

Chemical Analysis Report

NE-DIST-2020-06-25-01

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

Event Description: **Gainesville 2020**
Request ID: **RQ-2020-06-08-16**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 14-JUL-2020 13:29

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: Alligator Creek at 301 bypass West of Starke

Collection Date/Time: 06/24/2020 09:10

Field ID: G1NE0935

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178528	EPA 180.1 Rev. 2.0	Turbidity	4.8	A	NTU	P383685	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P383969	
		Sulfate	33		mg SO4/L	P383973	
	SM 2120 B-2011	Color (true)	68	A	PCU	P383692	
	SM 2320 B-2011	Total Alkalinity	34		mg CaCO3/L	P383781	
	SM 2540 C-2011	TDS	146		mg/L	P383892	
	SM 2540 D-2011	TSS	2	I	mg/L	P383826	
	SM 4500 F-C-2011	Fluoride	0.074	I	mg F/L	P383784	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P383768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P383879	
2178531	EPA 353.2 Rev. 2.0	NO2NO3-N	0.37		mg N/L	P383798	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P383810	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P383792	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.18		mg P/L	P383747	
	dissolved						

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Orange Lake Drain at US301

Collection Date/Time: 06/24/2020 10:35

Field ID: G1NE0933

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178525	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P383685	
	EPA 300.0 Rev. 2.1	Chloride	8.7		mg Cl/L	P383969	
		Sulfate	0.20	U	mg SO4/L	P383973	
	SM 2120 B-2011	Color (true)	95		PCU	P383692	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P383781	
	SM 2540 C-2011	TDS	82		mg/L	P383892	
	SM 2540 D-2011	TSS	2	U	mg/L	P383826	
2178526	SM 4500 F-C-2011	Fluoride	0.10		mg F/L	P383784	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.051		mg N/L	P383767	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P383879	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P383798	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P383810	
2178527	SM 5310 B-2011	Organic Carbon	21		mg C/L	P383792	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P383747	
2178567	EPA 200.7 Rev. 4.4	Barium	5.8		ug/L	P383802	
		Calcium	7.53		mg/L	P383802	
		Iron	180		ug/L	P383802	
		Magnesium	2.25		mg/L	P383802	
		Potassium	0.37	I	mg/L	P383802	
		Sodium	4.7		mg/L	P383802	
		Zinc	5.0	U	ug/L	P383802	
	EPA 200.8 Rev. 5.4	Aluminum	13	I	ug/L	P383802	
		Antimony	0.050	U	ug/L	P383802	
		Arsenic	0.42		ug/L	P383802	
		Boron**	23.7		ug/L	P383802	
		Cadmium	0.020	U	ug/L	P383802	
		Chromium	0.40	U	ug/L	P383802	
		Copper	0.40	U	ug/L	P383802	
		Lead	0.20	U	ug/L	P383802	
		Nickel	0.50	U	ug/L	P383802	
		Selenium	0.20	U	ug/L	P383802	
		Silver	0.010	U	ug/L	P383802	
		Thallium	0.10	U	ug/L	P383802	
		Hardness	28.1		mg/L	P383802	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Calf Creek at SE 27th st.

Collection Date/Time: 06/24/2020 11:55

Field ID: G1NE0931

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178529	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P383685	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P383969	
		Sulfate	10		mg SO4/L	P383973	
	SM 2120 B-2011	Color (true)	140		PCU	P383692	
	SM 2320 B-2011	Total Alkalinity	88		mg CaCO3/L	P383781	
	SM 2540 C-2011	TDS	186		mg/L	P383892	
	SM 2540 D-2011	TSS	2	U	mg/L	P383826	
	SM 4500 F-C-2011	Fluoride	0.16		mg F/L	P383784	
2178532	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P383768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P383879	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P383798	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P383810	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P383792	
2178535	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P383747	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Alice Center

Collection Date/Time: 06/24/2020 13:00

Field ID: 20020052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178537	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P383685	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P383969	
		Sulfate	14		mg SO4/L	P383973	
	SM 2120 B-2011	Color (true)	40		PCU	P383692	
	SM 2320 B-2011	Total Alkalinity	55		mg CaCO3/L	P383781	
	SM 2540 C-2011	TDS	111		mg/L	P383892	
	SM 2540 D-2011	TSS	2	U	mg/L	P383826	
2178538	SM 4500 F-C-2011	Fluoride	0.21		mg F/L	P383784	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P383768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P383879	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P383799	
	EPA 365.1 Rev. 2.0	Total-P	0.46		mg P/L	P383810	
2178539	SM 5310 B-2011	Organic Carbon	6.4		mg C/L	P383792	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.41		mg P/L	P383747	
2178565	EPA 8276	Chlordane	5.2	U	ng/L	P383698	
		Toxaphene	31	U	ng/L	P383698	
2178566	EPA 8321B	2,4-D	0.049		ug/L	P383612	
		Acesulfame K**	0.10	U	ug/L	P383676	
		AMPA**	0.38	I	ug/L	P383676	
		Sucralose**	0.23		ug/L	P383676	
		Acetaminophen**	0.0080	U	ug/L	P383612	
		Acetamiprid**	0.0020	U	ug/L	P383612	
		Endothal**	0.25	U	ug/L	P383676	
		Glufosinate**	0.10	U	ug/L	P383676	
		Glyphosate**	0.28	I	ug/L	P383676	
		Afidopyropen**	0.0020	U	ug/L	P383612	
		Bentazon	8.0E-04	U	ug/L	P383612	
		Benzovindiflupyr**	0.0020	U	ug/L	P383612	
		Carbamazepine**	8.0E-04	U	ug/L	P383612	
		Clothianidin**	0.0029	I	ug/L	P383612	
		Dinotefuran**	0.0020	U	ug/L	P383612	
		Diuron	0.014		ug/L	P383612	
		Fenuron	0.016	U	ug/L	P383612	
		Fluridone**	0.0046		ug/L	P383612	
		Imazapyr**	0.25		ug/L	P383612	
		Hydrocodone**	0.0020	U	ug/L	P383612	
		Ibuprofen**	0.020	U	ug/L	P383612	
		Imidacloprid	0.0092		ug/L	P383612	
		Linuron	0.0040	U	ug/L	P383612	
		Mandestrobin**	0.0020	U	ug/L	P383612	
		MCP	0.0020	U	ug/L	P383612	
		Naproxen**	0.0080	U	ug/L	P383612	
		Primidone**	0.0040	U	ug/L	P383612	

Field ID: 20020052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178566	EPA 8321B	Pyraclostrobin**	0.0020	U	ug/L	P383612	
		Thiamethoxam**	0.0020	U	ug/L	P383612	
		Tolfenpyrad**	0.0020	U	ug/L	P383612	
		Triclopyr**	0.0040	U	ug/L	P383612	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high 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: Biven Arm Outlet @ 331

Collection Date/Time: 06/24/2020 12:35

Field ID: G3NE0012

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178533	EPA 350.1 Rev. 2.0	Ammonia-N	0.77		mg N/L	P383768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P383879	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P383798	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P383810	
	SM 5310 B-2011	Organic Carbon	9.0		mg C/L	P383792	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383685

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383802

Component	Result	Code	Units
Barium	1.0	U	ug/L
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
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383802

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	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 300.0 Rev. 2.1
Batch ID: P383969

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383973

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383767

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383768

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383879

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383798

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383799

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383810

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383747

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

Reference Method: EPA 8276
Batch ID: P383698

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P383612

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P383612

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

Reference Method: EPA 8321B
Batch ID: P383676

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 2120 B-2011
Batch ID: P383692

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P383781

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

Reference Method: SM 2540 C-2011
Batch ID: P383892

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P383826

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P383784

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P383792

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: P383802

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	104		P	85 - 115
Calcium	100		P	85 - 115
Iron	104		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	98.3		P	85 - 115
Sodium	97.2		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383802

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	99.5		P	85 - 115
Arsenic	103		P	85 - 115
Boron	102		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	85 - 115
Copper	104		P	85 - 115
Lead	102		P	85 - 115
Nickel	101		P	85 - 115
Selenium	100		P	85 - 115
Silver	102		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383969

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383973

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383767

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	90.2		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383879

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383798

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383799

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383810

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.4		P	90 - 110

Reference Method: EPA 8276
Batch ID: P383698

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	87.8	88.3	P/P	34 - 129
Toxaphene	83.8	84.8	P/P	26 - 123

Reference Method: EPA 8321B
Batch ID: P383612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	104		P	30 - 160
Acetaminophen	76.7		P	30 - 160
Acetamiprid	77.4		P	30 - 160
Afidopyropen	58.1		P	30 - 160
Bentazon	56.3		P	30 - 160
Benzovindiflupyr	58.9		P	30 - 160
Carbamazepine	62.1		P	30 - 160
Clothianidin	86.7		P	30 - 160
Dinotefuran	87.2		P	30 - 160
Diuron	56.4		P	30 - 160
Fenuron	103		P	30 - 160
Fluridone	73.6		P	30 - 160
Hydrocodone	89.8		P	30 - 160
Ibuprofen	55.9		P	30 - 160
Imazapyr	78.8		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P383612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	92.9		P	30 - 160
Linuron	54.6		P	30 - 160
Mandestrobin	66.7		P	30 - 160
MCPP	110		P	30 - 160
Naproxen	58.2		P	30 - 160
Primidone	82.1		P	30 - 160
Pyraclostrobin	59.0		P	30 - 160
Thiamethoxam	78.9		P	30 - 160
Tolfenpyrad	44.7		P	30 - 160
Triclopyr	75.2		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P383676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	107		P	40 - 150
AMPA	113		P	40 - 150
Endothall	79.9		P	40 - 150
Glufosinate	115		P	40 - 150
Glyphosate	90.6		P	40 - 140
Sucralose	75.9		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P383692

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P383781

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P383784

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P383792

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383802

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178510	Barium	104	104	P/P	80 - 120
2178510	Calcium	104		P	80 - 120
2178510	Iron	103	103	P/P	80 - 120
2178510	Magnesium	103	104	P/P	80 - 120
2178510	Potassium	97.0	97.0	P/P	80 - 120
2178510	Sodium	99.5		P	80 - 120
2178510	Zinc	108	108	P/P	80 - 120
2178946	Barium	104		P	80 - 120
2178946	Calcium	106		P	80 - 120
2178946	Iron	104		P	80 - 120
2178946	Magnesium	103		P	80 - 120
2178946	Potassium	96.1		P	80 - 120
2178946	Sodium	102		P	80 - 120
2178946	Zinc	108		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383802

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178510	Aluminum	100	101	P/P	80 - 120
2178510	Antimony	100	100	P/P	80 - 120
2178510	Arsenic	103	103	P/P	80 - 120
2178510	Boron	94.7	101	P/P	80 - 120
2178510	Cadmium	99.5	98.6	P/P	80 - 120
2178510	Chromium	101	104	P/P	80 - 120
2178510	Copper	102	103	P/P	80 - 120
2178510	Lead	101	103	P/P	80 - 120
2178510	Nickel	98.3	98.8	P/P	80 - 120
2178510	Selenium	100	101	P/P	80 - 120
2178510	Silver	101	103	P/P	80 - 120
2178510	Thallium	107	108	P/P	80 - 120
2178946	Aluminum	99.7		P	80 - 120
2178946	Antimony	101		P	80 - 120
2178946	Arsenic	104		P	80 - 120
2178946	Boron	98.5		P	80 - 120
2178946	Cadmium	102		P	80 - 120
2178946	Chromium	104		P	80 - 120
2178946	Copper	101		P	80 - 120
2178946	Lead	102		P	80 - 120
2178946	Nickel	100		P	80 - 120
2178946	Selenium	99.0		P	80 - 120
2178946	Silver	102		P	80 - 120
2178946	Thallium	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178462	Chloride	103		P	90 - 110
2178597	Chloride	110		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178462	Sulfate	105		P	90 - 110
2178597	Sulfate	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383767

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178519	Ammonia-N	99.9	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178641	Ammonia-N	100	90.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178507	NO2NO3-N	99.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178538	NO2NO3-N	98.2	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178526	Total-P	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178520	O-Phosphate-P	93.4	93.9	P/P	90 - 110

Reference Method: EPA 8276
Batch ID: P383698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178956	Chlordane	86.3	87.3	P/P	34 - 129
2178956	Toxaphene	85.5	84.1	P/P	26 - 123

Reference Method: EPA 8321B
Batch ID: P383612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177972	2,4-D	117	106	P/P	30 - 160
2177972	Acetaminophen	107	97.5	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P383612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177972	Acetamiprid	85.6	75.7	P/P	30 - 160
2177972	Afidopyropen	69.1	62.5	P/P	30 - 160
2177972	Benzovindiflupyr	74.2	73.6	P/P	30 - 160
2177972	Carbamazepine	72.7	68.4	P/P	30 - 160
2177972	Clothianidin	111	99.8	P/P	30 - 160
2177972	Dinotefuran	111	104	P/P	30 - 160
2177972	Diuron	63.6	59.3	P/P	30 - 160
2177972	Fenuron	103	94.5	P/P	30 - 160
2177972	Fluridone	84.8	84.8	P/P	30 - 160
2177972	Hydrocodone	102	88.1	P/P	30 - 160
2177972	Ibuprofen	73.2	69.5	P/P	30 - 160
2177972	Imazapyr	103	95.6	P/P	30 - 160
2177972	Imidacloprid	150	143	P/P	30 - 160
2177972	Linuron	63.7	60.3	P/P	30 - 160
2177972	Mandestrobin	68.7	74.2	P/P	30 - 160
2177972	MCCP	132	126	P/P	30 - 160
2177972	Naproxen	103	116	P/P	30 - 160
2177972	Primidone	94.8	83.8	P/P	30 - 160
2177972	Pyraclostrobin	75.1	67.7	P/P	30 - 160
2177972	Thiamethoxam	106	98.4	P/P	30 - 160
2177972	Tolfenpyrad	41.7	35.9	P/P	30 - 160
2177972	Triclopyr	106	103	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P383676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178566	Acesulfame K	41.7	43.4	P/P	40 - 150
2178566	AMPA	116	120	P/P	40 - 150
2178566	Endothall	79.9	83.2	P/P	40 - 150
2178566	Glufosinate	95.9	90.4	P/P	40 - 150
2178566	Glyphosate	81.8	88.6	P/P	40 - 140
2178566	Sucralose	75.8	78.4	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P383784

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178739	Fluoride	98.9	96.4	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P383792

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178460	Organic Carbon	100	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178528	Turbidity	4.17	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178510	Barium	0.631	Spike	P	0 - 20
2178510	Calcium	1.41	Spike	P	0 - 20
2178510	Iron	0.0302	Spike	P	0 - 20
2178510	Magnesium	0.422	Spike	P	0 - 20
2178510	Potassium	0.0619	Spike	P	0 - 20
2178510	Sodium	1.25	Spike	P	0 - 20
2178510	Zinc	0.185	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178510	Aluminum	0.820	Spike	P	0 - 20
2178510	Antimony	0.193	Spike	P	0 - 20
2178510	Arsenic	0.543	Spike	P	0 - 20
2178510	Boron	5.25	Spike	P	0 - 20
2178510	Cadmium	0.901	Spike	P	0 - 20
2178510	Chromium	2.62	Spike	P	0 - 20
2178510	Copper	1.33	Spike	P	0 - 20
2178510	Lead	1.99	Spike	P	0 - 20
2178510	Nickel	0.549	Spike	P	0 - 20
2178510	Selenium	0.256	Spike	P	0 - 20
2178510	Silver	1.38	Spike	P	0 - 20
2178510	Thallium	1.32	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178597	Chloride	1.37	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178519	Ammonia-N	0.0581	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178641	Ammonia-N	9.71	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178533	Kjeldahl Nitrogen	2.41	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178507	NO2NO3-N	1.02	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178538	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178526	Total-P	1.24	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178520	O-Phosphate-P	0.170	Spike	P	0 - 20

Reference Method: EPA 8276
Batch ID: P383698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178956	Chlordane	1.07	Spike	P	0 - 30
2178956	Toxaphene	1.60	Spike	P	0 - 30
LFB	Chlordane	0.621	LCS	P	0 - 30
LFB	Toxaphene	1.23	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P383612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177972	2,4-D	9.73	Spike	P	0 - 30
2177972	Acetaminophen	9.50	Spike	P	0 - 30
2177972	Acetamiprid	12.2	Spike	P	0 - 30
2177972	Afidopyropen	10.0	Spike	P	0 - 30
2177972	Bentazon	5.51	Spike	P	0 - 30
2177972	Benzovindiflupyr	0.733	Spike	P	0 - 30
2177972	Carbamazepine	6.17	Spike	P	0 - 30
2177972	Clothianidin	4.74	Spike	P	0 - 30
2177972	Dinotefuran	6.53	Spike	P	0 - 30
2177972	Diuron	6.97	Spike	P	0 - 30
2177972	Fenuron	8.96	Spike	P	0 - 30
2177972	Fluridone	0.0141	Spike	P	0 - 30
2177972	Hydrocodone	15.0	Spike	P	0 - 30
2177972	Ibuprofen	5.24	Spike	P	0 - 30
2177972	Imazapyr	6.62	Spike	P	0 - 30
2177972	Imidacloprid	3.59	Spike	P	0 - 30
2177972	Linuron	5.60	Spike	P	0 - 30
2177972	Mandestrobin	7.81	Spike	P	0 - 30
2177972	MCPP	4.74	Spike	P	0 - 30
2177972	Naproxen	12.1	Spike	P	0 - 30
2177972	Primidone	11.3	Spike	P	0 - 30
2177972	Pyraclostrobin	10.3	Spike	P	0 - 30
2177972	Thiamethoxam	7.08	Spike	P	0 - 30
2177972	Tolfenpyrad	14.9	Spike	P	0 - 30
2177972	Triclopyr	2.37	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P383676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178566	Acesulfame K	3.82	Spike	P	0 - 30
2178566	AMPA	2.57	Spike	P	0 - 30
2178566	Endothall	4.01	Spike	P	0 - 30
2178566	Glufosinate	5.99	Spike	P	0 - 30
2178566	Glyphosate	6.00	Spike	P	0 - 30
2178566	Sucralose	2.98	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P383692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178528	Color (true)	0.851	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P383781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178739	Total Alkalinity	1.61	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P383892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178594	TDS	1.01	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P383784

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178739	Fluoride	1.97	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P383792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178460	Organic Carbon	0.0798	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2178565
Field Sample ID: 20020052

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	64.7	P	26 - 97.0
EPA 8276	PCNB	77.9	P	38 - 141

Lab Sample ID: 2178566
Field Sample ID: 20020052

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	120	P	30 - 160
EPA 8321B	Acetaminophen-d4	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.3	P	30 - 160
EPA 8321B	Diuron-d6	68.0	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.6	P	30 - 160
EPA 8321B	Primidone-d5	105	P	30 - 160
EPA 8321B	Sucralose-d6	80.7	P	30 - 160
EPA 8321B	Sucralose-d6	80.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99523

Included Lab Sample IDs: 2178525, 2178528, 2178529, 2178537

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

Reference Method: SM 2120 B-2011

Run ID: A99525

Included Lab Sample IDs: 2178525, 2178528, 2178529, 2178537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.4	99.7	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99548

Included Lab Sample IDs: 2178527, 2178534, 2178535

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.4	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99549

Included Lab Sample IDs: 2178539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	96.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99556

Included Lab Sample IDs: 2178526, 2178531, 2178532, 2178533, 2178538

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	102	P/P	90 - 110
Ammonia-N	94.9	103	P/P	90 - 110
Ammonia-N	96.3	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A99560

Included Lab Sample IDs: 2178525, 2178528, 2178529, 2178537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99560

Included Lab Sample IDs: 2178525, 2178528, 2178529, 2178537

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

Reference Method: SM 5310 B-2011

Run ID: A99564

Included Lab Sample IDs: 2178526, 2178531, 2178532, 2178533, 2178538

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

Reference Method: SM 5310 B-2011

Run ID: A99564

Included Lab Sample IDs: 2178526, 2178531, 2178532, 2178533, 2178538

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	95.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99570

Included Lab Sample IDs: 2178526, 2178531, 2178532, 2178533, 2178538

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

Reference Method: EPA 8321B

Run ID: A99572

Included Lab Sample IDs: 2178566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	90.0	75.9	P/P	50 - 150
Acetaminophen	115	117	P/P	60 - 160
Acetamiprid	119	116	P/P	50 - 150
Afidopyropen	66.6	76.3	P/P	50 - 150
Bentazon	78.7	110	P/P	50 - 160
Benzovindiflupyr	92.8	92.4	P/P	50 - 150
Carbamazepine	102	104	P/P	60 - 150
Clothianidin	113	108	P/P	60 - 150
Dinotefuran	109	98.7	P/P	50 - 150
Diuron	90.1	91.7	P/P	60 - 160
Fenuron	75.0	68.3	P/P	60 - 150
Fluridone	95.6	99.1	P/P	60 - 160
Hydrocodone	121	119	P/P	60 - 150
Ibuprofen	98.3	73.4	P/P	50 - 160
Imazapyr	115	128	P/P	50 - 150
Imidacloprid	105	107	P/P	60 - 150
Linuron	89.9	87.5	P/P	60 - 150
Mandestrobin	89.5	88.6	P/P	50 - 150
MCPP	107	97.2	P/P	50 - 150
Naproxen	87.6	108	P/P	50 - 160
Primidone	111	107	P/P	60 - 150
Pyraclostrobin	83.3	82.0	P/P	60 - 150
Thiamethoxam	108	111	P/P	50 - 150
Tolfenpyrad	70.9	75.5	P/P	60 - 150
Triclopyr	90.5	90.0	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99590

Included Lab Sample IDs: 2178531, 2178532, 2178533, 2178538

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A99594

Included Lab Sample IDs: 2178566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	106	96.1	P/P	60 - 160
Endothall	72.8	83.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99606

Included Lab Sample IDs: 2178566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	111	P/P	60 - 160
Glufosinate	94.0	104	P/P	60 - 160
Glyphosate	89.2	95.2	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A99614

Included Lab Sample IDs: 2178567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	102	P/P	90 - 110
Calcium	101	103	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Potassium	97.2	98.4	P/P	90 - 110
Sodium	98.7	99.7	P/P	90 - 110
Zinc	106	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99617

Included Lab Sample IDs: 2178526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	94.5	93.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99625

Included Lab Sample IDs: 2178526, 2178531, 2178532, 2178533, 2178538

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.2	99.9	P/P	90 - 110
Kjeldahl Nitrogen	95.2	92.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99640

Included Lab Sample IDs: 2178525, 2178528, 2178529, 2178537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	99.7	101	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276
 Run ID: A99643
 Included Lab Sample IDs: 2178565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	97.7		P	80 - 120
Toxaphene	105		P	80 - 120

Reference Method: EPA 8321B
 Run ID: A99681
 Included Lab Sample IDs: 2178566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	71.0	72.2	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A99728
 Included Lab Sample IDs: 2178567

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

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A99751
 Included Lab Sample IDs: 2178567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	104	105	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							4.17	
EPA 200.7 Rev. 4.4	Barium	104		104	104	104			0.631
	Calcium	100		104	106				1.41
	Iron	104		103	103	104			0.0302
	Magnesium	105		103	104	103			0.422
	Potassium	98.3		97.0	97.0	96.1			0.0619
	Sodium	97.2		99.5	102				1.25
	Zinc	105		108	108	108			0.185
EPA 200.8 Rev. 5.4	Aluminum	101		100	101	99.7			0.820
	Antimony	99.5		100	100	101			0.193
	Arsenic	103		103	103	104			0.543
	Boron	102		94.7	101	98.5			5.25
	Cadmium	102		99.5	98.6	102			0.901
	Chromium	102		101	104	104			2.62
	Copper	104		102	103	101			1.33
	Lead	102		101	103	102			1.99
	Nickel	101		98.3	98.8	100			0.549
	Selenium	100		100	101	99.0			0.256
	Silver	102		101	103	102			1.38
	Thallium	104		107	108	107			1.32
EPA 300.0 Rev. 2.1	Chloride	103		110	103			1.37	
	Sulfate	106		106	105				
EPA 350.1 Rev. 2.0	Ammonia-N	99.2		99.9	99.8				0.0581
	Ammonia-N	90.2		100	90.5				9.71
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.0							2.41
EPA 353.2 Rev. 2.0	NO2NO3-N	100		99.0	98.0				1.02
	NO2NO3-N	100		98.2	98.2				0.0
EPA 365.1 Rev. 2.0	Total-P	98.2		102	100				1.24
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.4		93.4	93.9				0.170
EPA 8276	Chlordane	87.8	88.3	86.3	87.3		0.621		1.07
	Toxaphene	83.8	84.8	85.5	84.1		1.23		1.60
EPA 8321B	2,4-D	104		117	106				9.73
	Acesulfame K	107		41.7	43.4				3.82
	Acetaminophen	76.7		107	97.5				9.50
	Acetamiprid	77.4		85.6	75.7				12.2
	Afidopyropen	58.1		69.1	62.5				10.0
	AMPA	113		116	120				2.57
	Bentazon	56.3							5.51
	Benzovindiflupyr	58.9		74.2	73.6				0.733
	Carbamazepine	62.1		72.7	68.4				6.17
	Clothianidin	86.7		111	99.8				4.74
	Dinotefuran	87.2		111	104				6.53
	Diuron	56.4		63.6	59.3				6.97
	Endothall	79.9		79.9	83.2				4.01
	Fenuron	103		103	94.5				8.96
	Fluridone	73.6		84.8	84.8				0.0141
	Glufosinate	115		95.9	90.4				5.99
	Glyphosate	90.6		81.8	88.6				6.00
	Hydrocodone	89.8		102	88.1				15.0
	Ibuprofen	55.9		73.2	69.5				5.24
	Imazapyr	78.8		103	95.6				6.62
	Imidacloprid	92.9		150	143				3.59
	Linuron	54.6		63.7	60.3				5.60
	Mandestrobin	66.7		68.7	74.2				7.81

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	MCCP	110	132	126		4.74
	Naproxen	58.2	103	116		12.1
	Primidone	82.1	94.8	83.8		11.3
	Pyraclostrobin	59.0	75.1	67.7		10.3
	Sucralose	75.9	75.8	78.4		2.98
	Thiamethoxam	78.9	106	98.4		7.08
	Tolfenpyrad	44.7	41.7	35.9		14.9
	Triclopyr	75.2	106	103		2.37
SM 2120 B-2011	Color (true)	100			0.851	
SM 2320 B-2011	Total Alkalinity	102			1.61	
SM 2540 C-2011	TDS				1.01	
SM 4500 F-C-2011	Fluoride	96.9	98.9	96.4		1.97
SM 5310 B-2011	Organic Carbon	99.7	100	100		0.0798

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2178525, 2178528, 2178529, 2178537
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2178567
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2178567
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2178525, 2178528, 2178529, 2178537
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2178525, 2178528, 2178529, 2178537
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2178526, 2178531, 2178532, 2178533, 2178538
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2178526, 2178531, 2178532, 2178533, 2178538
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2178526, 2178531, 2178532, 2178533, 2178538
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2178526, 2178531, 2178532, 2178533, 2178538
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2178527, 2178534, 2178535, 2178539
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2178565
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2178566
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2178566
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2178525, 2178528, 2178529, 2178537
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2178525, 2178528, 2178529, 2178537
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2178567
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2178525, 2178528, 2178529, 2178537
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2178525, 2178528, 2178529, 2178537
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2178525, 2178528, 2178529, 2178537
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2178526, 2178531, 2178532, 2178533, 2178538

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	06/25/2020			06/25/2020 14:42	Yen Ta	2178525, 2178528, 2178529, 2178537
EPA 200.7 Rev. 4.4	06/25/2020	06/29/2020 14:30	Elliott D. Healy	06/30/2020 18:05	Betina Topolski	2178567
EPA 200.8 Rev. 5.4	06/25/2020	06/29/2020 14:30	Elliott D. Healy	07/07/2020 15:31	Alexander Thompson	2178567
	06/25/2020	06/29/2020 14:30	Elliott D. Healy	07/08/2020 15:12	Alexander Thompson	2178567
EPA 300.0 Rev. 2.1	06/25/2020			06/30/2020 10:10	Julia Storbeck	2178525
	06/25/2020			06/30/2020 10:46	Julia Storbeck	2178528
	06/25/2020			06/30/2020 10:58	Julia Storbeck	2178529
	06/25/2020			06/30/2020 11:10	Julia Storbeck	2178537
EPA 350.1 Rev. 2.0	06/25/2020			06/27/2020 16:34	Ping Hua	2178526
	06/25/2020			06/27/2020 16:45	Ping Hua	2178531
	06/25/2020			06/27/2020 16:47	Ping Hua	2178532
	06/25/2020			06/27/2020 16:54	Ping Hua	2178538
	06/25/2020			06/27/2020 17:59	Ping Hua	2178533
EPA 351.2 Rev. 2.0	06/25/2020	06/30/2020 14:30	Jhamieka S. Greenwood	07/01/2020 10:07	Jhamieka S. Greenwood	2178533
	06/25/2020	06/30/2020 14:30	Jhamieka S. Greenwood	07/01/2020 10:16	Jhamieka S. Greenwood	2178526
	06/25/2020	06/30/2020 14:30	Jhamieka S. Greenwood	07/01/2020 10:20	Jhamieka S. Greenwood	2178531
	06/25/2020	06/30/2020 14:30	Jhamieka S. Greenwood	07/01/2020 10:22	Jhamieka S. Greenwood	2178532
	06/25/2020	06/30/2020 14:30	Jhamieka S. Greenwood	07/01/2020 10:24	Jhamieka S. Greenwood	2178538
EPA 353.2 Rev. 2.0	06/25/2020			06/29/2020 09:13	Beverly Y. Sanders	2178526
	06/25/2020			06/29/2020 09:14	Beverly Y. Sanders	2178531
	06/25/2020			06/29/2020 09:15	Beverly Y. Sanders	2178532
	06/25/2020			06/29/2020 09:16	Beverly Y. Sanders	2178533
	06/25/2020			06/29/2020 09:23	Beverly Y. Sanders	2178538
EPA 365.1 Rev. 2.0	06/25/2020	06/29/2020 13:17	Yen Ta	06/30/2020 08:54	Benjamin T. Nordmann	2178531
	06/25/2020	06/29/2020 13:17	Yen Ta	06/30/2020 08:55	Benjamin T. Nordmann	2178532
	06/25/2020	06/29/2020 13:17	Yen Ta	06/30/2020 08:59	Benjamin T. Nordmann	2178533
	06/25/2020	06/29/2020 13:17	Yen Ta	06/30/2020 09:00	Benjamin T. Nordmann	2178538
	06/25/2020	06/29/2020 13:17	Yen Ta	07/01/2020 08:20	Lipi Saha	2178526
EPA 365.1 Rev. 2.0 dissolved	06/25/2020			06/25/2020 16:11	Carlos Miranda	2178527
	06/25/2020			06/25/2020 16:12	Carlos Miranda	2178534, 2178535
	06/25/2020			06/25/2020 17:01	Carlos Miranda	2178539
EPA 8276	06/25/2020	06/29/2020 08:30	Rasheda Ghaffari	07/01/2020 12:20	Arthur Maknenko	2178565
EPA 8321B	06/25/2020	06/26/2020 14:00	Hoor Shaik	06/27/2020 16:38	Juyoung Kim	2178566
	06/25/2020	06/29/2020 10:30	Rebecca Ware	06/29/2020 12:04	Rebecca Ware	2178566
	06/25/2020	06/29/2020 10:30	Rebecca Ware	06/30/2020 10:48	Rebecca Ware	2178566
	06/25/2020	06/29/2020 10:30	Rebecca Ware	07/02/2020 15:39	Rebecca Ware	2178566
SM 2120 B-2011	06/25/2020			06/25/2020 16:24	Madeline Gruver	2178525
	06/25/2020			06/25/2020 16:26	Madeline Gruver	2178528, 2178529
	06/25/2020			06/25/2020 16:27	Madeline Gruver	2178537
SM 2320 B-2011	06/25/2020			06/26/2020 19:01	Dale L. Simmons	2178525

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	06/25/2020			06/26/2020 19:13	Dale L. Simmons	2178528
	06/25/2020			06/26/2020 19:27	Dale L. Simmons	2178529
	06/25/2020			06/26/2020 19:39	Dale L. Simmons	2178537
SM 2340B	06/25/2020			06/30/2020 18:05	Betina Topolski	2178567
SM 2540 C-2011	06/25/2020			06/26/2020 21:00	Madeline Gruver	2178525, 2178528, 2178529, 2178537
SM 2540 D-2011	06/25/2020			06/26/2020 21:42	Madeline Gruver	2178525, 2178528, 2178529, 2178537
SM 4500 F-C-2011	06/25/2020			06/26/2020 19:01	Dale L. Simmons	2178525
	06/25/2020			06/26/2020 19:13	Dale L. Simmons	2178528
	06/25/2020			06/26/2020 19:27	Dale L. Simmons	2178529
	06/25/2020			06/26/2020 19:39	Dale L. Simmons	2178537
SM 5310 B-2011	06/25/2020			06/27/2020 01:05	David Boose	2178526
	06/25/2020			06/27/2020 01:17	David Boose	2178531
	06/25/2020			06/27/2020 01:32	David Boose	2178532
	06/25/2020			06/27/2020 01:46	David Boose	2178533
	06/25/2020			06/27/2020 02:01	David Boose	2178538