

Chemical Analysis Report

SO-DIST-2021-05-06-01

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-2021-05-03-65**

Customer: **SO-DIST**

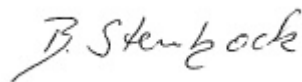
Project ID: **SMP**

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Date Certified: 02-JUN-2021 17:58



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: 05/05/2021 10:30

Field ID: G3SD0071

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2245642	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P397788	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P398481	
	SM 2540 D-2011	TSS	6	I	mg/L	P398297	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P398907	
2245643	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P397989	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P398108	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397999	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P398210	
	SM 5310 B-2011	Organic Carbon	8.7		mg C/L	P397943	
2245644	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.19		mg P/L	P397782	
2245676	EPA 200.7 Rev. 4.4	Calcium	352		mg/L	P397799	
		Chromium	12	I	ug/L	P397799	
		Iron	120	U	ug/L	P397799	
		Magnesium	988		mg/L	P397799	
		Manganese	34		ug/L	P397799	
		Zinc	20	U	ug/L	P397799	
	EPA 200.8 Rev. 5.4	Aluminum	35	I	ug/L	P397799	
		Antimony	0.22	I	ug/L	P397799	
		Arsenic	2.61		ug/L	P397799	
		Beryllium	0.040	U	ug/L	P397799	
		Cadmium	0.080	U	ug/L	P397799	
		Copper	1.6	U	ug/L	P397799	
		Lead	0.80	U	ug/L	P397799	
		Nickel	2.0	U	ug/L	P397799	
		Selenium	0.80	U	ug/L	P397799	
		Silver	0.040	U	ug/L	P397799	
		Thallium	0.40	U	ug/L	P397799	

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: 05/05/2021 11:30

Field ID: G3SD0208

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2245645	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P397788	
	SM 2320 B-2011	Total Alkalinity	144		mg CaCO3/L	P398481	
	SM 2540 D-2011	TSS	6	I	mg/L	P398297	
	SM 4500 F-C-2011	Fluoride	0.82		mg F/L	P398907	
2245648	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P397989	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P398108	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397999	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P398210	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P397943	
2245651	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P397782	

Ref. Method and Comment:

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

Sample Location: Apollo Waterway WBranch

Collection Date/Time: 05/05/2021 12:05

Field ID: G3SD0195

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2245646	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P397788	
	SM 2320 B-2011	Total Alkalinity	122		mg CaCO3/L	P398481	
	SM 2540 D-2011	TSS	8	I	mg/L	P398297	
	SM 4500 F-C-2011	Fluoride	0.87		mg F/L	P398907	
2245649	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P397989	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P398108	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P397999	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P398210	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P397943	
2245652	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P397782	

Ref. Method and Comment:

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

Sample Location: Rock Creek @ Eisenhower Dr.

Collection Date/Time: 05/05/2021 12:45

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2245639	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P397788	
	SM 2320 B-2011	Total Alkalinity	106		mg CaCO3/L	P398481	
	SM 2540 D-2011	TSS	7	IA	mg/L	P398297	
	SM 4500 F-C-2011	Fluoride	0.88		mg F/L	P398907	
2245640	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P397989	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P398108	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397999	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P398134	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P397943	
2245641	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P397782	
2245674	EPA 8321B	2,4-D	0.0020	U	ug/L	P397752	
		Acesulfame K	0.10	U	ug/L	P397923	RPD
		2,4,5-T	0.0040	U	ug/L	P397752	
		AMPA	0.10	U	ug/L	P397923	
		Sucralose	0.018	IJ	ug/L	P397923	SUR
		Acetaminophen	0.0080	U	ug/L	P397752	
		Acetamiprid	0.0020	U	ug/L	P397752	
		Endothall	0.25	U	ug/L	P397923	
		Glufosinate	0.10	U	ug/L	P397923	
		Glyphosate	0.10	U	ug/L	P397923	
		Afidopyropen	0.0020	U	ug/L	P397752	
		Bentazon	0.0024	I	ug/L	P397752	
		Benzovindiflupyr	0.0020	U	ug/L	P397752	
		Carbamazepine	8.0E-04	U	ug/L	P397752	
		Clothianidin	0.0020	U	ug/L	P397752	
		Dinotefuran	0.0031	I	ug/L	P397752	
		Diuron	0.0020	U	ug/L	P397752	
		Fenuron	0.016	U	ug/L	P397752	
		Fluridone	0.016		ug/L	P397752	
		Imazapyr	0.0096	I	ug/L	P397752	
		Hydrocodone	0.0020	U	ug/L	P397752	
		Ibuprofen	0.020	U	ug/L	P397752	
		Imidacloprid	0.0031	I	ug/L	P397752	MS
		Linuron	0.0040	U	ug/L	P397752	
		Mandestrobin	0.0020	U	ug/L	P397752	
		MCPP	0.0020	U	ug/L	P397752	
		Naproxen	0.0080	U	ug/L	P397752	
		Primidone	0.0040	U	ug/L	P397752	
		Pyraclostrobin	0.0020	U	ug/L	P397752	
		Thiamethoxam	0.0020	U	ug/L	P397752	
		Tolfenpyrad	0.0020	U	ug/L	P397752	
		Triclopyr	0.0040	U	ug/L	P397752	
2245675	EPA 200.7 Rev. 4.4	Calcium	298		mg/L	P397799	

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2245675	EPA 200.7 Rev. 4.4	Chromium	8.9	I	ug/L	P397799	
		Iron	260	I	ug/L	P397799	
		Magnesium	696		mg/L	P397799	
		Manganese	21		ug/L	P397799	
		Zinc	15	U	ug/L	P397799	
	EPA 200.8 Rev. 5.4	Aluminum	157		ug/L	P397799	
		Antimony	0.20	U	ug/L	P397799	
		Arsenic	1.85		ug/L	P397799	
		Beryllium	0.040	U	ug/L	P397799	
		Cadmium	0.080	U	ug/L	P397799	
		Copper	1.6	U	ug/L	P397799	
		Lead	0.80	U	ug/L	P397799	
		Nickel	2.0	U	ug/L	P397799	
		Selenium	0.80	U	ug/L	P397799	
		Silver	0.040	U	ug/L	P397799	
		Thallium	0.40	U	ug/L	P397799	

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

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: Wyakka River (Tidal) @ US 41

Collection Date/Time: 05/05/2021 13:25

Field ID: G3SD0068

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2245647	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P397789	
	SM 2320 B-2011	Total Alkalinity	90	A	mg CaCO3/L	P398481	
	SM 2540 D-2011	TSS	6	I	mg/L	P398297	
	SM 4500 F-C-2011	Fluoride	0.66		mg F/L	P398907	
2245650	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P397989	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P398108	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P398059	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P398210	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P397943	
2245653	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P397782	

Ref. Method and Comment:

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397788

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397789

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P397799

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: P397799

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 350.1 Rev. 2.0
Batch ID: P397989

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398108

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397999

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398059

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398134

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398210

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397782

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

Reference Method: EPA 8321B
Batch ID: P397752

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P397923

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: P398481

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

Reference Method: SM 2540 D-2011
Batch ID: P398297

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P398907

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P397943

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: P397799

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Chromium	98.8		P	85 - 115
Iron	107		P	85 - 115
Magnesium	102		P	85 - 115
Manganese	103		P	85 - 115
Zinc	107		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P397799

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.2		P	85 - 115
Antimony	99.6		P	85 - 115
Arsenic	97.3		P	85 - 115
Beryllium	91.1		P	85 - 115
Cadmium	100		P	85 - 115
Copper	97.6		P	85 - 115
Lead	98.0		P	85 - 115
Nickel	96.7		P	85 - 115
Selenium	95.1		P	85 - 115
Silver	98.4		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397989

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: P398108

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397999

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398059

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398134

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P398210

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P397782

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

Reference Method: EPA 8321B

Batch ID: P397752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	135		P	40 - 150
2,4,5-T	116		P	40 - 150
Acetaminophen	84.1		P	30 - 150
Acetamiprid	97.8		P	40 - 150
Afidopyropen	89.2		P	40 - 150
Bentazon	91.2		P	30 - 150
Benzovindiflupyr	92.2		P	40 - 150
Carbamazepine	106		P	40 - 150
Clothianidin	88.6		P	40 - 150
Dinotefuran	95.2		P	40 - 150
Diuron	75.2		P	40 - 150
Fenuron	113		P	40 - 150
Fluridone	88.9		P	40 - 150
Hydrocodone	86.6		P	40 - 150
Ibuprofen	88.5		P	40 - 150
Imazapyr	98.5		P	40 - 150
Imidacloprid	93.4		P	40 - 150
Linuron	81.2		P	40 - 150
Mandestrobin	93.6		P	40 - 150
MCPP	128		P	40 - 150
Naproxen	70.3		P	40 - 150
Primidone	88.9		P	40 - 150
Pyraclostrobin	79.4		P	40 - 150
Thiamethoxam	89.4		P	40 - 150
Tolfenpyrad	60.4		P	40 - 150
Triclopyr	121		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P397923

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	81.1		P	40 - 150
AMPA	96.2		P	40 - 150
Endothall	87.3		P	40 - 150
Glufosinate	85.7		P	40 - 150
Glyphosate	72.7		P	40 - 140
Sucralose	95.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P398481

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P398907

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P397943

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P397799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245560	Chromium	95.9	96.2	P/P	70 - 130
2245560	Iron	107	106	P/P	70 - 130
2245560	Manganese	102	102	P/P	70 - 130
2245560	Zinc	117	117	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P397799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245560	Aluminum	99.2	100	P/P	70 - 130
2245560	Antimony	104	104	P/P	70 - 130
2245560	Arsenic	105	106	P/P	70 - 130
2245560	Beryllium	90.3	87.7	P/P	70 - 130
2245560	Cadmium	98.5	97.9	P/P	70 - 130
2245560	Copper	97.9	99.7	P/P	70 - 130
2245560	Lead	104	104	P/P	70 - 130
2245560	Nickel	103	105	P/P	70 - 130
2245560	Selenium	95.0	94.9	P/P	70 - 130
2245560	Silver	89.3	88.1	P/P	70 - 130
2245560	Thallium	107	109	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P397989

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243405	Ammonia-N	107	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P398108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245643	Kjeldahl Nitrogen	109	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P397999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245465	NO2NO3-N	95.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P398059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245650	NO2NO3-N	95.5	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P398134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245243	Total-P	100	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P398210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245643	Total-P	99.4	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P397782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245653	O-Phosphate-P	97.6	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P397752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245296	2,4-D	113	122	P/P	40 - 150
2245296	2,4,5-T	111	115	P/P	40 - 150
2245296	Acetaminophen	73.0	78.5	P/P	30 - 150
2245296	Acetamiprid	108	89.4	P/P	40 - 150
2245296	Afidopyropen	95.2	86.9	P/P	40 - 150
2245296	Bentazon	44.1	45.1	P/P	30 - 150
2245296	Benzovindiflupyr	95.9	95.4	P/P	40 - 150
2245296	Carbamazepine	87.3	87.2	P/P	40 - 150
2245296	Clothianidin	81.1	86.9	P/P	40 - 150
2245296	Dinotefuran	106	110	P/P	40 - 150
2245296	Diuron	64.0	67.9	P/P	40 - 150
2245296	Fenuron	98.6	103	P/P	40 - 150
2245296	Fluridone	91.6	96.6	P/P	40 - 150
2245296	Hydrocodone	80.2	79.2	P/P	40 - 150
2245296	Ibuprofen	73.9	89.7	P/P	40 - 150
2245296	Imazapyr	104	114	P/P	40 - 150
2245296	Imidacloprid	148	154	P/F	40 - 150
2245296	Linuron	78.7	71.2	P/P	40 - 150
2245296	Mandestrobin	93.4	92.8	P/P	40 - 150
2245296	MCPP	120	123	P/P	40 - 150
2245296	Naproxen	66.4	70.6	P/P	40 - 150
2245296	Primidone	93.7	99.6	P/P	40 - 150
2245296	Pyraclostrobin	87.1	88.3	P/P	40 - 150
2245296	Thiamethoxam	105	108	P/P	40 - 150
2245296	Tolfenpyrad	56.2	55.2	P/P	40 - 150
2245296	Triclopyr	116	117	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P397923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2246291	Acesulfame K	132	89.6	P/P	40 - 150
2246291	AMPA	95.3	87.8	P/P	40 - 150
2246291	Endothall	102	77.5	P/P	40 - 150
2246291	Glufosinate	99.9	104	P/P	40 - 150
2246291	Glyphosate	79.9	88.9	P/P	40 - 140
2246291	Sucralose	95.6	91.5	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P398907

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249294	Fluoride	96.9	98.3	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P397943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2245643	Organic Carbon	95.1	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245586	Turbidity	2.97	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245658	Turbidity	3.52	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P397799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245560	Calcium	2.49	Spike	P	0 - 20
2245560	Chromium	0.239	Spike	P	0 - 20
2245560	Iron	0.993	Spike	P	0 - 20
2245560	Magnesium	1.93	Spike	P	0 - 20
2245560	Manganese	0.366	Spike	P	0 - 20
2245560	Zinc	0.468	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P397799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245560	Aluminum	1.25	Spike	P	0 - 20
2245560	Antimony	0.184	Spike	P	0 - 20
2245560	Arsenic	0.843	Spike	P	0 - 20
2245560	Beryllium	2.97	Spike	P	0 - 20
2245560	Cadmium	0.587	Spike	P	0 - 20
2245560	Copper	1.82	Spike	P	0 - 20
2245560	Lead	0.0857	Spike	P	0 - 20
2245560	Nickel	1.33	Spike	P	0 - 20
2245560	Selenium	0.0543	Spike	P	0 - 20
2245560	Silver	1.34	Spike	P	0 - 20
2245560	Thallium	1.44	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243405	Ammonia-N	0.782	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245643	Kjeldahl Nitrogen	6.54	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245465	NO2NO3-N	0.440	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245650	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245243	Total-P	0.865	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245643	Total-P	1.92	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245653	O-Phosphate-P	1.11	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P397752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245296	2,4-D	7.10	Spike	P	0 - 30
2245296	2,4,5-T	4.04	Spike	P	0 - 30
2245296	Acetaminophen	7.26	Spike	P	0 - 30
2245296	Acetamiprid	18.7	Spike	P	0 - 30
2245296	Afidopyropen	9.10	Spike	P	0 - 30
2245296	Bentazon	0.854	Spike	P	0 - 30
2245296	Benzovindiflupyr	0.503	Spike	P	0 - 30
2245296	Carbamazepine	0.208	Spike	P	0 - 30
2245296	Clothianidin	6.92	Spike	P	0 - 30
2245296	Dinotefuran	3.72	Spike	P	0 - 30
2245296	Diuron	5.87	Spike	P	0 - 30
2245296	Fenuron	4.36	Spike	P	0 - 30
2245296	Fluridone	4.59	Spike	P	0 - 30
2245296	Hydrocodone	1.19	Spike	P	0 - 30
2245296	Ibuprofen	19.3	Spike	P	0 - 30
2245296	Imazapyr	6.18	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P397752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245296	Imidacloprid	3.80	Spike	P	0 - 30
2245296	Linuron	10.0	Spike	P	0 - 30
2245296	Mandestrobin	0.634	Spike	P	0 - 30
2245296	MCP	2.36	Spike	P	0 - 30
2245296	Naproxen	6.11	Spike	P	0 - 30
2245296	Primidone	6.11	Spike	P	0 - 30
2245296	Pyraclostrobin	1.31	Spike	P	0 - 30
2245296	Thiamethoxam	2.17	Spike	P	0 - 30
2245296	Tolfenpyrad	1.84	Spike	P	0 - 30
2245296	Triclopyr	0.373	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P397923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2246291	Acesulfame K	38.0	Spike	F	0 - 30
2246291	AMPA	8.22	Spike	P	0 - 30
2246291	Endothall	27.2	Spike	P	0 - 30
2246291	Glufosinate	4.04	Spike	P	0 - 30
2246291	Glyphosate	10.7	Spike	P	0 - 30
2246291	Sucralose	4.11	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P398481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245647	Total Alkalinity	0.0426	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P398907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249294	Fluoride	0.960	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P397943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2245643	Organic Carbon	0.171	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2245674

Field Sample ID: G3SD0070

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.9	P	30 - 160
EPA 8321B	Diuron-d6	61.0	P	30 - 160
EPA 8321B	Endothall-d6	63.4	P	40 - 160
EPA 8321B	Endothall-d6	63.4	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	94.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	94.3	P	40 - 160
EPA 8321B	Ibuprofen-d3	79.4	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	10.5	F	30 - 160
EPA 8321B	Sucralose-d6	10.5	F	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A105228

Included Lab Sample IDs: 2245641, 2245644, 2245651, 2245652, 2245653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.8	P/P	90 - 110
O-Phosphate-P	98.5	100	P/P	90 - 110
O-Phosphate-P	99.6	98.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A105230

Included Lab Sample IDs: 2245639, 2245642, 2245645, 2245646, 2245647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.0	P/P	95 - 105
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105265

Included Lab Sample IDs: 2245675, 2245676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	105	P/P	90 - 110
Antimony	101	103	P/P	90 - 110
Arsenic	98.6	100	P/P	90 - 110
Beryllium	102	102	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Copper	99.9	103	P/P	90 - 110
Lead	101	102	P/P	90 - 110
Nickel	100	103	P/P	90 - 110
Selenium	98.4	100	P/P	90 - 110
Silver	99.0	99.7	P/P	90 - 110
Thallium	99.6	101	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A105270

Included Lab Sample IDs: 2245675, 2245676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	104	P/P	90 - 110
Calcium	104	104	P/P	90 - 110
Chromium	98.7	99.6	P/P	90 - 110
Chromium	99.6	98.7	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Magnesium	100	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Zinc	102	102	P/P	90 - 110
Zinc	104	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A105310

Included Lab Sample IDs: 2245640, 2245643, 2245648, 2245649, 2245650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	97.2	P/P	90 - 110
Organic Carbon	97.2	96.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105340

Included Lab Sample IDs: 2245640, 2245643, 2245648, 2245649, 2245650

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105341

Included Lab Sample IDs: 2245640, 2245643, 2245648, 2245649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	98.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A105355

Included Lab Sample IDs: 2245674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	78.1	66.6	P/P	40 - 160
AMPA	84.2	89.1	P/P	40 - 160
Endothall	83.7	87.2	P/P	40 - 160
Glufosinate	91.2	94.4	P/P	40 - 160
Glyphosate	70.9	94.7	P/P	40 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105364

Included Lab Sample IDs: 2245650

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

Reference Method: EPA 8321B

Run ID: A105404

Included Lab Sample IDs: 2245674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.2	107	P/P	50 - 150
2,4,5-T	112	101	P/P	50 - 150
Acetaminophen	116	116	P/P	60 - 160
Acetamiprid	110	109	P/P	50 - 150
Afidopyropen	114	109	P/P	50 - 150
Bentazon	93.9	96.0	P/P	50 - 160
Benzovindiflupyr	124	125	P/P	50 - 150
Carbamazepine	125	123	P/P	60 - 150
Clothianidin	121	119	P/P	60 - 150
Dinotefuran	115	113	P/P	50 - 150
Diuron	112	115	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A105404
 Included Lab Sample IDs: 2245674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	92.8	94.5	P/P	60 - 150
Fluridone	107	107	P/P	60 - 160
Hydrocodone	108	105	P/P	60 - 150
Ibuprofen	99.7	91.6	P/P	50 - 160
Imazapyr	119	111	P/P	50 - 150
Imidacloprid	105	105	P/P	60 - 150
Linuron	107	115	P/P	60 - 150
Mandestrobin	103	92.3	P/P	50 - 150
MCPP	108	103	P/P	50 - 150
Naproxen	102	81.4	P/P	50 - 160
Primidone	108	96.8	P/P	60 - 150
Pyraclostrobin	107	103	P/P	60 - 150
Thiamethoxam	118	111	P/P	50 - 150
Tolfenpyrad	108	105	P/P	60 - 150
Triclopyr	109	104	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A105413
 Included Lab Sample IDs: 2245640, 2245643, 2245648, 2245649, 2245650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	102	P/P	90 - 110
Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A105432
 Included Lab Sample IDs: 2245640

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

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A105460
 Included Lab Sample IDs: 2245643, 2245648, 2245649, 2245650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	100	P/P	90 - 110
Total-P	99.8	98.2	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A105477
 Included Lab Sample IDs: 2245674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	99.2	P/P	60 - 160

Reference Method: SM 2320 B-2011
 Run ID: A105548
 Included Lab Sample IDs: 2245639, 2245642, 2245645, 2245646, 2245647

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

Reference Method: SM 2320 B-2011

Run ID: A105548

Included Lab Sample IDs: 2245639, 2245642, 2245645, 2245646, 2245647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.4	98.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A105721

Included Lab Sample IDs: 2245639, 2245642, 2245645, 2245646, 2245647

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					2.97	
	Turbidity					3.52	
EPA 200.7 Rev. 4.4	Calcium	108					2.49
	Chromium	98.8	95.9	96.2			0.239
	Iron	107	107	106			0.993
	Magnesium	102					1.93
	Manganese	103	102	102			0.366
	Zinc	107	117	117			0.468
EPA 200.8 Rev. 5.4	Aluminum	96.2	99.2	100			1.25
	Antimony	99.6	104	104			0.184
	Arsenic	97.3	105	106			0.843
	Beryllium	91.1	90.3	87.7			2.97
	Cadmium	100	98.5	97.9			0.587
	Copper	97.6	97.9	99.7			1.82
	Lead	98.0	104	104			0.0857
	Nickel	96.7	103	105			1.33
	Selenium	95.1	95.0	94.9			0.0543
	Silver	98.4	89.3	88.1			1.34
	Thallium	101	107	109			1.44
EPA 350.1 Rev. 2.0	Ammonia-N	99.4	107	108			0.782
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	109	100			6.54
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	95.2				0.440
	NO2NO3-N	99.0	95.5	95.5			0.0
EPA 365.1 Rev. 2.0	Total-P	108	100	101			0.865
	Total-P	102	99.4	97.0			1.92
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.8	97.6	99.5			1.11
EPA 8321B	2,4-D	135	113	122			7.10
	2,4,5-T	116	111	115			4.04
	Acesulfame K	81.1	132	89.6			38.0
	Acetaminophen	84.1	73.0	78.5			7.26
	Acetamiprid	97.8	108	89.4			18.7
	Afidopyropen	89.2	95.2	86.9			9.10
	AMPA	96.2	95.3	87.8			8.22
	Bentazon	91.2	44.1	45.1			0.854
	Benzovindiflupyr	92.2	95.9	95.4			0.503
	Carbamazepine	106	87.3	87.2			0.208
	Clothianidin	88.6	81.1	86.9			6.92
	Dinotefuran	95.2	106	110			3.72
	Diuron	75.2	64.0	67.9			5.87
	Endothall	87.3	102	77.5			27.2
	Fenuron	113	98.6	103			4.36
	Fluridone	88.9	91.6	96.6			4.59
	Glufosinate	85.7	99.9	104			4.04
	Glyphosate	72.7	79.9	88.9			10.7
	Hydrocodone	86.6	80.2	79.2			1.19
	Ibuprofen	88.5	73.9	89.7			19.3
	Imazapyr	98.5	104	114			6.18
	Imidacloprid	93.4	148	154			3.80
	Linuron	81.2	78.7	71.2			10.0
	Mandestrobin	93.6	93.4	92.8			0.634
	MCPD	128	120	123			2.36
	Naproxen	70.3	66.4	70.6			6.11
	Primidone	88.9	93.7	99.6			6.11
	Pyraclostrobin	79.4	87.1	88.3			1.31

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Sucralose	95.5	95.6	91.5		4.11
	Thiamethoxam	89.4	105	108		2.17
	Tolfenpyrad	60.4	56.2	55.2		1.84
	Triclopyr	121	116	117		0.373
SM 2320 B-2011	Total Alkalinity	98.4			0.0426	
SM 4500 F-C-2011	Fluoride	99.8	96.9	98.3		0.960
SM 5310 B-2011	Organic Carbon	96.2	95.1	95.3		0.171

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2245639, 2245642, 2245645, 2245646, 2245647
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2245675, 2245676
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2245675, 2245676
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2245640, 2245643, 2245648, 2245649, 2245650
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2245640, 2245643, 2245648, 2245649, 2245650
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2245640, 2245643, 2245648, 2245649, 2245650
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2245640, 2245643, 2245648, 2245649, 2245650
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2245641, 2245644, 2245651, 2245652, 2245653
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2245674
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2245674
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2245639, 2245642, 2245645, 2245646, 2245647
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2245639, 2245642, 2245645, 2245646, 2245647
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2245639, 2245642, 2245645, 2245646, 2245647
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2245640, 2245643, 2245648, 2245649, 2245650

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	05/06/2021			05/06/2021 15:01	Sarah A Nixon	2245639, 2245642, 2245645, 2245646, 2245647
EPA 200.7 Rev. 4.4	05/06/2021	05/06/2021 16:40	Elliott D. Healy	05/07/2021 20:51	Betina Topolski	2245675
	05/06/2021	05/06/2021 16:40	Elliott D. Healy	05/07/2021 21:03	Betina Topolski	2245675
	05/06/2021	05/06/2021 16:40	Elliott D. Healy	05/07/2021 21:47	Betina Topolski	2245676
	05/06/2021	05/06/2021 16:40	Elliott D. Healy	05/07/2021 22:07	Betina Topolski	2245676
EPA 200.8 Rev. 5.4	05/06/2021	05/06/2021 16:40	Elliott D. Healy	05/07/2021 22:09	Alexander Thompson	2245675
	05/06/2021	05/06/2021 16:40	Elliott D. Healy	05/07/2021 22:19	Alexander Thompson	2245676
EPA 350.1 Rev. 2.0	05/06/2021			05/11/2021 13:25	Ping Hua	2245640
	05/06/2021			05/11/2021 13:26	Ping Hua	2245643
	05/06/2021			05/11/2021 13:28	Ping Hua	2245648
	05/06/2021			05/11/2021 13:29	Ping Hua	2245649
	05/06/2021			05/11/2021 13:30	Ping Hua	2245650
EPA 351.2 Rev. 2.0	05/06/2021	05/12/2021 13:47	Benjamin T. Nordmann	05/13/2021 14:38	Virginia P. Brown	2245640
	05/06/2021	05/12/2021 13:47	Benjamin T. Nordmann	05/13/2021 14:39	Virginia P. Brown	2245643
	05/06/2021	05/12/2021 13:47	Benjamin T. Nordmann	05/13/2021 14:48	Virginia P. Brown	2245648
	05/06/2021	05/12/2021 13:47	Benjamin T. Nordmann	05/13/2021 14:49	Virginia P. Brown	2245649
	05/06/2021	05/12/2021 13:47	Benjamin T. Nordmann	05/13/2021 14:51	Virginia P. Brown	2245650
EPA 353.2 Rev. 2.0	05/06/2021			05/11/2021 15:21	Touraj Touran	2245640
	05/06/2021			05/11/2021 15:22	Touraj Touran	2245643
	05/06/2021			05/11/2021 15:23	Touraj Touran	2245648
	05/06/2021			05/11/2021 15:24	Touraj Touran	2245649
	05/06/2021			05/12/2021 10:28	Beverly Y. Sanders	2245650
EPA 365.1 Rev. 2.0	05/06/2021	05/13/2021 14:14	Yen Ta	05/14/2021 12:07	Shengyu Ding	2245640
	05/06/2021	05/14/2021 13:32	Yen Ta	05/17/2021 11:14	Shengyu Ding	2245643
	05/06/2021	05/14/2021 13:32	Yen Ta	05/17/2021 11:17	Shengyu Ding	2245648
	05/06/2021	05/14/2021 13:32	Yen Ta	05/17/2021 11:18	Shengyu Ding	2245649
	05/06/2021	05/14/2021 13:32	Yen Ta	05/17/2021 11:21	Shengyu Ding	2245650
EPA 365.1 Rev. 2.0 dissolved	05/06/2021			05/06/2021 14:54	Blanca Fach	2245653
	05/06/2021			05/06/2021 15:15	Blanca Fach	2245641
	05/06/2021			05/06/2021 15:20	Blanca Fach	2245644
	05/06/2021			05/06/2021 15:21	Blanca Fach	2245651
EPA 8321B	05/06/2021			05/06/2021 15:22	Blanca Fach	2245652
	05/06/2021	05/10/2021 09:00	Hoor Shaik	05/13/2021 02:43	Juyoung Kim	2245674
	05/06/2021	05/11/2021 13:15	Mohammad Ghaffari	05/11/2021 21:26	Mohammad Ghaffari	2245674
	05/06/2021	05/11/2021 13:15	Mohammad Ghaffari	05/14/2021 17:19	Mohammad Ghaffari	2245674
SM 2320 B-2011	05/06/2021			05/18/2021 23:30	Dale L. Simmons	2245647
	05/06/2021			05/18/2021 23:42	Dale L. Simmons	2245639
	05/06/2021			05/18/2021 23:54	Dale L. Simmons	2245642
	05/06/2021			05/19/2021 00:06	Dale L. Simmons	2245645

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	05/06/2021			05/19/2021 00:19	Dale L. Simmons	2245646
SM 2540 D-2011	05/06/2021			05/11/2021 15:02	Yijie Li	2245639, 2245642, 2245645, 2245646, 2245647
SM 4500 F-C-2011	05/06/2021			05/27/2021 01:55	Dale L. Simmons	2245647
	05/06/2021			05/27/2021 02:22	Dale L. Simmons	2245639
	05/06/2021			05/27/2021 02:27	Dale L. Simmons	2245642
	05/06/2021			05/27/2021 02:32	Dale L. Simmons	2245645
SM 5310 B-2011	05/06/2021			05/27/2021 02:38	Dale L. Simmons	2245646
	05/06/2021			05/11/2021 02:22	Madeline Gruver	2245643
	05/06/2021			05/11/2021 03:29	Madeline Gruver	2245640
	05/06/2021			05/11/2021 03:41	Madeline Gruver	2245648
	05/06/2021			05/11/2021 04:07	Madeline Gruver	2245649
	05/06/2021			05/11/2021 04:20	Madeline Gruver	2245650