

Chemical Analysis Report

SO-DIST-2020-02-19-01

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

Event Description: **2020 Continuous Monitoring**
Request ID: **RQ-2020-02-10-20**
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: John Barrington

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

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

Date Certified: 16-MAR-2020 12:14

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

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: LittleAlligator@Midway

Collection Date/Time: 02/18/2020 11:20

Field ID: G3SD0071

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158843	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P379325	
	EPA 300.0 Rev. 2.1	Bromide	41		mg Br/L	P379450	
	SM 2320 B-2011	Total Alkalinity	138	A	mg CaCO3/L	P379417	
	SM 2540 D-2011	TSS	3	I	mg/L	P379605	
	SM 4500 F-C-2011	Fluoride	0.94		mg F/L	P379422	
2158844	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P379458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P379311	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P379271	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P379780	
	SM 5310 B-2011	Organic Carbon	7.6		mg C/L	P379591	
2158845	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.099		mg P/L	P379216	
2158864	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P379691	
		Manganese	11	I	ug/L	P379691	
		Zinc	15	U	ug/L	P379691	
	EPA 200.8 Rev. 5.4	Aluminum	43	I	ug/L	P379691	
		Antimony	0.25	I	ug/L	P379691	
		Arsenic	2.37		ug/L	P379691	
		Cadmium	0.080	U	ug/L	P379691	
		Chromium	1.6	U	ug/L	P379691	
		Copper	1.6	U	ug/L	P379691	
		Lead	0.80	U	ug/L	P379691	
		Nickel	2.0	U	ug/L	P379691	
		Selenium	0.80	U	ug/L	P379691	
		Silver	0.10	U	ug/L	P380290	
		Thallium	1.0	U	ug/L	P379691	

Ref. Method and Comment:

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

Sample Location: Apollo Waterway @ Bend

Collection Date/Time: 02/18/2020 13:00

Field ID: G3SD0069

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158846	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P379325	
	EPA 300.0 Rev. 2.1	Bromide	29		mg Br/L	P379450	
	SM 2320 B-2011	Total Alkalinity	111		mg CaCO3/L	P379740	
	SM 2540 D-2011	TSS	12		mg/L	P379605	
	SM 4500 F-C-2011	Fluoride	0.75		mg F/L	P379746	
2158847	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P379458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P379311	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P379271	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P379780	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P379591	
2158848	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.093		mg P/L	P379216	

Ref. Method and Comment:

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

Sample Location: RockCreek@EisenhowerDr

Collection Date/Time: 02/18/2020 13:30

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158849	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P379325	
	EPA 300.0 Rev. 2.1	Bromide	27		mg Br/L	P379450	
	SM 2320 B-2011	Total Alkalinity	112		mg CaCO3/L	P379740	
	SM 2540 D-2011	TSS	15		mg/L	P379605	
	SM 4500 F-C-2011	Fluoride	0.73		mg F/L	P379746	
2158850	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P379458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P379311	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P379271	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P379780	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P379591	
2158851	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.099		mg P/L	P379216	
2158863	EPA 8321B	2,4-D	0.0049	I	ug/L	P379190	
		Acesulfame K**	0.10	U	ug/L	P379179	
		AMPA**	0.10	UJ	ug/L	P379179	SUR
		Sucralose**	0.14		ug/L	P379179	
		Acetaminophen**	0.0080	U	ug/L	P379190	
		Endothall**	0.25	U	ug/L	P379179	
		Acetamiprid**	0.0020	U	ug/L	P379190	RPD
		Glufosinate**	0.10	UJ	ug/L	P379179	MS, SUR
		Glyphosate**	0.10	UJ	ug/L	P379179	MS, SUR
		Afidopyropen**	0.0020	UJ	ug/L	P379190	
		Bentazon	0.0085		ug/L	P379190	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P379190	
		Carbamazepine**	0.0018	I	ug/L	P379190	
		Clothianidin**	0.0020	U	ug/L	P379190	
		Dinotefuran**	0.011		ug/L	P379190	
		Diuron	0.0024	I	ug/L	P379190	
		Fenuron	0.016	U	ug/L	P379190	
		Fluridone**	0.017		ug/L	P379190	
		Imazapyr**	0.036		ug/L	P379190	
		Hydrocodone**	0.0020	U	ug/L	P379190	
		Ibuprofen**	0.020	U	ug/L	P379190	
		Imidacloprid	0.0053	I	ug/L	P379190	
		Linuron	0.0040	U	ug/L	P379190	
		Mandestrobin**	0.0020	UJ	ug/L	P379190	
		MCP	0.0020	U	ug/L	P379190	
		Naproxen**	0.0080	U	ug/L	P379190	
		Primidone**	0.0040	U	ug/L	P379190	
		Pyraclostrobin**	0.0020	U	ug/L	P379190	
		Thiamethoxam**	0.0020	U	ug/L	P379190	
		Tolfenpyrad**	0.0020	U	ug/L	P379190	
		Triclopyr**	0.0040	U	ug/L	P379190	
2158865	EPA 200.7 Rev. 4.4	Iron	420		ug/L	P379691	

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158865	EPA 200.7 Rev. 4.4	Manganese	14		ug/L	P379691	
		Zinc	15	U	ug/L	P379691	
	EPA 200.8 Rev. 5.4	Aluminum	375		ug/L	P379691	
		Antimony	0.20	U	ug/L	P379691	
		Arsenic	1.73		ug/L	P379691	
		Cadmium	0.080	U	ug/L	P379691	
		Chromium	1.6	U	ug/L	P379691	
		Copper	1.6	U	ug/L	P379691	
		Lead	0.80	U	ug/L	P379691	
		Nickel	2.0	U	ug/L	P379691	
		Selenium	0.80	U	ug/L	P379691	
		Silver	0.10	U	ug/L	P380290	
		Thallium	1.0	U	ug/L	P379691	

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

EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P379325

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P379691

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: P379691

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
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P380290

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379450

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379458

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379311

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: P379271

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379780

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379216

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

Reference Method: EPA 8321B
Batch ID: P379179

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: P379190

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379190

Component	Result	Code	Units
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P379417

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

Reference Method: SM 2320 B-2011
Batch ID: P379740

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

Reference Method: SM 2540 D-2011
Batch ID: P379605

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P379422

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P379746

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P379591

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: P379691

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	85 - 115
Manganese	110		P	85 - 115
Zinc	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P379691

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	93.4		P	85 - 115
Antimony	93.5		P	85 - 115
Arsenic	91.2		P	85 - 115
Cadmium	92.4		P	85 - 115
Chromium	93.8		P	85 - 115
Copper	95.0		P	85 - 115
Lead	91.8		P	85 - 115
Nickel	93.5		P	85 - 115
Selenium	89.1		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P380290

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silver	99.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379450

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379311

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379271

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: P379780

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379216

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

Reference Method: EPA 8321B
Batch ID: P379179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	95.5		P	40 - 150
AMPA	98.1		P	40 - 150
Endothall	86.8		P	40 - 150
Glufosinate	95.0		P	40 - 150
Glyphosate	93.1		P	40 - 140
Sucralose	113		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379190

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	133		P	30 - 160
Acetaminophen	88.1		P	30 - 160
Acetamiprid	82.0		P	30 - 160
Afidopyropen	71.5		P	30 - 160
Bentazon	76.6		P	30 - 160
Benzovindiflupyr	78.1		P	30 - 160
Carbamazepine	80.5		P	30 - 160
Clothianidin	70.9		P	30 - 160
Dinotefuran	79.0		P	30 - 160
Diuron	78.7		P	30 - 160
Fenuron	91.3		P	30 - 160
Fluridone	92.4		P	30 - 160
Hydrocodone	82.6		P	30 - 160
Ibuprofen	86.7		P	30 - 160
Imazapyr	90.1		P	30 - 160
Imidacloprid	89.6		P	30 - 160
Linuron	73.5		P	30 - 160
Mandestrobin	87.7		P	30 - 160
MCPP	131		P	30 - 160
Naproxen	83.9		P	30 - 160
Primidone	79.7		P	30 - 160
Pyraclostrobin	82.3		P	30 - 160
Thiamethoxam	86.9		P	30 - 160
Tolfenpyrad	58.6		P	30 - 160
Triclopyr	105		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P379417

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

Reference Method: SM 2320 B-2011
Batch ID: P379740

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

Reference Method: SM 4500 F-C-2011
Batch ID: P379422

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	92 - 103

Reference Method: SM 4500 F-C-2011
Batch ID: P379746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P379591

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P379691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160160	Iron	98.3		P	70 - 130
2160160	Manganese	99.8		P	70 - 130
2160160	Zinc	102		P	70 - 130
2160188	Iron	101	98.8	P/P	70 - 130
2160188	Manganese	100	97.4	P/P	70 - 130
2160188	Zinc	106	104	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P379691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160160	Aluminum	116		P	70 - 130
2160160	Antimony	102		P	70 - 130
2160160	Arsenic	113		P	70 - 130
2160160	Cadmium	97.8		P	70 - 130
2160160	Chromium	98.1		P	70 - 130
2160160	Copper	116		P	70 - 130
2160160	Lead	107		P	70 - 130
2160160	Nickel	116		P	70 - 130
2160160	Selenium	102		P	70 - 130
2160160	Thallium	112		P	70 - 130
2160188	Aluminum	104	106	P/P	70 - 130
2160188	Antimony	97.5	101	P/P	70 - 130
2160188	Arsenic	110	110	P/P	70 - 130
2160188	Cadmium	97.0	101	P/P	70 - 130
2160188	Chromium	97.9	104	P/P	70 - 130
2160188	Copper	105	110	P/P	70 - 130
2160188	Lead	101	104	P/P	70 - 130
2160188	Nickel	108	113	P/P	70 - 130
2160188	Selenium	103	104	P/P	70 - 130
2160188	Thallium	106	105	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P380290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158865	Silver	101	104	P/P	70 - 130
2160419	Silver	103		P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379450

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158277	Bromide	99.3	99.0	P/P	90 - 110
2159024	Bromide	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158474	Ammonia-N	97.7	96.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P379311

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158819	Kjeldahl Nitrogen	105	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P379271

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158844	NO2NO3-N	98.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379780

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158820	Total-P	93.2	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P379216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159122	O-Phosphate-P	93.2	90.5	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P379179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158377	Acesulfame K	79.3	75.2	P/P	40 - 150
2158377	AMPA	83.7	77.7	P/P	40 - 150
2158377	Endothall	106	97.5	P/P	40 - 150
2158377	Glufosinate	195	246	F/F	40 - 150
2158377	Glyphosate	183	213	F/F	40 - 140
2158377	Sucralose	108	101	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P379190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158377	2,4-D	131	142	P/P	30 - 160
2158377	Acetaminophen	92.5	114	P/P	30 - 160
2158377	Acetamiprid	78.4	57.3	P/P	30 - 160
2158377	Afidopyropen	87.0	80.3	P/P	30 - 160
2158377	Benzovindiflupyr	75.4	82.7	P/P	30 - 160
2158377	Carbamazepine	66.9	70.5	P/P	30 - 160
2158377	Clothianidin	92.3	104	P/P	30 - 160
2158377	Dinotefuran	119	120	P/P	30 - 160
2158377	Diuron	63.8	65.4	P/P	30 - 160
2158377	Fenuron	77.4	71.1	P/P	30 - 160
2158377	Fluridone	88.0	90.0	P/P	30 - 160
2158377	Hydrocodone	78.4	95.1	P/P	30 - 160
2158377	Ibuprofen	79.4	82.2	P/P	30 - 160
2158377	Imidacloprid	157	138	P/P	30 - 160
2158377	Linuron	75.0	71.5	P/P	30 - 160
2158377	Mandestrobin	84.9	88.5	P/P	30 - 160
2158377	MCP	133	134	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P379190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158377	Naproxen	97.3	117	P/P	30 - 160
2158377	Primidone	85.7	88.2	P/P	30 - 160
2158377	Pyraclostrobin	83.5	88.0	P/P	30 - 160
2158377	Thiamethoxam	108	121	P/P	30 - 160
2158377	Tolfenpyrad	57.1	57.5	P/P	30 - 160
2158377	Triclopyr	115	130	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P379422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158843	Fluoride	98.6	100	P/P	89 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P379746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157633	Fluoride	97.3	98.9	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P379591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160032	Organic Carbon	101	99.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P379325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159024	Turbidity	6.30	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P379691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160188	Iron	2.24	Spike	P	0 - 20
2160188	Manganese	2.66	Spike	P	0 - 20
2160188	Zinc	1.60	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P379691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160188	Aluminum	2.35	Spike	P	0 - 20
2160188	Antimony	3.87	Spike	P	0 - 20
2160188	Arsenic	0.749	Spike	P	0 - 20
2160188	Cadmium	4.46	Spike	P	0 - 20
2160188	Chromium	5.67	Spike	P	0 - 20
2160188	Copper	4.13	Spike	P	0 - 20
2160188	Lead	2.54	Spike	P	0 - 20
2160188	Nickel	4.35	Spike	P	0 - 20
2160188	Selenium	1.29	Spike	P	0 - 20
2160188	Thallium	0.549	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P380290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158865	Silver	3.07	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158277	Bromide	0.270	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158474	Ammonia-N	1.13	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158819	Kjeldahl Nitrogen	0.850	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158844	NO2NO3-N	2.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158820	Total-P	5.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159122	O-Phosphate-P	2.35	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P379179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158377	Acesulfame K	4.80	Spike	P	0 - 30
2158377	AMPA	7.50	Spike	P	0 - 30
2158377	Endothall	8.73	Spike	P	0 - 30
2158377	Glufosinate	23.2	Spike	P	0 - 30
2158377	Glyphosate	15.1	Spike	P	0 - 30
2158377	Sucralose	5.72	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P379190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158377	2,4-D	8.66	Spike	P	0 - 30
2158377	Acetaminophen	20.6	Spike	P	0 - 30
2158377	Acetamiprid	31.1	Spike	F	0 - 30
2158377	Afidopyropen	8.04	Spike	P	0 - 30
2158377	Bentazon	21.0	Spike	P	0 - 30
2158377	Benzovindiflupyr	9.23	Spike	P	0 - 30
2158377	Carbamazepine	5.32	Spike	P	0 - 30
2158377	Clothianidin	12.3	Spike	P	0 - 30
2158377	Dinotefuran	0.777	Spike	P	0 - 30
2158377	Diuron	2.51	Spike	P	0 - 30
2158377	Fenuron	8.43	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P379190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158377	Fluridone	1.75	Spike	P	0 - 30
2158377	Hydrocodone	19.2	Spike	P	0 - 30
2158377	Ibuprofen	3.35	Spike	P	0 - 30
2158377	Imazapyr	2.90	Spike	P	0 - 30
2158377	Imidacloprid	12.8	Spike	P	0 - 30
2158377	Linuron	4.70	Spike	P	0 - 30
2158377	Mandestrobin	4.07	Spike	P	0 - 30
2158377	MCP	0.847	Spike	P	0 - 30
2158377	Naproxen	18.7	Spike	P	0 - 30
2158377	Primidone	2.92	Spike	P	0 - 30
2158377	Pyraclostrobin	5.19	Spike	P	0 - 30
2158377	Thiamethoxam	11.2	Spike	P	0 - 30
2158377	Tolfenpyrad	0.759	Spike	P	0 - 30
2158377	Triclopyr	11.8	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P379417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158843	Total Alkalinity	0.563	Sample	P	0 - 2.8

Reference Method: SM 2320 B-2011
Batch ID: P379740

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159014	Total Alkalinity	0.516	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P379422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158843	Fluoride	0.972	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-2011
Batch ID: P379746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157633	Fluoride	0.979	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P379591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160032	Organic Carbon	0.833	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2158863
Field Sample ID: G3SD0070

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	100	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	73.7	P	30 - 160
EPA 8321B	Endothall-d6	87.0	P	30 - 160
EPA 8321B	Endothall-d6	87.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Ibuprofen-d3	97.2	P	30 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	31.5	P	30 - 160
EPA 8321B	Sucralose-d6	31.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97656

Included Lab Sample IDs: 2158845, 2158848, 2158851

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.4	95.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97683

Included Lab Sample IDs: 2158844, 2158847, 2158850

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97703

Included Lab Sample IDs: 2158843, 2158846, 2158849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 2320 B-2011

Run ID: A97739

Included Lab Sample IDs: 2158843

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

Reference Method: SM 4500 F-C-2011

Run ID: A97739

Included Lab Sample IDs: 2158843

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97750

Included Lab Sample IDs: 2158843, 2158846, 2158849

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97754

Included Lab Sample IDs: 2158844, 2158847, 2158850

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97781

Included Lab Sample IDs: 2158844, 2158847, 2158850

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.9	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A97799

Included Lab Sample IDs: 2158844, 2158847, 2158850

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

Reference Method: EPA 8321B

Run ID: A97817

Included Lab Sample IDs: 2158863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	60.7	60.5	P/P	60 - 160
Endothall	97.1	101	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A97819

Included Lab Sample IDs: 2158863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	75.4	71.3	P/P	60 - 160
Glufosinate	96.6	96.6	P/P	60 - 160
Glyphosate	108	105	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A97845

Included Lab Sample IDs: 2158846, 2158849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	106	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97845

Included Lab Sample IDs: 2158846, 2158849

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97880

Included Lab Sample IDs: 2158844, 2158847, 2158850

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

Reference Method: EPA 8321B

Run ID: A97908

Included Lab Sample IDs: 2158863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	122	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A97940

Included Lab Sample IDs: 2158864, 2158865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	96.4	97.6	P/P	90 - 110
Manganese	105	105	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A98037

Included Lab Sample IDs: 2158863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	94.9	P/P	50 - 150
Acetaminophen	119	107	P/P	60 - 160
Acetamiprid	113	107	P/P	50 - 150
Afidopyropen	98.0	103	P/P	50 - 150
Bentazon	109	109	P/P	50 - 160
Benzovindiflupyr	109	104	P/P	50 - 150
Carbamazepine	115	97.0	P/P	60 - 150
Clothianidin	112	102	P/P	60 - 150
Dinotefuran	114	56.0	P/P	50 - 150
Diuron	110	106	P/P	60 - 150
Fenuron	114	111	P/P	60 - 150
Fluridone	107	103	P/P	60 - 160
Hydrocodone	120	121	P/P	60 - 150
Ibuprofen	101	94.4	P/P	50 - 160
Imazapyr	110	93.3	P/P	50 - 150
Imidacloprid	112	108	P/P	60 - 150
Linuron	105	103	P/P	60 - 150
Mandestrobin	111	102	P/P	50 - 150
MCPP	94.2	91.5	P/P	50 - 150
Naproxen	123	115	P/P	50 - 160
Primidone	99.0	99.4	P/P	60 - 150
Pyraclostrobin	77.4	74.6	P/P	60 - 150
Thiamethoxam	111	109	P/P	50 - 150
Tolfenpyrad	100	101	P/P	60 - 150
Triclopyr	105	98.8	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A98040

Included Lab Sample IDs: 2158864, 2158865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	101	P/P	90 - 110
Antimony	94.9	94.3	P/P	90 - 110
Arsenic	99.6	99.2	P/P	90 - 110
Cadmium	95.8	94.4	P/P	90 - 110
Chromium	98.0	95.5	P/P	90 - 110
Copper	104	103	P/P	90 - 110
Lead	96.2	96.0	P/P	90 - 110
Nickel	104	103	P/P	90 - 110
Selenium	98.6	96.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A98107
Included Lab Sample IDs: 2158864, 2158865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	93.6	94.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A98187
Included Lab Sample IDs: 2158864, 2158865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	96.1	94.2	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						6.30	
EPA 200.7 Rev. 4.4	Iron	108	98.3	101	98.8			2.24
	Manganese	110	100	97.4	99.8			2.66
	Zinc	106	106	104	102			1.60
EPA 200.8 Rev. 5.4	Aluminum	93.4	104	106	116			2.35
	Antimony	93.5	97.5	101	102			3.87
	Arsenic	91.2	110	110	113			0.749
	Cadmium	92.4	97.0	101	97.8			4.46
	Chromium	93.8	97.9	104	98.1			5.67
	Copper	95.0	105	110	116			4.13
	Lead	91.8	101	104	107			2.54
	Nickel	93.5	108	113	116			4.35
	Selenium	89.1	103	104	102			1.29
	Silver	99.2	101	104	103			3.07
	Thallium	100	112	106	105			0.549
EPA 300.0 Rev. 2.1	Bromide	102	99.3	99.0	97.4			0.270
EPA 350.1 Rev. 2.0	Ammonia-N	93.7	97.7	96.5				1.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	105	106				0.850
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	98.8	101				2.41
EPA 365.1 Rev. 2.0	Total-P	106	93.2	98.8				5.54
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	93.2	90.5				2.35
EPA 8321B	2,4-D	133	131	142				8.66
	Acesulfame K	95.5	79.3	75.2				4.80
	Acetaminophen	88.1	92.5	114				20.6
	Acetamiprid	82.0	78.4	57.3				31.1
	Afidopyropen	71.5	87.0	80.3				8.04
	AMPA	98.1	83.7	77.7				7.50
	Bentazon	76.6						21.0
	Benzovindiflupyr	78.1	75.4	82.7				9.23
	Carbamazepine	80.5	66.9	70.5				5.32
	Clothianidin	70.9	92.3	104				12.3
	Dinotefuran	79.0	119	120				0.777
	Diuron	78.7	63.8	65.4				2.51
	Endothall	86.8	106	97.5				8.73
	Fenuron	91.3	77.4	71.1				8.43
	Fluridone	92.4	88.0	90.0				1.75
	Glufosinate	95.0	195	246				23.2
	Glyphosate	93.1	183	213				15.1
	Hydrocodone	82.6	78.4	95.1				19.2
	Ibuprofen	86.7	79.4	82.2				3.35
	Imazapyr	90.1						2.90
	Imidacloprid	89.6	157	138				12.8
	Linuron	73.5	75.0	71.5				4.70
	Mandestrobin	87.7	84.9	88.5				4.07
	MCPP	131	133	134				0.847
	Naproxen	83.9	97.3	117				18.7
	Primidone	79.7	85.7	88.2				2.92
	Pyraclostrobin	82.3	83.5	88.0				5.19
	Sucralose	113	108	101				5.72
	Thiamethoxam	86.9	108	121				11.2
	Tolfenpyrad	58.6	57.1	57.5				0.759
	Triclopyr	105	115	130				11.8
SM 2320 B-2011	Total Alkalinity	104					0.563	
	Total Alkalinity	106					0.516	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-2011	Fluoride	99.0	98.6	100		0.972
	Fluoride	97.1	97.3	98.9		0.979
SM 5310 B-2011	Organic Carbon	99.6	101	99.7		0.833

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2158843, 2158846, 2158849
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2158864, 2158865
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2158864, 2158865
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2158843, 2158846, 2158849
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2158844, 2158847, 2158850
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2158844, 2158847, 2158850
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2158844, 2158847, 2158850
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2158844, 2158847, 2158850
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2158845, 2158848, 2158851
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2158863
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2158863
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2158843, 2158846, 2158849
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2158843, 2158846, 2158849
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2158843, 2158846, 2158849
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2158844, 2158847, 2158850

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	02/19/2020			02/19/2020 17:56	Yen Ta	2158843, 2158846, 2158849
EPA 200.7 Rev. 4.4	02/19/2020	02/26/2020 17:40	Elliott D. Healy	02/27/2020 21:30	Martin Acosta	2158864
	02/19/2020	02/26/2020 17:40	Elliott D. Healy	02/27/2020 21:37	Martin Acosta	2158865
EPA 200.8 Rev. 5.4	02/19/2020	02/26/2020 17:40	Elliott D. Healy	03/03/2020 18:59	Justin Cutchin	2158864
	02/19/2020	02/26/2020 17:40	Elliott D. Healy	03/03/2020 19:06	Justin Cutchin	2158865
	02/19/2020	02/26/2020 17:40	Elliott D. Healy	03/13/2020 13:15	Alexander Thompson	2158864
	02/19/2020	02/26/2020 17:40	Elliott D. Healy	03/13/2020 13:18	Alexander Thompson	2158865
	02/19/2020	03/09/2020 13:10	Elliott D. Healy	03/10/2020 15:28	Alexander Thompson	2158864
	02/19/2020	03/09/2020 13:10	Elliott D. Healy	03/10/2020 15:57	Alexander Thompson	2158865
EPA 300.0 Rev. 2.1	02/19/2020			02/22/2020 18:02	Lipi Saha	2158843
	02/19/2020			02/22/2020 18:19	Lipi Saha	2158846
	02/19/2020			02/22/2020 18:36	Lipi Saha	2158849
EPA 350.1 Rev. 2.0	02/19/2020			02/21/2020 10:52	Ping Hua	2158844
	02/19/2020			02/21/2020 10:53	Ping Hua	2158847
	02/19/2020			02/21/2020 10:55	Ping Hua	2158850
EPA 351.2 Rev. 2.0	02/19/2020	02/21/2020 09:15	Sima Feizi	02/24/2020 17:41	Jhamieka S. Greenwood	2158844
	02/19/2020	02/21/2020 09:15	Sima Feizi	02/24/2020 17:43	Jhamieka S. Greenwood	2158847
	02/19/2020	02/21/2020 09:15	Sima Feizi	02/24/2020 17:44	Jhamieka S. Greenwood	2158850
EPA 353.2 Rev. 2.0	02/19/2020			02/20/2020 12:50	Lauren Lees	2158844
	02/19/2020			02/20/2020 12:57	Lauren Lees	2158847
	02/19/2020			02/20/2020 12:58	Lauren Lees	2158850
EPA 365.1 Rev. 2.0	02/19/2020	02/27/2020 13:38	Yen Ta	02/28/2020 10:55	Lipi Saha	2158844
	02/19/2020	02/27/2020 13:38	Yen Ta	02/28/2020 10:56	Lipi Saha	2158847
	02/19/2020	02/27/2020 13:38	Yen Ta	02/28/2020 10:57	Lipi Saha	2158850
EPA 365.1 Rev. 2.0 dissolved	02/19/2020			02/19/2020 18:42	Carlos Miranda	2158845
	02/19/2020			02/19/2020 18:43	Carlos Miranda	2158848
	02/19/2020			02/19/2020 18:44	Carlos Miranda	2158851
EPA 8321B	02/19/2020	02/19/2020 16:00	Rebecca Ware	02/20/2020 12:28	Rebecca Ware	2158863
	02/19/2020	02/19/2020 16:00	Rebecca Ware	02/20/2020 23:27	Rebecca Ware	2158863
	02/19/2020	02/19/2020 16:00	Rebecca Ware	02/27/2020 00:54	Rebecca Ware	2158863
	02/19/2020	02/20/2020 10:00	Hoor Shaik	03/04/2020 10:03	Juyoung Kim	2158863
SM 2320 B-2011	02/19/2020			02/23/2020 01:05	Dale L. Simmons	2158843
	02/19/2020			02/26/2020 00:57	Dale L. Simmons	2158846
	02/19/2020			02/26/2020 01:09	Dale L. Simmons	2158849
SM 2540 D-2011	02/19/2020			02/21/2020 15:21	Yijie Li	2158843, 2158846, 2158849
SM 4500 F-C-2011	02/19/2020			02/22/2020 23:27	Dale L. Simmons	2158843
	02/19/2020			02/25/2020 22:53	Dale L. Simmons	2158846
	02/19/2020			02/25/2020 22:57	Dale L. Simmons	2158849
SM 5310 B-2011	02/19/2020			02/25/2020 06:58	Madeline Funaro	2158844
	02/19/2020			02/25/2020 07:14	Madeline Funaro	2158847

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	02/19/2020			02/25/2020 07:40	Madeline Funaro	2158850