7	Spike	P	0 - 30
2132432	Benzovindiflupyr	3.80	Spike	P	0 - 30
2132432	Carbamazepine	0.562	Spike	P	0 - 30
2132432	Clothianidin	1.64	Spike	P	0 - 30
2132432	Dinotefuran	0.667	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P373393

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132432	Diuron	13.3	Spike	P	0 - 30
2132432	Fenuron	0.679	Spike	P	0 - 30
2132432	Fluridone	2.88	Spike	P	0 - 30
2132432	Hydrocodone	3.22	Spike	P	0 - 30
2132432	Ibuprofen	3.18	Spike	P	0 - 30
2132432	Imazapyr	6.38	Spike	P	0 - 30
2132432	Imidacloprid	4.15	Spike	P	0 - 30
2132432	Linuron	12.0	Spike	P	0 - 30
2132432	Mandestrobin	1.36	Spike	P	0 - 30
2132432	MCPP	2.30	Spike	P	0 - 30
2132432	Naproxen	9.60	Spike	P	0 - 30
2132432	Primidone	3.64	Spike	P	0 - 30
2132432	Pyraclostrobin	8.00	Spike	P	0 - 30
2132432	Thiamethoxam	2.10	Spike	P	0 - 30
2132432	Tolfenpyrad	11.8	Spike	P	0 - 30
2132432	Triclopyr	0.747	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P373428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132076	Acesulfame K	2.66	Spike	P	0 - 30
2132076	AMPA	0.927	Spike	P	0 - 30
2132076	Endothall	10.8	Spike	P	0 - 30
2132076	Glufosinate	14.8	Spike	P	0 - 30
2132076	Glyphosate	3.11	Spike	P	0 - 30
2132076	Sucralose	26.4	Spike	P	0 - 30

Reference Method: SM 2120 B

Batch ID: P373536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132533	Color (true)	9.72	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P373970

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132826	Total Alkalinity	0.298	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97

Batch ID: P374015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132444	TDS	1.93	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P373973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132826	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P373546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132406	Organic Carbon	0.481	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2132538
Field Sample ID: G1WA0086

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	120	P	30 - 160
EPA 8321B	Acetaminophen-d4	79.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	92.8	P	30 - 160
EPA 8321B	Diuron-d6	84.2	P	30 - 160
EPA 8321B	Endothall-d6	123	P	30 - 160
EPA 8321B	Endothall-d6	123	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	93.7	P	30 - 160
EPA 8321B	Primidone-d5	99.2	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95384

Included Lab Sample IDs: 2132533

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

Reference Method: SM 2120 B

Run ID: A95385

Included Lab Sample IDs: 2132533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	99.1	P/P	90 - 115

Reference Method: SM 5310 B-00

Run ID: A95387

Included Lab Sample IDs: 2132534

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95389

Included Lab Sample IDs: 2132535

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95392

Included Lab Sample IDs: 2132534

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95438

Included Lab Sample IDs: 2132534

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A95460

Included Lab Sample IDs: 2132539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.5	99.5	P/P	90 - 110
Calcium	99.3	99.1	P/P	90 - 110
Iron	99.5	99.6	P/P	90 - 110
Magnesium	98.7	98.6	P/P	90 - 110
Potassium	97.2	98.1	P/P	90 - 110
Sodium	97.6	97.3	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A95470
Included Lab Sample IDs: 2132538

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	83.6	89.8	P/P	60 - 160
Glufosinate	104	92.5	P/P	60 - 160
Glyphosate	111	107	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A95474
Included Lab Sample IDs: 2132538

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	73.3	103	P/P	60 - 160
Endothall	96.3	113	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A95511
Included Lab Sample IDs: 2132533

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A95560
Included Lab Sample IDs: 2132534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	104	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A95613
Included Lab Sample IDs: 2132533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.9	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A95613
Included Lab Sample IDs: 2132533

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

Reference Method: EPA 8321B
Run ID: A95629
Included Lab Sample IDs: 2132538

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.7	92.9	P/P	50 - 150
Acetaminophen	103	108	P/P	60 - 160
Acetamiprid	114	114	P/P	50 - 150
Afidopyropen	93.5	104	P/P	50 - 150
Bentazon	107	107	P/P	50 - 160

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8321B

Run ID: A95629

Included Lab Sample IDs: 2132538

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Benzovindiflupyr	114	115	P/P	50 - 150
Carbamazepine	111	114	P/P	60 - 150
Clothianidin	105	104	P/P	60 - 150
Dinotefuran	100	98.1	P/P	50 - 150
Diuron	106	110	P/P	60 - 150
Fenuron	110	109	P/P	60 - 150
Fluridone	115	116	P/P	60 - 160
Hydrocodone	109	114	P/P	60 - 150
Ibuprofen	82.9	73.1	P/P	50 - 160
Imazapyr	102	97.1	P/P	50 - 150
Imidacloprid	103	106	P/P	60 - 150
Linuron	107	104	P/P	60 - 150
Mandestrobin	112	108	P/P	50 - 150
MCP	97.3	91.0	P/P	50 - 150
Naproxen	71.6	86.0	P/P	50 - 160
Primidone	107	95.0	P/P	60 - 150
Pyraclostrobin	102	102	P/P	60 - 150
Thiamethoxam	108	101	P/P	50 - 150
Tolfenpyrad	107	107	P/P	60 - 150
Triclopyr	95.9	84.0	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95657

Included Lab Sample IDs: 2132534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95730

Included Lab Sample IDs: 2132539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	106	105	P/P	90 - 110
Antimony	101	101	P/P	90 - 110
Arsenic	105	105	P/P	90 - 110
Boron	107	105	P/P	90 - 110
Cadmium	104	103	P/P	90 - 110
Copper	105	105	P/P	90 - 110
Lead	101	101	P/P	90 - 110
Nickel	105	105	P/P	90 - 110
Selenium	103	105	P/P	90 - 110
Silver	104	105	P/P	90 - 110
Thallium	99.8	97.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95766

Included Lab Sample IDs: 2132538

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	111	117	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95926

Included Lab Sample IDs: 2132539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	96.9	98.7	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						11.4	
EPA 200.7 Rev. 4.4	Barium	97.2	96.2	99.4	102			2.15
	Calcium	105	105	103				0.918
	Iron	101	102	103	104			0.328
	Magnesium	102	101	102	102			0.402
	Potassium	100	101	102	102			0.144
	Sodium	100	102	102	104			1.24
	Zinc	96.4	96.7	99.4	101			1.66
EPA 200.8 Rev. 5.4	Aluminum	110	106	107	109			1.86
	Antimony	102	107	107	108			0.607
	Arsenic	105	106	106	106			0.312
	Boron	111	106	106	109			2.18
	Cadmium	99.2	105	103	102			0.874
	Chromium	94.0	97.0	95.5	92.0			1.57
	Copper	106	102	103	102			0.632
	Lead	101	103	102	103			0.768
	Nickel	106	105	104	104			0.219
	Selenium	104	103	104	105			0.916
	Silver	104	107	107	106			0.324
	Thallium	102	111	109	111			1.36
EPA 300.0 Rev. 2.1	Chloride	102	102	102			0.619	
	Sulfate	102	101	102			1.13	
EPA 350.1 Rev. 2.0	Ammonia-N	99.9	99.4	91.2				6.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	105	104				0.762
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5	96.2					0.0
EPA 365.1 Rev. 2.0	Total-P	101	102	102				0.725
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	102	96.0				3.45
EPA 8321B	2,4-D	125	115	115				0.211
	Acesulfame K	108	47.8	49.1				2.66
	Acetaminophen	64.0	66.6	66.1				0.667
	Acetamiprid	73.7	98.8	89.8				9.60
	Afidopyropen	102	117	117				0.235
	AMPA	104	74.2	70.7				0.927
	Bentazon	97.6						11.7
	Benzovindiflupyr	91.5	93.6	90.1				3.80
	Carbamazepine	93.5	82.2	81.7				0.562
	Clothianidin	74.7	95.1	93.5				1.64
	Dinotefuran	76.6	109	110				0.667
	Diuron	88.5	80.4	66.4				13.3
	Endothall	79.5	89.8	100				10.8
	Fenuron	88.6	86.0	85.4				0.679
	Fluridone	92.6						2.88
	Glufosinate	85.8	90.5	78.0				14.8
	Glyphosate	88.9	89.6	103				3.11
	Hydrocodone	68.4	71.6	74.0				3.22
	Ibuprofen	94.2	90.0	87.1				3.18
	Imazapyr	73.5						6.38
	Imidacloprid	86.6	161	170				4.15
	Linuron	80.0	66.7	59.1				12.0
	Mandestrobin	91.9	89.7	88.5				1.36
	MCPD	134	126	123				2.30
	Naproxen	76.7	64.6	71.1				9.60
	Primidone	78.2	90.0	86.8				3.64
	Pyraclostrobin	83.3	90.1	83.2				8.00

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Sucralose	111	50.3	37.3			26.4
	Thiamethoxam	91.2	120	123			2.10
	Tolfenpyrad	59.8	66.6	59.1			11.8
	Triclopyr	99.2	105	105			0.747
SM 2120 B	Color (true)	99.4				9.72	
SM 2320 B-97	Total Alkalinity	100				0.298	
SM 2540 C-97	TDS					1.93	
SM 4500 F-C-97	Fluoride	97.8	98.1	98.1			0.0
SM 5310 B-00	Organic Carbon	102	99.2	98.7			0.481

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2132533
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2132539
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2132539
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2132533
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2132533
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2132534
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2132534
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2132534
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2132534
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2132535
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2132538
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2132538
SM 2120 B / E31780	True Color measured at 450 nm	2132533
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2132533
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2132533
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2132533
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2132533
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2132534

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	10/30/2019			10/31/2019 16:52	Rosalyn Ballman	2132533
EPA 200.7 Rev. 4.4	10/30/2019	10/31/2019 16:40	Elliott D. Healy	11/04/2019 15:30	Betina Topolski	2132539
EPA 200.8 Rev. 5.4	10/30/2019	10/31/2019 16:40	Elliott D. Healy	11/14/2019 11:32	Justin Cutchin	2132539
	10/30/2019	11/18/2019 14:25	Elliott D. Healy	11/22/2019 16:15	Justin Cutchin	2132539
EPA 300.0 Rev. 2.1	10/30/2019			11/05/2019 15:51	Jhamieka S. Greenwood	2132533
EPA 350.1 Rev. 2.0	10/30/2019			11/01/2019 12:23	Ping Hua	2132534
EPA 351.2 Rev. 2.0	10/30/2019	11/06/2019 12:52	Sima Feizi	11/07/2019 16:39	Jhamieka S. Greenwood	2132534
EPA 353.2 Rev. 2.0	10/30/2019			11/01/2019 09:44	Beverly Y. Sanders	2132534
EPA 365.1 Rev. 2.0	10/30/2019	11/08/2019 13:00	Lipi Saha	11/12/2019 12:13	Benjamin T. Nordmann	2132534
EPA 365.1 Rev. 2.0 dissolved	10/30/2019			10/31/2019 15:40	Samantha Davila	2132535
EPA 8321B	10/30/2019	10/31/2019 11:30	Rebecca Ware	10/31/2019 19:55	Rebecca Ware	2132538
	10/30/2019	10/31/2019 11:30	Rebecca Ware	11/01/2019 22:06	Rebecca Ware	2132538
	10/30/2019	10/31/2019 11:30	Rebecca Ware	11/13/2019 17:56	Rebecca Ware	2132538
	10/30/2019	11/01/2019 10:30	Hoor Shaik	11/09/2019 03:26	Juyoung Kim	2132538
SM 2120 B	10/30/2019			10/31/2019 17:21	Madeline Funaro	2132533
SM 2320 B-97	10/30/2019			11/08/2019 02:12	Dale L. Simmons	2132533
SM 2540 C-97	10/30/2019			11/01/2019 14:21	Yijie Li	2132533
SM 2540 D-97	10/30/2019			11/01/2019 14:21	Yijie Li	2132533
SM 4500 F-C-97	10/30/2019			11/08/2019 02:12	Dale L. Simmons	2132533
SM 5310 B-00	10/30/2019			11/01/2019 00:40	Lauren Lees	2132534