

Chemical Analysis Report

SW-DIST-2020-07-29-01

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

Event Description: **Tadpole, Bellows, McKay, Sims**

Request ID: **RQ-2020-06-22-07**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

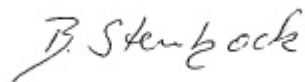
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Judy Ashton

For additional information please contact

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 19-AUG-2020 17:32



NON-CONFORMANCE REPORT INCLUDED

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: Bellows Lake Outlet @ Canny Bryan Rd

Collection Date/Time: 07/28/2020 10:00

Field ID: G1SW0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2186831	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P385365	
	EPA 300.0 Rev. 2.1	Chloride	8.2		mg Cl/L	P385626	
		Sulfate	5.0		mg SO4/L	P385630	
	SM 2120 B-2011	Color (true)	42		PCU	P385355	
	SM 2320 B-2011	Total Alkalinity	72		mg CaCO3/L	P385441	
	SM 2540 C-2011	TDS	118		mg/L	P385782	
	SM 2540 D-2011	TSS	19		mg/L	P385784	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P385444	
2186832	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P385478	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.4		mg N/L	P385417	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.044		mg N/L	P385369	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P385506	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P385450	
2186833	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P385326	

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: 07/28/2020 11:15

Field ID: G1SW0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2186828	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P385365	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P385626	
		Sulfate	24		mg SO4/L	P385630	
	SM 2120 B-2011	Color (true)	75		PCU	P385355	
	SM 2320 B-2011	Total Alkalinity	65	A	mg CaCO3/L	P385441	
	SM 2540 C-2011	TDS	175		mg/L	P385782	
	SM 2540 D-2011	TSS	14		mg/L	P385784	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P385444	
2186829	EPA 350.1 Rev. 2.0	Ammonia-N	0.16	Y	mg N/L	P385478	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2	Y	mg N/L	P385417	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12	Y	mg N/L	P385369	
	EPA 365.1 Rev. 2.0	Total-P	0.097	Y	mg P/L	P385506	
	SM 5310 B-2011	Organic Carbon	16	Y	mg C/L	P385450	
2186830	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P385326	
2186843	EPA 8321B	2,4-D	0.54		ug/L	P385308	
		Acesulfame K**	0.10	U	ug/L	P385298	
		AMPA**	0.61		ug/L	P385298	
		Sucralose**	0.063		ug/L	P385298	
		Acetaminophen**	0.0080	U	ug/L	P385308	
		Acetamiprid**	0.0020	U	ug/L	P385308	
		Endothall**	0.25	U	ug/L	P385298	
		Glufosinate**	0.10	U	ug/L	P385298	
		Glyphosate**	1.5		ug/L	P385298	
		Afidopyropen**	0.0020	U	ug/L	P385308	
		Bentazon	0.056		ug/L	P385308	
		Benzovindiflupyr**	0.0020	U	ug/L	P385308	
		Carbamazepine**	8.0E-04	U	ug/L	P385308	
		Clothianidin**	0.0032	I	ug/L	P385308	
		Dinotefuran**	0.0020	U	ug/L	P385308	
		Diuron	0.014		ug/L	P385308	
		Fenuron	0.016	U	ug/L	P385308	
		Fluridone**	0.15		ug/L	P385308	
		Imazapyr**	0.15		ug/L	P385308	
		Hydrocodone**	0.0020	U	ug/L	P385308	
		Ibuprofen**	0.020	U	ug/L	P385308	
		Imidacloprid	0.034		ug/L	P385308	
		Linuron	0.0040	U	ug/L	P385308	
		Mandestrobin**	0.0020	U	ug/L	P385308	
		MCP	0.0054	I	ug/L	P385308	
		Naproxen**	0.0080	U	ug/L	P385308	
		Primidone**	0.0040	U	ug/L	P385308	
		Pyraclostrobin**	0.0020	U	ug/L	P385308	
		Thiamethoxam**	0.0020	U	ug/L	P385308	

Field ID: G1SW0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2186843	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P385308	
		Triclopyr**	0.0040	U	ug/L	P385308	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-2011: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 8321B: MS accuracy for 2,4-D and bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Sims Branch @ Port Redwing

Collection Date/Time: 07/28/2020 10:35

Field ID: G1SW0056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2186834	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P385365	
	EPA 300.0 Rev. 2.1	Bromide	41		mg Br/L	P386077	
	SM 2320 B-2011	Total Alkalinity	134		mg CaCO3/L	P385443	
	SM 2540 D-2011	TSS	3	UA	mg/L	P385787	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P385446	
2186835	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P385475	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P385376	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P385430	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P385507	
	SM 5310 B-2011	Organic Carbon	4.9		mg C/L	P385451	
2186836	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P385339	
2186844	EPA 8321B	2,4-D	0.0024	I	ug/L	P385308	
		Acesulfame K**	0.10	UJ	ug/L	P385298	SUR
		AMPA**	1.0	U	ug/L	P385298	
		Sucralose**	2.1	J	ug/L	P385298	SUR
		Acetaminophen**	0.0080	U	ug/L	P385308	
		Acetamiprid**	0.0020	U	ug/L	P385308	
		Endothall**	0.25	UJ	ug/L	P385298	SUR
		Glufosinate**	1.0	U	ug/L	P385298	
		Glyphosate**	1.0	U	ug/L	P385298	
		Afidopyropen**	0.0020	U	ug/L	P385308	
		Bentazon	0.0066		ug/L	P385308	
		Benzovindiflupyr**	0.0020	U	ug/L	P385308	
		Carbamazepine**	0.019		ug/L	P385308	
		Clothianidin**	0.0020	U	ug/L	P385308	
		Dinotefuran**	0.0061	I	ug/L	P385308	
		Diuron	0.0079	I	ug/L	P385308	
		Fenuron	0.016	U	ug/L	P385308	
		Fluridone**	0.0022	I	ug/L	P385308	
		Imazapyr**	0.0072	I	ug/L	P385308	
		Hydrocodone**	0.0075	I	ug/L	P385308	
		Ibuprofen**	0.020	U	ug/L	P385308	
		Imidacloprid	0.019		ug/L	P385308	
		Linuron	0.0040	U	ug/L	P385308	
		Mandestrobin**	0.0020	U	ug/L	P385308	
		MCP	0.0020	U	ug/L	P385308	
		Naproxen**	0.0080	U	ug/L	P385308	
		Primidone**	0.10		ug/L	P385308	
		Pyraclostrobin**	0.0020	U	ug/L	P385308	
		Thiamethoxam**	0.0020	U	ug/L	P385308	
		Tolfenpyrad**	0.0020	U	ug/L	P385308	
		Triclopyr**	0.0040	U	ug/L	P385308	

Field ID: G1SW0056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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 2,4-D and bentazon could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8321B: Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference. Refer to the Lab Analysis Report for an explanation of QC Codes.

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

Non-Conformance Report

NCR ID: 8363

Event(s)

SW-DIST-2020-07-29-01

Job(s)

TLH-2020-07-29-10

Sample(s)

2186829

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample preserved in the laboratory.
H2SO4 Lot# SA9354050 | Expiration Date: 12/20/2020
Data will be qualified as appropriate.
Supervisor contacted via email.
Customer contacted via email.

Authorized by/Date: Joshua Ayres 8/3/2020

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P385365

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385626

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385630

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386077

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385475

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385478

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385376

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385417

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385369

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385430

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385506

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385507

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385326

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385339

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

Reference Method: EPA 8321B
Batch ID: P385298

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: P385308

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: P385308

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: P385355

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P385441

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

Reference Method: SM 2320 B-2011
Batch ID: P385443

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

Reference Method: SM 2540 C-2011
Batch ID: P385782

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385784

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385787

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P385444

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P385446

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P385450

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P385451

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: P385626

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385630

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386077

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385475

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385478

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385376

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	100		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	100		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385506

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385507

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385326

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385339

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

Reference Method: EPA 8321B
Batch ID: P385298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	115		P	40 - 150
AMPA	82.0		P	40 - 150
Endothall	97.0		P	40 - 150
Glufosinate	92.9		P	40 - 150
Glyphosate	89.5		P	40 - 140
Sucralose	89.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P385308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	93.9		P	30 - 160
Acetaminophen	87.5		P	30 - 160
Acetamiprid	80.1		P	30 - 160
Afidopyropen	68.4		P	30 - 160
Bentazon	68.9		P	30 - 160
Benzovindiflupyr	59.6		P	30 - 160
Carbamazepine	73.9		P	30 - 160
Clothianidin	91.5		P	30 - 160
Dinotefuran	93.3		P	30 - 160
Diuron	67.5		P	30 - 160
Fenuron	92.9		P	30 - 160
Fluridone	97.5		P	30 - 160
Hydrocodone	83.9		P	30 - 160
Ibuprofen	79.0		P	30 - 160
Imazapyr	58.2		P	30 - 160
Imidacloprid	113		P	30 - 160
Linuron	69.3		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P385308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mandestrobin	78.5		P	30 - 160
MCP	112		P	30 - 160
Naproxen	62.6		P	30 - 160
Primidone	92.3		P	30 - 160
Pyraclostrobin	56.9		P	30 - 160
Thiamethoxam	91.1		P	30 - 160
Tolfenpyrad	30.9		P	30 - 160
Triclopyr	70.2		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P385355

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P385441

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.6		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P385443

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.7		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P385444

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P385446

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P385450

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P385451

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186495	Chloride	103		P	90 - 110
2186871	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385630

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186495	Sulfate	103		P	90 - 110
2186871	Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386077

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186894	Bromide	97.3	95.2	P/P	90 - 110
2186914	Bromide	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385475

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186574	Ammonia-N	100	99.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186719	Ammonia-N	98.4	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186960	Kjeldahl Nitrogen	96.9	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186809	Kjeldahl Nitrogen	113	102	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186809	NO2NO3-N	97.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186569	NO2NO3-N	101	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186502	Total-P	107	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186568	Total-P	95.6	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186720	O-Phosphate-P	100	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186836	O-Phosphate-P	99.3	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P385298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186301	Acesulfame K	105	108	P/P	40 - 150
2186301	AMPA	49.0	60.6	P/P	40 - 150
2186301	Endothall	118	121	P/P	40 - 150
2186301	Glufosinate	93.5	106	P/P	40 - 150
2186301	Glyphosate	77.8	77.8	P/P	40 - 140
2186301	Sucralose	93.7	98.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P385308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186499	Acetaminophen	81.0	81.0	P/P	30 - 160
2186499	Acetamiprid	72.3	72.1	P/P	30 - 160
2186499	Afidopyropen	68.1	62.0	P/P	30 - 160
2186499	Benzovindiflupyr	54.4	51.4	P/P	30 - 160
2186499	Carbamazepine	60.4	59.5	P/P	30 - 160
2186499	Clothianidin	78.8	81.8	P/P	30 - 160
2186499	Dinotefuran	86.9	88.0	P/P	30 - 160
2186499	Diuron	50.1	50.6	P/P	30 - 160
2186499	Fenuron	74.3	72.3	P/P	30 - 160
2186499	Fluridone	92.2	91.9	P/P	30 - 160
2186499	Hydrocodone	71.4	67.6	P/P	30 - 160
2186499	Ibuprofen	60.6	64.1	P/P	30 - 160
2186499	Imazapyr	61.8	50.6	P/P	30 - 160
2186499	Imidacloprid	131	135	P/P	30 - 160
2186499	Linuron	55.8	58.1	P/P	30 - 160
2186499	Mandestrobin	71.8	68.2	P/P	30 - 160
2186499	MCP	101	97.8	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P385308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186499	Naproxen	48.7	48.5	P/P	30 - 160
2186499	Primidone	79.4	93.2	P/P	30 - 160
2186499	Pyraclostrobin	52.9	54.0	P/P	30 - 160
2186499	Thiamethoxam	90.0	78.2	P/P	30 - 160
2186499	Tolfenpyrad	36.3	39.4	P/P	30 - 160
2186499	Triclopyr	60.6	71.5	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P385444

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186828	Fluoride	100	101	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P385446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186967	Fluoride	103	103	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P385450

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186874	Organic Carbon	93.2	87.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P385451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186569	Organic Carbon	96.2	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P385365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186808	Turbidity	6.21	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186495	Chloride	0.543	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385630

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186495	Sulfate	0.959	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186894	Bromide	1.98	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385475

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186574	Ammonia-N	0.370	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186719	Ammonia-N	0.779	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186960	Kjeldahl Nitrogen	2.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186809	Kjeldahl Nitrogen	6.26	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186809	NO2NO3-N	0.745	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186569	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186502	Total-P	1.14	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186568	Total-P	1.85	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186720	O-Phosphate-P	0.846	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186836	O-Phosphate-P	0.573	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P385298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186301	Acesulfame K	3.41	Spike	P	0 - 30
2186301	AMPA	21.2	Spike	P	0 - 30
2186301	Endothall	2.22	Spike	P	0 - 30
2186301	Glufosinate	12.9	Spike	P	0 - 30
2186301	Glyphosate	0.0167	Spike	P	0 - 30
2186301	Sucralose	5.07	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P385308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186499	2,4-D	1.18	Spike	P	0 - 30
2186499	Acetaminophen	0.0156	Spike	P	0 - 30
2186499	Acetamiprid	0.348	Spike	P	0 - 30
2186499	Afidopyropen	9.32	Spike	P	0 - 30
2186499	Bentazon	0.458	Spike	P	0 - 30
2186499	Benzovindiflupyr	5.54	Spike	P	0 - 30
2186499	Carbamazepine	1.52	Spike	P	0 - 30
2186499	Clothianidin	3.38	Spike	P	0 - 30
2186499	Dinotefuran	1.28	Spike	P	0 - 30
2186499	Diuron	0.833	Spike	P	0 - 30
2186499	Fenuron	2.75	Spike	P	0 - 30
2186499	Fluridone	0.266	Spike	P	0 - 30
2186499	Hydrocodone	5.39	Spike	P	0 - 30
2186499	Ibuprofen	5.60	Spike	P	0 - 30
2186499	Imazapyr	13.0	Spike	P	0 - 30
2186499	Imidacloprid	2.62	Spike	P	0 - 30
2186499	Linuron	4.10	Spike	P	0 - 30
2186499	Mandestrobin	5.15	Spike	P	0 - 30
2186499	MCPP	3.62	Spike	P	0 - 30
2186499	Naproxen	0.365	Spike	P	0 - 30
2186499	Primidone	15.9	Spike	P	0 - 30
2186499	Pyraclostrobin	2.18	Spike	P	0 - 30
2186499	Thiamethoxam	13.9	Spike	P	0 - 30
2186499	Tolfenpyrad	8.17	Spike	P	0 - 30
2186499	Triclopyr	16.5	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P385355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186808	Color (true)	1.72	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P385441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186828	Total Alkalinity	0.282	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P385443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186967	Total Alkalinity	2.94	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
 Batch ID: P385782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186718	TDS	0.428	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P385444

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186828	Fluoride	0.454	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
 Batch ID: P385446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186967	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
 Batch ID: P385450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186874	Organic Carbon	3.70	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
 Batch ID: P385451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186569	Organic Carbon	0.137	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2186843
Field Sample ID: G1SW0112

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	50.6	P	30 - 160
EPA 8321B	Diuron-d6	56.1	P	30 - 160
EPA 8321B	Endothall-d6	84.6	P	30 - 160
EPA 8321B	Endothall-d6	84.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	115	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	115	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.5	P	30 - 160
EPA 8321B	Primidone-d5	82.5	P	30 - 160
EPA 8321B	Sucralose-d6	41.7	P	30 - 160
EPA 8321B	Sucralose-d6	41.7	P	30 - 160

Lab Sample ID: 2186844
Field Sample ID: G1SW0056

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	90.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.9	P	30 - 160
EPA 8321B	Diuron-d6	71.1	P	30 - 160
EPA 8321B	Endothall-d6	363	F	30 - 160
EPA 8321B	Endothall-d6	363	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.0	P	30 - 160
EPA 8321B	Primidone-d5	91.7	P	30 - 160
EPA 8321B	Sucralose-d6	15.5	F	30 - 160
EPA 8321B	Sucralose-d6	15.5	F	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100153

Included Lab Sample IDs: 2186830, 2186833

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100155

Included Lab Sample IDs: 2186836

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	98.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100159

Included Lab Sample IDs: 2186843, 2186844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	93.4	99.0	P/P	60 - 160
Sucralose	99.0	95.5	P/P	60 - 160

Reference Method: SM 2120 B-2011

Run ID: A100169

Included Lab Sample IDs: 2186828, 2186831

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100175

Included Lab Sample IDs: 2186829, 2186832

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A100176

Included Lab Sample IDs: 2186828, 2186831, 2186834

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100197

Included Lab Sample IDs: 2186835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100198

Included Lab Sample IDs: 2186843, 2186844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	64.9	68.0	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100198

Included Lab Sample IDs: 2186843, 2186844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	68.0	74.3	P/P	60 - 160
Endothall	103	106	P/P	60 - 160
Endothall	105	103	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A100200

Included Lab Sample IDs: 2186828, 2186831, 2186834

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	98.8	P/P	90 - 110
Total Alkalinity	97.4	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100200

Included Lab Sample IDs: 2186828, 2186831, 2186834

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	101	P/P	90 - 110
Fluoride	102	104	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A100203

Included Lab Sample IDs: 2186829, 2186832, 2186835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	98.8	P/P	90 - 110
Organic Carbon	98.3	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100209

Included Lab Sample IDs: 2186835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100212

Included Lab Sample IDs: 2186829, 2186832, 2186835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	98.1	P/P	90 - 110
Ammonia-N	99.8	98.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100223

Included Lab Sample IDs: 2186843, 2186844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	70.1	79.6	P/P	60 - 160
AMPA	80.2	70.1	P/P	60 - 160
Glufosinate	105	107	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100223

Included Lab Sample IDs: 2186843, 2186844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	107	108	P/P	60 - 160
Glyphosate	95.0	98.1	P/P	60 - 160
Glyphosate	98.1	92.7	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100234

Included Lab Sample IDs: 2186829, 2186832

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	94.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100267

Included Lab Sample IDs: 2186828, 2186831

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

Reference Method: EPA 8321B

Run ID: A100276

Included Lab Sample IDs: 2186843, 2186844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	82.4	82.9	P/P	50 - 150
Acetaminophen	108	116	P/P	60 - 160
Acetamiprid	113	108	P/P	50 - 150
Afidopyropen	97.2	103	P/P	50 - 150
Bentazon	99.9	97.0	P/P	50 - 160
Benzovindiflupyr	94.2	101	P/P	50 - 150
Carbamazepine	120	119	P/P	60 - 150
Clothianidin	111	112	P/P	60 - 150
Dinotefuran	96.3	99.8	P/P	50 - 150
Diuron	107	107	P/P	60 - 160
Fenuron	109	114	P/P	60 - 150
Fluridone	125	128	P/P	60 - 160
Hydrocodone	106	105	P/P	60 - 150
Ibuprofen	89.9	89.5	P/P	50 - 160
Imazapyr	72.3	73.0	P/P	50 - 150
Imidacloprid	106	112	P/P	60 - 150
Linuron	97.7	101	P/P	60 - 150
Mandestrobin	119	123	P/P	50 - 150
MCPP	93.4	90.3	P/P	50 - 150
Naproxen	82.9	94.0	P/P	50 - 160
Primidone	103	111	P/P	60 - 150
Pyraclostrobin	93.6	101	P/P	60 - 150
Thiamethoxam	120	113	P/P	50 - 150
Tolfenpyrad	78.1	81.1	P/P	60 - 150
Triclopyr	82.1	86.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100284

Included Lab Sample IDs: 2186829, 2186832, 2186835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	100	P/P	90 - 110
Total-P	100	98.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100476

Included Lab Sample IDs: 2186834

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	98.6	99.4	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			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					6.21	
EPA 300.0 Rev. 2.1	Bromide	99.1	97.3	95.2	97.3		1.98
	Chloride	105	103	104		0.543	
	Sulfate	105	103	104		0.959	
EPA 350.1 Rev. 2.0	Ammonia-N	104	100	99.6			0.370
	Ammonia-N	98.2	98.4	97.4			0.779
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.0	96.9	99.1			2.00
	Kjeldahl Nitrogen	107	113	102			6.26
EPA 353.2 Rev. 2.0	NO2NO3-N	100	97.2				0.745
	NO2NO3-N	100	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	105	107	106			1.14
	Total-P	103	95.6	97.4			1.85
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.1	100	99.0			0.846
	O-Phosphate-P	98.8	99.3	100			0.573
EPA 8321B	2,4-D	93.9					1.18
	Acesulfame K	115	105	108			3.41
	Acetaminophen	87.5	81.0	81.0			0.0156
	Acetamiprid	80.1	72.3	72.1			0.348
	Afidopyropen	68.4	68.1	62.0			9.32
	AMPA	82.0	49.0	60.6			21.2
	Bentazon	68.9					0.458
	Benzovindiflupyr	59.6	51.4	54.4			5.54
	Carbamazepine	73.9	60.4	59.5			1.52
	Clothianidin	91.5	78.8	81.8			3.38
	Dinotefuran	93.3	86.9	88.0			1.28
	Diuron	67.5	50.1	50.6			0.833
	Endothall	97.0	118	121			2.22
	Fenuron	92.9	74.3	72.3			2.75
	Fluridone	97.5	92.2	91.9			0.266
	Glufosinate	92.9	93.5	106			12.9
	Glyphosate	89.5	77.8	77.8			0.0167
	Hydrocodone	83.9	71.4	67.6			5.39
	Ibuprofen	79.0	64.1	60.6			5.60
	Imazapyr	58.2	50.6	61.8			13.0
	Imidacloprid	113	131	135			2.62
	Linuron	69.3	55.8	58.1			4.10
	Mandestrobin	78.5	71.8	68.2			5.15
	MCPP	112	97.8	101			3.62
	Naproxen	62.6	48.5	48.7			0.365
	Primidone	92.3	79.4	93.2			15.9
	Pyraclostrobin	56.9	54.0	52.9			2.18
	Sucralose	89.9	93.7	98.6			5.07
	Thiamethoxam	91.1	90.0	78.2			13.9
	Tolfenpyrad	30.9	39.4	36.3			8.17
	Triclopyr	70.2	71.5	60.6			16.5
SM 2120 B-2011	Color (true)	102				1.72	
SM 2320 B-2011	Total Alkalinity	98.6				0.282	
	Total Alkalinity	99.7				2.94	
SM 2540 C-2011	TDS					0.428	
SM 4500 F-C-2011	Fluoride	99.5	100	101			0.454
	Fluoride	102	103	103			0.0
SM 5310 B-2011	Organic Carbon	97.8	93.2	87.8			3.70
	Organic Carbon	98.3	96.2	96.4			0.137

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2186828, 2186831, 2186834
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2186834
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2186828, 2186831
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2186828, 2186831
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2186829, 2186832, 2186835
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2186829, 2186832, 2186835
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2186829, 2186832, 2186835
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2186829, 2186832, 2186835
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2186830, 2186833, 2186836
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2186843, 2186844
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2186843, 2186844
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2186828, 2186831
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2186828, 2186831, 2186834
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2186828, 2186831
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2186828, 2186831, 2186834
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2186828, 2186831, 2186834
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2186829, 2186832, 2186835

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	07/29/2020			07/29/2020 16:15	Blanca Fach	2186828, 2186831, 2186834
EPA 300.0 Rev. 2.1	07/29/2020			08/01/2020 11:07	Julia Storbeck	2186828
	07/29/2020			08/01/2020 11:19	Julia Storbeck	2186831
	07/29/2020			08/13/2020 08:05	Julia Storbeck	2186834
EPA 350.1 Rev. 2.0	07/29/2020			08/01/2020 16:25	Ping Hua	2186835
	07/29/2020			08/01/2020 17:48	Ping Hua	2186829
	07/29/2020			08/01/2020 17:49	Ping Hua	2186832
EPA 351.2 Rev. 2.0	07/29/2020	07/30/2020 12:15	Jhamieka S. Greenwood	07/31/2020 15:55	Jhamieka S. Greenwood	2186835
	07/29/2020	07/31/2020 10:40	Jhamieka S. Greenwood	08/03/2020 15:19	Julia Storbeck	2186829
	07/29/2020	07/31/2020 10:40	Jhamieka S. Greenwood	08/03/2020 15:21	Julia Storbeck	2186832
EPA 353.2 Rev. 2.0	07/29/2020			07/30/2020 08:39	Beverly Y. Sanders	2186829
	07/29/2020			07/30/2020 08:40	Beverly Y. Sanders	2186832
	07/29/2020			07/31/2020 08:53	Beverly Y. Sanders	2186835
EPA 365.1 Rev. 2.0	07/29/2020	08/03/2020 10:00	Lipi Saha	08/04/2020 10:10	Benjamin T. Nordmann	2186829
	07/29/2020	08/03/2020 10:00	Lipi Saha	08/04/2020 10:11	Benjamin T. Nordmann	2186832
	07/29/2020	08/03/2020 10:00	Lipi Saha	08/04/2020 10:24	Benjamin T. Nordmann	2186835
EPA 365.1 Rev. 2.0 dissolved	07/29/2020			07/29/2020 15:02	Virginia P. Brown	2186830
	07/29/2020			07/29/2020 15:03	Virginia P. Brown	2186833
	07/29/2020			07/29/2020 16:32	Virginia P. Brown	2186836
EPA 8321B	07/29/2020	07/29/2020 12:00	Mohammad Ghaffari	07/29/2020 13:31	Mohammad Ghaffari	2186844
	07/29/2020	07/29/2020 12:00	Mohammad Ghaffari	07/29/2020 15:05	Mohammad Ghaffari	2186843
	07/29/2020	07/29/2020 12:00	Mohammad Ghaffari	07/30/2020 11:44	Rebecca Ware	2186844
	07/29/2020	07/29/2020 12:00	Mohammad Ghaffari	07/30/2020 13:44	Rebecca Ware	2186843
	07/29/2020	07/29/2020 12:00	Mohammad Ghaffari	07/31/2020 13:04	Rebecca Ware	2186843
	07/29/2020	07/29/2020 12:00	Mohammad Ghaffari	07/31/2020 14:44	Rebecca Ware	2186844
	07/29/2020	07/30/2020 14:00	Hoor Shaik	08/01/2020 21:01	Juyoung Kim	2186843
	07/29/2020	07/30/2020 14:00	Hoor Shaik	08/01/2020 21:36	Juyoung Kim	2186844
SM 2120 B-2011	07/29/2020			07/29/2020 15:21	Madeline Gruver	2186828, 2186831
SM 2320 B-2011	07/29/2020			07/30/2020 18:15	Dale L. Simmons	2186828
	07/29/2020			07/30/2020 18:44	Dale L. Simmons	2186831
	07/29/2020			07/31/2020 02:55	Dale L. Simmons	2186834
SM 2540 C-2011	07/29/2020			08/03/2020 15:02	Yijie Li	2186828, 2186831
SM 2540 D-2011	07/29/2020			08/03/2020 15:02	Yijie Li	2186828, 2186831, 2186834
SM 4500 F-C-2011	07/29/2020			07/30/2020 18:05	Dale L. Simmons	2186828
	07/29/2020			07/30/2020 18:44	Dale L. Simmons	2186831
	07/29/2020			07/31/2020 01:57	Dale L. Simmons	2186834
SM 5310 B-2011	07/29/2020			07/31/2020 04:33	David Boose	2186829
	07/29/2020			07/31/2020 04:45	David Boose	2186832
	07/29/2020			07/31/2020 11:56	David Boose	2186835