

Chemical Analysis Report

WAS-SECT-2022-06-13-01

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

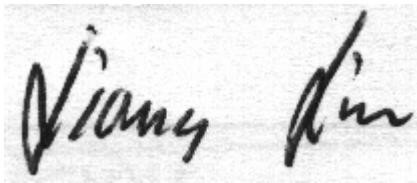
Event Description: **Merrit's Mill Pond BMAP**
Request ID: **RQ-2022-06-13-10**
Customer: **WAS-SECT**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 05-JUL-2022 14:01

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: Merritts Mill Pond 500 meters upstream of dam Collection Date/Time: 06/13/2022 10:09

Field ID: G2WA0009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2334051	DEP SOP: NU-094-1	Color (true)**	2.5	U	PCU	P415209	
	EPA 180.1 Rev. 2.0	Turbidity	0.85	I	NTU	P415202	
	EPA 300.0 Rev. 2.1	Chloride	5.0		mg Cl/L	P415544	
		Sulfate	1.5		mg SO4/L	P415547	
	SM 2320 B-2011	Total Alkalinity	111		mg CaCO3/L	P415748	
	SM 2540 C-2011	TDS	141		mg/L	P415656	
	SM 2540 D-2011	TSS	2	U	mg/L	P415648	
	SM 4500-F- C-2011	Fluoride	0.036	I	mg F/L	P415752	
2334053	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P415675	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P415405	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.5		mg N/L	P415858	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P415468	
	SM 5310 B-2011	Organic Carbon	0.89	I	mg C/L	P415362	
2334055	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P415298	
2334059	EPA 8321B	2,4-D	0.0020	U	ug/L	P415176	
		2,4,5-T	0.0040	U	ug/L	P415176	
		AMPA	0.10	U	ug/L	P414936	
		Acetaminophen	0.0080	U	ug/L	P415176	
		Acetamiprid	0.0020	U	ug/L	P415176	
		Endothall	0.25	U	ug/L	P414936	
		Glufosinate	0.10	U	ug/L	P414936	
		Glyphosate	0.10	U	ug/L	P414936	
		Afidopyropen	0.0020	U	ug/L	P415176	
		Bentazon	8.0E-04	U	ug/L	P415176	
		Sucralose	0.022	I	ug/L	P414936	
		Benzovindiflupyr	0.0020	U	ug/L	P415176	
		Carbamazepine	8.0E-04	U	ug/L	P415176	
		Clothianidin	0.0020	U	ug/L	P415176	
		Dinotefuran	0.0025	I	ug/L	P415176	
		Diuron	0.0020	U	ug/L	P415176	
		Fenuron	0.032	U	ug/L	P415176	
		Fluridone	0.0013	I	ug/L	P415176	
		Imazapyr	0.0040	U	ug/L	P415176	
		Hydrocodone	0.0020	U	ug/L	P415176	
		Ibuprofen	0.080	U	ug/L	P415176	
		Imidacloprid	0.0020	U	ug/L	P415176	
		Linuron	0.0040	U	ug/L	P415176	
		Mandestrobin	0.0020	U	ug/L	P415176	
		MCP	0.0040	U	ug/L	P415176	
		Naproxen	0.0080	U	ug/L	P415176	
		Primidone	0.0040	U	ug/L	P415176	
		Pyraclostrobin	0.0020	U	ug/L	P415176	
		Silvex	0.0040	U	ug/L	P415176	

Field ID: G2WA0009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2334059	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P415176	
		Tolfenpyrad	0.0020	U	ug/L	P415176	
		Triclopyr	0.0040	U	ug/L	P415176	
2334061	EPA 200.7 Rev. 4.4	Calcium	46.7		mg/L	P415274	
		Iron	30	U	ug/L	P415274	
		Magnesium	2.98		mg/L	P415274	
		Potassium	0.33	I	mg/L	P415274	
		Sodium	2.1		mg/L	P415274	
		Strontium	43.2		ug/L	P415274	
		Tin	6.0	U	ug/L	P415274	
		Titanium	1.3	I	ug/L	P415274	
		Vanadium	2.0	U	ug/L	P415274	
		Zinc	5.0	U	ug/L	P415274	
	EPA 200.8 Rev. 5.4	Aluminum	17	I	ug/L	P415274	
		Antimony	0.050	U	ug/L	P415274	
		Arsenic	0.27		ug/L	P415274	
		Barium	6.17		ug/L	P415274	
		Beryllium	0.010	U	ug/L	P415274	
		Boron**	8.9		ug/L	P415274	
		Cadmium	0.020	U	ug/L	P415274	
		Chromium	0.82	I	ug/L	P415274	
		Cobalt	0.020	U	ug/L	P415274	
		Copper	0.40	U	ug/L	P415274	
		Lead	0.20	U	ug/L	P415274	
		Manganese	1.90		ug/L	P415274	
		Molybdenum	0.15	U	ug/L	P415274	
		Nickel	0.50	U	ug/L	P415274	
		Selenium	0.20	U	ug/L	P415274	
		Silver	0.010	U	ug/L	P415274	
		Thallium	0.10	U	ug/L	P415274	
	SM 2340 B-2011	Hardness	129		mg/L	P415274	

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: Merritts Mill Pond mid under powerlines

Collection Date/Time: 06/13/2022 10:37

Field ID: G2WA0008

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2334052	DEP SOP: NU-094-1	Color (true)**	2.5	U	PCU	P415209	
	EPA 180.1 Rev. 2.0	Turbidity	0.60	I	NTU	P415202	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P415544	
		Sulfate	1.5		mg SO4/L	P415547	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P415748	
	SM 2540 C-2011	TDS	156	A	mg/L	P415656	
	SM 2540 D-2011	TSS	2	IA	mg/L	P415648	
	SM 4500-F- C-2011	Fluoride	0.035	I	mg F/L	P415752	
2334054	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P415675	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P415406	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.8		mg N/L	P415858	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P415468	
	SM 5310 B-2011	Organic Carbon	0.75	I	mg C/L	P415407	
2334056	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P415298	
2334060	EPA 8321B	2,4-D	0.0020	U	ug/L	P415176	
		2,4,5-T	0.0040	U	ug/L	P415176	
		AMPA	0.10	U	ug/L	P414936	
		Acetaminophen	0.0080	U	ug/L	P415176	
		Acetamiprid	0.0020	U	ug/L	P415176	
		Endothall	0.25	U	ug/L	P414936	
		Glufosinate	0.10	U	ug/L	P414936	
		Glyphosate	0.10	U	ug/L	P414936	
		Afidopyropen	0.0020	U	ug/L	P415176	
		Bentazon	9.3E-04	I	ug/L	P415176	
		Sucralose	0.019	I	ug/L	P414936	
		Benzovindiflupyr	0.0020	U	ug/L	P415176	
		Carbamazepine	8.0E-04	U	ug/L	P415176	
		Clothianidin	0.0020	U	ug/L	P415176	
		Dinotefuran	0.0034	I	ug/L	P415176	
		Diuron	0.0020	U	ug/L	P415176	
		Fenuron	0.032	U	ug/L	P415176	
		Fluridone	8.0E-04	U	ug/L	P415176	
		Imazapyr	0.0044	I	ug/L	P415176	
		Hydrocodone	0.0020	U	ug/L	P415176	
		Ibuprofen	0.080	U	ug/L	P415176	
		Imidacloprid	0.0020	U	ug/L	P415176	
		Linuron	0.0040	U	ug/L	P415176	
		Mandestrobin	0.0020	U	ug/L	P415176	
		MCP	0.0040	U	ug/L	P415176	
		Naproxen	0.0080	U	ug/L	P415176	
		Primidone	0.0040	U	ug/L	P415176	
		Pyraclostrobin	0.0020	U	ug/L	P415176	
		Silvex	0.0040	U	ug/L	P415176	

Field ID: G2WA0008

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2334060	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P415176	
		Tolfenpyrad	0.0020	U	ug/L	P415176	
		Triclopyr	0.0040	U	ug/L	P415176	
2334062	EPA 200.7 Rev. 4.4	Calcium	53.0		mg/L	P415274	
		Iron	30	U	ug/L	P415274	
		Magnesium	3.10		mg/L	P415274	
		Potassium	0.39	I	mg/L	P415274	
		Sodium	2.3		mg/L	P415274	
		Strontium	46.4		ug/L	P415274	
		Tin	3.0	U	ug/L	P415274	
		Titanium	1.0	I	ug/L	P415274	
		Vanadium	2.0	U	ug/L	P415274	
		Zinc	5.0	U	ug/L	P415274	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P415274	
		Antimony	0.050	U	ug/L	P415274	
		Arsenic	0.28		ug/L	P415274	
		Barium	6.85		ug/L	P415274	
		Beryllium	0.011	I	ug/L	P415274	
		Boron**	9.0		ug/L	P415274	
		Cadmium	0.020	U	ug/L	P415274	
		Chromium	0.94	I	ug/L	P415274	
		Cobalt	0.020	U	ug/L	P415274	
		Copper	0.40	U	ug/L	P415274	
		Lead	0.20	U	ug/L	P415274	
		Manganese	0.92		ug/L	P415274	
		Molybdenum	0.15	U	ug/L	P415274	
		Nickel	0.50	U	ug/L	P415274	
		Selenium	0.21	I	ug/L	P415274	
		Silver	0.010	U	ug/L	P415274	
		Thallium	0.10	U	ug/L	P415274	
	SM 2340 B-2011	Hardness	145		mg/L	P415274	

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: DEP SOP: NU-094-1
Batch ID: P415209

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415202

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415274

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415274

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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: P415544

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415547

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415675

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415405

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415406

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415468

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415298

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

Reference Method: EPA 8321B
Batch ID: P414936

Component	Result	Code	Units
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: P415176

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P415176

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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	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	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P415748

Component	Result	Code	Units
Total Alkalinity	1.0	U	mg CaCO3/L

Reference Method: SM 2540 C-2011

Batch ID: P415656

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P415648

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P415752

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P415362

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

Reference Method: SM 5310 B-2011
Batch ID: P415407

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P415209

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415202

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.6		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415274

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	80 - 120
Iron	105		P	80 - 120
Magnesium	106		P	80 - 120
Potassium	103		P	80 - 120
Sodium	105		P	80 - 120
Strontium	103		P	80 - 120
Tin	100		P	80 - 120
Titanium	104		P	80 - 120
Vanadium	97.9		P	80 - 120
Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415274

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.5		P	85 - 115
Antimony	98.4		P	85 - 115
Arsenic	100		P	85 - 115
Barium	103		P	85 - 115
Beryllium	95.9		P	85 - 115
Boron	102		P	85 - 115
Cadmium	97.8		P	85 - 115
Chromium	96.2		P	85 - 115
Cobalt	99.6		P	85 - 115
Copper	97.0		P	85 - 115
Lead	98.3		P	85 - 115
Manganese	96.7		P	85 - 115
Molybdenum	98.8		P	85 - 115
Nickel	99.1		P	85 - 115
Selenium	96.7		P	85 - 115
Silver	102		P	85 - 115
Thallium	99.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415547

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415675

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415405

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415406

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	95.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415468

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415298

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

Reference Method: EPA 8321B
Batch ID: P414936

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	99.7		P	40 - 150
Endothall	96.9		P	40 - 150
Glufosinate	94.7		P	40 - 150
Glyphosate	99.2		P	40 - 150
Sucralose	94.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P415176

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

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B**Batch ID: P415176**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	73.3		P	40 - 150
2,4,5-T	52.4		P	40 - 150
Acetaminophen	88.2		P	30 - 150
Acetamiprid	78.2		P	40 - 150
Afidopyropen	71.3		P	30 - 150
Bentazon	81.5		P	30 - 150
Benzovindiflupyr	83.8		P	40 - 150
Carbamazepine	95.2		P	40 - 150
Clothianidin	95.7		P	40 - 150
Dinotefuran	94.9		P	40 - 150
Diuron	81.7		P	40 - 150
Fenuron	89.8		P	40 - 150
Fluridone	81.4		P	40 - 150
Hydrocodone	90.9		P	40 - 150
Ibuprofen	89.3		P	40 - 150
Imazapyr	96.5		P	40 - 150
Imidacloprid	94.6		P	40 - 150
Linuron	70.8		P	40 - 150
Mandestrobin	83.4		P	40 - 150
MCPP	75.1		P	40 - 150
Naproxen	56.6		P	40 - 150
Primidone	93.5		P	40 - 150
Pyraclostrobin	74.0		P	40 - 150
Silvex	55.4		P	40 - 150
Thiamethoxam	87.8		P	40 - 150
Tolfenpyrad	49.1		P	30 - 150
Triclopyr	59.9		P	40 - 150

Reference Method: SM 2320 B-2011**Batch ID: P415748**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.6		P	94 - 106

Reference Method: SM 4500-F- C-2011**Batch ID: P415752**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	96 - 104

Reference Method: SM 5310 B-2011**Batch ID: P415362**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.7		P	85 - 115

Reference Method: SM 5310 B-2011**Batch ID: P415407**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334062	Calcium	103		P	80 - 120
2334062	Iron	109	106	P/P	80 - 120
2334062	Magnesium	109	101	P/P	80 - 120
2334062	Potassium	104	105	P/P	80 - 120
2334062	Sodium	101	102	P/P	80 - 120
2334062	Strontium	102	103	P/P	80 - 120
2334062	Tin	99.2	102	P/P	80 - 120
2334062	Titanium	104	106	P/P	80 - 120
2334062	Vanadium	99.2	102	P/P	80 - 120
2334062	Zinc	100	103	P/P	80 - 120
2334379	Calcium	104		P	80 - 120
2334379	Iron	105		P	80 - 120
2334379	Magnesium	103		P	80 - 120
2334379	Potassium	105		P	80 - 120
2334379	Sodium	105		P	80 - 120
2334379	Strontium	104		P	80 - 120
2334379	Tin	101		P	80 - 120
2334379	Titanium	104		P	80 - 120
2334379	Vanadium	98.6		P	80 - 120
2334379	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334062	Aluminum	97.7	97.6	P/P	80 - 120
2334062	Antimony	99.7	101	P/P	80 - 120
2334062	Arsenic	99.0	99.5	P/P	80 - 120
2334062	Barium	104	104	P/P	80 - 120
2334062	Beryllium	93.7	95.3	P/P	80 - 120
2334062	Boron	101	102	P/P	80 - 120
2334062	Cadmium	99.4	99.2	P/P	80 - 120
2334062	Chromium	97.7	99.6	P/P	80 - 120
2334062	Cobalt	99.2	99.6	P/P	80 - 120
2334062	Copper	93.9	94.5	P/P	80 - 120
2334062	Lead	98.8	98.7	P/P	80 - 120
2334062	Manganese	98.6	98.4	P/P	80 - 120
2334062	Molybdenum	102	102	P/P	80 - 120
2334062	Nickel	96.5	96.5	P/P	80 - 120
2334062	Selenium	98.3	97.8	P/P	80 - 120
2334062	Silver	102	102	P/P	80 - 120
2334062	Thallium	101	102	P/P	80 - 120
2334379	Aluminum	95.9		P	80 - 120
2334379	Antimony	101		P	80 - 120
2334379	Arsenic	96.6		P	80 - 120
2334379	Barium	102		P	80 - 120
2334379	Beryllium	95.3		P	80 - 120
2334379	Boron	101		P	80 - 120
2334379	Cadmium	96.8		P	80 - 120
2334379	Chromium	97.8		P	80 - 120
2334379	Cobalt	94.8		P	80 - 120
2334379	Copper	90.5		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334379	Lead	97.6		P	80 - 120
2334379	Manganese	97.0		P	80 - 120
2334379	Molybdenum	97.8		P	80 - 120
2334379	Nickel	92.8		P	80 - 120
2334379	Selenium	95.0		P	80 - 120
2334379	Silver	101		P	80 - 120
2334379	Thallium	99.4		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333771	Chloride	96.5		P	90 - 110
2334322	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333771	Sulfate	95.6		P	90 - 110
2334322	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415675

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333840	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334053	Kjeldahl Nitrogen	99.3	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415406

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334054	Kjeldahl Nitrogen	94.2	90.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333805	NO2NO3-N	92.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333841	Total-P	101	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334055	O-Phosphate-P	99.6	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P414936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333217	AMPA	113	109	P/P	40 - 150
2333217	Endothall	98.4	95.6	P/P	40 - 150
2333217	Glufosinate	100	108	P/P	40 - 150
2333217	Glyphosate	105	101	P/P	40 - 150
2333217	Sucralose	97.5	96.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P415176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334060	2,4-D	96.5	89.1	P/P	40 - 150
2334060	2,4,5-T	57.6	56.6	P/P	40 - 150
2334060	Acetaminophen	102	99.5	P/P	30 - 150
2334060	Acetamiprid	78.9	83.7	P/P	40 - 150
2334060	Afidopyropen	73.1	76.6	P/P	30 - 150
2334060	Bentazon	81.7	79.2	P/P	30 - 150
2334060	Benzovindiflupyr	83.0	80.7	P/P	40 - 150
2334060	Carbamazepine	96.8	94.8	P/P	40 - 150
2334060	Clothianidin	98.0	107	P/P	40 - 150
2334060	Dinotefuran	101	101	P/P	40 - 150
2334060	Diuron	79.6	90.1	P/P	40 - 150
2334060	Fenuron	88.0	89.5	P/P	40 - 150
2334060	Fluridone	86.8	87.2	P/P	40 - 150
2334060	Hydrocodone	94.0	91.4	P/P	40 - 150
2334060	Ibuprofen	89.6	76.4	P/P	40 - 150
2334060	Imazapyr	93.4	98.0	P/P	40 - 150
2334060	Imidacloprid	101	88.4	P/P	40 - 150
2334060	Linuron	72.5	84.2	P/P	40 - 150
2334060	Mandestrobin	81.6	83.5	P/P	40 - 150
2334060	MCPP	80.9	84.0	P/P	40 - 150
2334060	Naproxen	103	89.8	P/P	40 - 150
2334060	Primidone	85.4	98.3	P/P	40 - 150
2334060	Pyraclostrobin	79.3	80.5	P/P	40 - 150
2334060	Silvex	61.9	61.7	P/P	40 - 150
2334060	Thiamethoxam	94.5	94.6	P/P	40 - 150
2334060	Tolfenpyrad	54.3	54.2	P/P	30 - 150
2334060	Triclopyr	65.1	68.7	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P415752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334354	Fluoride	98.1	98.1	P/P	94 - 104

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P415362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333840	Organic Carbon	94.1	94.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P415407

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334207	Organic Carbon	97.2	97.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334206	Color (true)	1.51	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334285	Turbidity	5.46	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334062	Calcium	1.52	Spike	P	0 - 20
2334062	Iron	3.00	Spike	P	0 - 20
2334062	Magnesium	4.21	Spike	P	0 - 20
2334062	Potassium	0.209	Spike	P	0 - 20
2334062	Sodium	0.357	Spike	P	0 - 20
2334062	Strontium	1.13	Spike	P	0 - 20
2334062	Tin	3.03	Spike	P	0 - 20
2334062	Titanium	2.17	Spike	P	0 - 20
2334062	Vanadium	2.43	Spike	P	0 - 20
2334062	Zinc	2.68	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334062	Aluminum	0.149	Spike	P	0 - 20
2334062	Antimony	1.19	Spike	P	0 - 20
2334062	Arsenic	0.577	Spike	P	0 - 20
2334062	Barium	0.249	Spike	P	0 - 20
2334062	Beryllium	1.57	Spike	P	0 - 20
2334062	Boron	1.61	Spike	P	0 - 20
2334062	Cadmium	0.182	Spike	P	0 - 20
2334062	Chromium	1.78	Spike	P	0 - 20
2334062	Cobalt	0.359	Spike	P	0 - 20
2334062	Copper	0.595	Spike	P	0 - 20
2334062	Lead	0.0892	Spike	P	0 - 20
2334062	Manganese	0.138	Spike	P	0 - 20
2334062	Molybdenum	0.544	Spike	P	0 - 20
2334062	Nickel	0.0953	Spike	P	0 - 20
2334062	Selenium	0.488	Spike	P	0 - 20
2334062	Silver	0.749	Spike	P	0 - 20
2334062	Thallium	0.423	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333771	Chloride	0.210	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333771	Sulfate	0.649	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415675

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333840	Ammonia-N	0.397	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334053	Kjeldahl Nitrogen	1.34	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334054	Kjeldahl Nitrogen	3.13	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333805	NO2NO3-N	0.220	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333841	Total-P	4.82	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334055	O-Phosphate-P	1.10	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P414936

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333217	AMPA	3.60	Spike	P	0 - 30
2333217	Endothall	2.90	Spike	P	0 - 30
2333217	Glufosinate	7.30	Spike	P	0 - 30
2333217	Glyphosate	3.56	Spike	P	0 - 30
2333217	Sucralose	1.00	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P415176

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334060	2,4-D	8.01	Spike	P	0 - 30
2334060	2,4,5-T	1.81	Spike	P	0 - 30
2334060	Acetaminophen	2.62	Spike	P	0 - 30
2334060	Acetamiprid	5.98	Spike	P	0 - 30
2334060	Afidopyropen	4.67	Spike	P	0 - 30
2334060	Bentazon	2.69	Spike	P	0 - 30
2334060	Benzovindiflupyr	2.80	Spike	P	0 - 30
2334060	Carbamazepine	2.12	Spike	P	0 - 30
2334060	Clothianidin	8.92	Spike	P	0 - 30
2334060	Dinotefuran	0.271	Spike	P	0 - 30
2334060	Diuron	12.3	Spike	P	0 - 30
2334060	Fenuron	1.73	Spike	P	0 - 30
2334060	Fluridone	0.374	Spike	P	0 - 30
2334060	Hydrocodone	2.75	Spike	P	0 - 30
2334060	Ibuprofen	15.8	Spike	P	0 - 30
2334060	Imazapyr	4.47	Spike	P	0 - 30
2334060	Imidacloprid	13.1	Spike	P	0 - 30
2334060	Linuron	14.9	Spike	P	0 - 30
2334060	Mandestrobin	2.28	Spike	P	0 - 30
2334060	MCP	3.78	Spike	P	0 - 30
2334060	Naproxen	13.3	Spike	P	0 - 30
2334060	Primidone	14.0	Spike	P	0 - 30
2334060	Pyraclostrobin	1.57	Spike	P	0 - 30
2334060	Silvex	0.324	Spike	P	0 - 30
2334060	Thiamethoxam	0.0599	Spike	P	0 - 30
2334060	Tolfenpyrad	0.142	Spike	P	0 - 30
2334060	Triclopyr	5.46	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P415748

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334354	Total Alkalinity	1.22	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P415656

Replicated

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

Reference Method: SM 2540 C-2011
Batch ID: P415656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334052	TDS	7.07	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334354	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P415362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333840	Organic Carbon	0.604	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P415407

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334207	Organic Carbon	0.0	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2334059

Field Sample ID: G2WA0009

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	68.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	101	P	30 - 160
EPA 8321B	Diuron-d6	88.6	P	30 - 160
EPA 8321B	Endothall-d6	93.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	97.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.7	P	30 - 160
EPA 8321B	Primidone-d5	93.3	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Lab Sample ID: 2334060

Field Sample ID: G2WA0008

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	102	P	30 - 160
EPA 8321B	Diuron-d6	96.0	P	30 - 160
EPA 8321B	Endothall-d6	95.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	95.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.9	P	30 - 160
EPA 8321B	Primidone-d5	92.4	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A112815

Included Lab Sample IDs: 2334059, 2334060

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

Reference Method: EPA 8321B

Run ID: A112816

Included Lab Sample IDs: 2334059, 2334060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	111	P/P	60 - 160
Endothall	113	99.9	P/P	60 - 160
Glufosinate	103	103	P/P	60 - 160
Glyphosate	97.9	101	P/P	60 - 160

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A112824

Included Lab Sample IDs: 2334051, 2334052

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

Reference Method: DEP SOP: NU-094-1

Run ID: A112827

Included Lab Sample IDs: 2334051, 2334052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	103	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A112868

Included Lab Sample IDs: 2334055, 2334056

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A112880

Included Lab Sample IDs: 2334061, 2334062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.6	97.2	P/P	90 - 110
Aluminum	98.2	96.6	P/P	90 - 110
Antimony	96.2	97.0	P/P	90 - 110
Antimony	97.0	98.2	P/P	90 - 110
Arsenic	97.0	95.7	P/P	90 - 110
Arsenic	98.3	97.0	P/P	90 - 110
Barium	97.7	98.7	P/P	90 - 110
Barium	99.0	97.7	P/P	90 - 110
Beryllium	94.8	97.0	P/P	90 - 110
Beryllium	97.0	94.2	P/P	90 - 110
Boron	97.7	97.8	P/P	90 - 110
Boron	98.3	97.7	P/P	90 - 110
Cadmium	96.8	97.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A112880

Included Lab Sample IDs: 2334061, 2334062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	97.2	98.7	P/P	90 - 110
Chromium	96.8	97.1	P/P	90 - 110
Chromium	97.1	97.4	P/P	90 - 110
Cobalt	96.3	94.0	P/P	90 - 110
Cobalt	99.7	96.3	P/P	90 - 110
Copper	95.0	93.2	P/P	90 - 110
Copper	99.4	95.0	P/P	90 - 110
Lead	96.2	96.2	P/P	90 - 110
Lead	97.7	96.2	P/P	90 - 110
Manganese	96.6	96.8	P/P	90 - 110
Manganese	96.7	96.6	P/P	90 - 110
Molybdenum	96.7	96.4	P/P	90 - 110
Molybdenum	97.6	96.7	P/P	90 - 110
Nickel	95.8	92.2	P/P	90 - 110
Nickel	99.5	95.8	P/P	90 - 110
Selenium	96.1	96.3	P/P	90 - 110
Selenium	96.3	96.9	P/P	90 - 110
Silver	101	102	P/P	90 - 110
Silver	103	101	P/P	90 - 110
Thallium	95.9	95.3	P/P	90 - 110
Thallium	96.8	95.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A112892

Included Lab Sample IDs: 2334061, 2334062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Calcium	102	101	P/P	95 - 105
Iron	102	102	P/P	90 - 110
Iron	103	102	P/P	95 - 105
Magnesium	102	102	P/P	90 - 110
Magnesium	103	102	P/P	95 - 105
Potassium	102	102	P/P	95 - 105
Potassium	102	102	P/P	90 - 110
Sodium	101	102	P/P	95 - 105
Sodium	102	102	P/P	90 - 110
Strontium	98.8	99.5	P/P	95 - 105
Strontium	99.5	99.9	P/P	90 - 110
Tin	101	99.2	P/P	90 - 110
Titanium	100	97.7	P/P	90 - 110
Titanium	99.5	100	P/P	95 - 105
Vanadium	100	100	P/P	95 - 105
Vanadium	100	100	P/P	90 - 110
Zinc	101	98.3	P/P	90 - 110
Zinc	99.4	101	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A112896

Included Lab Sample IDs: 2334053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A112926

Included Lab Sample IDs: 2334054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	98.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A112949

Included Lab Sample IDs: 2334059, 2334060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	114	P/P	50 - 150
2,4,5-T	104	102	P/P	50 - 150
Acetaminophen	88.2	89.3	P/P	60 - 160
Acetamiprid	90.2	90.6	P/P	50 - 150
Afidopyropen	108	95.1	P/P	50 - 150
Bentazon	104	96.1	P/P	50 - 160
Benzovindiflupyr	105	101	P/P	50 - 150
Carbamazepine	100	102	P/P	60 - 150
Clothianidin	105	103	P/P	60 - 150
Dinotefuran	102	98.9	P/P	50 - 150
Diuron	109	85.4	P/P	60 - 160
Fenuron	95.0	96.6	P/P	60 - 150
Fluridone	105	94.1	P/P	60 - 160
Hydrocodone	104	102	P/P	60 - 150
Ibuprofen	128	90.6	P/P	50 - 160
Imazapyr	84.2	90.0	P/P	50 - 150
Imidacloprid	98.2	94.7	P/P	60 - 150
Linuron	101	94.4	P/P	60 - 150
Mandestrobin	99.2	95.6	P/P	50 - 150
MCPP	97.3	104	P/P	50 - 150
Naproxen	101	86.8	P/P	50 - 160
Primidone	98.4	97.5	P/P	60 - 150
Pyraclostrobin	98.6	98.2	P/P	60 - 150
Silvex	107	108	P/P	50 - 150
Thiamethoxam	97.5	95.7	P/P	50 - 150
Tolfenpyrad	95.1	97.9	P/P	60 - 150
Triclopyr	92.7	103	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A112976

Included Lab Sample IDs: 2334051, 2334052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.9	100	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A112986

Included Lab Sample IDs: 2334061

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tin	99.3	99.6	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113005

Included Lab Sample IDs: 2334053, 2334054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	109	P/P	90 - 110
Kjeldahl Nitrogen	103	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113015

Included Lab Sample IDs: 2334053, 2334054

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113018

Included Lab Sample IDs: 2334053, 2334054

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

Reference Method: SM 2320 B-2011

Run ID: A113064

Included Lab Sample IDs: 2334051, 2334052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	97.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113064

Included Lab Sample IDs: 2334051, 2334052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113128

Included Lab Sample IDs: 2334053, 2334054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.5	94.0	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
DEP SOP: NU-094-1	Color (true)	101					1.51	
EPA 180.1 Rev. 2.0	Turbidity	96.6					5.46	
EPA 200.7 Rev. 4.4	Calcium	106	103	104				1.52
	Iron	105	109	106	105			3.00
	Magnesium	106	109	101	103			4.21
	Potassium	103	104	105	105			0.209
	Sodium	105	101	102	105			0.357
	Strontium	103	102	103	104			1.13
	Tin	100	99.2	102	101			3.03
	Titanium	104	104	106	104			2.17
	Vanadium	97.9	99.2	102	98.6			2.43
	Zinc	103	100	103	101			2.68
EPA 200.8 Rev. 5.4	Aluminum	98.5	97.7	97.6	95.9			0.149
	Antimony	98.4	99.7	101	101			1.19
	Arsenic	100	99.0	99.5	96.6			0.577
	Barium	103	104	104	102			0.249
	Beryllium	95.9	93.7	95.3	95.3			1.57
	Boron	102	101	102	101			1.61
	Cadmium	97.8	99.4	99.2	96.8			0.182
	Chromium	96.2	97.7	99.6	97.8			1.78
	Cobalt	99.6	99.2	99.6	94.8			0.359
	Copper	97.0	93.9	94.5	90.5			0.595
	Lead	98.3	98.8	98.7	97.6			0.0892
	Manganese	96.7	98.6	98.4	97.0			0.138
	Molybdenum	98.8	102	102	97.8			0.544
	Nickel	99.1	96.5	96.5	92.8			0.0953
	Selenium	96.7	98.3	97.8	95.0			0.488
	Silver	102	102	102	101			0.749
	Thallium	99.4	101	102	99.4			0.423
EPA 300.0 Rev. 2.1	Chloride	97.5	96.5	98.3			0.210	
	Sulfate	97.5	95.6	98.2			0.649	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	101	101				0.397
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	99.3	101				1.34
	Kjeldahl Nitrogen	99.1	94.2	90.9				3.13
EPA 353.2 Rev. 2.0	NO2NO3-N	95.0	92.0					0.220
EPA 365.1 Rev. 2.0	Total-P	106	101	107				4.82
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	99.6	101				1.10
EPA 8321B	2,4-D	73.3	96.5	89.1				8.01
	2,4,5-T	52.4	57.6	56.6				1.81
	Acetaminophen	88.2	99.5	102				2.62
	Acetamiprid	78.2	83.7	78.9				5.98
	Afidopyropen	71.3	76.6	73.1				4.67
	AMPA	99.7	113	109				3.60
	Bentazon	81.5	81.7	79.2				2.69
	Benzovindiflupyr	83.8	80.7	83.0				2.80
	Carbamazepine	95.2	94.8	96.8				2.12
	Clothianidin	95.7	107	98.0				8.92
	Dinotefuran	94.9	101	101				0.271
	Diuron	81.7	90.1	79.6				12.3
	Endothall	96.9	98.4	95.6				2.90
	Fenuron	89.8	89.5	88.0				1.73
	Fluridone	81.4	87.2	86.8				0.374
	Glufosinate	94.7	100	108				7.30
	Glyphosate	99.2	105	101				3.56

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	90.9	91.4	94.0		2.75
	Ibuprofen	89.3	89.6	76.4		15.8
	Imazapyr	96.5	93.4	98.0		4.47
	Imidacloprid	94.6	88.4	101		13.1
	Linuron	70.8	84.2	72.5		14.9
	Mandestrobin	83.4	83.5	81.6		2.28
	MCP	75.1	80.9	84.0		3.78
	Naproxen	56.6	103	89.8		13.3
	Primidone	93.5	98.3	85.4		14.0
	Pyraclostrobin	74.0	80.5	79.3		1.57
	Silvex	55.4	61.9	61.7		0.324
	Sucralose	94.6	97.5	96.5		1.00
	Thiamethoxam	87.8	94.6	94.5		0.0599
	Tolfenpyrad	49.1	54.2	54.3		0.142
	Triclopyr	59.9	65.1	68.7		5.46
SM 2320 B-2011	Total Alkalinity	99.6			1.22	
SM 2540 C-2011	TDS				7.07	
SM 4500-F- C-2011	Fluoride	96.9	98.1	98.1		0.0
SM 5310 B-2011	Organic Carbon	93.7	94.1	94.8		0.604
	Organic Carbon	95.4	97.2	97.2		0.0

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2334051, 2334052
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2334051, 2334052
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2334061, 2334062
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2334061, 2334062
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2334051, 2334052
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2334051, 2334052
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2334053, 2334054
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2334053, 2334054
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2334053, 2334054
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2334053, 2334054
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2334055, 2334056
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2334059, 2334060
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2334051, 2334052
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2334061, 2334062
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2334051, 2334052
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2334051, 2334052
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2334051, 2334052
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2334053, 2334054

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	06/13/2022			06/14/2022 17:20	Samantha L Bates	2334051
	06/13/2022			06/14/2022 17:21	Samantha L Bates	2334052
EPA 180.1 Rev. 2.0	06/13/2022			06/14/2022 16:11	Khloe J Berg	2334051
	06/13/2022			06/14/2022 16:14	Khloe J Berg	2334052
EPA 200.7 Rev. 4.4	06/13/2022	06/16/2022 09:36	Megan Whitefoot	06/16/2022 18:25	McKinley C Carter	2334061
	06/13/2022	06/16/2022 09:36	Megan Whitefoot	06/16/2022 19:00	McKinley C Carter	2334062
	06/13/2022	06/16/2022 09:36	Megan Whitefoot	06/22/2022 13:04	McKinley C Carter	2334061
EPA 200.8 Rev. 5.4	06/13/2022	06/16/2022 09:36	Megan Whitefoot	06/16/2022 16:36	Alexander Thompson	2334062
	06/13/2022	06/16/2022 09:36	Megan Whitefoot	06/16/2022 17:43	Alexander Thompson	2334061
EPA 300.0 Rev. 2.1	06/13/2022			06/21/2022 18:58	Anna M. Plaviak	2334051
	06/13/2022			06/21/2022 19:10	Anna M. Plaviak	2334052
EPA 350.1 Rev. 2.0	06/13/2022			06/23/2022 12:11	Judith K. Clark	2334053
	06/13/2022			06/23/2022 12:12	Judith K. Clark	2334054
EPA 351.2 Rev. 2.0	06/13/2022	06/22/2022 15:49	Samantha L Bates	06/23/2022 12:03	Alexandra J Mattheus	2334053
	06/13/2022	06/22/2022 15:49	Samantha L Bates	06/23/2022 12:32	Alexandra J Mattheus	2334054
EPA 353.2 Rev. 2.0	06/13/2022			06/28/2022 09:35	Beverly Y. Sanders	2334053
	06/13/2022			06/28/2022 09:36	Beverly Y. Sanders	2334054
EPA 365.1 Rev. 2.0	06/13/2022	06/22/2022 17:36	Adam P Silver	06/23/2022 14:16	James L Waggeberby	2334053
	06/13/2022	06/22/2022 17:36	Adam P Silver	06/23/2022 14:17	James L Waggeberby	2334054
EPA 365.1 Rev. 2.0 dissolved	06/13/2022			06/14/2022 16:52	Nathaniel J Jones	2334055
	06/13/2022			06/14/2022 16:55	Nathaniel J Jones	2334056
EPA 8321B	06/13/2022	06/13/2022 16:00	Umesh Chiluwal	06/13/2022 22:43	Umesh Chiluwal	2334059
	06/13/2022	06/13/2022 16:00	Umesh Chiluwal	06/13/2022 22:58	Umesh Chiluwal	2334060
	06/13/2022	06/13/2022 16:00	Umesh Chiluwal	06/14/2022 09:29	Umesh Chiluwal	2334059
	06/13/2022	06/13/2022 16:00	Umesh Chiluwal	06/14/2022 09:42	Umesh Chiluwal	2334060
	06/13/2022	06/16/2022 08:00	June Rhew	06/20/2022 18:35	Juyoung Kim	2334060
	06/13/2022	06/16/2022 08:00	June Rhew	06/20/2022 19:38	Juyoung Kim	2334059
SM 2320 B-2011	06/13/2022			06/23/2022 03:00	Dale L. Simmons	2334051
	06/13/2022			06/23/2022 03:14	Dale L. Simmons	2334052
SM 2340 B-2011	06/13/2022			06/16/2022 18:25	McKinley C Carter	2334061
	06/13/2022			06/16/2022 19:00	McKinley C Carter	2334062
SM 2540 C-2011	06/13/2022			06/17/2022 14:36	Yijie Li	2334051, 2334052
SM 2540 D-2011	06/13/2022			06/17/2022 14:36	Yijie Li	2334051, 2334052
SM 4500-F- C-2011	06/13/2022			06/23/2022 03:00	Dale L. Simmons	2334051
	06/13/2022			06/23/2022 03:14	Dale L. Simmons	2334052
SM 5310 B-2011	06/13/2022			06/17/2022 01:28	Khloe J Berg	2334053
	06/13/2022			06/17/2022 21:04	Khloe J Berg	2334054