

Chemical Analysis Report

SW-DIST-2020-02-04-02

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

Event Description: **Sims Branch**
Request ID: **RQ-2020-01-27-54**
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

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Certified by: Colin Wright, Program Administrator

Date Certified: 02-MAR-2020 11:36

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: 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: 02/03/2020 09:30

Field ID: G1SW0056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154121	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P378312	
	EPA 300.0 Rev. 2.1	Bromide	40		mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	146		mg CaCO3/L	P378548	
	SM 2540 D-2011	TSS	3	U	mg/L	P378329	
	SM 4500 F-C-2011	Fluoride	0.96		mg F/L	P378551	
2154124	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P378570	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P378625	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.44		mg N/L	P378654	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P379125	
	SM 5310 B-2011	Organic Carbon	4.9		mg C/L	P378523	
2154127	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P378261	
2154137	EPA 8321B	2,4-D	0.0032	I	ug/L	P378223	
		Acesulfame K**	0.10	UJ	ug/L	P378368	MS, SUR
		AMPA**	0.10	UJ	ug/L	P378368	SUR
		Sucralose**	0.55	J	ug/L	P378368	MS, SUR
		Acetaminophen**	0.0080	U	ug/L	P378223	
		Acetamiprid**	0.0020	U	ug/L	P378223	
		Endothall**	0.25	UJ	ug/L	P378368	SUR
		Glufosinate**	0.10	UJ	ug/L	P378368	MS, SUR
		Glyphosate**	0.10	UJ	ug/L	P378368	MS, SUR
		Afidopyropen**	0.0020	UJ	ug/L	P378223	
		Bentazon	0.013		ug/L	P378223	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378223	
		Carbamazepine**	0.024		ug/L	P378223	
		Clothianidin**	0.0020	U	ug/L	P378223	
		Dinotefuran**	0.013		ug/L	P378223	
		Diuron	0.0049	I	ug/L	P378223	
		Fenuron	0.016	U	ug/L	P378223	
		Fluridone**	0.0024	I	ug/L	P378223	
		Imazapyr**	0.015	I	ug/L	P378223	
		Hydrocodone**	0.0060	I	ug/L	P378223	
		Ibuprofen**	0.020	U	ug/L	P378223	
		Imidacloprid	0.011		ug/L	P378223	
		Linuron	0.0040	U	ug/L	P378223	
		Mandestrobin**	0.0020	UJ	ug/L	P378223	
		MCP	0.0029	I	ug/L	P378223	
		Naproxen**	0.0080	U	ug/L	P378223	
		Primidone**	0.092		ug/L	P378223	
		Pyraclostrobin**	0.0020	U	ug/L	P378223	
		Thiamethoxam**	0.0020	U	ug/L	P378223	
		Tolfenpyrad**	0.0020	U	ug/L	P378223	
		Triclopyr**	0.0040	U	ug/L	P378223	

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 353.2 Rev. 2.0: The result was confirmed on 02/18/2020.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

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

Sample Location: Sims Branch @ Port Redwing

Collection Date/Time: 02/03/2020 09:35

Field ID: G1SW0056_DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154122	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P378312	
	EPA 300.0 Rev. 2.1	Bromide	40		mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	143		mg CaCO3/L	P378548	
	SM 2540 D-2011	TSS	3	U	mg/L	P378329	
	SM 4500 F-C-2011	Fluoride	0.97		mg F/L	P378551	
2154125	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P379805	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P378625	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.34		mg N/L	P378654	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P379125	
	SM 5310 B-2011	Organic Carbon	4.7		mg C/L	P378523	
2154128	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P378261	
2154138	EPA 8321B	2,4-D	0.0038	I	ug/L	P378223	
		Acesulfame K**	0.10	U	ug/L	P378368	MS
		AMPA**	0.10	UJ	ug/L	P378368	SUR
		Sucralose**	0.66	J	ug/L	P378368	MS, SUR
		Acetaminophen**	0.0080	U	ug/L	P378223	
		Acetamiprid**	0.0020	U	ug/L	P378223	
		Endothall**	0.25	U	ug/L	P378368	
		Glufosinate**	0.10	UJ	ug/L	P378368	MS, SUR
		Glyphosate**	0.10	UJ	ug/L	P378368	MS, SUR
		Afidopyropen**	0.0020	UJ	ug/L	P378223	
		Bentazon	0.013		ug/L	P378223	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378223	
		Carbamazepine**	0.027		ug/L	P378223	
		Clothianidin**	0.0020	U	ug/L	P378223	
		Dinotefuran**	0.013		ug/L	P378223	
		Diuron	0.0052	I	ug/L	P378223	
		Fenuron	0.016	U	ug/L	P378223	
		Fluridone**	0.0028	I	ug/L	P378223	
		Imazapyr**	0.016	I	ug/L	P378223	
		Hydrocodone**	0.0073	I	ug/L	P378223	
		Ibuprofen**	0.020	U	ug/L	P378223	
		Imidacloprid	0.011		ug/L	P378223	
		Linuron	0.0040	U	ug/L	P378223	
		Mandestrobin**	0.0020	UJ	ug/L	P378223	
		MCP	0.0027	I	ug/L	P378223	
		Naproxen**	0.0080	U	ug/L	P378223	
		Primidone**	0.11		ug/L	P378223	
		Pyraclostrobin**	0.0020	U	ug/L	P378223	
		Thiamethoxam**	0.0020	U	ug/L	P378223	
		Tolfenpyrad**	0.0020	U	ug/L	P378223	
		Triclopyr**	0.0040	U	ug/L	P378223	

Field ID: G1SW0056_DUP

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 353.2 Rev. 2.0: The result was confirmed on 02/18/2020.
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Field_Blank

Collection Date/Time: 02/03/2020 09:40

Field ID: FB 02032020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154123	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P378312	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P378547	
	SM 2540 D-2011	TSS	2	U	mg/L	P378619	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378550	
2154126	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P378608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P378624	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P378591	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P379386	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P378522	
2154129	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P378259	
2154139	EPA 8321B	2,4-D	0.0020	U	ug/L	P378223	
		Acesulfame K**	0.10	U	ug/L	P378368	MS
		AMPA**	0.10	U	ug/L	P378368	
		Sucralose**	0.010	U	ug/L	P378368	MS
		Acetaminophen**	0.0080	U	ug/L	P378223	
		Acetamiprid**	0.0020	U	ug/L	P378223	
		Endothall**	0.25	U	ug/L	P378368	
		Glufosinate**	0.10	U	ug/L	P378368	MS
		Glyphosate**	0.10	U	ug/L	P378368	MS
		Afidopyropen**	0.0020	UJ	ug/L	P378223	
		Bentazon	8.0E-04	U	ug/L	P378223	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378223	
		Carbamazepine**	8.0E-04	U	ug/L	P378223	
		Clothianidin**	0.0020	U	ug/L	P378223	
		Dinotefuran**	0.0020	U	ug/L	P378223	
		Diuron	0.0020	U	ug/L	P378223	
		Fenuron	0.016	U	ug/L	P378223	
		Fluridone**	8.0E-04	U	ug/L	P378223	
		Imazapyr**	0.0040	U	ug/L	P378223	
		Hydrocodone**	0.0020	U	ug/L	P378223	
		Ibuprofen**	0.020	U	ug/L	P378223	
		Imidacloprid	0.0020	U	ug/L	P378223	
		Linuron	0.0040	U	ug/L	P378223	
		Mandestrobin**	0.0020	UJ	ug/L	P378223	
		MCPP	0.0020	U	ug/L	P378223	
		Naproxen**	0.0080	U	ug/L	P378223	
		Primidone**	0.0040	U	ug/L	P378223	
		Pyraclostrobin**	0.0020	U	ug/L	P378223	
		Thiamethoxam**	0.0020	U	ug/L	P378223	
		Tolfenpyrad**	0.0020	U	ug/L	P378223	
		Triclopyr**	0.0040	U	ug/L	P378223	

Field ID: FB 02032020

Matrix: W-FIELD-BK

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378312

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378844

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378570

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378608

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379805

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378624

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378625

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378591

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378654

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379125

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379386

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378259

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378261

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

Reference Method: EPA 8321B
 Batch ID: P378223

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P378368

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P378547

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

Reference Method: SM 2320 B-2011
Batch ID: P378548

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

Reference Method: SM 2540 D-2011
Batch ID: P378329

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P378619

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P378550

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P378551

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P378522

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P378523

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: P378844

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378570

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378608

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: P379805

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378625

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378591

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: P378654

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379125

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379386

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: P378259

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378261

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

Reference Method: EPA 8321B
Batch ID: P378223

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	121		P	30 - 160
Acetaminophen	85.2		P	30 - 160
Acetamiprid	83.5		P	30 - 160
Afidopyropen	86.4		P	30 - 160
Bentazon	68.5		P	30 - 160
Benzovindiflupyr	80.4		P	30 - 160
Carbamazepine	90.9		P	30 - 160
Clothianidin	83.3		P	30 - 160
Dinotefuran	87.9		P	30 - 160
Diuron	77.7		P	30 - 160
Fenuron	101		P	30 - 160
Fluridone	88.3		P	30 - 160
Hydrocodone	98.0		P	30 - 160
Ibuprofen	80.6		P	30 - 160
Imazapyr	91.5		P	30 - 160
Imidacloprid	95.6		P	30 - 160
Linuron	68.7		P	30 - 160
Mandestrobin	90.8		P	30 - 160
MCPP	126		P	30 - 160
Naproxen	66.8		P	30 - 160
Primidone	94.1		P	30 - 160
Pyraclostrobin	82.7		P	30 - 160
Thiamethoxam	92.6		P	30 - 160
Tolfenpyrad	49.0		P	30 - 160
Triclopyr	116		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P378368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	129		P	40 - 150
AMPA	105		P	40 - 150
Endothall	92.4		P	40 - 150
Glufosinate	124		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P378368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	129		P	40 - 140
Sucralose	96.5		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P378547

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 2320 B-2011
Batch ID: P378548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.6		P	92 - 103

Reference Method: SM 4500 F-C-2011
Batch ID: P378551

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

Reference Method: SM 5310 B-2011
Batch ID: P378522

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P378523

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154804	Bromide	101		P	90 - 110
2155120	Bromide	100	99.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378570

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153110	Ammonia-N	107	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154099	Ammonia-N	98.2	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160250	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154093	Kjeldahl Nitrogen	98.5	110	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154124	Kjeldahl Nitrogen	102	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154093	NO2NO3-N	99.0	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378654

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153983	NO2NO3-N	107	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153981	Total-P	99.5	97.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156672	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378259

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154155	O-Phosphate-P	95.2	91.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154333	O-Phosphate-P	93.0	97.1	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P378223

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153997	2,4-D	102	104	P/P	30 - 160
2153997	Acetaminophen	85.6	94.2	P/P	30 - 160
2153997	Acetamiprid	75.6	66.5	P/P	30 - 160
2153997	Afidopyropen	87.7	84.2	P/P	30 - 160
2153997	Bentazon	32.4	33.9	P/P	30 - 160
2153997	Benzovindiflupyr	72.5	73.1	P/P	30 - 160
2153997	Carbamazepine	68.0	60.4	P/P	30 - 160
2153997	Clothianidin	69.4	73.3	P/P	30 - 160
2153997	Dinotefuran	97.1	112	P/P	30 - 160
2153997	Diuron	57.8	61.8	P/P	30 - 160
2153997	Fenuron	63.2	64.8	P/P	30 - 160
2153997	Fluridone	73.9	73.4	P/P	30 - 160
2153997	Hydrocodone	82.3	87.1	P/P	30 - 160
2153997	Ibuprofen	64.7	70.3	P/P	30 - 160
2153997	Imidacloprid	134	130	P/P	30 - 160
2153997	Linuron	60.3	63.1	P/P	30 - 160
2153997	Mandestrobin	80.2	80.1	P/P	30 - 160
2153997	MCP	90.1	102	P/P	30 - 160
2153997	Naproxen	71.6	71.2	P/P	30 - 160
2153997	Primidone	78.7	80.2	P/P	30 - 160
2153997	Pyraclostrobin	79.1	84.5	P/P	30 - 160
2153997	Thiamethoxam	105	107	P/P	30 - 160
2153997	Tolfenpyrad	47.3	47.9	P/P	30 - 160
2153997	Triclopyr	88.0	98.9	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P378368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153795	Acesulfame K	36.7	39.0	F/F	40 - 150
2153795	AMPA	95.7	95.4	P/P	40 - 150
2153795	Endothall	118	126	P/P	40 - 150
2153795	Glufosinate	139	156	P/F	40 - 150
2153795	Glyphosate	185	200	F/F	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P378368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153795	Sucralose	33.3	34.0	F/F	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P378550

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152630	Fluoride	94.8	95.9	P/P	89 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378551

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151636	Fluoride	96.4	97.8	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P378522

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154483	Organic Carbon	97.6	99.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P378523

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154124	Organic Carbon	99.8	99.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154179	Turbidity	8.30	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155120	Bromide	0.584	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378570

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153110	Ammonia-N	0.299	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154099	Ammonia-N	2.15	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160250	Ammonia-N	0.239	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154093	Kjeldahl Nitrogen	7.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154124	Kjeldahl Nitrogen	1.88	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154093	NO2NO3-N	0.460	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153983	NO2NO3-N	0.468	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153981	Total-P	1.80	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156672	Total-P	0.162	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154155	O-Phosphate-P	3.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154333	O-Phosphate-P	4.31	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P378223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153997	2,4-D	1.98	Spike	P	0 - 30
2153997	Acetaminophen	9.58	Spike	P	0 - 30
2153997	Acetamiprid	12.8	Spike	P	0 - 30
2153997	Afidopyropen	4.01	Spike	P	0 - 30
2153997	Bentazon	4.42	Spike	P	0 - 30
2153997	Benzovindiflupyr	0.721	Spike	P	0 - 30
2153997	Carbamazepine	11.9	Spike	P	0 - 30
2153997	Clothianidin	5.42	Spike	P	0 - 30
2153997	Dinotefuran	14.0	Spike	P	0 - 30
2153997	Diuron	6.60	Spike	P	0 - 30
2153997	Fenuron	2.60	Spike	P	0 - 30
2153997	Fluridone	0.627	Spike	P	0 - 30
2153997	Hydrocodone	5.71	Spike	P	0 - 30
2153997	Ibuprofen	8.33	Spike	P	0 - 30
2153997	Imazapyr	9.08	Spike	P	0 - 30
2153997	Imidacloprid	3.33	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P378223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153997	Linuron	4.49	Spike	P	0 - 30
2153997	Mandestrobin	0.0228	Spike	P	0 - 30
2153997	MCP	12.3	Spike	P	0 - 30
2153997	Naproxen	0.539	Spike	P	0 - 30
2153997	Primidone	1.90	Spike	P	0 - 30
2153997	Pyraclostrobin	6.61	Spike	P	0 - 30
2153997	Thiamethoxam	2.03	Spike	P	0 - 30
2153997	Tolfenpyrad	1.12	Spike	P	0 - 30
2153997	Triclopyr	11.6	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P378368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153795	Acesulfame K	6.10	Spike	P	0 - 30
2153795	AMPA	0.234	Spike	P	0 - 30
2153795	Endothall	6.34	Spike	P	0 - 30
2153795	Glufosinate	11.1	Spike	P	0 - 30
2153795	Glyphosate	6.59	Spike	P	0 - 30
2153795	Sucralose	2.22	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P378547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154097	Total Alkalinity	0.437	Sample	P	0 - 2.8

Reference Method: SM 2320 B-2011
Batch ID: P378548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152601	Total Alkalinity	0.00688	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P378550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152630	Fluoride	0.470	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-2011
Batch ID: P378551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151636	Fluoride	0.940	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P378522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154483	Organic Carbon	1.27	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P378523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154124	Organic Carbon	0.0447	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2154137
Field Sample ID: G1SW0056

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.8	P	30 - 160
EPA 8321B	Diuron-d6	86.7	P	30 - 160
EPA 8321B	Endothall-d6	267	F	30 - 160
EPA 8321B	Endothall-d6	267	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Ibuprofen-d3	72.1	P	30 - 160
EPA 8321B	Primidone-d5	93.5	P	30 - 160
EPA 8321B	Sucralose-d6	4.69	F	30 - 160
EPA 8321B	Sucralose-d6	4.69	F	30 - 160

Lab Sample ID: 2154138
Field Sample ID: G1SW0056_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	125	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.1	P	30 - 160
EPA 8321B	Diuron-d6	89.0	P	30 - 160
EPA 8321B	Endothall-d6	90.3	P	30 - 160
EPA 8321B	Endothall-d6	90.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Ibuprofen-d3	72.0	P	30 - 160
EPA 8321B	Primidone-d5	88.4	P	30 - 160
EPA 8321B	Sucralose-d6	10.5	F	30 - 160
EPA 8321B	Sucralose-d6	10.5	F	30 - 160

Lab Sample ID: 2154139
Field Sample ID: FB 02032020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	101	P	30 - 160
EPA 8321B	Diuron-d6	105	P	30 - 160
EPA 8321B	Endothall-d6	70.4	P	30 - 160
EPA 8321B	Endothall-d6	70.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.3	P	30 - 160
EPA 8321B	Primidone-d5	86.9	P	30 - 160
EPA 8321B	Sucralose-d6	96.8	P	30 - 160
EPA 8321B	Sucralose-d6	96.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97311

Included Lab Sample IDs: 2154127, 2154128, 2154129

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	98.3	P/P	90 - 110
O-Phosphate-P	99.6	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97328

Included Lab Sample IDs: 2154121, 2154122, 2154123

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: A97392

Included Lab Sample IDs: 2154124, 2154125, 2154126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	102	P/P	90 - 110
Organic Carbon	101	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A97403

Included Lab Sample IDs: 2154121, 2154122, 2154123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	102	P/P	90 - 110
Total Alkalinity	99.9	103	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97403

Included Lab Sample IDs: 2154121, 2154122, 2154123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.1	P/P	90 - 110
Fluoride	99.1	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97409

Included Lab Sample IDs: 2154124

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97411

Included Lab Sample IDs: 2154126

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97412

Included Lab Sample IDs: 2154137, 2154138, 2154139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.1	108	P/P	50 - 150
Acetaminophen	97.3	100	P/P	60 - 160
Acetamiprid	99.8	108	P/P	50 - 150
Afidopyropen	96.7	94.6	P/P	50 - 150
Bentazon	91.5	97.1	P/P	50 - 160
Benzovindiflupyr	96.2	100	P/P	50 - 150
Carbamazepine	93.8	92.1	P/P	60 - 150
Clothianidin	93.7	93.7	P/P	60 - 150
Dinotefuran	91.7	103	P/P	50 - 150
Diuron	83.6	115	P/P	60 - 150
Fenuron	102	103	P/P	60 - 150
Fluridone	103	105	P/P	60 - 160
Hydrocodone	97.2	99.5	P/P	60 - 150
Ibuprofen	91.4	83.8	P/P	50 - 160
Imazapyr	98.5	94.8	P/P	50 - 150
Imidacloprid	98.1	97.1	P/P	60 - 150
Linuron	83.0	96.2	P/P	60 - 150
Mandestrobin	105	105	P/P	50 - 150
MCPP	88.6	89.0	P/P	50 - 150
Naproxen	81.1	98.5	P/P	50 - 160
Primidone	100	92.1	P/P	60 - 150
Pyraclostrobin	111	104	P/P	60 - 150
Thiamethoxam	95.0	101	P/P	50 - 150
Tolfenpyrad	91.8	92.8	P/P	60 - 150
Triclopyr	84.6	97.4	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97416

Included Lab Sample IDs: 2154126

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97430

Included Lab Sample IDs: 2154124, 2154125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A97473

Included Lab Sample IDs: 2154137, 2154138, 2154139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	107	84.3	P/P	60 - 160
Endothall	95.3	97.4	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97477

Included Lab Sample IDs: 2154137, 2154138, 2154139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	121	99.1	P/P	60 - 160
Glufosinate	132	125	P/P	60 - 160
Glyphosate	129	137	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97484

Included Lab Sample IDs: 2154126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97485

Included Lab Sample IDs: 2154124, 2154125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.2	95.3	P/P	90 - 110
Kjeldahl Nitrogen	95.3	98.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97501

Included Lab Sample IDs: 2154121, 2154122, 2154123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	99.3	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97685

Included Lab Sample IDs: 2154124, 2154125

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

Reference Method: EPA 8321B

Run ID: A97796

Included Lab Sample IDs: 2154137, 2154138, 2154139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	97.9	93.2	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97846

Included Lab Sample IDs: 2154126

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97883

Included Lab Sample IDs: 2154125

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						8.30	
EPA 300.0 Rev. 2.1	Bromide	102	100	99.7	101			0.584
EPA 350.1 Rev. 2.0	Ammonia-N	98.3	107	107				0.299
	Ammonia-N	101	98.2	101				2.15
	Ammonia-N	101	103	102				0.239
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.6	98.5	110				7.29
	Kjeldahl Nitrogen	98.6	102	99.5				1.88
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.0	99.4				0.460
	NO2NO3-N	104	107	106				0.468
EPA 365.1 Rev. 2.0	Total-P	107	99.5	97.7				1.80
	Total-P	105	105	105				0.162
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	95.2	91.0				3.87
	O-Phosphate-P	98.3	93.0	97.1				4.31
EPA 8321B	2,4-D	121	102	104				1.98
	Acesulfame K	129	36.7	39.0				6.10
	Acetaminophen	85.2	85.6	94.2				9.58
	Acetamiprid	83.5	75.6	66.5				12.8
	Afidopyropen	86.4	87.7	84.2				4.01
	AMPA	105	95.7	95.4				0.234
	Bentazon	68.5	32.4	33.9				4.42
	Benzovindiflupyr	80.4	72.5	73.1				0.721
	Carbamazepine	90.9	68.0	60.4				11.9
	Clothianidin	83.3	69.4	73.3				5.42
	Dinotefuran	87.9	97.1	112				14.0
	Diuron	77.7	57.8	61.8				6.60
	Endothall	92.4	118	126				6.34
	Fenuron	101	63.2	64.8				2.60
	Fluridone	88.3	73.9	73.4				0.627
	Glufosinate	124	139	156				11.1
	Glyphosate	129	185	200				6.59
	Hydrocodone	98.0	82.3	87.1				5.71
	Ibuprofen	80.6	64.7	70.3				8.33
	Imazapyr	91.5						9.08
	Imidacloprid	95.6	134	130				3.33
	Linuron	68.7	60.3	63.1				4.49
	Mandestrobin	90.8	80.2	80.1				0.0228
	MCPP	126	90.1	102				12.3
	Naproxen	66.8	71.6	71.2				0.539
	Primidone	94.1	78.7	80.2				1.90
	Pyraclostrobin	82.7	79.1	84.5				6.61
	Sucralose	96.5	33.3	34.0				2.22
	Thiamethoxam	92.6	105	107				2.03
	Tolfenpyrad	49.0	47.3	47.9				1.12
	Triclopyr	116	88.0	98.9				11.6
SM 2320 B-2011	Total Alkalinity	102					0.437	
	Total Alkalinity	102					0.0068	
SM 4500 F-C-2011	Fluoride	97.6	94.8	95.9				0.470
	Fluoride	99.0	96.4	97.8				0.940
SM 5310 B-2011	Organic Carbon	96.8	97.6	99.8				1.27
	Organic Carbon	98.6	99.8	99.8				0.0447

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2154121, 2154122, 2154123
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2154121, 2154122, 2154123
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2154124, 2154125, 2154126
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2154124, 2154125, 2154126
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2154124, 2154125, 2154126
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2154124, 2154125, 2154126
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2154127, 2154128, 2154129
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2154137, 2154138, 2154139
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2154137, 2154138, 2154139
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2154121, 2154122, 2154123
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2154121, 2154122, 2154123
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2154121, 2154122, 2154123
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2154124, 2154125, 2154126

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	02/04/2020			02/04/2020 17:21	Yen Ta	2154121, 2154122, 2154123
EPA 300.0 Rev. 2.1	02/04/2020			02/12/2020 07:01	Elliott Rodriguez	2154121
	02/04/2020			02/12/2020 07:18	Elliott Rodriguez	2154122
	02/04/2020			02/12/2020 07:35	Elliott Rodriguez	2154123
EPA 350.1 Rev. 2.0	02/04/2020			02/07/2020 14:03	Ping Hua	2154124
	02/04/2020			02/10/2020 13:32	Ping Hua	2154126
	02/04/2020			02/28/2020 12:14	Ping Hua	2154125
EPA 351.2 Rev. 2.0	02/04/2020	02/10/2020 11:25	Jhamieka S. Greenwood	02/11/2020 15:03	Jhamieka S. Greenwood	2154126
	02/04/2020	02/10/2020 11:25	Jhamieka S. Greenwood	02/11/2020 20:03	Jhamieka S. Greenwood	2154124
	02/04/2020	02/10/2020 11:25	Jhamieka S. Greenwood	02/11/2020 20:19	Jhamieka S. Greenwood	2154125
EPA 353.2 Rev. 2.0	02/04/2020			02/10/2020 11:34	Beverly Y. Sanders	2154126
	02/04/2020			02/11/2020 11:09	Beverly Y. Sanders	2154124
	02/04/2020			02/11/2020 11:10	Beverly Y. Sanders	2154125
EPA 365.1 Rev. 2.0	02/04/2020	02/18/2020 13:46	Yen Ta	02/19/2020 16:45	Benjamin T. Nordmann	2154124
	02/04/2020	02/18/2020 13:46	Yen Ta	02/19/2020 16:46	Benjamin T. Nordmann	2154125
	02/04/2020	02/21/2020 14:16	Yen Ta	02/26/2020 15:23	Benjamin T. Nordmann	2154126
EPA 365.1 Rev. 2.0 dissolved	02/04/2020			02/04/2020 16:48	Carlos Miranda	2154129
	02/04/2020			02/04/2020 16:57	Carlos Miranda	2154127
	02/04/2020			02/04/2020 16:58	Carlos Miranda	2154128
EPA 8321B	02/04/2020	02/05/2020 12:10	Hoor Shaik	02/08/2020 01:46	Juyoung Kim	2154137
	02/04/2020	02/05/2020 12:10	Hoor Shaik	02/08/2020 02:21	Juyoung Kim	2154138
	02/04/2020	02/05/2020 12:10	Hoor Shaik	02/08/2020 02:56	Juyoung Kim	2154139
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 15:43	Rebecca Ware	2154137
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 15:54	Rebecca Ware	2154138
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 16:05	Rebecca Ware	2154139
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 21:10	Rebecca Ware	2154137
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 21:24	Rebecca Ware	2154138
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 21:37	Rebecca Ware	2154139
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/21/2020 20:01	Rebecca Ware	2154137
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/21/2020 20:15	Rebecca Ware	2154138
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/21/2020 20:28	Rebecca Ware	2154139
SM 2320 B-2011	02/04/2020			02/07/2020 01:20	Dale L. Simmons	2154123
	02/04/2020			02/07/2020 07:24	Dale L. Simmons	2154121
	02/04/2020			02/07/2020 07:36	Dale L. Simmons	2154122
SM 2540 D-2011	02/04/2020			02/04/2020 17:00	Blanca Fach	2154121, 2154122
	02/04/2020			02/06/2020 15:50	Sima Feizi	2154123
SM 4500 F-C-2011	02/04/2020			02/07/2020 01:20	Dale L. Simmons	2154123
	02/04/2020			02/07/2020 04:06	Dale L. Simmons	2154121
	02/04/2020			02/07/2020 04:11	Dale L. Simmons	2154122
SM 5310 B-2011	02/04/2020			02/07/2020 02:22	Madeline Funaro	2154126

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	02/04/2020			02/07/2020 07:10	Madeline Funaro	2154124
	02/04/2020			02/07/2020 08:00	Madeline Funaro	2154125