

Chemical Analysis Report

SW-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: **Tadpole, Bellows, McKay Drain, Sims**

Request ID: **RQ-2020-02-17-28**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

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Date Certified: 12-MAR-2020 10:54



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: 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: Sims Branch @ Port Redwing

Collection Date/Time: 02/18/2020 10:30

Field ID: G1SW0056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159014	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P379325	
	EPA 300.0 Rev. 2.1	Bromide	42		mg Br/L	P379450	
	SM 2320 B-2011	Total Alkalinity	149	A	mg CaCO3/L	P379740	
	SM 2540 D-2011	TSS	4	I	mg/L	P379605	
	SM 4500 F-C-2011	Fluoride	0.95		mg F/L	P379746	
2159016	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P379458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P379312	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P379271	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P379841	
	SM 5310 B-2011	Organic Carbon	4.4		mg C/L	P379591	
2159018	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.080		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: Tadpole Creek @ Caraway Spice Ave

Collection Date/Time: 02/18/2020 10:00

Field ID: G1SW0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159008	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P379329	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P379720	
		Sulfate	37		mg SO4/L	P379723	
	SM 2120 B-2011	Color (true)	100		PCU	P379230	
	SM 2320 B-2011	Total Alkalinity	57		mg CaCO3/L	P379786	
	SM 2540 C-2011	TDS	212		mg/L	P379824	
	SM 2540 D-2011	TSS	3	I	mg/L	P379604	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P379747	
2159009	EPA 350.1 Rev. 2.0	Ammonia-N	0.53		mg N/L	P379565	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P379482	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.65		mg N/L	P379855	
	EPA 365.1 Rev. 2.0	Total-P	0.074		mg P/L	P379842	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P379432	
2159010	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.043		mg P/L	P379214	
2159060	EPA 8321B	2,4-D	0.041		ug/L	P379284	
		Acesulfame K**	0.10	U	ug/L	P379179	
		AMPA**	0.26	I	ug/L	P379179	
		Sucralose**	0.26		ug/L	P379179	
		Acetaminophen**	0.0080	U	ug/L	P379284	
		Acetamiprid**	0.0020	U	ug/L	P379284	
		Endothall**	0.25	U	ug/L	P379179	
		Glufosinate**	0.10	U	ug/L	P379179	MS
		Glyphosate**	1.3		ug/L	P379179	MS
		Afidopyropen**	0.0020	UJ	ug/L	P379284	
		Bentazon	0.44		ug/L	P379284	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P379284	
		Carbamazepine**	8.0E-04	U	ug/L	P379284	
		Clothianidin**	0.0042	I	ug/L	P379284	
		Dinotefuran**	0.0048	I	ug/L	P379284	
		Diuron	0.048		ug/L	P379284	
		Fenuron	0.016	U	ug/L	P379284	
		Fluridone**	0.17		ug/L	P379284	
		Imazapyr**	0.61		ug/L	P379284	
		Hydrocodone**	0.0020	U	ug/L	P379284	
		Ibuprofen**	0.020	U	ug/L	P379284	
		Imidacloprid	0.059		ug/L	P379284	MS
		Linuron	0.0040	U	ug/L	P379284	
		Mandestrobin**	0.0020	UJ	ug/L	P379284	
		MCP	0.0087		ug/L	P379284	
		Naproxen**	0.0080	U	ug/L	P379284	
		Primidone**	0.0040	U	ug/L	P379284	
		Pyraclostrobin**	0.0020	U	ug/L	P379284	
		Thiamethoxam**	0.0020	U	ug/L	P379284	

Field ID: G1SW0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159060	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P379284	
		Triclopyr**	0.0040	U	ug/L	P379284	

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.

Sample Location: Biggest Flowing Ditch @ 45th

Collection Date/Time: 02/18/2020 09:20

Field ID: G1SW0093

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159015	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P379325	
	EPA 300.0 Rev. 2.1	Bromide	0.36		mg Br/L	P379901	
	SM 2320 B-2011	Total Alkalinity	332		mg CaCO3/L	P379786	
	SM 2540 D-2011	TSS	4	I	mg/L	P379604	
	SM 4500 F-C-2011	Fluoride	0.26		mg F/L	P379747	
2159017	EPA 350.1 Rev. 2.0	Ammonia-N	1.4		mg N/L	P379577	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.4		mg N/L	P379482	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.47		mg N/L	P380026	
	EPA 365.1 Rev. 2.0	Total-P	0.43		mg P/L	P379842	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P379432	
2159019	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.27		mg P/L	P379214	

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: Bellows Lake Outlet @ Canny Bryan Rd

Collection Date/Time: 02/18/2020 08:50

Field ID: G1SW0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2159011	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P379329	
	EPA 300.0 Rev. 2.1	Chloride	46		mg Cl/L	P379720	
		Sulfate	30		mg SO4/L	P379723	
		Color (true)	35		PCU	P379230	
	SM 2320 B-2011	Total Alkalinity	131		mg CaCO3/L	P379786	
	SM 2540 C-2011	TDS	275		mg/L	P379824	
	SM 2540 D-2011	TSS	5	IA	mg/L	P379604	
	SM 4500 F-C-2011	Fluoride	0.22		mg F/L	P379747	
2159012	EPA 350.1 Rev. 2.0	Ammonia-N	0.61		mg N/L	P379565	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P379482	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.32		mg N/L	P379610	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P379842	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P379432	
2159013	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.064		mg P/L	P379214	

Ref. Method and Comment:

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

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 180.1 Rev. 2.0
Batch ID: P379329

Component	Result	Code	Units
Turbidity	0.10	U	NTU

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 300.0 Rev. 2.1
Batch ID: P379720

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379723

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379901

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 350.1 Rev. 2.0
Batch ID: P379565

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379577

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379312

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379482

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

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 353.2 Rev. 2.0
Batch ID: P379610

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379855

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380026

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379841

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379842

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379214

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

Quality Assurance Report Method Blank Results

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: P379284

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

Reference Method: SM 2120 B-2011
Batch ID: P379230

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

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

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

Reference Method: SM 2320 B-2011
Batch ID: P379786

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

Reference Method: SM 2540 C-2011
Batch ID: P379824

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P379604

Component	Result	Code	Units
TSS	2	U	mg/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: P379746

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P379747

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P379432

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/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 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 300.0 Rev. 2.1
Batch ID: P379720

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379723

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	99.5		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 350.1 Rev. 2.0
Batch ID: P379565

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379312

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379482

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

Quality Assurance Report Laboratory Control Sample Accuracy

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379610

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379855

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380026

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: P379841

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379842

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379214

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	105		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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	93.1		P	40 - 140
Sucralose	113		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379284

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	134		P	30 - 160
Acetaminophen	94.3		P	30 - 160
Acetamiprid	91.3		P	30 - 160
Afidopyropen	96.5		P	30 - 160
Bentazon	89.5		P	30 - 160
Benzovindiflupyr	85.5		P	30 - 160
Carbamazepine	96.6		P	30 - 160
Clothianidin	106		P	30 - 160
Dinotefuran	107		P	30 - 160
Diuron	96.5		P	30 - 160
Fenuron	104		P	30 - 160
Fluridone	101		P	30 - 160
Hydrocodone	105		P	30 - 160
Ibuprofen	87.0		P	30 - 160
Imazapyr	72.8		P	30 - 160
Imidacloprid	120		P	30 - 160
Linuron	84.6		P	30 - 160
Mandestrobin	91.0		P	30 - 160
MCPP	145		P	30 - 160
Naproxen	112		P	30 - 160
Primidone	104		P	30 - 160
Pyraclostrobin	78.1		P	30 - 160
Thiamethoxam	93.8		P	30 - 160
Tolfenpyrad	70.0		P	30 - 160
Triclopyr	131		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P379230

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	85 - 115

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 2320 B-2011
Batch ID: P379786

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

Quality Assurance Report

Laboratory Control Sample Accuracy

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 4500 F-C-2011
Batch ID: P379747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P379432

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.9		P	85 - 115

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 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 300.0 Rev. 2.1
Batch ID: P379720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158962	Chloride	102		P	90 - 110
2159108	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158962	Sulfate	101		P	90 - 110
2159108	Sulfate	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159015	Bromide	96.4	93.7	P/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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158964	Ammonia-N	98.2	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159026	Ammonia-N	99.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158896	Kjeldahl Nitrogen	99.4	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158998	Kjeldahl Nitrogen	103	98.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

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 353.2 Rev. 2.0
Batch ID: P379610

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158734	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158943	NO2NO3-N	98.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160698	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379841

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158899	Total-P	98.2	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379842

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158998	Total-P	107	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379214

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158922	O-Phosphate-P	93.8	96.4	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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P379179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158377	Glyphosate	183	213	F/F	40 - 140
2158377	Sucralose	108	101	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158935	2,4-D	132	135	P/P	30 - 160
2158935	Acetaminophen	104	101	P/P	30 - 160
2158935	Acetamiprid	98.3	82.8	P/P	30 - 160
2158935	Afidopyropen	110	101	P/P	30 - 160
2158935	Bentazon	76.2	81.1	P/P	30 - 160
2158935	Benzovindiflupyr	83.9	82.0	P/P	30 - 160
2158935	Carbamazepine	85.7	91.8	P/P	30 - 160
2158935	Clothianidin	112	104	P/P	30 - 160
2158935	Dinotefuran	130	126	P/P	30 - 160
2158935	Diuron	83.6	83.9	P/P	30 - 160
2158935	Fenuron	89.5	81.7	P/P	30 - 160
2158935	Fluridone	104	107	P/P	30 - 160
2158935	Hydrocodone	120	102	P/P	30 - 160
2158935	Ibuprofen	87.9	78.7	P/P	30 - 160
2158935	Imazapyr	102	104	P/P	30 - 160
2158935	Imidacloprid	157	169	P/F	30 - 160
2158935	Linuron	81.1	81.5	P/P	30 - 160
2158935	Mandestrobin	87.4	90.5	P/P	30 - 160
2158935	MCP	149	154	P/P	30 - 160
2158935	Naproxen	139	129	P/P	30 - 160
2158935	Primidone	97.0	103	P/P	30 - 160
2158935	Pyraclostrobin	62.9	66.0	P/P	30 - 160
2158935	Thiamethoxam	142	138	P/P	30 - 160
2158935	Tolfenpyrad	60.3	59.5	P/P	30 - 160
2158935	Triclopyr	122	125	P/P	30 - 160

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 4500 F-C-2011
Batch ID: P379747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158939	Fluoride	97.9	99.2	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P379432

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158942	Organic Carbon	104	105	P/P	85 - 115

Quality Assurance Report

Matrix Spike Accuracy

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 180.1 Rev. 2.0
Batch ID: P379329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158963	Turbidity	4.44	Sample	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 300.0 Rev. 2.1
Batch ID: P379720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159108	Chloride	0.975	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159108	Sulfate	0.847	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159015	Bromide	1.61	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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158964	Ammonia-N	1.92	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159026	Ammonia-N	1.52	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158896	Kjeldahl Nitrogen	2.42	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158998	Kjeldahl Nitrogen	3.63	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 353.2 Rev. 2.0
Batch ID: P379610

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158734	NO2NO3-N	0.487	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158943	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160698	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158899	Total-P	0.667	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P379842

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158998	Total-P	1.89	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P379214

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158922	O-Phosphate-P	2.26	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: P379284

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158935	2,4-D	1.90	Spike	P	0 - 30
2158935	Acetaminophen	2.79	Spike	P	0 - 30
2158935	Acetamiprid	17.1	Spike	P	0 - 30
2158935	Afidopyropen	8.35	Spike	P	0 - 30
2158935	Bentazon	6.16	Spike	P	0 - 30
2158935	Benzovindiflupyr	2.35	Spike	P	0 - 30
2158935	Carbamazepine	6.89	Spike	P	0 - 30
2158935	Clothianidin	7.99	Spike	P	0 - 30
2158935	Dinotefuran	3.00	Spike	P	0 - 30
2158935	Diuron	0.361	Spike	P	0 - 30
2158935	Fenuron	9.15	Spike	P	0 - 30
2158935	Fluridone	2.45	Spike	P	0 - 30
2158935	Hydrocodone	15.9	Spike	P	0 - 30
2158935	Ibuprofen	11.1	Spike	P	0 - 30
2158935	Imazapyr	1.43	Spike	P	0 - 30
2158935	Imidacloprid	7.13	Spike	P	0 - 30
2158935	Linuron	0.524	Spike	P	0 - 30
2158935	Mandestrobin	3.58	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P379284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158935	MCP	3.37	Spike	P	0 - 30
2158935	Naproxen	7.89	Spike	P	0 - 30
2158935	Primidone	6.05	Spike	P	0 - 30
2158935	Pyraclostrobin	4.86	Spike	P	0 - 30
2158935	Thiamethoxam	2.47	Spike	P	0 - 30
2158935	Tolfenpyrad	1.45	Spike	P	0 - 30
2158935	Triclopyr	2.62	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P379230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158961	Color (true)	3.20	Sample	P	0 - 20

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 2320 B-2011
Batch ID: P379786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158939	Total Alkalinity	0.243	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P379824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158798	TDS	0.0	Sample	P	0 - 10

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 4500 F-C-2011
Batch ID: P379747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158939	Fluoride	0.979	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P379432

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158942	Organic Carbon	0.480	Spike	P	0 - 20

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

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

Quality Assurance Report Surrogates

Lab Sample ID: 2159060
Field Sample ID: G1SW0112

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	139	P	30 - 160
EPA 8321B	Acetaminophen-d4	99.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.2	P	30 - 160
EPA 8321B	Diuron-d6	92.9	P	30 - 160
EPA 8321B	Endothall-d6	99.0	P	30 - 160
EPA 8321B	Endothall-d6	99.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	124	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	124	P	30 - 160
EPA 8321B	Ibuprofen-d3	86.6	P	30 - 160
EPA 8321B	Primidone-d5	121	P	30 - 160
EPA 8321B	Sucralose-d6	99.7	P	30 - 160
EPA 8321B	Sucralose-d6	99.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97656

Included Lab Sample IDs: 2159010, 2159013, 2159018, 2159019

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.3	96.7	P/P	90 - 110
O-Phosphate-P	96.4	95.6	P/P	90 - 110
O-Phosphate-P	96.7	94.4	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A97663

Included Lab Sample IDs: 2159008, 2159011

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.5	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97683

Included Lab Sample IDs: 2159016

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: 2159008, 2159011, 2159014, 2159015

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

Reference Method: SM 5310 B-2011

Run ID: A97742

Included Lab Sample IDs: 2159009, 2159012, 2159017

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.1	99.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97750

Included Lab Sample IDs: 2159014

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97754

Included Lab Sample IDs: 2159016

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97771

Included Lab Sample IDs: 2159008, 2159011

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97771

Included Lab Sample IDs: 2159008, 2159011

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.5	P/P	90 - 110
Sulfate	100	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97783

Included Lab Sample IDs: 2159012

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97785

Included Lab Sample IDs: 2159016

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.7	95.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97793

Included Lab Sample IDs: 2159009, 2159012

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97797

Included Lab Sample IDs: 2159017

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97798

Included Lab Sample IDs: 2159009, 2159012, 2159017

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.0	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A97799

Included Lab Sample IDs: 2159016

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

Reference Method: EPA 8321B

Run ID: A97817

Included Lab Sample IDs: 2159060

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A97817
Included Lab Sample IDs: 2159060

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

Reference Method: EPA 8321B
Run ID: A97819
Included Lab Sample IDs: 2159060

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: 2159014

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: 2159008, 2159011, 2159014, 2159015

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A97848
Included Lab Sample IDs: 2159009

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

Reference Method: SM 2320 B-2011
Run ID: A97872
Included Lab Sample IDs: 2159008, 2159011, 2159015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.1	103	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A97908
Included Lab Sample IDs: 2159060

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97913

Included Lab Sample IDs: 2159016

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.4	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97923

Included Lab Sample IDs: 2159015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	103	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97954

Included Lab Sample IDs: 2159009, 2159012, 2159017

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.9	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97974

Included Lab Sample IDs: 2159017

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

Reference Method: EPA 8321B

Run ID: A98066

Included Lab Sample IDs: 2159060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	88.6	P/P	50 - 150
Acetaminophen	149	73.4	P/P	60 - 160
Acetamiprid	120	105	P/P	50 - 150
Afidopyropen	102	89.3	P/P	50 - 150
Benzovindiflupyr	103	90.3	P/P	50 - 150
Carbamazepine	106	90.6	P/P	60 - 150
Clothianidin	125	108	P/P	60 - 150
Dinotefuran	142	113	P/P	50 - 150
Diuron	134	102	P/P	60 - 150
Fenuron	125	115	P/P	60 - 150
Fluridone	104	97.2	P/P	60 - 160
Hydrocodone	144	111	P/P	60 - 150
Ibuprofen	90.4	110	P/P	50 - 160
Imazapyr	76.1	103	P/P	50 - 150
Imidacloprid	139	108	P/P	60 - 150
Linuron	138	110	P/P	60 - 150
Mandestrobin	112	110	P/P	50 - 150
MCPP	82.0	83.7	P/P	50 - 150
Naproxen	104	87.4	P/P	50 - 160
Primidone	125	101	P/P	60 - 150
Pyraclostrobin	98.9	93.1	P/P	60 - 150
Thiamethoxam	148	104	P/P	50 - 150
Tolfenpyrad	119	100	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A98066
Included Lab Sample IDs: 2159060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	83.9	90.7	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A98067
Included Lab Sample IDs: 2159060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	85.1	70.8	P/P	50 - 160

* 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			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					6.30	
	Turbidity					4.44	
EPA 300.0 Rev. 2.1	Bromide	102	99.3	99.0	97.4		0.270
	Bromide	99.5	96.4	93.7			1.61
	Chloride	101	105	102		0.975	
	Sulfate	102	103	101		0.847	
EPA 350.1 Rev. 2.0	Ammonia-N	93.7	97.7	96.5			1.13
	Ammonia-N	101	98.2	100			1.92
	Ammonia-N	97.0	99.2	101			1.52
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.5	102	99.4			2.42
	Kjeldahl Nitrogen	104	103	98.9			3.63
EPA 353.2 Rev. 2.0	NO2NO3-N	100	98.8	101			2.41
	NO2NO3-N	102	102	103			0.487
	NO2NO3-N	102	98.0	98.0			0.0
	NO2NO3-N	100	100	100			0.499
EPA 365.1 Rev. 2.0	Total-P	103	98.2	98.8			0.667
	Total-P	105	107	105			1.89
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	105	93.8	96.4			2.26
	O-Phosphate-P	101	93.2	90.5			2.35
EPA 8321B	2,4-D	134	132	135			1.90
	Acesulfame K	95.5	79.3	75.2			4.80
	Acetaminophen	94.3	104	101			2.79
	Acetamiprid	91.3	98.3	82.8			17.1
	Afidopyropen	96.5	110	101			8.35
	AMPA	98.1	83.7	77.7			7.50
	Bentazon	89.5	76.2	81.1			6.16
	Benzovindiflupyr	85.5	83.9	82.0			2.35
	Carbamazepine	96.6	85.7	91.8			6.89
	Clothianidin	106	112	104			7.99
	Dinotefuran	107	130	126			3.00
	Diuron	96.5	83.6	83.9			0.361
	Endothall	86.8	106	97.5			8.73
	Fenuron	104	89.5	81.7			9.15
	Fluridone	101	104	107			2.45
	Glufosinate	95.0	195	246			23.2
	Glyphosate	93.1	183	213			15.1
	Hydrocodone	105	120	102			15.9
	Ibuprofen	87.0	87.9	78.7			11.1
	Imazapyr	72.8	102	104			1.43
	Imidacloprid	120	157	169			7.13
	Linuron	84.6	81.1	81.5			0.524
	Mandestrobin	91.0	87.4	90.5			3.58
	MCPP	145	149	154			3.37
	Naproxen	112	139	129			7.89
	Primidone	104	97.0	103			6.05
	Pyraclostrobin	78.1	62.9	66.0			4.86
	Sucralose	113	108	101			5.72
	Thiamethoxam	93.8	142	138			2.47
	Tolfenpyrad	70.0	60.3	59.5			1.45
	Triclopyr	131	122	125			2.62
SM 2120 B-2011	Color (true)	98.3				3.20	
SM 2320 B-2011	Total Alkalinity	106				0.516	
	Total Alkalinity	101				0.243	
SM 2540 C-2011	TDS					0.0	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-2011	Fluoride	97.1	97.3	98.9		0.979
	Fluoride	98.1	97.9	99.2		0.979
SM 5310 B-2011	Organic Carbon	97.9	104	105		0.480
	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	2159008, 2159011, 2159014, 2159015
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2159014, 2159015
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2159008, 2159011
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2159008, 2159011
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2159009, 2159012, 2159016, 2159017
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2159009, 2159012, 2159016, 2159017
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2159009, 2159012, 2159016, 2159017
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2159009, 2159012, 2159016, 2159017
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2159010, 2159013, 2159018, 2159019
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2159060
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2159060
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2159008, 2159011
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2159008, 2159011, 2159014, 2159015
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2159008, 2159011
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2159008, 2159011, 2159014, 2159015
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2159008, 2159011, 2159014, 2159015
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2159009, 2159012, 2159016, 2159017

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	2159008, 2159011, 2159014, 2159015
EPA 300.0 Rev. 2.1	02/19/2020			02/22/2020 19:27	Lipi Saha	2159014
	02/19/2020			02/27/2020 03:27	Elliott Rodriguez	2159008
	02/19/2020			02/27/2020 03:39	Elliott Rodriguez	2159011
	02/19/2020			03/02/2020 17:10	Elliott Rodriguez	2159015
EPA 350.1 Rev. 2.0	02/19/2020			02/21/2020 10:56	Ping Hua	2159016
	02/19/2020			02/24/2020 15:07	Ping Hua	2159009
	02/19/2020			02/24/2020 15:09	Ping Hua	2159012
	02/19/2020			02/25/2020 15:03	Ping Hua	2159017
EPA 351.2 Rev. 2.0	02/19/2020	02/21/2020 09:15	Sima Feizi	02/24/2020 19:17	Jhamieka S. Greenwood	2159016
	02/19/2020	02/24/2020 14:25	Elliott Rodriguez	02/25/2020 12:56	Jhamieka S. Greenwood	2159009
	02/19/2020	02/24/2020 14:25	Elliott Rodriguez	02/25/2020 12:57	Jhamieka S. Greenwood	2159012
	02/19/2020	02/24/2020 14:25	Elliott Rodriguez	02/25/2020 12:59	Jhamieka S. Greenwood	2159017
EPA 353.2 Rev. 2.0	02/19/2020			02/20/2020 13:05	Lauren Lees	2159016
	02/19/2020			02/25/2020 09:40	Beverly Y. Sanders	2159012
	02/19/2020			02/27/2020 11:41	Beverly Y. Sanders	2159009
	02/19/2020			03/03/2020 13:35	Beverly Y. Sanders	2159017
EPA 365.1 Rev. 2.0	02/19/2020	02/28/2020 14:20	Yen Ta	03/02/2020 12:09	Lipi Saha	2159016
	02/19/2020	02/28/2020 14:20	Yen Ta	03/02/2020 16:53	Lipi Saha	2159009
	02/19/2020	02/28/2020 14:20	Yen Ta	03/02/2020 16:54	Lipi Saha	2159012
	02/19/2020	02/28/2020 14:20	Yen Ta	03/02/2020 16:55	Lipi Saha	2159017
EPA 365.1 Rev. 2.0 dissolved	02/19/2020			02/19/2020 18:10	Carlos Miranda	2159010
	02/19/2020			02/19/2020 18:11	Carlos Miranda	2159013
	02/19/2020			02/19/2020 18:16	Carlos Miranda	2159019
	02/19/2020			02/19/2020 18:45	Carlos Miranda	2159018
EPA 8321B	02/19/2020	02/19/2020 16:00	Rebecca Ware	02/20/2020 13:10	Rebecca Ware	2159060
	02/19/2020	02/19/2020 16:00	Rebecca Ware	02/20/2020 23:59	Rebecca Ware	2159060
	02/19/2020	02/19/2020 16:00	Rebecca Ware	02/27/2020 01:29	Rebecca Ware	2159060
	02/19/2020	02/23/2020 09:00	Hoor Shaik	03/06/2020 09:31	Juyoung Kim	2159060
	02/19/2020	02/23/2020 09:00	Hoor Shaik	03/07/2020 05:41	Juyoung Kim	2159060
SM 2120 B-2011	02/19/2020			02/19/2020 17:25	Madeline Funaro	2159008, 2159011
SM 2320 B-2011	02/19/2020			02/25/2020 23:31	Dale L. Simmons	2159014
	02/19/2020			02/27/2020 15:36	Dale L. Simmons	2159008
	02/19/2020			02/27/2020 15:47	Dale L. Simmons	2159011
	02/19/2020			02/27/2020 16:00	Dale L. Simmons	2159015
SM 2540 C-2011	02/19/2020			02/21/2020 15:21	Yijie Li	2159008, 2159011
SM 2540 D-2011	02/19/2020			02/21/2020 15:21	Yijie Li	2159008, 2159011, 2159014, 2159015
SM 4500 F-C-2011	02/19/2020			02/25/2020 23:01	Dale L. Simmons	2159014
	02/19/2020			02/26/2020 05:06	Dale L. Simmons	2159011
	02/19/2020			02/26/2020 05:18	Dale L. Simmons	2159008

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-2011	02/19/2020			02/26/2020 06:03	Dale L. Simmons	2159015
SM 5310 B-2011	02/19/2020			02/22/2020 01:44	Madeline Funaro	2159009
	02/19/2020			02/22/2020 01:56	Madeline Funaro	2159012
	02/19/2020			02/22/2020 02:11	Madeline Funaro	2159017
	02/19/2020			02/25/2020 08:18	Madeline Funaro	2159016