

Chemical Analysis Report

SO-DIST-2021-07-02-01

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

Event Description: **2021 SMP : Myakka Cricks**

Request ID: **RQ-2021-06-28-12**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 26-JUL-2021 10:57

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

Case Narrative

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

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Little Alligator Creek @ Midway Blvd

Collection Date/Time: 07/01/2021 11:10

Field ID: G3SD0071

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259662	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P400602	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P400925	
	SM 2540 D-2011	TSS	6	I	mg/L	P400981	
	SM 4500 F-C-2011	Fluoride	0.85		mg F/L	P400928	
2259663	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P400873	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P400639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P400624	
	EPA 365.1 Rev. 2.0	Total-P	0.28		mg P/L	P400578	
	SM 5310 B-2011	Organic Carbon	8.9		mg C/L	P400728	
2259664	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.23		mg P/L	P400535	
2259716	EPA 200.7 Rev. 4.4	Calcium	260		mg/L	P400736	
		Iron	90	U	ug/L	P400736	
		Magnesium	761		mg/L	P400736	
		Manganese	31		ug/L	P400736	
		Zinc	15	U	ug/L	P400736	
	EPA 200.8 Rev. 5.4	Aluminum	23	I	ug/L	P400736	
		Antimony	0.29	I	ug/L	P400736	
		Arsenic	3.96		ug/L	P400736	
		Beryllium	0.040	U	ug/L	P400736	
		Cadmium	0.080	U	ug/L	P400736	
		Chromium	1.6	U	ug/L	P400736	
		Copper	2.0	I	ug/L	P400736	
		Lead	0.80	U	ug/L	P400736	
		Nickel	2.0	U	ug/L	P400736	
		Selenium	0.80	U	ug/L	P400736	
		Silver	0.040	U	ug/L	P400736	
		Thallium	0.40	U	ug/L	P400736	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium and magnesium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Apollo Waterway EBranch

Collection Date/Time: 07/01/2021 11:50

Field ID: G3SD0208

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259665	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P400602	
	SM 2320 B-2011	Total Alkalinity	129		mg CaCO3/L	P400925	
	SM 2540 D-2011	TSS	6	I	mg/L	P400981	
	SM 4500 F-C-2011	Fluoride	0.67		mg F/L	P400928	
2259668	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P401093	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P400639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P400624	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P400745	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P400728	
2259671	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P400536	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Apollo Waterway WBranch

Collection Date/Time: 07/01/2021 12:10

Field ID: G3SD0195

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259666	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P400602	
	SM 2320 B-2011	Total Alkalinity	113		mg CaCO3/L	P400925	
	SM 2540 D-2011	TSS	10		mg/L	P400981	
	SM 4500 F-C-2011	Fluoride	0.63		mg F/L	P400928	
2259669	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P401093	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P400639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.046		mg N/L	P400624	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P400745	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P400728	
2259672	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P400536	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Rock Creek @ Eisenhower Dr

Collection Date/Time: 07/01/2021 12:30

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259659	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P400602	
	SM 2320 B-2011	Total Alkalinity	106		mg CaCO3/L	P400925	
	SM 2540 D-2011	TSS	3	U	mg/L	P400981	
	SM 4500 F-C-2011	Fluoride	0.70		mg F/L	P400928	
2259660	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P400873	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P400639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400624	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P400578	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P400728	
2259661	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P400535	
2259714	EPA 8321B	Acesulfame K	0.10	U	ug/L	P400441	
		2,4-D	0.0052	I	ug/L	P400469	
		AMPA	1.0	U	ug/L	P400441	
		2,4,5-T	0.0040	U	ug/L	P400469	
		Acetaminophen	0.011	I	ug/L	P400469	
		Endothall	0.25	U	ug/L	P400441	
		Acetamiprid	0.0020	U	ug/L	P400469	
		Glufosinate	1.0	U	ug/L	P400441	
		Glyphosate	1.0	U	ug/L	P400441	
		Afidopyropen	0.0020	U	ug/L	P400469	
		Sucralose	0.17		ug/L	P400441	
		Bentazon	0.0028	I	ug/L	P400469	
		Benzovindiflupyr	0.0020	U	ug/L	P400469	
		Carbamazepine	0.0039		ug/L	P400469	
		Clothianidin	0.0040	I	ug/L	P400469	
		Dinotefuran	0.0020	U	ug/L	P400469	
		Diuron	0.0042	I	ug/L	P400469	
		Fenuron	0.016	U	ug/L	P400469	
		Fluridone	0.076		ug/L	P400469	
		Imazapyr	0.0095	I	ug/L	P400469	
		Hydrocodone	0.0020	U	ug/L	P400469	
		Ibuprofen	0.020	U	ug/L	P400469	
		Imidacloprid	0.025		ug/L	P400469	MS
		Linuron	0.0040	U	ug/L	P400469	
		Mandestrobin	0.0020	U	ug/L	P400469	
		MCP	0.0020	U	ug/L	P400469	
		Naproxen	0.0080	U	ug/L	P400469	
		Primidone	0.0040	U	ug/L	P400469	
		Pyraclostrobin	0.0020	U	ug/L	P400469	
		Thiamethoxam	0.0027	I	ug/L	P400469	MS
		Tolfenpyrad	0.0020	U	ug/L	P400469	
		Triclopyr	0.0040	U	ug/L	P400469	
2259715	EPA 200.7 Rev. 4.4	Calcium	231		mg/L	P400736	

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259715	EPA 200.7 Rev. 4.4	Iron	120	I	ug/L	P400736	
		Magnesium	536		mg/L	P400736	
		Manganese	26		ug/L	P400736	
		Zinc	15	U	ug/L	P400736	
	EPA 200.8 Rev. 5.4	Aluminum	78	I	ug/L	P400736	
		Antimony	0.20	U	ug/L	P400736	
		Arsenic	2.52		ug/L	P400736	
		Beryllium	0.040	U	ug/L	P400736	
		Cadmium	0.080	U	ug/L	P400736	
		Chromium	1.6	U	ug/L	P400736	
		Copper	1.8	I	ug/L	P400736	
		Lead	0.80	U	ug/L	P400736	
		Nickel	2.0	U	ug/L	P400736	
		Selenium	0.80	U	ug/L	P400736	
		Silver	0.040	U	ug/L	P400736	
		Thallium	0.40	U	ug/L	P400736	

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: MDL for some parameters elevated due to matrix interference.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium and magnesium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Myakka River (Tidal) @ US 41

Collection Date/Time: 07/01/2021 13:25

Field ID: G3SD0068

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259667	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P400602	
	SM 2320 B-2011	Total Alkalinity	89		mg CaCO3/L	P400925	
	SM 2540 D-2011	TSS	22		mg/L	P400981	
	SM 4500 F-C-2011	Fluoride	0.59		mg F/L	P400928	
2259670	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P401093	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P401085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400624	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P400745	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P400728	
2259673	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P400536	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400602

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400736

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400736

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400873

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401093

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400639

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P401085

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400624

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400578

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400745

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400535

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400536

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

Reference Method: EPA 8321B
Batch ID: P400441

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: P400469

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P400469

Component	Result	Code	Units
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
MCP	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 2320 B-2011

Batch ID: P400925

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

Reference Method: SM 2540 D-2011

Batch ID: P400981

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P400928

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P400728

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	101		P	85 - 115
Magnesium	108		P	85 - 115
Manganese	95.4		P	85 - 115
Zinc	86.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	107		P	85 - 115
Antimony	108		P	85 - 115
Arsenic	105		P	85 - 115
Beryllium	103		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	99.3		P	85 - 115
Copper	100		P	85 - 115
Lead	105		P	85 - 115
Nickel	101		P	85 - 115
Selenium	104		P	85 - 115
Silver	106		P	85 - 115
Thallium	108		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400873

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401093

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400639

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: P401085

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400578

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400745

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400535

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400536

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

Reference Method: EPA 8321B
Batch ID: P400441

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	85.0		P	40 - 150
AMPA	87.6		P	40 - 150
Endothall	73.5		P	40 - 150
Glufosinate	83.7		P	40 - 150
Glyphosate	89.3		P	40 - 150
Sucralose	73.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P400469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	102		P	40 - 150
2,4,5-T	88.8		P	40 - 150
Acetaminophen	91.0		P	30 - 150
Acetamiprid	75.9		P	40 - 150
Afidopyropen	78.3		P	40 - 150
Bentazon	115		P	30 - 150
Benzovindiflupyr	83.0		P	40 - 150
Carbamazepine	90.2		P	40 - 150
Clothianidin	88.8		P	40 - 150
Dinotefuran	82.7		P	40 - 150
Diuron	73.3		P	40 - 150
Fenuron	87.3		P	40 - 150
Fluridone	87.1		P	40 - 150
Hydrocodone	81.5		P	40 - 150
Ibuprofen	85.2		P	40 - 150
Imazapyr	92.9		P	40 - 150
Imidacloprid	94.3		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P400469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	64.3		P	40 - 150
Mandestrobin	79.4		P	40 - 150
MCPP	113		P	40 - 150
Naproxen	123		P	40 - 150
Primidone	62.4		P	40 - 150
Pyraclostrobin	80.5		P	40 - 150
Thiamethoxam	93.4		P	40 - 150
Tolfenpyrad	50.5		P	30 - 150
Triclopyr	87.2		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P400925

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P400928

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

Reference Method: SM 5310 B-2011
Batch ID: P400728

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2261061	Iron	108	109	P/P	70 - 130
2261061	Manganese	101	99.5	P/P	70 - 130
2261061	Zinc	100	100	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2261061	Aluminum	107	109	P/P	70 - 130
2261061	Antimony	108	111	P/P	70 - 130
2261061	Arsenic	110	112	P/P	70 - 130
2261061	Beryllium	94.4	95.5	P/P	70 - 130
2261061	Cadmium	100	101	P/P	70 - 130
2261061	Chromium	92.9	96.5	P/P	70 - 130
2261061	Copper	97.7	99.9	P/P	70 - 130
2261061	Lead	109	111	P/P	70 - 130
2261061	Nickel	99.0	101	P/P	70 - 130
2261061	Selenium	99.3	103	P/P	70 - 130
2261061	Silver	97.2	98.2	P/P	70 - 130
2261061	Thallium	110	113	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257750	Ammonia-N	98.4	97.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259668	Ammonia-N	96.8	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258622	Kjeldahl Nitrogen	93.6	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P401085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259755	Kjeldahl Nitrogen	91.6	95.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259499	NO2NO3-N	96.7	97.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259660	Total-P	103	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259670	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259554	O-Phosphate-P	98.2	98.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P400441

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258570	Acesulfame K	87.0	84.0	P/P	40 - 150
2258570	AMPA	80.5	82.7	P/P	40 - 150
2258570	Endothall	77.7	80.3	P/P	40 - 150
2258570	Glufosinate	85.7	95.5	P/P	40 - 150
2258570	Glyphosate	87.3	87.9	P/P	40 - 150
2258570	Sucralose	72.2	74.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P400469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258016	2,4-D	111	115	P/P	40 - 150
2258016	2,4,5-T	118	102	P/P	40 - 150
2258016	Acetaminophen	125	106	P/P	30 - 150
2258016	Acetamiprid	96.2	76.6	P/P	40 - 150
2258016	Afidopyropen	43.0	40.8	P/P	40 - 150
2258016	Bentazon	88.1	84.4	P/P	30 - 150
2258016	Benzovindiflupyr	80.1	64.9	P/P	40 - 150
2258016	Carbamazepine	105	98.4	P/P	40 - 150
2258016	Clothianidin	125	117	P/P	40 - 150
2258016	Dinotefuran	127	105	P/P	40 - 150
2258016	Diuron	87.6	80.3	P/P	40 - 150
2258016	Fenuron	90.1	84.1	P/P	40 - 150
2258016	Fluridone	84.7	76.1	P/P	40 - 150
2258016	Hydrocodone	118	106	P/P	40 - 150
2258016	Ibuprofen	75.0	81.1	P/P	40 - 150
2258016	Imazapyr	149	128	P/P	40 - 150
2258016	Imidacloprid	206	191	F/F	40 - 150
2258016	Linuron	86.5	74.3	P/P	40 - 150
2258016	Mandestrobin	86.5	81.5	P/P	40 - 150
2258016	MCPP	131	107	P/P	40 - 150
2258016	Naproxen	131	128	P/P	40 - 150
2258016	Primidone	98.1	104	P/P	40 - 150
2258016	Pyraclostrobin	76.2	67.4	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P400469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258016	Thiamethoxam	174	153	F/F	40 - 150
2258016	Tolfenpyrad	58.5	53.5	P/P	30 - 150
2258016	Triclopyr	119	110	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P400928

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259496	Fluoride	99.4	100	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P400728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259670	Organic Carbon	95.3	96.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P400602

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259649	Turbidity	5.39	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400736

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2261061	Calcium	1.02	Spike	P	0 - 20
2261061	Iron	0.801	Spike	P	0 - 20
2261061	Magnesium	1.87	Spike	P	0 - 20
2261061	Manganese	1.17	Spike	P	0 - 20
2261061	Zinc	0.00782	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400736

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2261061	Aluminum	1.23	Spike	P	0 - 20
2261061	Antimony	3.00	Spike	P	0 - 20
2261061	Arsenic	1.19	Spike	P	0 - 20
2261061	Beryllium	1.19	Spike	P	0 - 20
2261061	Cadmium	0.908	Spike	P	0 - 20
2261061	Chromium	3.80	Spike	P	0 - 20
2261061	Copper	2.10	Spike	P	0 - 20
2261061	Lead	2.18	Spike	P	0 - 20
2261061	Nickel	1.59	Spike	P	0 - 20
2261061	Selenium	3.14	Spike	P	0 - 20
2261061	Silver	0.957	Spike	P	0 - 20
2261061	Thallium	3.25	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400873

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257750	Ammonia-N	0.751	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P401093

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259668	Ammonia-N	1.05	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400639

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258622	Kjeldahl Nitrogen	4.20	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P401085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259755	Kjeldahl Nitrogen	4.08	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259499	NO2NO3-N	0.438	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259660	Total-P	1.66	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259670	Total-P	1.18	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259554	O-Phosphate-P	0.487	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259731	O-Phosphate-P	0.324	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P400441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258570	Acesulfame K	3.53	Spike	P	0 - 30
2258570	AMPA	2.70	Spike	P	0 - 30
2258570	Endothall	3.17	Spike	P	0 - 30
2258570	Glufosinate	10.9	Spike	P	0 - 30
2258570	Glyphosate	0.726	Spike	P	0 - 30
2258570	Sucralose	3.61	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P400469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258016	2,4-D	3.51	Spike	P	0 - 30
2258016	2,4,5-T	15.0	Spike	P	0 - 30
2258016	Acetaminophen	15.9	Spike	P	0 - 30
2258016	Acetamiprid	22.6	Spike	P	0 - 30
2258016	Afidopyropen	5.24	Spike	P	0 - 30
2258016	Bentazon	4.36	Spike	P	0 - 30
2258016	Benzovindiflupyr	21.0	Spike	P	0 - 30
2258016	Carbamazepine	6.92	Spike	P	0 - 30
2258016	Clothianidin	6.15	Spike	P	0 - 30
2258016	Dinotefuran	19.0	Spike	P	0 - 30
2258016	Diuron	8.61	Spike	P	0 - 30
2258016	Fenuron	6.91	Spike	P	0 - 30
2258016	Fluridone	10.7	Spike	P	0 - 30
2258016	Hydrocodone	11.3	Spike	P	0 - 30
2258016	Ibuprofen	7.81	Spike	P	0 - 30
2258016	Imazapyr	14.0	Spike	P	0 - 30
2258016	Imidacloprid	5.16	Spike	P	0 - 30
2258016	Linuron	15.1	Spike	P	0 - 30
2258016	Mandestrobin	5.98	Spike	P	0 - 30
2258016	MCPP	19.7	Spike	P	0 - 30
2258016	Naproxen	2.81	Spike	P	0 - 30
2258016	Primidone	6.22	Spike	P	0 - 30
2258016	Pyraclostrobin	12.3	Spike	P	0 - 30
2258016	Thiamethoxam	13.0	Spike	P	0 - 30
2258016	Tolfenpyrad	8.86	Spike	P	0 - 30
2258016	Triclopyr	7.54	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
 Batch ID: P400925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259496	Total Alkalinity	0.537	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
 Batch ID: P400928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259496	Fluoride	0.502	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
 Batch ID: P400728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259670	Organic Carbon	0.708	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2259714

Field Sample ID: G3SD0070

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	124	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	101	P	30 - 160
EPA 8321B	Diuron-d6	92.4	P	30 - 160
EPA 8321B	Endothall-d6	78.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	60.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.9	P	30 - 160
EPA 8321B	Primidone-d5	94.5	P	30 - 160
EPA 8321B	Sucralose-d6	71.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106430
Included Lab Sample IDs: 2259714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	98.8	P/P	60 - 160
Glufosinate	91.0	95.3	P/P	60 - 160
Glyphosate	99.3	102	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A106433
Included Lab Sample IDs: 2259661, 2259664, 2259671, 2259672, 2259673

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.2	96.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A106461
Included Lab Sample IDs: 2259714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	97.4	78.0	P/P	60 - 160
Endothall	76.5	71.5	P/P	60 - 160
Sucralose	72.8	69.2	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A106471
Included Lab Sample IDs: 2259660, 2259663

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A106472
Included Lab Sample IDs: 2259659, 2259662, 2259665, 2259666, 2259667

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A106480
Included Lab Sample IDs: 2259660, 2259663, 2259668, 2259669, 2259670

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

Reference Method: EPA 8321B
Run ID: A106497
Included Lab Sample IDs: 2259714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.0	93.4	P/P	50 - 150
2,4,5-T	91.4	106	P/P	50 - 150
Acetaminophen	99.4	108	P/P	60 - 160
Acetamiprid	106	106	P/P	50 - 150
Afidopyropen	95.9	99.6	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106497
Included Lab Sample IDs: 2259714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	108	101	P/P	50 - 160
Benzovindiflupyr	95.7	105	P/P	50 - 150
Carbamazepine	101	100	P/P	60 - 150
Clothianidin	101	102	P/P	60 - 150
Dinotefuran	107	107	P/P	50 - 150
Diuron	109	104	P/P	60 - 160
Fenuron	96.6	96.4	P/P	60 - 150
Fluridone	103	101	P/P	60 - 160
Hydrocodone	104	98.8	P/P	60 - 150
Ibuprofen	92.8	74.6	P/P	50 - 160
Imazapyr	96.0	106	P/P	50 - 150
Imidacloprid	104	98.5	P/P	60 - 150
Linuron	107	92.8	P/P	60 - 150
Mandestrobin	102	102	P/P	50 - 150
MCPP	99.6	93.5	P/P	50 - 150
Naproxen	158	122	P/P	50 - 160
Primidone	96.9	91.6	P/P	60 - 150
Pyraclostrobin	105	101	P/P	60 - 150
Thiamethoxam	108	110	P/P	50 - 150
Tolfenpyrad	98.7	101	P/P	60 - 150
Triclopyr	95.5	103	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A106518
Included Lab Sample IDs: 2259660, 2259663, 2259668, 2259669

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	103	P/P	90 - 110
Kjeldahl Nitrogen	99.7	97.4	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A106526
Included Lab Sample IDs: 2259660, 2259663, 2259668, 2259669, 2259670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	96.5	P/P	90 - 110
Organic Carbon	96.5	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A106554
Included Lab Sample IDs: 2259668, 2259669, 2259670

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A106567
Included Lab Sample IDs: 2259715, 2259716

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.7	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106567

Included Lab Sample IDs: 2259715, 2259716

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106584

Included Lab Sample IDs: 2259660, 2259663

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106588

Included Lab Sample IDs: 2259715, 2259716

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	104	105	P/P	90 - 110
Arsenic	99.8	99.4	P/P	90 - 110
Beryllium	96.6	98.6	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	94.7	93.9	P/P	90 - 110
Copper	97.3	95.5	P/P	90 - 110
Lead	101	100	P/P	90 - 110
Nickel	97.1	94.8	P/P	90 - 110
Selenium	98.3	97.8	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Thallium	99.3	98.3	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106589

Included Lab Sample IDs: 2259715, 2259716

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	98.3	99.9	P/P	90 - 110
Manganese	102	97.7	P/P	90 - 110
Zinc	96.4	94.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106605

Included Lab Sample IDs: 2259659, 2259662, 2259665, 2259666, 2259667

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

Reference Method: SM 4500 F-C-2011

Run ID: A106605

Included Lab Sample IDs: 2259659, 2259662, 2259665, 2259666, 2259667

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106666

Included Lab Sample IDs: 2259668, 2259669, 2259670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106693

Included Lab Sample IDs: 2259670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	104	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					5.39	
EPA 200.7 Rev. 4.4	Calcium	104					1.02
	Iron	101	108	109			0.801
	Magnesium	108					1.87
	Manganese	95.4	101	99.5			1.17
	Zinc	86.4	100	100			0.0078
EPA 200.8 Rev. 5.4	Aluminum	107	107	109			1.23
	Antimony	108	108	111			3.00
	Arsenic	105	110	112			1.19
	Beryllium	103	94.4	95.5			1.19
	Cadmium	104	100	101			0.908
	Chromium	99.3	92.9	96.5			3.80
	Copper	100	97.7	99.9			2.10
	Lead	105	109	111			2.18
	Nickel	101	99.0	101			1.59
	Selenium	104	99.3	103			3.14
	Silver	106	97.2	98.2			0.957
	Thallium	108	110	113			3.25
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	98.4	97.4			0.751
	Ammonia-N	98.4	96.8	95.6			1.05
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.6	93.6	98.1			4.20
	Kjeldahl Nitrogen	102	91.6	95.8			4.08
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	96.7	97.2			0.438
EPA 365.1 Rev. 2.0	Total-P	99.8	103	101			1.66
	Total-P	106	104	105			1.18
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9	98.2	98.8			0.487
	O-Phosphate-P	101					0.324
EPA 8321B	2,4-D	102	111	115			3.51
	2,4,5-T	88.8	118	102			15.0
	Acesulfame K	85.0	87.0	84.0			3.53
	Acetaminophen	91.0	125	106			15.9
	Acetamiprid	75.9	96.2	76.6			22.6
	Afidopyropen	78.3	43.0	40.8			5.24
	AMPA	87.6	80.5	82.7			2.70
	Bentazon	115	88.1	84.4			4.36
	Benzovindiflupyr	83.0	80.1	64.9			21.0
	Carbamazepine	90.2	105	98.4			6.92
	Clothianidin	88.8	125	117			6.15
	Dinotefuran	82.7	127	105			19.0
	Diuron	73.3	87.6	80.3			8.61
	Endothall	73.5	77.7	80.3			3.17
	Fenuron	87.3	90.1	84.1			6.91
	Fluridone	87.1	84.7	76.1			10.7
	Glufosinate	83.7	85.7	95.5			10.9
	Glyphosate	89.3	87.3	87.9			0.726
	Hydrocodone	81.5	118	106			11.3
	Ibuprofen	85.2	75.0	81.1			7.81
	Imazapyr	92.9	149	128			14.0
	Imidacloprid	94.3	206	191			5.16
	Linuron	64.3	86.5	74.3			15.1
	Mandestrobin	79.4	86.5	81.5			5.98
	MCPP	113	131	107			19.7
	Naproxen	123	131	128			2.81
	Primidone	62.4	98.1	104			6.22

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Pyraclostrobin	80.5	76.2	67.4		12.3
	Sucralose	73.7	72.2	74.8		3.61
	Thiamethoxam	93.4	174	153		13.0
	Tolfenpyrad	50.5	58.5	53.5		8.86
	Triclopyr	87.2	119	110		7.54
SM 2320 B-2011	Total Alkalinity	104			0.537	
SM 4500 F-C-2011	Fluoride	99.7	99.4	100		0.502
SM 5310 B-2011	Organic Carbon	95.8	95.3	96.2		0.708

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2259659, 2259662, 2259665, 2259666, 2259667
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2259715, 2259716
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2259715, 2259716
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2259660, 2259663, 2259668, 2259669, 2259670
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2259660, 2259663, 2259668, 2259669, 2259670
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2259660, 2259663, 2259668, 2259669, 2259670
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2259660, 2259663, 2259668, 2259669, 2259670
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2259661, 2259664, 2259671, 2259672, 2259673
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2259714
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2259659, 2259662, 2259665, 2259666, 2259667
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2259659, 2259662, 2259665, 2259666, 2259667
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2259659, 2259662, 2259665, 2259666, 2259667
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2259660, 2259663, 2259668, 2259669, 2259670

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	07/02/2021			07/02/2021 15:25	Blanca Fach	2259659, 2259662, 2259665, 2259666, 2259667
EPA 200.7 Rev. 4.4	07/02/2021	07/09/2021 12:30	Elliott D. Healy	07/12/2021 20:28	Betina Topolski	2259715
	07/02/2021	07/09/2021 12:30	Elliott D. Healy	07/12/2021 20:40	Betina Topolski	2259715
	07/02/2021	07/09/2021 12:30	Elliott D. Healy	07/12/2021 20:48	Betina Topolski	2259716
	07/02/2021	07/09/2021 12:30	Elliott D. Healy	07/12/2021 21:00	Betina Topolski	2259716
	07/02/2021	07/09/2021 12:30	Elliott D. Healy	07/13/2021 14:02	Betina Topolski	2259715
EPA 200.8 Rev. 5.4	07/02/2021	07/09/2021 12:30	Elliott D. Healy	07/13/2021 14:20	Betina Topolski	2259716
	07/02/2021	07/09/2021 12:30	Elliott D. Healy	07/13/2021 22:38	Alexander Thompson	2259715
	07/02/2021	07/09/2021 12:30	Elliott D. Healy	07/13/2021 22:48	Alexander Thompson	2259716
EPA 350.1 Rev. 2.0	07/02/2021			07/13/2021 13:06	Roberta Tatti	2259660
	07/02/2021			07/13/2021 13:07	Roberta Tatti	2259663
	07/02/2021			07/16/2021 14:11	Roberta Tatti	2259668
	07/02/2021			07/16/2021 14:17	Roberta Tatti	2259669
	07/02/2021			07/16/2021 14:19	Roberta Tatti	2259670
EPA 351.2 Rev. 2.0	07/02/2021	07/07/2021 13:14	Benjamin T. Nordmann	07/08/2021 16:34	Letuzia M De Oliveira	2259660
	07/02/2021	07/07/2021 13:14	Benjamin T. Nordmann	07/08/2021 16:36	Letuzia M De Oliveira	2259663
	07/02/2021	07/07/2021 13:14	Benjamin T. Nordmann	07/08/2021 16:41	Letuzia M De Oliveira	2259668
	07/02/2021	07/07/2021 13:14	Benjamin T. Nordmann	07/08/2021 16:43	Letuzia M De Oliveira	2259669
	07/02/2021	07/16/2021 15:04	Benjamin T. Nordmann	07/19/2021 17:50	Letuzia M De Oliveira	2259670
EPA 353.2 Rev. 2.0	07/02/2021			07/07/2021 10:53	Beverly Y. Sanders	2259660
	07/02/2021			07/07/2021 10:54	Beverly Y. Sanders	2259663
	07/02/2021			07/07/2021 10:56	Beverly Y. Sanders	2259668
	07/02/2021			07/07/2021 10:57	Beverly Y. Sanders	2259669
	07/02/2021			07/07/2021 10:58	Beverly Y. Sanders	2259670
EPA 365.1 Rev. 2.0	07/02/2021	07/06/2021 15:49	Madeline Gruver	07/07/2021 09:21	Shengyu Ding	2259663
	07/02/2021	07/06/2021 15:49	Madeline Gruver	07/07/2021 09:22	Shengyu Ding	2259660
	07/02/2021	07/09/2021 14:46	Simonne.V. Calhoun	07/12/2021 11:49	Shengyu Ding	2259668
	07/02/2021	07/09/2021 14:46	Simonne.V. Calhoun	07/12/2021 11:50	Shengyu Ding	2259669
	07/02/2021	07/09/2021 14:46	Simonne.V. Calhoun	07/12/2021 11:51	Shengyu Ding	2259670
EPA 365.1 Rev. 2.0 dissolved	07/02/2021			07/02/2021 15:45	Ping Hua	2259661
	07/02/2021			07/02/2021 15:46	Ping Hua	2259664
	07/02/2021			07/02/2021 15:47	Ping Hua	2259671
	07/02/2021			07/02/2021 15:48	Ping Hua	2259672
	07/02/2021			07/02/2021 15:49	Ping Hua	2259673
EPA 8321B	07/02/2021	07/02/2021 11:45	Pramila Ghimire	07/02/2021 12:34	Pramila Ghimire	2259714
	07/02/2021	07/02/2021 11:45	Pramila Ghimire	07/02/2021 17:44	Pramila Ghimire	2259714
	07/02/2021	07/02/2021 14:00	Hoor Shaik	07/08/2021 01:32	Juyoung Kim	2259714
SM 2320 B-2011	07/02/2021			07/13/2021 21:41	Dale L. Simmons	2259667
	07/02/2021			07/13/2021 22:02	Dale L. Simmons	2259659

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	07/02/2021			07/13/2021 22:17	Dale L. Simmons	2259662
	07/02/2021			07/13/2021 22:32	Dale L. Simmons	2259665
	07/02/2021			07/13/2021 22:47	Dale L. Simmons	2259666
SM 2540 D-2011	07/02/2021			07/07/2021 14:08	Yijie Li	2259659, 2259662, 2259665, 2259666, 2259667
SM 4500 F-C-2011	07/02/2021			07/13/2021 19:24	Dale L. Simmons	2259667
	07/02/2021			07/13/2021 19:34	Dale L. Simmons	2259659
	07/02/2021			07/13/2021 19:39	Dale L. Simmons	2259662
	07/02/2021			07/13/2021 19:45	Dale L. Simmons	2259665
	07/02/2021			07/13/2021 19:50	Dale L. Simmons	2259666
SM 5310 B-2011	07/02/2021			07/08/2021 19:25	Touraj Touran	2259670
	07/02/2021			07/08/2021 20:05	Touraj Touran	2259669
	07/02/2021			07/08/2021 22:37	Touraj Touran	2259660
	07/02/2021			07/08/2021 22:50	Touraj Touran	2259663
	07/02/2021			07/08/2021 23:03	Touraj Touran	2259668