

Chemical Analysis Report

NE-DIST-2021-08-20-02

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

Event Description: **ICW Boat and Arlington**
Request ID: **RQ-2021-08-16-15**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
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Jacksonville, FL 32256
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 16-SEP-2021 10:36

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: LITTLE POTTSBURG CREEK AT ATLANTIC BLVD

Collection Date/Time: 08/19/2021 10:50

Field ID: 20030679

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2271052	EPA 180.1 Rev. 2.0	Turbidity	12	A	NTU	P402776	
	SM 2320 B-2011	Total Alkalinity	75		mg CaCO3/L	P402851	
	SM 2540 D-2011	TSS	17		mg/L	P403199	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P402854	
2271053	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P403081	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P403159	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.041		mg N/L	P403069	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P402893	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P403372	
2271054	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.057		mg P/L	P402771	
2271066	EPA 8321B	2,4-D	0.012		ug/L	P402808	
		Acesulfame K	0.10	U	ug/L	P402720	MS
		2,4,5-T	0.0040	U	ug/L	P402808	
		AMPA	0.14	I	ug/L	P402720	
		Acetaminophen	0.036		ug/L	P402808	
		Acetamiprid	0.0020	U	ug/L	P402808	
		Endothall	0.25	U	ug/L	P402720	MS
		Glufosinate	0.10	U	ug/L	P402720	
		Glyphosate	0.10	U	ug/L	P402720	
		Afidopyropen	0.0020	U	ug/L	P402808	
		Bentazon	0.040		ug/L	P402808	
		Sucralose	0.67		ug/L	P402720	
		Benzovindiflupyr	0.0020	U	ug/L	P402808	
		Carbamazepine	9.0E-04	I	ug/L	P402808	
		Clothianidin	0.0020	U	ug/L	P402808	
		Dinotefuran	0.0020	U	ug/L	P402808	
		Diuron	0.019		ug/L	P402808	
		Fenuron	0.016	U	ug/L	P402808	
		Fluridone	0.0091		ug/L	P402808	
		Imazapyr	0.060		ug/L	P402808	MS
		Hydrocodone	0.0020	U	ug/L	P402808	
		Ibuprofen	0.020	U	ug/L	P402808	
		Imidacloprid	0.034		ug/L	P402808	MS
		Linuron	0.0040	U	ug/L	P402808	
		Mandestrobin	0.0020	U	ug/L	P402808	
		MCP	0.0020	U	ug/L	P402808	
		Naproxen	0.0080	U	ug/L	P402808	
		Primidone	0.0040	U	ug/L	P402808	
		Pyraclostrobin	0.0020	U	ug/L	P402808	
		Thiamethoxam	0.0024	I	ug/L	P402808	
		Tolfenpyrad	0.0020	U	ug/L	P402808	
		Triclopyr	0.0040	U	ug/L	P402808	

Field ID: 20030679

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2271068	EPA 200.7 Rev. 4.4	Calcium	40.7		mg/L	P402815	
		Iron	770		ug/L	P402815	
		Magnesium	24.4		mg/L	P402815	
		Manganese	27.1		ug/L	P402815	
	EPA 200.8 Rev. 5.4	Zinc	8.6	I	ug/L	P402815	
		Aluminum	349		ug/L	P402815	
		Antimony	0.14	I	ug/L	P402815	
		Arsenic	1.89		ug/L	P402815	
		Beryllium	0.037	I	ug/L	P402815	
		Cadmium	0.020	U	ug/L	P402815	
		Chromium	1.1	I	ug/L	P402815	
		Copper	2.33		ug/L	P402815	
		Lead	1.62		ug/L	P402815	
		Nickel	0.65	I	ug/L	P402815	
		Selenium	0.20	U	ug/L	P402815	
		Silver	0.010	U	ug/L	P402815	
		Thallium	0.10	U	ug/L	P402815	

Ref. Method and Comment:

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

EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: FB08192021

Collection Date/Time: 08/19/2021 10:55

Field ID: FB08192021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2271058	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P402776	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P402851	
	SM 2540 D-2011	TSS	2	U	mg/L	P403200	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P402854	
2271059	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P403081	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P403159	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P403070	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P402893	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P403372	
2271060	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P402770	
2271067	EPA 8321B	2,4-D	0.0020	U	ug/L	P402808	
		Acesulfame K	0.10	U	ug/L	P402720	MS
		2,4,5-T	0.0040	U	ug/L	P402808	
		AMPA	0.10	U	ug/L	P402720	
		Acetaminophen	0.0080	U	ug/L	P402808	
		Acetamiprid	0.0020	U	ug/L	P402808	
		Endothall	0.25	U	ug/L	P402720	MS
		Glufosinate	0.10	U	ug/L	P402720	
		Glyphosate	0.10	U	ug/L	P402720	
		Afidopyropen	0.0020	U	ug/L	P402808	
		Bentazon	8.0E-04	U	ug/L	P402808	
		Sucralose	0.010	U	ug/L	P402720	
		Benzovindiflupyr	0.0020	U	ug/L	P402808	
		Carbamazepine	8.0E-04	U	ug/L	P402808	
		Clothianidin	0.0020	U	ug/L	P402808	
		Dinotefuran	0.0020	U	ug/L	P402808	
		Diuron	0.0020	U	ug/L	P402808	
		Fenuron	0.016	U	ug/L	P402808	
		Fluridone	8.0E-04	U	ug/L	P402808	
		Imazapyr	0.0040	U	ug/L	P402808	MS
		Hydrocodone	0.0020	U	ug/L	P402808	
		Ibuprofen	0.020	U	ug/L	P402808	
		Imidacloprid	0.0020	U	ug/L	P402808	MS
		Linuron	0.0040	U	ug/L	P402808	
		Mandestrobin	0.0020	U	ug/L	P402808	
		MCP	0.0020	U	ug/L	P402808	
		Naproxen	0.0080	U	ug/L	P402808	
		Primidone	0.0040	U	ug/L	P402808	
		Pyraclostrobin	0.0020	U	ug/L	P402808	
		Thiamethoxam	0.0020	U	ug/L	P402808	
		Tolfenpyrad	0.0020	U	ug/L	P402808	
		Triclopyr	0.0040	U	ug/L	P402808	
2271069	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P402815	

Field ID: FB08192021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2271069	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P402815	
		Magnesium	0.040	U	mg/L	P402815	
		Manganese	1.0	U	ug/L	P402815	
		Zinc	5.0	U	ug/L	P402815	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P402815	
		Antimony	0.050	U	ug/L	P402815	
		Arsenic	0.050	U	ug/L	P402815	
		Beryllium	0.010	U	ug/L	P402815	
		Cadmium	0.020	U	ug/L	P402815	
		Chromium	0.40	U	ug/L	P402815	
		Copper	0.40	U	ug/L	P402815	
		Lead	0.20	U	ug/L	P402815	
		Nickel	0.50	U	ug/L	P402815	
		Selenium	0.20	U	ug/L	P402815	
		Silver	0.010	U	ug/L	P402815	
		Thallium	0.10	U	ug/L	P402815	

Ref. Method and Comment:

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

EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Arlington River at Carlton oaks

Collection Date/Time: 08/19/2021 11:15

Field ID: G2NE1152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2271055	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P402776	
	SM 2320 B-2011	Total Alkalinity	66		mg CaCO3/L	P402851	
	SM 2540 D-2011	TSS	17		mg/L	P403199	
	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P402854	
2271056	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P403081	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P403159	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P403069	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P402893	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P403372	
2271057	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.068		mg P/L	P402770	

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: P402776

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P402815

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402815

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403081

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403159

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403069

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403070

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P402893

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402770

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402771

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

Reference Method: EPA 8321B

Batch ID: P402720

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

Reference Method: EPA 8321B

Batch ID: P402808

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P402808

Component	Result	Code	Units
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P402851

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

Reference Method: SM 2540 D-2011
Batch ID: P403199

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P403200

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P402854

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P403372

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: P402815

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	109		P	80 - 120
Iron	109		P	80 - 120
Magnesium	110		P	80 - 120
Manganese	105		P	80 - 120
Zinc	111		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402815

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.4		P	85 - 115
Antimony	98.2		P	85 - 115
Arsenic	99.1		P	85 - 115
Beryllium	97.7		P	85 - 115
Cadmium	98.5		P	85 - 115
Chromium	100		P	85 - 115
Copper	99.7		P	85 - 115
Lead	97.9		P	85 - 115
Nickel	99.0		P	85 - 115
Selenium	98.7		P	85 - 115
Silver	98.7		P	85 - 115
Thallium	99.8		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403081

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403159

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403069

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403070

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402893

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402770

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402771

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

Reference Method: EPA 8321B
Batch ID: P402720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	87.4		P	40 - 150
AMPA	97.9		P	40 - 160
Endothall	126		P	40 - 150
Glufosinate	104		P	40 - 160
Glyphosate	91.6		P	40 - 160
Sucralose	106		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P402808

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	82.9		P	40 - 150
2,4,5-T	87.1		P	40 - 150
Acetaminophen	75.1		P	30 - 150
Acetamiprid	80.5		P	40 - 150
Afidopyropen	65.6		P	40 - 150
Bentazon	92.0		P	30 - 150
Benzovindiflupyr	78.8		P	40 - 150
Carbamazepine	77.0		P	40 - 150
Clothianidin	74.8		P	40 - 150
Dinotefuran	75.8		P	40 - 150
Diuron	96.1		P	40 - 150
Fenuron	85.3		P	40 - 150
Fluridone	81.8		P	40 - 150
Hydrocodone	77.3		P	40 - 150
Ibuprofen	71.7		P	40 - 150
Imazapyr	91.6		P	40 - 150
Imidacloprid	85.0		P	40 - 150
Linuron	79.4		P	40 - 150
Mandestrobin	77.6		P	40 - 150
MCPP	87.3		P	40 - 150
Naproxen	58.1		P	40 - 150
Primidone	87.9		P	40 - 150
Pyraclostrobin	66.5		P	40 - 150
Thiamethoxam	78.0		P	40 - 150
Tolfenpyrad	35.0		P	30 - 150
Triclopyr	76.0		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P402851

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P402854

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

Reference Method: SM 5310 B-2011
Batch ID: P403372

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P402815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2270562	Calcium	107	106	P/P	80 - 120
2270562	Iron	108	107	P/P	80 - 120
2270562	Magnesium	108	107	P/P	80 - 120
2270562	Manganese	103	103	P/P	80 - 120
2270562	Zinc	108	109	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2270562	Aluminum	96.7	98.2	P/P	80 - 120
2270562	Antimony	98.4	99.3	P/P	80 - 120
2270562	Arsenic	96.2	96.5	P/P	80 - 120
2270562	Beryllium	94.7	96.8	P/P	80 - 120
2270562	Cadmium	96.7	97.6	P/P	80 - 120
2270562	Chromium	97.2	98.3	P/P	80 - 120
2270562	Copper	95.4	96.5	P/P	80 - 120
2270562	Lead	98.0	98.7	P/P	80 - 120
2270562	Nickel	95.4	96.9	P/P	80 - 120
2270562	Selenium	95.1	96.8	P/P	80 - 120
2270562	Silver	100	99.5	P/P	80 - 120
2270562	Thallium	102	102	P/P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403081

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271142	Ammonia-N	94.2	94.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403159

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2270865	Kjeldahl Nitrogen	101	96.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2270390	NO2NO3-N	96.5	95.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403070

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271099	NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271053	Total-P	102	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2270866	O-Phosphate-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271145	O-Phosphate-P	95.6	97.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P402720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2270486	Acesulfame K	154	134	F/P	40 - 150
2270486	AMPA	83.5	84.6	P/P	40 - 160
2270486	Endothall	155	154	F/F	40 - 150
2270486	Glufosinate	84.2	82.7	P/P	40 - 160
2270486	Glyphosate	81.2	82.2	P/P	40 - 160
2270486	Sucralose	112	110	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P402808

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2270486	2,4-D	107	104	P/P	40 - 150
2270486	2,4,5-T	100	99.1	P/P	40 - 150
2270486	Acetaminophen	85.7	86.3	P/P	30 - 150
2270486	Acetamiprid	94.1	94.9	P/P	40 - 150
2270486	Afidopyropen	80.2	67.1	P/P	40 - 150
2270486	Benzovindiflupyr	80.8	89.7	P/P	40 - 150
2270486	Carbamazepine	89.4	96.8	P/P	40 - 150
2270486	Clothianidin	114	102	P/P	40 - 150
2270486	Dinotefuran	101	108	P/P	40 - 150
2270486	Diuron	78.5	74.7	P/P	40 - 150
2270486	Fenuron	88.6	88.4	P/P	40 - 150
2270486	Fluridone	84.1	85.0	P/P	40 - 150
2270486	Hydrocodone	89.9	88.8	P/P	40 - 150
2270486	Ibuprofen	84.5	70.1	P/P	40 - 150
2270486	Imazapyr	157	133	F/P	40 - 150
2270486	Imidacloprid	142	151	P/F	40 - 150
2270486	Linuron	76.2	85.8	P/P	40 - 150
2270486	Mandestrobin	83.6	84.6	P/P	40 - 150
2270486	MCPP	101	104	P/P	40 - 150
2270486	Naproxen	76.5	80.5	P/P	40 - 150
2270486	Primidone	92.5	91.2	P/P	40 - 150
2270486	Pyraclostrobin	77.8	81.9	P/P	40 - 150
2270486	Thiamethoxam	127	127	P/P	40 - 150
2270486	Tolfenpyrad	50.0	55.1	P/P	30 - 150
2270486	Triclopyr	86.8	92.8	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P402854

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271140	Fluoride	99.9	100	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P403372

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271056	Organic Carbon	97.0	96.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P402776

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271052	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P402815

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270562	Calcium	0.635	Spike	P	0 - 20
2270562	Iron	0.738	Spike	P	0 - 20
2270562	Magnesium	0.779	Spike	P	0 - 20
2270562	Manganese	0.238	Spike	P	0 - 20
2270562	Zinc	0.756	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P402815

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270562	Aluminum	1.47	Spike	P	0 - 20
2270562	Antimony	0.841	Spike	P	0 - 20
2270562	Arsenic	0.245	Spike	P	0 - 20
2270562	Beryllium	2.09	Spike	P	0 - 20
2270562	Cadmium	0.866	Spike	P	0 - 20
2270562	Chromium	1.10	Spike	P	0 - 20
2270562	Copper	1.15	Spike	P	0 - 20
2270562	Lead	0.697	Spike	P	0 - 20
2270562	Nickel	1.52	Spike	P	0 - 20
2270562	Selenium	1.78	Spike	P	0 - 20
2270562	Silver	0.685	Spike	P	0 - 20
2270562	Thallium	0.693	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P403081

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271142	Ammonia-N	0.527	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P403159

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270865	Kjeldahl Nitrogen	3.89	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P403069

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270390	NO2NO3-N	0.562	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P403070

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271099	NO2NO3-N	0.506	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P402893

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271053	Total-P	0.336	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402770

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270866	O-Phosphate-P	0.967	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402771

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271145	O-Phosphate-P	1.56	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P402720

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270486	Acesulfame K	13.1	Spike	P	0 - 30
2270486	AMPA	1.20	Spike	P	0 - 30
2270486	Endothall	0.531	Spike	P	0 - 30
2270486	Glufosinate	1.84	Spike	P	0 - 30
2270486	Glyphosate	1.21	Spike	P	0 - 30
2270486	Sucralose	1.31	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P402808

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270486	2,4-D	2.53	Spike	P	0 - 30
2270486	2,4,5-T	1.19	Spike	P	0 - 30
2270486	Acetaminophen	0.572	Spike	P	0 - 30
2270486	Acetamiprid	0.839	Spike	P	0 - 30
2270486	Afidopyropen	17.7	Spike	P	0 - 30
2270486	Bentazon	4.63	Spike	P	0 - 30
2270486	Benzovindiflupyr	10.4	Spike	P	0 - 30
2270486	Carbamazepine	7.90	Spike	P	0 - 30
2270486	Clothianidin	10.7	Spike	P	0 - 30
2270486	Dinotefuran	5.97	Spike	P	0 - 30
2270486	Diuron	4.62	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P402808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270486	Fenuron	0.216	Spike	P	0 - 30
2270486	Fluridone	1.02	Spike	P	0 - 30
2270486	Hydrocodone	1.23	Spike	P	0 - 30
2270486	Ibuprofen	18.7	Spike	P	0 - 30
2270486	Imazapyr	11.1	Spike	P	0 - 30
2270486	Imidacloprid	4.03	Spike	P	0 - 30
2270486	Linuron	11.8	Spike	P	0 - 30
2270486	Mandestrobin	1.20	Spike	P	0 - 30
2270486	MCPP	2.30	Spike	P	0 - 30
2270486	Naproxen	5.06	Spike	P	0 - 30
2270486	Primidone	1.46	Spike	P	0 - 30
2270486	Pyraclostrobin	5.05	Spike	P	0 - 30
2270486	Thiamethoxam	0.0550	Spike	P	0 - 30
2270486	Tolfenpyrad	9.75	Spike	P	0 - 30
2270486	Triclopyr	6.74	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P402851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271140	Total Alkalinity	1.71	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P402854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271140	Fluoride	0.472	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P403372

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271056	Organic Carbon	0.421	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2271066
Field Sample ID: 20030679

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	76.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.2	P	30 - 160
EPA 8321B	Diuron-d6	79.9	P	30 - 160
EPA 8321B	Endothall-d6	125	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	95.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	62.9	P	30 - 160
EPA 8321B	Primidone-d5	34.4	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	30 - 160

Lab Sample ID: 2271067
Field Sample ID: FB08192021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	75.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.4	P	30 - 160
EPA 8321B	Diuron-d6	72.2	P	30 - 160
EPA 8321B	Endothall-d6	136	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Ibuprofen-d3	53.8	P	30 - 160
EPA 8321B	Primidone-d5	79.8	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107370

Included Lab Sample IDs: 2271054, 2271057, 2271060

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107371

Included Lab Sample IDs: 2271052, 2271055, 2271058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A107376

Included Lab Sample IDs: 2271066, 2271067

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	109	103	P/P	60 - 160
Glufosinate	99.9	102	P/P	60 - 160
Glyphosate	106	103	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A107377

Included Lab Sample IDs: 2271066, 2271067

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	83.4	82.1	P/P	60 - 160
Acesulfame K	90.2	83.4	P/P	60 - 160
Endothall	131	140	P/P	60 - 160
Endothall	140	141	P/P	60 - 160
Sucralose	103	109	P/P	60 - 160
Sucralose	109	107	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A107408

Included Lab Sample IDs: 2271052, 2271055, 2271058

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

Reference Method: SM 4500 F-C-2011

Run ID: A107408

Included Lab Sample IDs: 2271052, 2271055, 2271058

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107467

Included Lab Sample IDs: 2271068, 2271069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.7	99.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107467

Included Lab Sample IDs: 2271068, 2271069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.2	101	P/P	90 - 110
Antimony	97.2	98.6	P/P	90 - 110
Antimony	98.6	98.7	P/P	90 - 110
Arsenic	97.9	99.1	P/P	90 - 110
Arsenic	98.5	97.9	P/P	90 - 110
Beryllium	96.3	95.9	P/P	90 - 110
Beryllium	97.0	96.3	P/P	90 - 110
Cadmium	97.0	98.3	P/P	90 - 110
Cadmium	98.3	98.5	P/P	90 - 110
Chromium	95.5	97.8	P/P	90 - 110
Chromium	97.8	98.2	P/P	90 - 110
Copper	96.5	97.1	P/P	90 - 110
Copper	97.1	97.8	P/P	90 - 110
Lead	96.5	97.2	P/P	90 - 110
Lead	97.2	97.1	P/P	90 - 110
Nickel	96.5	97.4	P/P	90 - 110
Nickel	96.7	96.5	P/P	90 - 110
Selenium	96.8	97.2	P/P	90 - 110
Selenium	97.2	97.8	P/P	90 - 110
Silver	95.4	95.7	P/P	90 - 110
Silver	95.7	96.1	P/P	90 - 110
Thallium	99.0	99.9	P/P	90 - 110
Thallium	99.9	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107480

Included Lab Sample IDs: 2271053, 2271056

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107492

Included Lab Sample IDs: 2271068, 2271069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	97.8	P/P	90 - 110
Calcium	99.6	98.4	P/P	90 - 110
Iron	98.6	97.2	P/P	90 - 110
Iron	98.9	95.9	P/P	90 - 110
Magnesium	98.7	97.2	P/P	90 - 110
Magnesium	99.0	96.1	P/P	90 - 110
Manganese	100	98.7	P/P	90 - 110
Manganese	101	99.9	P/P	90 - 110
Zinc	107	104	P/P	90 - 110
Zinc	108	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A107499

Included Lab Sample IDs: 2271066, 2271067

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	128	96.4	P/P	50 - 150
2,4,5-T	97.6	116	P/P	50 - 150
Acetaminophen	108	113	P/P	60 - 160
Acetamiprid	96.7	108	P/P	50 - 150
Afidopyropen	96.9	120	P/P	50 - 150
Bentazon	87.9	97.4	P/P	50 - 160
Benzovindiflupyr	99.4	98.1	P/P	50 - 150
Carbamazepine	98.3	106	P/P	60 - 150
Clothianidin	104	117	P/P	60 - 150
Dinotefuran	107	108	P/P	50 - 150
Diuron	101	118	P/P	60 - 160
Fenuron	97.1	103	P/P	60 - 150
Fluridone	102	100	P/P	60 - 160
Hydrocodone	98.8	103	P/P	60 - 150
Ibuprofen	105	90.4	P/P	50 - 160
Imazapyr	96.8	111	P/P	50 - 150
Imidacloprid	94.8	123	P/P	60 - 150
Linuron	84.4	103	P/P	60 - 150
Mandestrobin	106	110	P/P	50 - 150
MCPP	92.6	98.2	P/P	50 - 150
Naproxen	90.6	148	P/P	50 - 160
Primidone	95.0	131	P/P	60 - 150
Pyraclostrobin	103	116	P/P	60 - 150
Thiamethoxam	103	113	P/P	50 - 150
Tolfenpyrad	98.3	105	P/P	60 - 150
Triclopyr	93.5	94.9	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107506

Included Lab Sample IDs: 2271053, 2271056, 2271059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107511

Included Lab Sample IDs: 2271053, 2271056, 2271059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107534

Included Lab Sample IDs: 2271059

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107566

Included Lab Sample IDs: 2271053, 2271056

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107583

Included Lab Sample IDs: 2271059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.5	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107644

Included Lab Sample IDs: 2271053, 2271056, 2271059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	98.0	P/P	90 - 110
Organic Carbon	98.0	98.0	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					0.0	
EPA 200.7 Rev. 4.4	Calcium	109	107	106			0.635
	Iron	109	108	107			0.738
	Magnesium	110	108	107			0.779
	Manganese	105	103	103			0.238
	Zinc	111	108	109			0.756
EPA 200.8 Rev. 5.4	Aluminum	96.4	96.7	98.2			1.47
	Antimony	98.2	98.4	99.3			0.841
	Arsenic	99.1	96.2	96.5			0.245
	Beryllium	97.7	94.7	96.8			2.09
	Cadmium	98.5	96.7	97.6			0.866
	Chromium	100	97.2	98.3			1.10
	Copper	99.7	95.4	96.5			1.15
	Lead	97.9	98.0	98.7			0.697
	Nickel	99.0	95.4	96.9			1.52
	Selenium	98.7	95.1	96.8			1.78
	Silver	98.7	100	99.5			0.685
	Thallium	99.8	102	102			0.693
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	94.2	94.8			0.527
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.2	101	96.1			3.89
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	96.5	95.5			0.562
	NO2NO3-N	99.5	99.0	98.5			0.506
EPA 365.1 Rev. 2.0	Total-P	106	102	103			0.336
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	106	103	104			0.967
	O-Phosphate-P	107	95.6	97.1			1.56
EPA 8321B	2,4-D	82.9	107	104			2.53
	2,4,5-T	87.1	100	99.1			1.19
	Acesulfame K	87.4	154	134			13.1
	Acetaminophen	75.1	85.7	86.3			0.572
	Acetamiprid	80.5	94.1	94.9			0.839
	Afidopyropen	65.6	80.2	67.1			17.7
	AMPA	97.9	83.5	84.6			1.20
	Bentazon	92.0					4.63
	Benzovindiflupyr	78.8	80.8	89.7			10.4
	Carbamazepine	77.0	89.4	96.8			7.90
	Clothianidin	74.8	114	102			10.7
	Dinotefuran	75.8	101	108			5.97
	Diuron	96.1	78.5	74.7			4.62
	Endothall	126	155	154			0.531
	Fenuron	85.3	88.6	88.4			0.216
	Fluridone	81.8	84.1	85.0			1.02
	Glufosinate	104	84.2	82.7			1.84
	Glyphosate	91.6	81.2	82.2			1.21
	Hydrocodone	77.3	89.9	88.8			1.23
	Ibuprofen	71.7	84.5	70.1			18.7
	Imazapyr	91.6	157	133			11.1
	Imidacloprid	85.0	142	151			4.03
	Linuron	79.4	76.2	85.8			11.8
	Mandestrobin	77.6	83.6	84.6			1.20
	MCPP	87.3	101	104			2.30
	Naproxen	58.1	76.5	80.5			5.06
	Primidone	87.9	92.5	91.2			1.46
	Pyraclostrobin	66.5	77.8	81.9			5.05
	Sucralose	106	112	110			1.31

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Thiamethoxam	78.0	127	127			0.0550
	Tolfenpyrad	35.0	50.0	55.1			9.75
	Triclopyr	76.0	86.8	92.8			6.74
SM 2320 B-2011	Total Alkalinity	101				1.71	
SM 4500 F-C-2011	Fluoride	101	99.9	100			0.472
SM 5310 B-2011	Organic Carbon	96.8	97.0	96.2			0.421

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2271052, 2271055, 2271058
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2271068, 2271069
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2271068, 2271069
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2271053, 2271056, 2271059
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2271053, 2271056, 2271059
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2271053, 2271056, 2271059
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2271053, 2271056, 2271059
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2271054, 2271057, 2271060
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2271066, 2271067
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2271052, 2271055, 2271058
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2271052, 2271055, 2271058
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2271052, 2271055, 2271058
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2271053, 2271056, 2271059

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	08/20/2021			08/20/2021 16:40	Sarah A Nixon	2271052, 2271055, 2271058
EPA 200.7 Rev. 4.4	08/20/2021	08/23/2021 12:40	Elliott D. Healy	08/26/2021 16:13	Betina Topolski	2271069
	08/20/2021	08/23/2021 12:40	Elliott D. Healy	08/26/2021 19:19	Betina Topolski	2271068
EPA 200.8 Rev. 5.4	08/20/2021	08/23/2021 12:40	Elliott D. Healy	08/25/2021 14:31	Alexander Thompson	2271069
	08/20/2021	08/23/2021 12:40	Elliott D. Healy	08/25/2021 17:15	Alexander Thompson	2271068
EPA 350.1 Rev. 2.0	08/20/2021			08/27/2021 13:53	Ping Hua	2271053
	08/20/2021			08/27/2021 13:55	Ping Hua	2271056
	08/20/2021			08/27/2021 14:01	Ping Hua	2271059
EPA 351.2 Rev. 2.0	08/20/2021	08/30/2021 13:46	Benjamin T. Nordmann	08/31/2021 12:37	Alexandra J Mattheus	2271053
	08/20/2021	08/30/2021 13:46	Benjamin T. Nordmann	08/31/2021 12:39	Alexandra J Mattheus	2271056
	08/20/2021	08/30/2021 13:46	Benjamin T. Nordmann	08/31/2021 14:01	Alexandra J Mattheus	2271059
EPA 353.2 Rev. 2.0	08/20/2021			08/27/2021 10:24	Beverly Y. Sanders	2271053
	08/20/2021			08/27/2021 10:25	Beverly Y. Sanders	2271056
	08/20/2021			08/27/2021 10:38	Beverly Y. Sanders	2271059
EPA 365.1 Rev. 2.0	08/20/2021	08/24/2021 14:32	Simonne.V. Calhoun	08/25/2021 18:12	Shengyu Ding	2271053
	08/20/2021	08/24/2021 14:32	Simonne.V. Calhoun	08/25/2021 18:20	Shengyu Ding	2271056
	08/20/2021	08/24/2021 14:32	Simonne.V. Calhoun	08/26/2021 17:05	Shengyu Ding	2271059
EPA 365.1 Rev. 2.0 dissolved	08/20/2021			08/20/2021 15:22	James L Waggeberby	2271057
	08/20/2021			08/20/2021 15:23	James L Waggeberby	2271060
	08/20/2021			08/20/2021 15:33	James L Waggeberby	2271054
EPA 8321B	08/20/2021	08/20/2021 13:40	Juyoung Kim	08/20/2021 22:25	Pramila Ghimire	2271066
	08/20/2021	08/20/2021 13:40	Juyoung Kim	08/20/2021 22:52	Pramila Ghimire	2271067
	08/20/2021	08/20/2021 13:40	Juyoung Kim	08/23/2021 13:15	Juyoung Kim	2271066
	08/20/2021	08/20/2021 13:40	Juyoung Kim	08/23/2021 13:26	Juyoung Kim	2271067
	08/20/2021	08/24/2021 09:00	Hoor Shaik	08/26/2021 19:33	Juyoung Kim	2271066
	08/20/2021	08/24/2021 09:00	Hoor Shaik	08/26/2021 20:08	Juyoung Kim	2271067
SM 2320 B-2011	08/20/2021			08/24/2021 01:01	Sarah A Nixon	2271058
	08/20/2021			08/24/2021 02:29	Sarah A Nixon	2271055
	08/20/2021			08/24/2021 02:44	Sarah A Nixon	2271052
SM 2540 D-2011	08/20/2021			08/23/2021 15:36	Yijie Li	2271052, 2271055, 2271058
SM 4500 F-C-2011	08/20/2021			08/24/2021 01:01	Sarah A Nixon	2271058
	08/20/2021			08/24/2021 02:29	Sarah A Nixon	2271055
	08/20/2021			08/24/2021 02:44	Sarah A Nixon	2271052
SM 5310 B-2011	08/20/2021			09/02/2021 22:30	Touraj Touran	2271056
	08/20/2021			09/03/2021 00:04	Touraj Touran	2271053
	08/20/2021			09/03/2021 00:44	Touraj Touran	2271059