

Chemical Analysis Report

SE-DIST-2019-10-29-02

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

Event Description: **SMP-Stuart**
Request ID: **RQ-2019-10-28-15**
Customer: **SE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 26-NOV-2019 14:51

A handwritten signature in black ink, appearing to read "Liang Lin", 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: Bessey Creek @ Murphy

Collection Date/Time: 10/28/2019 13:40

Field ID: G2SE0017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2132169	EPA 8321B	2,4-D	0.029		ug/L	P373332	
		Acesulfame K**	0.13	I	ug/L	P373428	
		AMPA**	0.91		ug/L	P373428	
		Sucralose**	1.7		ug/L	P373428	MS
		Acetaminophen**	0.0080	U	ug/L	P373332	
		Acetamiprid**	0.0020	U	ug/L	P373332	
		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	P373332	
		Bentazon	0.36		ug/L	P373332	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P373332	
		Carbamazepine**	0.0023	I	ug/L	P373332	
		Clothianidin**	0.0020	U	ug/L	P373332	
		Dinotefuran**	0.017		ug/L	P373332	
		Diuron	0.0020	U	ug/L	P373332	
		Fenuron	0.016	U	ug/L	P373332	
		Fluridone**	0.0034		ug/L	P373332	
		Imazapyr**	0.42		ug/L	P373332	
		Hydrocodone**	0.0020	U	ug/L	P373332	
		Ibuprofen**	0.020	U	ug/L	P373332	
		Imidacloprid	0.10		ug/L	P373332	MS
		Linuron	0.0040	U	ug/L	P373332	
		Mandestrobin**	0.0020	UJ	ug/L	P373332	
		MCPP	0.0020	U	ug/L	P373332	
		Naproxen**	0.0080	U	ug/L	P373332	
		Primidone**	0.0072	I	ug/L	P373332	
		Pyraclostrobin**	0.0020	U	ug/L	P373332	
		Thiamethoxam**	0.0020	U	ug/L	P373332	
		Tolfenpyrad**	0.0020	U	ug/L	P373332	
		Triclopyr**	0.0040	U	ug/L	P373332	

Ref. Method and Comment:

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.

Sample Location: Warner Creek @ 24th

Collection Date/Time: 10/28/2019 14:25

Field ID: G2SE0038

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2132117	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P373362	
	EPA 300.0	Bromide	0.10		mg Br/L	P373776	
	SM 2320 B-97	Total Alkalinity	54		mg CaCO3/L	P373971	
	SM 2540 D-97	TSS	2	I	mg/L	P373520	
	SM 4500 F-C-97	Fluoride	0.040	I	mg F/L	P373679	
2132118	EPA 350.1 Rev. 2.0	Ammonia-N	0.051		mg N/L	P373543	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P373505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.076		mg N/L	P373437	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P373419	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P373473	
2132119	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P373371	
2132171	EPA 200.7 Rev. 4.4	Iron	150		ug/L	P373527	
		Manganese	4.2		ug/L	P373527	
		Zinc	5.0	U	ug/L	P373527	
	EPA 200.8 Rev. 5.4	Aluminum	213		ug/L	P373527	
		Antimony	0.098	I	ug/L	P373527	
		Arsenic	0.62		ug/L	P373527	
		Cadmium	0.020	U	ug/L	P373527	
		Chromium	1.2	I	ug/L	P374364	
		Copper	0.67	I	ug/L	P373527	
		Lead	0.22	I	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.

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Warner Creek @ 24th

Collection Date/Time: 10/28/2019 14:30

Field ID: G2SE0038_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2132114	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P373362	
	EPA 300.0	Bromide	0.10		mg Br/L	P373776	
	SM 2320 B-97	Total Alkalinity	56		mg CaCO3/L	P373443	
	SM 2540 D-97	TSS	3	I	mg/L	P373520	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P373446	
2132115	EPA 350.1 Rev. 2.0	Ammonia-N	0.049		mg N/L	P373543	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P373505	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.077		mg N/L	P373437	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P373418	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P373473	
2132116	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P373371	
2132170	EPA 200.7 Rev. 4.4	Iron	140		ug/L	P373527	
		Manganese	4.2		ug/L	P373527	
		Zinc	5.0	U	ug/L	P373527	
	EPA 200.8 Rev. 5.4	Aluminum	232		ug/L	P373527	
		Antimony	0.099	I	ug/L	P373527	
		Arsenic	0.63		ug/L	P373527	
		Cadmium	0.020	U	ug/L	P373527	
		Chromium	1.1	I	ug/L	P374364	
		Copper	0.70	I	ug/L	P373527	
		Lead	0.24	I	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 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373362

Component	Result	Code	Units
Turbidity	0.10	U	NTU

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

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/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
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
Batch ID: P373776

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373543

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373505

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P373437

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P373418

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P373419

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P373371

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

Reference Method: EPA 8321B
 Batch ID: P373332

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: 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 2320 B-97
Batch ID: P373443

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

Reference Method: SM 2320 B-97
Batch ID: P373971

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

Reference Method: SM 2540 D-97
Batch ID: P373520

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373446

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P373679

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P373473

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
Iron	101		P	85 - 115
Manganese	96.0		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
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
Batch ID: P373776

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373543

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373505

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373437

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373371

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

Reference Method: EPA 8321B
Batch ID: P373332

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	94.2		P	40 - 160
Acetaminophen	85.3		P	30 - 160
Acetamiprid	99.4		P	40 - 160
Afidopyropen	87.8		P	40 - 160
Bentazon	77.6		P	30 - 160
Benzovindiflupyr	99.1		P	40 - 160
Carbamazepine	108		P	40 - 160
Clothianidin	87.3		P	40 - 160
Dinotefuran	85.8		P	40 - 160
Diuron	102		P	40 - 160
Fenuron	104		P	40 - 160
Fluridone	92.1		P	40 - 160
Hydrocodone	95.5		P	40 - 160
Ibuprofen	74.2		P	30 - 160
Imazapyr	57.1		P	40 - 160
Imidacloprid	108		P	40 - 160
Linuron	81.6		P	40 - 160
Mandestrobin	97.9		P	40 - 160
MCPP	99.8		P	40 - 160
Naproxen	74.4		P	40 - 160
Primidone	91.9		P	40 - 160
Pyraclostrobin	86.6		P	30 - 160
Thiamethoxam	104		P	40 - 160
Tolfenpyrad	56.3		P	40 - 160
Triclopyr	82.4		P	30 - 160

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P373428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	88.9		P	40 - 140
Sucralose	111		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P373443

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P373971

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

Reference Method: SM 4500 F-C-97
Batch ID: P373446

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P373679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P373473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		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	Iron	102		P	80 - 120
2132211	Manganese	94.0		P	80 - 120
2132211	Zinc	96.7		P	80 - 120
2132282	Iron	103	104	P/P	80 - 120
2132282	Manganese	97.6	99.9	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	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	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

Reference Method: EPA 300.0
Batch ID: P373776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131222	Bromide	97.8	98.1	P/P	90 - 110
2132117	Bromide	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373543

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132185	Ammonia-N	98.8	99.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132180	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373437

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132050	NO2NO3-N	99.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132185	Total-P	95.3	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132181	O-Phosphate-P	98.3	97.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P373332

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132079	2,4-D	91.0	72.9	P/P	40 - 160
2132079	Acetaminophen	81.9	72.0	P/P	30 - 160
2132079	Acetamiprid	104	91.2	P/P	40 - 160
2132079	Afidopyropen	96.2	80.9	P/P	40 - 160
2132079	Benzovindiflupyr	103	90.1	P/P	40 - 160
2132079	Carbamazepine	91.9	83.4	P/P	40 - 160
2132079	Clothianidin	89.1	75.8	P/P	40 - 160
2132079	Dinotefuran	102	98.1	P/P	40 - 160
2132079	Diuron	87.4	76.8	P/P	40 - 160
2132079	Fenuron	84.1	74.5	P/P	40 - 160
2132079	Hydrocodone	93.1	78.6	P/P	40 - 160
2132079	Ibuprofen	72.0	59.1	P/P	30 - 160
2132079	Imidacloprid	165	148	F/P	40 - 160
2132079	Linuron	72.0	63.3	P/P	40 - 160
2132079	Mandestrobin	101	85.2	P/P	40 - 160
2132079	MCP	101	84.1	P/P	40 - 160
2132079	Naproxen	71.8	67.9	P/P	40 - 160
2132079	Primidone	104	94.4	P/P	40 - 160
2132079	Pyraclostrobin	90.4	76.4	P/P	30 - 160
2132079	Thiamethoxam	139	126	P/P	40 - 160
2132079	Tolfenpyrad	59.7	51.3	P/P	40 - 160
2132079	Triclopyr	96.8	74.9	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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P373428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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: P373446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131953	Fluoride	96.2	95.1	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P373473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131954	Organic Carbon	103	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132090	Turbidity	5.38	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	Iron	0.328	Spike	P	0 - 20
2132282	Manganese	2.30	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	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
Batch ID: P373776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131222	Bromide	0.247	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373543

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132185	Ammonia-N	0.242	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132180	Kjeldahl Nitrogen	0.924	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132050	NO2NO3-N	0.193	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132050	Total-P	0.875	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132185	Total-P	2.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132181	O-Phosphate-P	0.510	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P373332

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132079	2,4-D	14.2	Spike	P	0 - 30
2132079	Acetaminophen	12.9	Spike	P	0 - 30
2132079	Acetamiprid	13.3	Spike	P	0 - 30
2132079	Afidopyropen	17.3	Spike	P	0 - 30
2132079	Bentazon	11.5	Spike	P	0 - 30
2132079	Benzovindiflupyr	13.7	Spike	P	0 - 30
2132079	Carbamazepine	9.65	Spike	P	0 - 30
2132079	Clothianidin	14.8	Spike	P	0 - 30
2132079	Dinotefuran	3.10	Spike	P	0 - 30
2132079	Diuron	11.5	Spike	P	0 - 30
2132079	Fenuron	12.1	Spike	P	0 - 30
2132079	Fluridone	12.9	Spike	P	0 - 30
2132079	Hydrocodone	16.8	Spike	P	0 - 30
2132079	Ibuprofen	19.6	Spike	P	0 - 30
2132079	Imazapyr	5.55	Spike	P	0 - 30
2132079	Imidacloprid	7.21	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P373332

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132079	Linuron	12.9	Spike	P	0 - 30
2132079	Mandestrobin	16.4	Spike	P	0 - 30
2132079	MCP	18.2	Spike	P	0 - 30
2132079	Naproxen	5.59	Spike	P	0 - 30
2132079	Primidone	10.2	Spike	P	0 - 30
2132079	Pyraclostrobin	16.7	Spike	P	0 - 30
2132079	Thiamethoxam	9.47	Spike	P	0 - 30
2132079	Tolfenpyrad	15.1	Spike	P	0 - 30
2132079	Triclopyr	25.5	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 2320 B-97
Batch ID: P373443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131953	Total Alkalinity	0.447	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P373971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132775	Total Alkalinity	0.249	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P373446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131953	Fluoride	0.963	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P373679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132444	Fluoride	0.939	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P373473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131954	Organic Carbon	0.486	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2132169
Field Sample ID: G2SE0017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.3	P	30 - 160
EPA 8321B	Diuron-d6	61.9	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	73.8	P	30 - 160
EPA 8321B	Primidone-d5	93.1	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95314

Included Lab Sample IDs: 2132114, 2132117

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95318

Included Lab Sample IDs: 2132116, 2132119

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	99.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95355

Included Lab Sample IDs: 2132115, 2132118

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

Reference Method: SM 2320 B-97

Run ID: A95356

Included Lab Sample IDs: 2132114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95356

Included Lab Sample IDs: 2132114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.1	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A95368

Included Lab Sample IDs: 2132115, 2132118

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	106	P/P	90 - 110
Organic Carbon	108	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95381

Included Lab Sample IDs: 2132115, 2132118

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95386

Included Lab Sample IDs: 2132115, 2132118

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95386

Included Lab Sample IDs: 2132115, 2132118

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95416

Included Lab Sample IDs: 2132115, 2132118

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	95.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A95460

Included Lab Sample IDs: 2132170, 2132171

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	105	101	P/P	90 - 110
Manganese	99.5	101	P/P	90 - 110
Zinc	97.8	98.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95466

Included Lab Sample IDs: 2132117

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

Reference Method: EPA 8321B

Run ID: A95470

Included Lab Sample IDs: 2132169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	91.3	83.6	P/P	60 - 160
Glufosinate	94.0	104	P/P	60 - 160
Glyphosate	115	111	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A95474

Included Lab Sample IDs: 2132169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	105	73.3	P/P	60 - 160
Endothall	94.9	96.3	P/P	60 - 160

Reference Method: EPA 300.0

Run ID: A95513

Included Lab Sample IDs: 2132114, 2132117

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	100	100	P/P	90 - 110
Bromide	99.2	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A95576
Included Lab Sample IDs: 2132169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	79.1	78.3	P/P	50 - 150
Acetaminophen	104	103	P/P	60 - 160
Acetamiprid	109	109	P/P	50 - 150
Afidopyropen	83.1	86.3	P/P	50 - 150
Benzovindiflupyr	115	116	P/P	50 - 150
Carbamazepine	111	111	P/P	60 - 150
Clothianidin	103	93.1	P/P	60 - 150
Dinotefuran	91.7	87.9	P/P	50 - 150
Diuron	114	114	P/P	60 - 150
Fenuron	110	112	P/P	60 - 150
Fluridone	108	104	P/P	60 - 160
Hydrocodone	103	103	P/P	60 - 150
Ibuprofen	86.6	81.5	P/P	50 - 160
Imazapyr	83.1	80.7	P/P	50 - 150
Imidacloprid	102	97.7	P/P	60 - 150
Linuron	102	99.5	P/P	60 - 150
Mandestrobin	110	109	P/P	50 - 150
MCPP	77.6	78.2	P/P	50 - 150
Naproxen	62.6	80.9	P/P	50 - 160
Primidone	101	108	P/P	60 - 150
Pyraclostrobin	102	101	P/P	60 - 150
Thiamethoxam	104	105	P/P	50 - 150
Tolfenpyrad	101	101	P/P	60 - 150
Triclopyr	74.3	72.9	P/P	50 - 150

Reference Method: SM 2320 B-97
Run ID: A95613
Included Lab Sample IDs: 2132117

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.5	101	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A95629
Included Lab Sample IDs: 2132169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	106	107	P/P	50 - 160

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A95730
Included Lab Sample IDs: 2132170, 2132171

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	107	106	P/P	90 - 110
Antimony	101	101	P/P	90 - 110
Arsenic	105	105	P/P	90 - 110
Cadmium	103	104	P/P	90 - 110
Copper	105	105	P/P	90 - 110
Lead	99.9	101	P/P	90 - 110
Nickel	105	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95730

Included Lab Sample IDs: 2132170, 2132171

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	103	103	P/P	90 - 110
Silver	103	104	P/P	90 - 110
Thallium	99.0	99.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95766

Included Lab Sample IDs: 2132169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	117	95.3	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95926

Included Lab Sample IDs: 2132170, 2132171

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						5.38	
EPA 200.7 Rev. 4.4	Iron	101	102	103	104			0.328
	Manganese	96.0	94.0	97.6	99.9			2.30
	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
	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	Bromide	98.5	97.8	98.1	98.2			0.247
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	98.8	99.1				0.242
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	105	104				0.924
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	99.2					0.193
EPA 365.1 Rev. 2.0	Total-P	95.9						0.875
	Total-P	98.3	95.3	98.2				2.87
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	104	98.3	97.8				0.510
EPA 8321B	2,4-D	94.2	91.0	72.9				14.2
	Acesulfame K	108	47.8	49.1				2.66
	Acetaminophen	85.3	81.9	72.0				12.9
	Acetamiprid	99.4	104	91.2				13.3
	Afidopyropen	87.8	96.2	80.9				17.3
	AMPA	104	74.2	70.7				0.927
	Bentazon	77.6						11.5
	Benzovindiflupyr	99.1	103	90.1				13.7
	Carbamazepine	108	91.9	83.4				9.65
	Clothianidin	87.3	89.1	75.8				14.8
	Dinotefuran	85.8	102	98.1				3.10
	Diuron	102	87.4	76.8				11.5
	Endothall	79.5	89.8	100				10.8
	Fenuron	104	84.1	74.5				12.1
	Fluridone	92.1						12.9
	Glufosinate	85.8	90.5	78.0				14.8
	Glyphosate	88.9	89.6	103				3.11
	Hydrocodone	95.5	93.1	78.6				16.8
	Ibuprofen	74.2	72.0	59.1				19.6
	Imazapyr	57.1						5.55
	Imidacloprid	108	165	148				7.21
	Linuron	81.6	72.0	63.3				12.9
	Mandestrobin	97.9	101	85.2				16.4
	MCPP	99.8	101	84.1				18.2
	Naproxen	74.4	71.8	67.9				5.59
	Primidone	91.9	104	94.4				10.2
	Pyraclostrobin	86.6	90.4	76.4				16.7
	Sucralose	111	50.3	37.3				26.4
	Thiamethoxam	104	139	126				9.47
	Tolfenpyrad	56.3	59.7	51.3				15.1
	Triclopyr	82.4	96.8	74.9				25.5
SM 2320 B-97	Total Alkalinity	104					0.447	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
SM 2320 B-97	Total Alkalinity	100				0.249	
SM 4500 F-C-97	Fluoride	96.9	96.2	95.1			0.963
	Fluoride	101					0.939
SM 5310 B-00	Organic Carbon	105	103	103			0.486

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2132114, 2132117
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2132170, 2132171
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2132170, 2132171
EPA 300.0 / E31780	Bromide in aqueous matrices	2132114, 2132117
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2132115, 2132118
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2132115, 2132118
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2132115, 2132118
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2132115, 2132118
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2132116, 2132119
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2132169
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2132169
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2132114, 2132117
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2132114, 2132117
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2132114, 2132117
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2132115, 2132118

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	10/29/2019			10/29/2019 15:54	Rosalyn Ballman	2132114, 2132117
EPA 200.7 Rev. 4.4	10/29/2019	10/31/2019 16:40	Elliott D. Healy	11/04/2019 12:57	Betina Topolski	2132170
	10/29/2019	10/31/2019 16:40	Elliott D. Healy	11/04/2019 13:05	Betina Topolski	2132171
EPA 200.8 Rev. 5.4	10/29/2019	10/31/2019 16:40	Elliott D. Healy	11/14/2019 08:57	Justin Cutchin	2132170
	10/29/2019	10/31/2019 16:40	Elliott D. Healy	11/14/2019 09:06	Justin Cutchin	2132171
	10/29/2019	11/18/2019 14:25	Elliott D. Healy	11/22/2019 15:56	Justin Cutchin	2132170
	10/29/2019	11/18/2019 14:25	Elliott D. Healy	11/22/2019 16:02	Justin Cutchin	2132171
EPA 300.0	10/29/2019			11/05/2019 01:35	Jhamieka S. Greenwood	2132117
	10/29/2019			11/05/2019 05:52	Jhamieka S. Greenwood	2132114
EPA 350.1 Rev. 2.0	10/29/2019			10/31/2019 13:45	Ping Hua	2132115
	10/29/2019			10/31/2019 13:53	Ping Hua	2132118
EPA 351.2 Rev. 2.0	10/29/2019	10/31/2019 12:35	Sima Feizi	11/01/2019 15:59	Jhamieka S. Greenwood	2132115
	10/29/2019	10/31/2019 12:35	Sima Feizi	11/01/2019 16:00	Jhamieka S. Greenwood	2132118
EPA 353.2 Rev. 2.0	10/29/2019			10/30/2019 11:59	Beverly Y. Sanders	2132115
	10/29/2019			10/30/2019 12:00	Beverly Y. Sanders	2132118
EPA 365.1 Rev. 2.0	10/29/2019	10/30/2019 11:09	Vijayalakshmi Reddy	10/31/2019 15:14	Julia Storbeck	2132115
	10/29/2019	10/30/2019 11:09	Vijayalakshmi Reddy	10/31/2019 15:17	Julia Storbeck	2132118
EPA 365.1 Rev. 2.0 dissolved	10/29/2019			10/29/2019 15:54	Virginia P. Brown	2132116
	10/29/2019			10/29/2019 15:55	Virginia P. Brown	2132119
EPA 8321B	10/29/2019	10/31/2019 09:00	Hoor Shaik	11/08/2019 04:57	Juyoung Kim	2132169
	10/29/2019	10/31/2019 09:00	Hoor Shaik	11/11/2019 17:02	Juyoung Kim	2132169
	10/29/2019	10/31/2019 11:30	Rebecca Ware	10/31/2019 17:37	Rebecca Ware	2132169
	10/29/2019	10/31/2019 11:30	Rebecca Ware	11/01/2019 20:18	Rebecca Ware	2132169
	10/29/2019	10/31/2019 11:30	Rebecca Ware	11/14/2019 11:12	Rebecca Ware	2132169
SM 2320 B-97	10/29/2019			10/30/2019 21:12	Dale L. Simmons	2132114
	10/29/2019			11/08/2019 09:14	Dale L. Simmons	2132117
SM 2540 D-97	10/29/2019			10/30/2019 15:03	Yijie Li	2132114, 2132117
SM 4500 F-C-97	10/29/2019			10/30/2019 21:12	Dale L. Simmons	2132114
	10/29/2019			11/01/2019 16:44	Dale L. Simmons	2132117
SM 5310 B-00	10/29/2019			10/31/2019 06:17	Lauren Lees	2132115
	10/29/2019			10/31/2019 07:03	Lauren Lees	2132118