

Chemical Analysis Report

SO-DIST-2020-06-24-01

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

Event Description: **2020 SMP : Peace River**
Request ID: **RQ-2020-04-13-15**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Chris Hormuth

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-JUL-2020 13:40

A handwritten signature in black ink, appearing to read "Liang Lin", 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: BobcatCreekPreserveEast

Collection Date/Time: 06/23/2020 09:50

Field ID: G3SD0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178234	EPA 180.1 Rev. 2.0	Turbidity	8.1		NTU	P383625	
	EPA 300.0 Rev. 2.1	Chloride	44		mg Cl/L	P383968	
		Sulfate	9.1		mg SO4/L	P383972	
	SM 2120 B-2011	Color (true)	84		PCU	P383629	
	SM 2320 B-2011	Total Alkalinity	108		mg CaCO3/L	P383727	
	SM 2540 C-2011	TDS	239	A	mg/L	P384126	
	SM 2540 D-2011	TSS	3	IA	mg/L	P384122	
2178235	SM 4500 F-C-2011	Fluoride	0.55		mg F/L	P383733	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P383765	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P383654	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.041		mg N/L	P383642	
	EPA 365.1 Rev. 2.0	Total-P	0.94		mg P/L	P383671	
2178236	SM 5310 B-2011	Organic Carbon	17		mg C/L	P383791	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.73		mg P/L	P383633	
2178240	EPA 8321B	2,4-D	0.0020	U	ug/L	P383612	
		Acesulfame K**	0.37	I	ug/L	P383480	
		AMPA**	0.10	U	ug/L	P383480	MS
		Sucralose**	0.64		ug/L	P383480	
		Acetaminophen**	0.0080	U	ug/L	P383612	
		Acetamiprid**	0.0020	U	ug/L	P383612	
		Endothall**	0.25	U	ug/L	P383480	
		Glufosinate**	0.10	U	ug/L	P383480	
		Glyphosate**	0.10	U	ug/L	P383480	
		Afidopyropen**	0.0020	U	ug/L	P383612	
		Bentazon	8.0E-04	U	ug/L	P383612	
		Benzovindiflupyr**	0.0020	U	ug/L	P383612	
		Carbamazepine**	0.0021	I	ug/L	P383612	
		Clothianidin**	0.0020	U	ug/L	P383612	
		Dinotefuran**	0.0020	U	ug/L	P383612	
		Diuron	0.0020	U	ug/L	P383612	
		Fenuron	0.016	U	ug/L	P383612	
		Fluridone**	8.0E-04	U	ug/L	P383612	
		Imazapyr**	0.0040	U	ug/L	P383612	
		Hydrocodone**	0.0020	U	ug/L	P383612	
		Ibuprofen**	0.020	U	ug/L	P383612	
		Imidacloprid	0.0088		ug/L	P383612	
		Linuron	0.0040	U	ug/L	P383612	
		Mandestrobin**	0.0020	U	ug/L	P383612	
		MCP	0.0020	U	ug/L	P383612	
		Naproxen**	0.0080	U	ug/L	P383612	
		Primidone**	0.018		ug/L	P383612	
		Pyraclostrobin**	0.0020	U	ug/L	P383612	
		Thiamethoxam**	0.0020	U	ug/L	P383612	

Field ID: G3SD0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178240	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P383612	
		Triclopyr**	0.0040	U	ug/L	P383612	
2178241	EPA 200.7 Rev. 4.4	Barium	3.7	I	ug/L	P383680	
		Calcium	40.1		mg/L	P383680	
		Iron	1.95E+03		ug/L	P383680	
		Magnesium	9.64		mg/L	P383680	
		Potassium	1.6		mg/L	P383680	
		Sodium	25.7		mg/L	P383680	
		Zinc	5.0	U	ug/L	P383680	
	EPA 200.8 Rev. 5.4	Aluminum	55		ug/L	P383680	
		Antimony	0.087	I	ug/L	P383680	
		Arsenic	1.64		ug/L	P383680	
		Boron**	52.2		ug/L	P383680	
		Cadmium	0.020	U	ug/L	P384177	
		Chromium	2.5		ug/L	P383680	
		Copper	0.40	U	ug/L	P384177	
		Lead	0.20	U	ug/L	P384177	
		Nickel	0.69	I	ug/L	P383680	
		Selenium	0.20	U	ug/L	P383680	
		Silver	0.010	U	ug/L	P383680	
		Thallium	0.10	U	ug/L	P383680	
	SM 2340B	Hardness	140		mg/L	P383680	

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 bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383625

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383680

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: P383680

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
Chromium	0.40	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: P384177

Component	Result	Code	Units
Cadmium	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383968

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383972

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383765

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383765

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383654

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383642

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383671

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383633

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

Reference Method: EPA 8321B
Batch ID: P383480

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: EPA 8321B
Batch ID: P383612

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P383612

Component	Result	Code	Units
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

Reference Method: SM 2120 B-2011
Batch ID: P383629

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P383727

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P384126

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P384122

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P383733

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P383791

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: P383680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	107		P	85 - 115
Calcium	109		P	85 - 115
Iron	106		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	102		P	85 - 115
Sodium	103		P	85 - 115
Zinc	109		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.4		P	85 - 115
Antimony	97.8		P	85 - 115
Arsenic	101		P	85 - 115
Boron	93.7		P	85 - 115
Chromium	101		P	85 - 115
Nickel	101		P	85 - 115
Selenium	99.2		P	85 - 115
Silver	99.7		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384177

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cadmium	93.7		P	85 - 115
Copper	92.6		P	85 - 115
Lead	94.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383968

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383972

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383765

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383654

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: P383654

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: P383642

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383671

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.7		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P383480

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	97.0		P	40 - 150
AMPA	90.1		P	40 - 150
Endothall	73.7		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	79.9		P	40 - 140
Sucralose	81.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P383612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	104		P	30 - 160
Acetaminophen	76.7		P	30 - 160
Acetamiprid	77.4		P	30 - 160
Afidopyropen	58.1		P	30 - 160
Bentazon	56.3		P	30 - 160
Benzovindiflupyr	58.9		P	30 - 160
Carbamazepine	62.1		P	30 - 160
Clothianidin	86.7		P	30 - 160
Dinotefuran	87.2		P	30 - 160
Diuron	56.4		P	30 - 160
Fenuron	103		P	30 - 160
Fluridone	73.6		P	30 - 160
Hydrocodone	89.8		P	30 - 160
Ibuprofen	55.9		P	30 - 160
Imazapyr	78.8		P	30 - 160
Imidacloprid	92.9		P	30 - 160
Linuron	54.6		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P383612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mandestrobin	66.7		P	30 - 160
MCP	110		P	30 - 160
Naproxen	58.2		P	30 - 160
Primidone	82.1		P	30 - 160
Pyraclostrobin	59.0		P	30 - 160
Thiamethoxam	78.9		P	30 - 160
Tolfenpyrad	44.7		P	30 - 160
Triclopyr	75.2		P	30 - 160

Reference Method: SM 2120 B-2011

Batch ID: P383629

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.1		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P383727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P383733

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	90 - 106

Reference Method: SM 5310 B-2011

Batch ID: P383791

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178035	Barium	107	107	P/P	80 - 120
2178035	Calcium	108	109	P/P	80 - 120
2178035	Iron	105	105	P/P	80 - 120
2178035	Magnesium	107	107	P/P	80 - 120
2178035	Potassium	104	105	P/P	80 - 120
2178035	Sodium	102	103	P/P	80 - 120
2178035	Zinc	109	109	P/P	80 - 120
2178220	Barium	109		P	80 - 120
2178220	Calcium	104		P	80 - 120
2178220	Iron	108		P	80 - 120
2178220	Magnesium	107		P	80 - 120
2178220	Potassium	103		P	80 - 120
2178220	Sodium	100		P	80 - 120
2178220	Zinc	114		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178035	Aluminum	94.2	94.9	P/P	80 - 120
2178035	Antimony	96.8	96.1	P/P	80 - 120
2178035	Arsenic	99.5	99.5	P/P	80 - 120
2178035	Boron	92.9	92.9	P/P	80 - 120
2178035	Chromium	101	99.7	P/P	80 - 120
2178035	Nickel	101	99.9	P/P	80 - 120
2178035	Selenium	97.9	98.2	P/P	80 - 120
2178035	Silver	99.1	98.4	P/P	80 - 120
2178035	Thallium	102	102	P/P	80 - 120
2178220	Aluminum	94.8		P	80 - 120
2178220	Antimony	97.4		P	80 - 120
2178220	Arsenic	99.3		P	80 - 120
2178220	Boron	94.6		P	80 - 120
2178220	Chromium	99.6		P	80 - 120
2178220	Nickel	98.0		P	80 - 120
2178220	Selenium	96.4		P	80 - 120
2178220	Silver	95.7		P	80 - 120
2178220	Thallium	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178060	Cadmium	94.6	95.3	P/P	80 - 120
2178060	Copper	91.2	89.0	P/P	80 - 120
2178060	Lead	93.6	93.7	P/P	80 - 120
2178380	Cadmium	95.0		P	80 - 120
2178380	Copper	94.0		P	80 - 120
2178380	Lead	95.4		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178287	Chloride	101		P	90 - 110
2178366	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178287	Sulfate	103		P	90 - 110
2178366	Sulfate	108		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383765

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178212	Ammonia-N	105	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383654

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178212	Kjeldahl Nitrogen	101	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178212	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383671

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178188	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178199	O-Phosphate-P	98.9	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P383480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177768	Acesulfame K	44.0	47.0	P/P	40 - 150
2177768	AMPA	29.2	32.5	F/F	40 - 150
2177768	Endothall	58.2	64.4	P/P	40 - 150
2177768	Glufosinate	50.3	58.6	P/P	40 - 150
2177768	Glyphosate	54.7	62.4	P/P	40 - 140
2177768	Sucralose	87.9	90.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P383612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177972	2,4-D	117	106	P/P	30 - 160
2177972	Acetaminophen	107	97.5	P/P	30 - 160
2177972	Acetamiprid	85.6	75.7	P/P	30 - 160
2177972	Afidopyropen	69.1	62.5	P/P	30 - 160
2177972	Benzovindiflupyr	74.2	73.6	P/P	30 - 160
2177972	Carbamazepine	72.7	68.4	P/P	30 - 160
2177972	Clothianidin	111	99.8	P/P	30 - 160
2177972	Dinotefuran	111	104	P/P	30 - 160
2177972	Diuron	63.6	59.3	P/P	30 - 160
2177972	Fenuron	103	94.5	P/P	30 - 160
2177972	Fluridone	84.8	84.8	P/P	30 - 160
2177972	Hydrocodone	102	88.1	P/P	30 - 160
2177972	Ibuprofen	73.2	69.5	P/P	30 - 160
2177972	Imazapyr	103	95.6	P/P	30 - 160
2177972	Imidacloprid	150	143	P/P	30 - 160
2177972	Linuron	63.7	60.3	P/P	30 - 160
2177972	Mandestrobin	68.7	74.2	P/P	30 - 160
2177972	MCP	132	126	P/P	30 - 160
2177972	Naproxen	103	116	P/P	30 - 160
2177972	Primidone	94.8	83.8	P/P	30 - 160
2177972	Pyraclostrobin	75.1	67.7	P/P	30 - 160
2177972	Thiamethoxam	106	98.4	P/P	30 - 160
2177972	Tolfenpyrad	41.7	35.9	P/P	30 - 160
2177972	Triclopyr	106	103	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P383733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178195	Fluoride	99.4	97.1	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P383791

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178291	Organic Carbon	98.5	99.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P383625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178211	Turbidity	2.20	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P383680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178035	Barium	0.270	Spike	P	0 - 20
2178035	Calcium	0.616	Spike	P	0 - 20
2178035	Iron	0.250	Spike	P	0 - 20
2178035	Magnesium	0.308	Spike	P	0 - 20
2178035	Potassium	0.547	Spike	P	0 - 20
2178035	Sodium	0.926	Spike	P	0 - 20
2178035	Zinc	0.254	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P383680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178035	Aluminum	0.716	Spike	P	0 - 20
2178035	Antimony	0.718	Spike	P	0 - 20
2178035	Arsenic	0.0136	Spike	P	0 - 20
2178035	Boron	0.0333	Spike	P	0 - 20
2178035	Chromium	1.44	Spike	P	0 - 20
2178035	Nickel	1.09	Spike	P	0 - 20
2178035	Selenium	0.303	Spike	P	0 - 20
2178035	Silver	0.747	Spike	P	0 - 20
2178035	Thallium	0.432	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P384177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178060	Cadmium	0.786	Spike	P	0 - 20
2178060	Copper	1.65	Spike	P	0 - 20
2178060	Lead	0.174	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P383968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178366	Chloride	1.90	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P383972

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: P383972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178366	Sulfate	2.09	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P383765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178212	Ammonia-N	1.95	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P383654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178212	Kjeldahl Nitrogen	0.741	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P383642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178212	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P383671

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178188	Total-P	0.386	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P383633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178199	O-Phosphate-P	0.304	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P383480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177768	Acesulfame K	6.58	Spike	P	0 - 30
2177768	AMPA	2.70	Spike	P	0 - 30
2177768	Endothall	10.1	Spike	P	0 - 30
2177768	Glufosinate	15.3	Spike	P	0 - 30
2177768	Glyphosate	1.42	Spike	P	0 - 30
2177768	Sucralose	2.51	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P383612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177972	2,4-D	9.73	Spike	P	0 - 30
2177972	Acetaminophen	9.50	Spike	P	0 - 30
2177972	Acetamiprid	12.2	Spike	P	0 - 30
2177972	Afidopyropen	10.0	Spike	P	0 - 30
2177972	Bentazon	5.51	Spike	P	0 - 30
2177972	Benzovindiflupyr	0.733	Spike	P	0 - 30
2177972	Carbamazepine	6.17	Spike	P	0 - 30
2177972	Clothianidin	4.74	Spike	P	0 - 30
2177972	Dinotefuran	6.53	Spike	P	0 - 30
2177972	Diuron	6.97	Spike	P	0 - 30
2177972	Fenuron	8.96	Spike	P	0 - 30
2177972	Fluridone	0.0141	Spike	P	0 - 30
2177972	Hydrocodone	15.0	Spike	P	0 - 30
2177972	Ibuprofen	5.24	Spike	P	0 - 30
2177972	Imazapyr	6.62	Spike	P	0 - 30
2177972	Imidacloprid	3.59	Spike	P	0 - 30
2177972	Linuron	5.60	Spike	P	0 - 30
2177972	Mandestrobin	7.81	Spike	P	0 - 30
2177972	MCPP	4.74	Spike	P	0 - 30
2177972	Naproxen	12.1	Spike	P	0 - 30
2177972	Primidone	11.3	Spike	P	0 - 30
2177972	Pyraclostrobin	10.3	Spike	P	0 - 30
2177972	Thiamethoxam	7.08	Spike	P	0 - 30
2177972	Tolfenpyrad	14.9	Spike	P	0 - 30
2177972	Triclopyr	2.37	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
 Batch ID: P383629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178187	Color (true)	0.375	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P383727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178195	Total Alkalinity	2.38	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
 Batch ID: P384126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178234	TDS	4.18	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P383733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178195	Fluoride	1.45	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P383791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178291	Organic Carbon	0.884	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2178240
Field Sample ID: G3SD0131

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	87.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	50.9	P	30 - 160
EPA 8321B	Diuron-d6	66.2	P	30 - 160
EPA 8321B	Endothall-d6	95.0	P	50 - 160
EPA 8321B	Endothall-d6	95.0	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	78.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.7	P	30 - 160
EPA 8321B	Primidone-d5	77.8	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99497

Included Lab Sample IDs: 2178234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A99499

Included Lab Sample IDs: 2178234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99500

Included Lab Sample IDs: 2178236

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

Reference Method: EPA 8321B

Run ID: A99501

Included Lab Sample IDs: 2178240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	70.8	70.8	P/P	60 - 160
Endothall	79.4	75.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99502

Included Lab Sample IDs: 2178240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	100	P/P	60 - 160
Glufosinate	102	105	P/P	60 - 160
Glyphosate	86.9	87.3	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99508

Included Lab Sample IDs: 2178235

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

Reference Method: EPA 8321B

Run ID: A99529

Included Lab Sample IDs: 2178240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	84.4	83.3	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A99540

Included Lab Sample IDs: 2178234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99540

Included Lab Sample IDs: 2178234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99553

Included Lab Sample IDs: 2178235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99556

Included Lab Sample IDs: 2178235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	94.2	99.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A99562

Included Lab Sample IDs: 2178241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	105	105	P/P	90 - 110
Calcium	104	104	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	104	104	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Zinc	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99563

Included Lab Sample IDs: 2178235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	105	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A99564

Included Lab Sample IDs: 2178235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	99.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A99572
 Included Lab Sample IDs: 2178240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.8	90.0	P/P	50 - 150
Acetaminophen	111	115	P/P	60 - 160
Acetamiprid	116	119	P/P	50 - 150
Afidopyropen	80.1	66.6	P/P	50 - 150
Bentazon	81.3	78.7	P/P	50 - 160
Benzovindiflupyr	111	92.8	P/P	50 - 150
Carbamazepine	105	102	P/P	60 - 150
Clothianidin	105	113	P/P	60 - 150
Dinotefuran	103	109	P/P	50 - 150
Diuron	96.0	90.1	P/P	60 - 160
Fenuron	68.7	75.0	P/P	60 - 150
Fluridone	113	95.6	P/P	60 - 160
Hydrocodone	119	121	P/P	60 - 150
Ibuprofen	70.0	98.3	P/P	50 - 160
Imazapyr	97.8	115	P/P	50 - 150
Imidacloprid	104	105	P/P	60 - 150
Linuron	83.8	89.9	P/P	60 - 150
Mandestrobin	92.6	89.5	P/P	50 - 150
MCPP	93.3	107	P/P	50 - 150
Naproxen	83.0	87.6	P/P	50 - 160
Primidone	98.4	111	P/P	60 - 150
Pyraclostrobin	88.3	83.3	P/P	60 - 150
Thiamethoxam	107	108	P/P	50 - 150
Tolfenpyrad	77.4	70.9	P/P	60 - 150
Triclopyr	103	90.5	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
 Run ID: A99640
 Included Lab Sample IDs: 2178234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.2	99.6	P/P	90 - 110
Sulfate	99.8	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A99700
 Included Lab Sample IDs: 2178241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.4	96.7	P/P	90 - 110
Antimony	96.3	95.7	P/P	90 - 110
Arsenic	98.9	98.7	P/P	90 - 110
Boron	98.1	96.4	P/P	90 - 110
Chromium	97.2	96.4	P/P	90 - 110
Nickel	98.0	97.3	P/P	90 - 110
Selenium	99.0	98.7	P/P	90 - 110
Silver	98.5	96.9	P/P	90 - 110
Thallium	97.6	95.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99751

Included Lab Sample IDs: 2178241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	101	102	P/P	90 - 110
Copper	97.6	98.3	P/P	90 - 110
Lead	101	103	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						2.20	
EPA 200.7 Rev. 4.4	Barium	107	107	107	109			0.270
	Calcium	109	108	109	104			0.616
	Iron	106	105	105	108			0.250
	Magnesium	108	107	107	107			0.308
	Potassium	102	104	105	103			0.547
	Sodium	103	102	103	100			0.926
	Zinc	109	109	109	114			0.254
EPA 200.8 Rev. 5.4	Aluminum	95.4	94.2	94.9	94.8			0.716
	Antimony	97.8	96.8	96.1	97.4			0.718
	Arsenic	101	99.5	99.5	99.3			0.0136
	Boron	93.7	92.9	92.9	94.6			0.0333
	Cadmium	93.7	94.6	95.3	95.0			0.786
	Chromium	101	101	99.7	99.6			1.44
	Copper	92.6	91.2	89.0	94.0			1.65
	Lead	94.7	93.6	93.7	95.4			0.174
	Nickel	101	101	99.9	98.0			1.09
	Selenium	99.2	97.9	98.2	96.4			0.303
	Silver	99.7	99.1	98.4	95.7			0.747
	Thallium	102	102	102	101			0.432
EPA 300.0 Rev. 2.1	Chloride	101	106	101			1.90	
	Sulfate	104	108	103			2.09	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	105	107				1.95
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	101	100				0.741
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102	102				0.491
EPA 365.1 Rev. 2.0	Total-P	102	103	102				0.386
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7	98.9	98.6				0.304
EPA 8321B	2,4-D	104	117	106				9.73
	Acesulfame K	97.0	44.0	47.0				6.58
	Acetaminophen	76.7	107	97.5				9.50
	Acetamiprid	77.4	85.6	75.7				12.2
	Afidopyropen	58.1	69.1	62.5				10.0
	AMPA	90.1	29.2	32.5				2.70
	Bentazon	56.3						5.51
	Benzovindiflupyr	58.9	74.2	73.6				0.733
	Carbamazepine	62.1	72.7	68.4				6.17
	Clothianidin	86.7	111	99.8				4.74
	Dinotefuran	87.2	111	104				6.53
	Diuron	56.4	63.6	59.3				6.97
	Endothall	73.7	58.2	64.4				10.1
	Fenuron	103	103	94.5				8.96
	Fluridone	73.6	84.8	84.8				0.0141
	Glufosinate	102	50.3	58.6				15.3
	Glyphosate	79.9	54.7	62.4				1.42
	Hydrocodone	89.8	102	88.1				15.0
	Ibuprofen	55.9	73.2	69.5				5.24
	Imazapyr	78.8	103	95.6				6.62
	Imidacloprid	92.9	150	143				3.59
	Linuron	54.6	63.7	60.3				5.60
	Mandestrobin	66.7	68.7	74.2				7.81
	MCPP	110	132	126				4.74
	Naproxen	58.2	103	116				12.1
	Primidone	82.1	94.8	83.8				11.3
	Pyraclostrobin	59.0	75.1	67.7				10.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Sucralose	81.0	87.9	90.1			2.51
	Thiamethoxam	78.9	106	98.4			7.08
	Tolfenpyrad	44.7	41.7	35.9			14.9
	Triclopyr	75.2	106	103			2.37
SM 2120 B-2011	Color (true)	99.1				0.375	
SM 2320 B-2011	Total Alkalinity	101				2.38	
SM 2540 C-2011	TDS					4.18	
SM 4500 F-C-2011	Fluoride	99.4	99.4	97.1			1.45
SM 5310 B-2011	Organic Carbon	98.6	98.5	99.8			0.884

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2178234
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2178241
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2178241
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2178234
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2178234
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2178235
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2178235
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2178235
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2178235
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2178236
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2178240
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2178240
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2178234
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2178234
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2178241
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2178234
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2178234
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2178234
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2178235

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	06/24/2020			06/24/2020 15:01	Yen Ta	2178234
EPA 200.7 Rev. 4.4	06/24/2020	06/25/2020 14:10	Elliott D. Healy	06/26/2020 18:33	Betina Topolski	2178241
EPA 200.8 Rev. 5.4	06/24/2020	06/25/2020 14:10	Elliott D. Healy	07/06/2020 18:59	Alexander Thompson	2178241
	06/24/2020	07/08/2020 08:45	Alexander Thompson	07/08/2020 21:29	Alexander Thompson	2178241
EPA 300.0 Rev. 2.1	06/24/2020			06/30/2020 03:08	Julia Storbeck	2178234
EPA 350.1 Rev. 2.0	06/24/2020			06/27/2020 15:21	Ping Hua	2178235
EPA 351.2 Rev. 2.0	06/24/2020	06/25/2020 10:55	Sima Feizi	06/26/2020 11:49	Jhamieka S. Greenwood	2178235
EPA 353.2 Rev. 2.0	06/24/2020			06/25/2020 09:18	Beverly Y. Sanders	2178235
EPA 365.1 Rev. 2.0	06/24/2020	06/25/2020 11:41	Yen Ta	06/29/2020 08:39	Benjamin T. Nordmann	2178235
EPA 365.1 Rev. 2.0 dissolved	06/24/2020			06/24/2020 16:36	Julia Storbeck	2178236
EPA 8321B	06/24/2020	06/24/2020 14:30	Mohammad Ghaffari	06/24/2020 15:25	Mohammad Ghaffari	2178240
	06/24/2020	06/24/2020 14:30	Mohammad Ghaffari	06/24/2020 20:45	Mohammad Ghaffari	2178240
	06/24/2020	06/24/2020 14:30	Mohammad Ghaffari	06/25/2020 14:34	Mohammad Ghaffari	2178240
	06/24/2020	06/26/2020 14:00	Hoor Shaik	06/27/2020 10:51	Juyoung Kim	2178240
SM 2120 B-2011	06/24/2020			06/24/2020 16:31	Benjamin T. Nordmann	2178234
SM 2320 B-2011	06/24/2020			06/25/2020 23:24	Dale L. Simmons	2178234
SM 2340B	06/24/2020			06/26/2020 18:33	Betina Topolski	2178241
SM 2540 C-2011	06/24/2020			06/26/2020 14:26	Yijie Li	2178234
SM 2540 D-2011	06/24/2020			06/26/2020 14:26	Yijie Li	2178234
SM 4500 F-C-2011	06/24/2020			06/25/2020 23:24	Dale L. Simmons	2178234
SM 5310 B-2011	06/24/2020			06/26/2020 18:29	David Boose	2178235