

Chemical Analysis Report

SO-DIST-2021-03-10-01

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

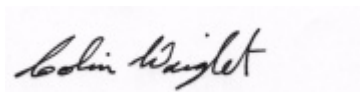
Event Description: **2021 SMP : Myakka Cricks**
Request ID: **RQ-2021-03-08-23**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
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Certified by: Colin Wright, Program Administrator

Date Certified: 31-MAR-2021 08:56

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored 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: 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: Myakka River (Tidal) @ US 41

Collection Date/Time: 03/09/2021 11:20

Field ID: G3SD0068

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2230339	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P394759	
	EPA 300.0 Rev. 2.1	Bromide	0.96		mg Br/L	P394959	
	SM 2320 B-2011	Total Alkalinity	63		mg CaCO3/L	P394943	
	SM 2540 D-2011	TSS	28		mg/L	P395154	
	SM 4500 F-C-2011	Fluoride	0.28		mg F/L	P394947	
2230340	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P394931	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P395140	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P394890	
	EPA 365.1 Rev. 2.0	Total-P	0.34		mg P/L	P394988	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P395228	
2230341	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.19		mg P/L	P394744	

Ref. Method and Comment:

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

SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Rock Creek @ Eisenhower Dr

Collection Date/Time: 03/09/2021 11:55

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2230333	EPA 180.1 Rev. 2.0	Turbidity	11	A	NTU	P394759	
	EPA 300.0 Rev. 2.1	Bromide	23		mg Br/L	P394959	
	SM 2320 B-2011	Total Alkalinity	115		mg CaCO3/L	P394944	
	SM 2540 D-2011	TSS	27		mg/L	P395156	
	SM 4500 F-C-2011	Fluoride	0.67		mg F/L	P395085	
2230334	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P394930	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P394973	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P394782	
	EPA 365.1 Rev. 2.0	Total-P	0.23		mg P/L	P394987	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P395398	
2230335	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P394746	
2230363	EPA 8321B	Acesulfame K	0.10	U	ug/L	P394775	
		2,4-D	0.0021	I	ug/L	P394766	
		AMPA	1.0	U	ug/L	P394775	
		2,4,5-T	0.0040	U	ug/L	P394766	
		Sucralose	0.36		ug/L	P394775	
		Acetaminophen	0.0080	U	ug/L	P394766	
		Endothall	0.25	U	ug/L	P394775	
		Acetamiprid	0.0020	U	ug/L	P394766	
		Glufosinate	1.0	U	ug/L	P394775	
		Glyphosate	1.0	U	ug/L	P394775	
		Afidopypropen	0.0020	U	ug/L	P394766	
		Bentazon	0.0047		ug/L	P394766	
		Benzovindiflupyr	0.0020	U	ug/L	P394766	
		Carbamazepine	0.0016	I	ug/L	P394766	
		Clothianidin	0.0020	U	ug/L	P394766	
		Dinotefuran	0.011		ug/L	P394766	
		Diuron	0.0020	U	ug/L	P394766	
		Fenuron	0.016	U	ug/L	P394766	
		Fluridone	0.015		ug/L	P394766	
		Imazapyr	0.015	I	ug/L	P394766	
		Hydrocodone	0.0020	U	ug/L	P394766	
		Ibuprofen	0.020	U	ug/L	P394766	
		Imidacloprid	0.0032	I	ug/L	P394766	
		Linuron	0.0040	U	ug/L	P394766	
		Mandestrobin	0.0020	U	ug/L	P394766	
		MCPP	0.0020	U	ug/L	P394766	
		Naproxen	0.0080	U	ug/L	P394766	
		Primidone	0.0040	U	ug/L	P394766	
		Pyraclostrobin	0.0020	U	ug/L	P394766	
		Thiamethoxam	0.0021	I	ug/L	P394766	
		Tolfenpyrad	0.0020	U	ug/L	P394766	
		Triclopyr	0.0040	U	ug/L	P394766	

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2230364	EPA 200.7 Rev. 4.4	Calcium	220		mg/L	P395148	
		Chromium	8.0	I	ug/L	P395148	
		Iron	1.02E+03		ug/L	P395148	
		Magnesium	462		mg/L	P395148	
		Manganese	17		ug/L	P395148	
	EPA 200.8 Rev. 5.4	Zinc	15	U	ug/L	P395148	
		Aluminum	579		ug/L	P395148	
		Antimony	0.29	I	ug/L	P395148	
		Arsenic	1.65		ug/L	P395148	
		Beryllium	0.040	U	ug/L	P395148	
		Cadmium	0.080	U	ug/L	P395148	
		Copper	1.6	U	ug/L	P395148	
		Lead	0.80	U	ug/L	P395148	
		Nickel	2.0	U	ug/L	P395148	
		Selenium	0.80	U	ug/L	P395148	
		Silver	0.040	U	ug/L	P395148	
		Thallium	0.40	U	ug/L	P395148	

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.

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: Little Alligator Creek @ Midway Blvd

Collection Date/Time: 03/09/2021 12:40

Field ID: G3SD0071

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2230336	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P394759	
	EPA 300.0 Rev. 2.1	Bromide	40		mg Br/L	P394959	
	SM 2320 B-2011	Total Alkalinity	131		mg CaCO3/L	P394944	
	SM 2540 D-2011	TSS	17		mg/L	P395156	
	SM 4500 F-C-2011	Fluoride	0.90		mg F/L	P395085	
2230337	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P394930	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P394973	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P394782	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P394987	
	SM 5310 B-2011	Organic Carbon	8.8		mg C/L	P395398	
2230338	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P394746	
2230365	EPA 200.7 Rev. 4.4	Calcium	277		mg/L	P395148	
		Chromium	7.0	I	ug/L	P395148	
		Iron	550		ug/L	P395148	
		Magnesium	727		mg/L	P395148	
		Manganese	7.1	I	ug/L	P395148	
	EPA 200.8 Rev. 5.4	Zinc	15	U	ug/L	P395148	
		Aluminum	415		ug/L	P395148	
		Antimony	0.30	I	ug/L	P395148	
		Arsenic	2.04		ug/L	P395148	
		Beryllium	0.040	U	ug/L	P395148	
		Cadmium	0.080	U	ug/L	P395148	
		Copper	1.7	I	ug/L	P395148	
		Lead	0.80	U	ug/L	P395148	
		Nickel	2.0	U	ug/L	P395148	
		Selenium	0.80	U	ug/L	P395148	
		Silver	0.040	U	ug/L	P395148	
		Thallium	0.40	U	ug/L	P395148	

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.

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: FB

Collection Date/Time: 03/09/2021 14:20

Field ID: FB_03092021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2230342	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P394759	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P394959	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P394943	
	SM 2540 D-2011	TSS	2	U	mg/L	P395154	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P394947	
2230343	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P394931	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P395140	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P394890	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P394988	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P395228	
2230344	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P394744	
2230366	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P395148	
		Chromium	1.0	U	ug/L	P395148	
		Iron	30	U	ug/L	P395148	
		Magnesium	0.040	U	mg/L	P395148	
		Manganese	1.0	U	ug/L	P395148	
		Zinc	5.0	U	ug/L	P395148	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P395148	
		Antimony	0.050	U	ug/L	P395148	
		Arsenic	0.050	U	ug/L	P395148	
		Beryllium	0.010	U	ug/L	P395148	
		Cadmium	0.020	U	ug/L	P395148	
		Copper	0.40	U	ug/L	P395148	
		Lead	0.20	U	ug/L	P395148	
		Nickel	0.50	U	ug/L	P395148	
		Selenium	0.20	U	ug/L	P395148	
		Silver	0.010	U	ug/L	P395148	
		Thallium	0.10	U	ug/L	P395148	

Ref. Method and Comment:

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

SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high 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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P394759

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395148

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Chromium	1.0	U	ug/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: P395148

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
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 300.0 Rev. 2.1
Batch ID: P394959

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394930

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394931

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394973

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395140

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394782

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394890

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394987

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394988

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394744

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394746

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

Reference Method: EPA 8321B
Batch ID: P394766

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P394766

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P394775

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: P394943

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

Reference Method: SM 2320 B-2011

Batch ID: P394944

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

Reference Method: SM 2540 D-2011

Batch ID: P395154

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P395156

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P394947

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P395085

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P395228

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

Reference Method: SM 5310 B-2011
Batch ID: P395398

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: P395148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Chromium	99.5		P	85 - 115
Iron	105		P	85 - 115
Magnesium	97.8		P	85 - 115
Manganese	102		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.1		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	102		P	85 - 115
Beryllium	92.5		P	85 - 115
Cadmium	102		P	85 - 115
Copper	100		P	85 - 115
Lead	111		P	85 - 115
Nickel	100		P	85 - 115
Selenium	101		P	85 - 115
Silver	104		P	85 - 115
Thallium	111		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394959

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394930

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: P394931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394973

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395140

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394782

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: P394890

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394987

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: P394988

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394746

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

Reference Method: EPA 8321B
Batch ID: P394766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	119		P	30 - 160
2,4,5-T	115		P	30 - 160
Acetaminophen	144		P	30 - 160
Acetamiprid	88.1		P	30 - 160
Afidopyropen	64.2		P	30 - 160
Bentazon	80.8		P	30 - 160
Benzovindiflupyr	98.0		P	30 - 160
Carbamazepine	102		P	30 - 160
Clothianidin	70.1		P	30 - 160
Dinotefuran	94.7		P	30 - 160
Diuron	84.1		P	30 - 160
Fenuron	106		P	30 - 160
Fluridone	84.2		P	30 - 160
Hydrocodone	100		P	30 - 160
Ibuprofen	99.4		P	30 - 160
Imazapyr	90.4		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P394766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	99.3		P	30 - 160
Linuron	80.7		P	30 - 160
Mandestrobin	96.0		P	30 - 160
MCPPP	133		P	30 - 160
Naproxen	63.5		P	30 - 160
Primidone	93.8		P	30 - 160
Pyraclostrobin	84.4		P	30 - 160
Thiamethoxam	101		P	30 - 160
Tolfenpyrad	56.5		P	30 - 160
Triclopyr	121		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P394775

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	85.5		P	40 - 150
AMPA	102		P	40 - 150
Endothall	84.9		P	40 - 150
Glufosinate	110		P	40 - 150
Glyphosate	136		P	40 - 140
Sucralose	105		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P394943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P394944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P394947

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P395085

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.2		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P395228

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.3		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P395398

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P395148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230742	Chromium	99.2	97.0	P/P	70 - 130
2230742	Iron	107	106	P/P	70 - 130
2230742	Manganese	104	102	P/P	70 - 130
2230742	Zinc	100	95.8	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P395148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230742	Aluminum	85.7	103	P/P	70 - 130
2230742	Antimony	82.6	99.7	P/P	70 - 130
2230742	Arsenic	87.7	104	P/P	70 - 130
2230742	Beryllium	78.9	95.1	P/P	70 - 130
2230742	Cadmium	72.1	88.1	P/P	70 - 130
2230742	Copper	84.8	102	P/P	70 - 130
2230742	Lead	88.6	106	P/P	70 - 130
2230742	Nickel	81.4	96.2	P/P	70 - 130
2230742	Selenium	85.2	99.4	P/P	70 - 130
2230742	Silver	76.8	89.7	P/P	70 - 130
2230742	Thallium	84.6	102	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P394959

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230509	Bromide	96.7	95.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P394930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230261	Ammonia-N	98.2	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P394931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230375	Ammonia-N	96.4	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P394973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230265	Kjeldahl Nitrogen	101	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P395140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230408	Kjeldahl Nitrogen	97.2	98.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230266	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230301	NO2NO3-N	92.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230264	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230288	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230296	O-Phosphate-P	98.3	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P394766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229932	2,4-D	101	119	P/P	30 - 160
2229932	2,4,5-T	103	106	P/P	30 - 160
2229932	Acetaminophen	93.0	98.4	P/P	30 - 160
2229932	Acetamiprid	84.4	89.6	P/P	30 - 160
2229932	Afidopyropen	67.3	77.7	P/P	30 - 160
2229932	Bentazon	60.1	65.2	P/P	30 - 160
2229932	Benzovindiflupyr	88.7	99.1	P/P	30 - 160
2229932	Carbamazepine	93.9	104	P/P	30 - 160
2229932	Clothianidin	69.2	78.9	P/P	30 - 160
2229932	Dinotefuran	94.4	108	P/P	30 - 160
2229932	Diuron	70.2	72.2	P/P	30 - 160
2229932	Fenuron	93.4	97.9	P/P	30 - 160
2229932	Fluridone	77.5	78.4	P/P	30 - 160
2229932	Hydrocodone	96.6	109	P/P	30 - 160
2229932	Ibuprofen	72.5	85.8	P/P	30 - 160
2229932	Imazapyr	76.1	86.5	P/P	30 - 160
2229932	Imidacloprid	119	127	P/P	30 - 160
2229932	Linuron	65.3	72.2	P/P	30 - 160
2229932	Mandestrobin	94.4	98.9	P/P	30 - 160
2229932	MCPP	119	136	P/P	30 - 160
2229932	Naproxen	64.5	58.0	P/P	30 - 160
2229932	Primidone	101	105	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P394766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229932	Pyraclostrobin	83.4	91.7	P/P	30 - 160
2229932	Thiamethoxam	118	122	P/P	30 - 160
2229932	Tolfenpyrad	55.5	59.4	P/P	30 - 160
2229932	Triclopyr	108	110	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P394775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229932	Acesulfame K	126	114	P/P	40 - 150
2229932	AMPA	120	116	P/P	40 - 150
2229932	Endothall	86.4	100	P/P	40 - 150
2229932	Glufosinate	117	120	P/P	40 - 150
2229932	Glyphosate	109	128	P/P	40 - 140
2229932	Sucralose	115	116	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P395085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230131	Fluoride	100	99.0	P/P	94 - 107

Reference Method: SM 5310 B-2011

Batch ID: P395228

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230293	Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P395398

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2230844	Organic Carbon	91.5	91.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P394759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230333	Turbidity	0.873	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230742	Calcium	2.27	Spike	P	0 - 20
2230742	Chromium	2.20	Spike	P	0 - 20
2230742	Iron	1.25	Spike	P	0 - 20
2230742	Magnesium	2.54	Spike	P	0 - 20
2230742	Manganese	1.36	Spike	P	0 - 20
2230742	Zinc	4.06	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230366	Cadmium	19.9	Spike	P	0 - 20
2230366	Lead	17.8	Spike	P	0 - 20
2230366	Thallium	18.5	Spike	P	0 - 20
2230742	Aluminum	17.3	Spike	P	0 - 20
2230742	Antimony	18.7	Spike	P	0 - 20
2230742	Arsenic	16.8	Spike	P	0 - 20
2230742	Beryllium	18.6	Spike	P	0 - 20
2230742	Copper	17.9	Spike	P	0 - 20
2230742	Nickel	16.7	Spike	P	0 - 20
2230742	Selenium	15.4	Spike	P	0 - 20
2230742	Silver	15.2	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230509	Bromide	1.10	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230261	Ammonia-N	1.50	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230375	Ammonia-N	0.760	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230265	Kjeldahl Nitrogen	1.26	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230408	Kjeldahl Nitrogen	0.842	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230266	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230301	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230264	Total-P	2.45	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230288	Total-P	1.77	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230296	O-Phosphate-P	0.230	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230335	O-Phosphate-P	0.547	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P394766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229932	2,4-D	14.6	Spike	P	0 - 30
2229932	2,4,5-T	2.72	Spike	P	0 - 30
2229932	Acetaminophen	5.69	Spike	P	0 - 30
2229932	Acetamiprid	5.98	Spike	P	0 - 30
2229932	Afidopyropen	14.3	Spike	P	0 - 30
2229932	Bentazon	8.06	Spike	P	0 - 30
2229932	Benzovindiflupyr	11.1	Spike	P	0 - 30
2229932	Carbamazepine	10.4	Spike	P	0 - 30
2229932	Clothianidin	13.1	Spike	P	0 - 30
2229932	Dinotefuran	13.5	Spike	P	0 - 30
2229932	Diuron	2.89	Spike	P	0 - 30
2229932	Fenuron	4.75	Spike	P	0 - 30
2229932	Fluridone	1.23	Spike	P	0 - 30
2229932	Hydrocodone	11.9	Spike	P	0 - 30
2229932	Ibuprofen	16.8	Spike	P	0 - 30
2229932	Imazapyr	12.9	Spike	P	0 - 30
2229932	Imidacloprid	6.71	Spike	P	0 - 30
2229932	Linuron	10.1	Spike	P	0 - 30
2229932	Mandestrobin	4.61	Spike	P	0 - 30
2229932	MCP	13.3	Spike	P	0 - 30
2229932	Naproxen	10.7	Spike	P	0 - 30
2229932	Primidone	4.17	Spike	P	0 - 30
2229932	Pyraclostrobin	9.49	Spike	P	0 - 30
2229932	Thiamethoxam	3.02	Spike	P	0 - 30
2229932	Tolfenpyrad	6.95	Spike	P	0 - 30
2229932	Triclopyr	2.15	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P394775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229932	Acesulfame K	9.72	Spike	P	0 - 30
2229932	AMPA	3.80	Spike	P	0 - 30
2229932	Endothall	14.7	Spike	P	0 - 30
2229932	Glufosinate	2.43	Spike	P	0 - 30
2229932	Glyphosate	15.9	Spike	P	0 - 30
2229932	Sucralose	0.905	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P394943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230287	Total Alkalinity	0.513	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P394944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P394944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230117	Total Alkalinity	1.33	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P394947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230287	Fluoride	0.454	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P395085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230131	Fluoride	0.909	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P395228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230293	Organic Carbon	0.735	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P395398

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2230844	Organic Carbon	0.387	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2230363

Field Sample ID: G3SD0070

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	108	P	30 - 160
EPA 8321B	Acetaminophen-d4	109	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.9	P	30 - 160
EPA 8321B	Diuron-d6	71.1	P	30 - 160
EPA 8321B	Endothall-d6	93.2	P	40 - 160
EPA 8321B	Endothall-d6	93.2	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	137	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	137	P	40 - 160
EPA 8321B	Ibuprofen-d3	82.4	P	30 - 160
EPA 8321B	Primidone-d5	89.9	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103980

Included Lab Sample IDs: 2230333, 2230336, 2230339, 2230342

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103990

Included Lab Sample IDs: 2230335, 2230338, 2230341, 2230344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	99.6	P/P	90 - 110
O-Phosphate-P	99.3	99.2	P/P	90 - 110
O-Phosphate-P	99.7	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103994

Included Lab Sample IDs: 2230333, 2230336, 2230339, 2230342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	101	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104003

Included Lab Sample IDs: 2230334, 2230337

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104033

Included Lab Sample IDs: 2230340, 2230343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A104047

Included Lab Sample IDs: 2230334, 2230337, 2230340, 2230343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	98.9	P/P	90 - 110
Ammonia-N	98.0	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A104052

Included Lab Sample IDs: 2230333, 2230336, 2230339, 2230342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.9	P/P	90 - 110
Total Alkalinity	97.6	101	P/P	90 - 110
Total Alkalinity	98.9	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A104052

Included Lab Sample IDs: 2230339, 2230342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	100	P/P	90 - 110
Fluoride	99.1	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A104071

Included Lab Sample IDs: 2230363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	103	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A104098

Included Lab Sample IDs: 2230334, 2230337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	94.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A104103

Included Lab Sample IDs: 2230333, 2230336

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104104

Included Lab Sample IDs: 2230334, 2230337, 2230340

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	102	P/P	90 - 110
Total-P	106	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104109

Included Lab Sample IDs: 2230343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A104157

Included Lab Sample IDs: 2230363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.2	105	P/P	50 - 150
2,4,5-T	113	102	P/P	50 - 150
Acetaminophen	92.6	111	P/P	60 - 160
Acetamiprid	106	106	P/P	50 - 150
Afidopyropen	103	102	P/P	50 - 150
Bentazon	102	103	P/P	50 - 160
Benzovindiflupyr	105	104	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A104157
Included Lab Sample IDs: 2230363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbamazepine	110	105	P/P	60 - 150
Clothianidin	99.5	95.2	P/P	60 - 150
Dinotefuran	107	105	P/P	50 - 150
Diuron	122	118	P/P	60 - 160
Fenuron	95.1	109	P/P	60 - 150
Fluridone	109	116	P/P	60 - 160
Hydrocodone	105	105	P/P	60 - 150
Ibuprofen	126	110	P/P	50 - 160
Imazapyr	82.9	98.7	P/P	50 - 160
Imidacloprid	96.6	96.2	P/P	60 - 150
Linuron	102	99.5	P/P	60 - 150
Mandestrobin	116	116	P/P	50 - 150
MCPP	105	101	P/P	50 - 150
Naproxen	98.4	69.7	P/P	50 - 160
Primidone	108	94.6	P/P	60 - 150
Pyraclostrobin	105	103	P/P	60 - 150
Thiamethoxam	105	102	P/P	50 - 150
Tolfenpyrad	106	106	P/P	60 - 150
Triclopyr	88.9	109	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A104164
Included Lab Sample IDs: 2230363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	86.6	74.9	P/P	60 - 160
AMPA	113	117	P/P	60 - 160
Endothall	87.9	121	P/P	60 - 160
Glufosinate	114	108	P/P	60 - 160
Glyphosate	153	149	P/P	60 - 160

Reference Method: SM 5310 B-2011
Run ID: A104174
Included Lab Sample IDs: 2230340, 2230343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.7	96.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A104201
Included Lab Sample IDs: 2230340, 2230343

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A104231
Included Lab Sample IDs: 2230364, 2230365, 2230366

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A104231

Included Lab Sample IDs: 2230364, 2230365, 2230366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	104	105	P/P	90 - 110
Iron	105	106	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Manganese	103	104	P/P	90 - 110
Zinc	104	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A104234

Included Lab Sample IDs: 2230364, 2230365, 2230366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	103	P/P	90 - 110
Antimony	100	100	P/P	90 - 110
Arsenic	104	105	P/P	90 - 110
Beryllium	98.5	97.2	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Copper	101	104	P/P	90 - 110
Nickel	102	104	P/P	90 - 110
Selenium	102	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A104236

Included Lab Sample IDs: 2230334, 2230337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.4	95.3	P/P	90 - 110
Organic Carbon	97.0	93.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A104264

Included Lab Sample IDs: 2230364, 2230365, 2230366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	108	107	P/P	90 - 110
Thallium	101	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A104285

Included Lab Sample IDs: 2230364, 2230365, 2230366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	96.6	96.8	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					0.873	
EPA 200.7 Rev. 4.4	Calcium	102					2.27
	Chromium	99.5	99.2	97.0			2.20
	Iron	105	107	106			1.25
	Magnesium	97.8					2.54
	Manganese	102	104	102			1.36
	Zinc	100	100	95.8			4.06
EPA 200.8 Rev. 5.4	Aluminum	98.1	85.7	103			17.3
	Antimony	102	82.6	99.7			18.7
	Arsenic	102	87.7	104			16.8
	Beryllium	92.5	78.9	95.1			18.6
	Cadmium	102	72.1	88.1			19.9
	Copper	100	84.8	102			17.9
	Lead	111	88.6	106			17.8
	Nickel	100	81.4	96.2			16.7
	Selenium	101	85.2	99.4			15.4
	Silver	104	76.8	89.7			15.2
	Thallium	111	84.6	102			18.5
EPA 300.0 Rev. 2.1	Bromide	98.0	96.7	95.5			1.10
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.2	99.8			1.50
	Ammonia-N	99.4	96.4	97.4			0.760
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	101	99.8			1.26
	Kjeldahl Nitrogen	98.9	97.2	98.1			0.842
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	99.5			0.0
	NO2NO3-N	98.0	92.8				0.0
EPA 365.1 Rev. 2.0	Total-P	105	105	103			2.45
	Total-P	104	102	104			1.77
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7	98.3	98.6			0.230
	O-Phosphate-P	100					0.547
EPA 8321B	2,4-D	119	101	119			14.6
	2,4,5-T	115	103	106			2.72
	Acesulfame K	85.5	126	114			9.72
	Acetaminophen	144	93.0	98.4			5.69
	Acetamiprid	88.1	84.4	89.6			5.98
	Afidopyropen	64.2	67.3	77.7			14.3
	AMPA	102	120	116			3.80
	Bentazon	80.8	60.1	65.2			8.06
	Benzovindiflupyr	98.0	88.7	99.1			11.1
	Carbamazepine	102	93.9	104			10.4
	Clothianidin	70.1	69.2	78.9			13.1
	Dinotefuran	94.7	94.4	108			13.5
	Diuron	84.1	70.2	72.2			2.89
	Endothall	84.9	86.4	100			14.7
	Fenuron	106	93.4	97.9			4.75
	Fluridone	84.2	77.5	78.4			1.23
	Glufosinate	110	117	120			2.43
	Glyphosate	136	109	128			15.9
	Hydrocodone	100	96.6	109			11.9
	Ibuprofen	99.4	72.5	85.8			16.8
	Imazapyr	90.4	76.1	86.5			12.9
	Imidacloprid	99.3	119	127			6.71
	Linuron	80.7	65.3	72.2			10.1
	Mandestrobin	96.0	94.4	98.9			4.61
	MCPP	133	119	136			13.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Naproxen	63.5	64.5	58.0		10.7
	Primidone	93.8	101	105		4.17
	Pyraclostrobin	84.4	83.4	91.7		9.49
	Sucralose	105	115	116		0.905
	Thiamethoxam	101	118	122		3.02
	Tolfenpyrad	56.5	55.5	59.4		6.95
	Triclopyr	121	108	110		2.15
SM 2320 B-2011	Total Alkalinity	100			0.513	
	Total Alkalinity	101			1.33	
SM 4500 F-C-2011	Fluoride	97.3				0.454
	Fluoride	99.2	100	99.0		0.909
SM 5310 B-2011	Organic Carbon	94.3	101			0.735
	Organic Carbon	94.7	91.5	91.0		0.387

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2230333, 2230336, 2230339, 2230342
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2230364, 2230365, 2230366
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2230364, 2230365, 2230366
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2230333, 2230336, 2230339, 2230342
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2230334, 2230337, 2230340, 2230343
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2230334, 2230337, 2230340, 2230343
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2230334, 2230337, 2230340, 2230343
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2230334, 2230337, 2230340, 2230343
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2230335, 2230338, 2230341, 2230344
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2230363
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2230363
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2230333, 2230336, 2230339, 2230342
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2230333, 2230336, 2230339, 2230342
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2230333, 2230336, 2230339, 2230342
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2230334, 2230337, 2230340, 2230343

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	03/10/2021			03/10/2021 15:21	Yen Ta	2230333, 2230336, 2230339, 2230342
EPA 200.7 Rev. 4.4	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/23/2021 17:22	Betina Topolski	2230366
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/23/2021 17:56	Betina Topolski	2230364
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/23/2021 18:07	Betina Topolski	2230364
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/23/2021 18:15	Betina Topolski	2230365
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/23/2021 18:27	Betina Topolski	2230365
EPA 200.8 Rev. 5.4	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/23/2021 18:57	McKinley C Carter	2230366
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/23/2021 19:26	McKinley C Carter	2230364
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/23/2021 19:34	McKinley C Carter	2230365
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/24/2021 18:13	McKinley C Carter	2230366
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/24/2021 18:43	McKinley C Carter	2230364
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/24/2021 18:50	McKinley C Carter	2230365
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/25/2021 13:53	Alexander Thompson	2230366
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/25/2021 14:31	Alexander Thompson	2230364
	03/10/2021	03/18/2021 15:55	Elliott D. Healy	03/25/2021 14:40	Alexander Thompson	2230365
EPA 300.0 Rev. 2.1	03/10/2021			03/12/2021 14:42	Lipi Saha	2230333
	03/10/2021			03/12/2021 15:00	Lipi Saha	2230336
	03/10/2021			03/12/2021 15:18	Lipi Saha	2230339
	03/10/2021			03/12/2021 15:36	Lipi Saha	2230342
EPA 350.1 Rev. 2.0	03/10/2021			03/13/2021 17:51	Ping Hua	2230334
	03/10/2021			03/13/2021 17:52	Ping Hua	2230337
	03/10/2021			03/13/2021 18:15	Ping Hua	2230340
	03/10/2021			03/13/2021 18:17	Ping Hua	2230343
EPA 351.2 Rev. 2.0	03/10/2021	03/15/2021 11:34	Benjamin T. Nordmann	03/16/2021 16:12	Virginia P. Brown	2230334
	03/10/2021	03/15/2021 11:34	Benjamin T. Nordmann	03/16/2021 16:13	Virginia P. Brown	2230337
	03/10/2021	03/18/2021 12:47	Benjamin T. Nordmann	03/22/2021 14:35	Julia Storbeck	2230340
	03/10/2021	03/18/2021 12:47	Benjamin T. Nordmann	03/22/2021 14:37	Julia Storbeck	2230343
EPA 353.2 Rev. 2.0	03/10/2021			03/11/2021 09:50	Beverly Y. Sanders	2230334
	03/10/2021			03/11/2021 09:51	Beverly Y. Sanders	2230337
	03/10/2021			03/12/2021 09:26	Beverly Y. Sanders	2230340
	03/10/2021			03/12/2021 09:27	Beverly Y. Sanders	2230343
EPA 365.1 Rev. 2.0	03/10/2021	03/15/2021 13:12	Yen Ta	03/17/2021 11:14	Shengyu Ding	2230334
	03/10/2021	03/15/2021 13:12	Yen Ta	03/17/2021 11:15	Shengyu Ding	2230337
	03/10/2021	03/15/2021 13:12	Yen Ta	03/17/2021 11:33	Shengyu Ding	2230340
	03/10/2021	03/15/2021 13:12	Yen Ta	03/17/2021 15:49	Shengyu Ding	2230343
EPA 365.1 Rev. 2.0 dissolved	03/10/2021			03/10/2021 14:51	Patrick M. Roche	2230341
	03/10/2021			03/10/2021 14:57	Patrick M. Roche	2230344
	03/10/2021			03/10/2021 15:24	Patrick M. Roche	2230335
	03/10/2021			03/10/2021 15:26	Patrick M. Roche	2230338
EPA 8321B	03/10/2021	03/11/2021 10:00	Rebecca Ware	03/11/2021 13:31	Rebecca Ware	2230363

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/10/2021	03/11/2021 10:00	Rebecca Ware	03/11/2021 14:39	Rebecca Ware	2230363
	03/10/2021	03/11/2021 10:00	Rebecca Ware	03/13/2021 00:36	Rebecca Ware	2230363
	03/10/2021	03/12/2021 14:30	Hoor Shaik	03/13/2021 01:05	Juyoung Kim	2230363
SM 2320 B-2011	03/10/2021			03/11/2021 17:27	Dale L. Simmons	2230342
	03/10/2021			03/11/2021 20:04	Dale L. Simmons	2230339
	03/10/2021			03/11/2021 23:43	Dale L. Simmons	2230333
	03/10/2021			03/12/2021 00:27	Dale L. Simmons	2230336
SM 2540 D-2011	03/10/2021			03/12/2021 14:32	Yijie Li	2230333, 2230336, 2230339, 2230342
SM 4500 F-C-2011	03/10/2021			03/11/2021 17:27	Dale L. Simmons	2230342
	03/10/2021			03/11/2021 20:04	Dale L. Simmons	2230339
	03/10/2021			03/17/2021 08:51	Dale L. Simmons	2230333
SM 5310 B-2011	03/10/2021			03/17/2021 08:56	Dale L. Simmons	2230336
	03/10/2021			03/19/2021 01:58	Madeline Gruver	2230340
	03/10/2021			03/19/2021 02:08	Madeline Gruver	2230343
	03/10/2021			03/23/2021 11:37	Madeline Gruver	2230334
	03/10/2021			03/23/2021 12:48	Madeline Gruver	2230337