

Chemical Analysis Report

NE-DIST-2021-06-18-01

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

Event Description: **LSJR Lake- Broward**
Request ID: **RQ-2021-05-31-24**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 14-JUL-2021 09:48



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: Lake Broward South

Collection Date/Time: 06/17/2021 14:45

Field ID: G2NE1218

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255816	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P399958	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P400506	
		Sulfate	10		mg SO4/L	P400507	
	SM 2120 B-2011	Color (true)	16		PCU	P399956	
	SM 2320 B-2011	Total Alkalinity	4.1	J	mg CaCO3/L	P400371	
	SM 2540 C-2011	TDS	58		mg/L	P400343	
	SM 2540 D-2011	TSS	4	I	mg/L	P400170	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P400374	
2255818	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P400334	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P400040	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400028	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P400216	
	SM 5310 B-2011	Organic Carbon	6.4		mg C/L	P400360	
2255820	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399948	
2255826	EPA 8321B	2,4-D	0.18		ug/L	P399973	
		Acesulfame K	0.10	U	ug/L	P399865	
		2,4,5-T	0.0040	U	ug/L	P399973	
		AMPA	0.10	U	ug/L	P399865	
		Acetaminophen	0.0080	U	ug/L	P399973	
		Acetamiprid	0.0020	U	ug/L	P399973	
		Endothall	0.25	U	ug/L	P399865	
		Glufosinate	0.10	U	ug/L	P399865	
		Glyphosate	0.10	U	ug/L	P399865	
		Afidopyropen	0.0020	U	ug/L	P399973	MS, RPD
		Bentazon	8.0E-04	U	ug/L	P399973	
		Sucralose	0.35		ug/L	P399865	
		Benzovindiflupyr	0.0020	U	ug/L	P399973	
		Carbamazepine	8.0E-04	U	ug/L	P399973	
		Clothianidin	0.0020	U	ug/L	P399973	
		Dinotefuran	0.0020	U	ug/L	P399973	
		Diuron	0.0020	U	ug/L	P399973	
		Fenuron	0.016	U	ug/L	P399973	
		Fluridone	0.012		ug/L	P399973	
		Imazapyr	0.16		ug/L	P399973	
		Hydrocodone	0.0020	U	ug/L	P399973	
		Ibuprofen	0.020	U	ug/L	P399973	
		Imidacloprid	0.0020	U	ug/L	P399973	
		Linuron	0.0040	U	ug/L	P399973	
		Mandestrobin	0.0020	U	ug/L	P399973	
		MCP	0.0020	U	ug/L	P399973	
		Naproxen	0.0080	U	ug/L	P399973	
		Primidone	0.0040	U	ug/L	P399973	
		Pyraclostrobin	0.0020	U	ug/L	P399973	

Field ID: G2NE1218

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255826	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P399973	
		Tolfenpyrad	0.0020	U	ug/L	P399973	
		Triclopyr	0.0040	U	ug/L	P399973	
2255828	EPA 200.7 Rev. 4.4	Barium	6.7		ug/L	P399987	
		Calcium	4.80		mg/L	P399987	
		Iron	44	I	ug/L	P399987	
		Magnesium	1.58		mg/L	P399987	
		Manganese	4.1		ug/L	P399987	
		Potassium	0.98	I	mg/L	P399987	
		Sodium	8.8		mg/L	P399987	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P399987	
		Aluminum	28		ug/L	P399987	
		Antimony	0.073	I	ug/L	P399987	
		Arsenic	2.52		ug/L	P399987	
		Beryllium	0.010	U	ug/L	P399987	
		Boron**	31.4		ug/L	P399987	
		Cadmium	0.020	U	ug/L	P399987	
		Chromium	0.40	U	ug/L	P399987	
		Copper	0.58	I	ug/L	P400451	
		Lead	0.20	U	ug/L	P399987	
		Nickel	0.50	U	ug/L	P399987	
		Selenium	0.20	U	ug/L	P399987	
		Silver	0.010	U	ug/L	P399987	
		Thallium	0.10	U	ug/L	P399987	
	SM 2340B	Hardness	18.5		mg/L	P399987	

Ref. Method and Comment:

SM 2320 B-2011: Analyte was detected above the MDL in both the CCB and sample.

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

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Lake Broward North

Collection Date/Time: 06/17/2021 13:05

Field ID: G2NE1219

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255817	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P399958	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P400506	
		Sulfate	11		mg SO4/L	P400507	
	SM 2120 B-2011	Color (true)	6.9		PCU	P399956	
	SM 2320 B-2011	Total Alkalinity	3.1	J	mg CaCO3/L	P400371	
	SM 2540 C-2011	TDS	46		mg/L	P400343	
	SM 2540 D-2011	TSS	2	I	mg/L	P400170	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P400374	
2255819	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P400334	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P400040	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400028	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P400216	
	SM 5310 B-2011	Organic Carbon	4.7		mg C/L	P400360	
2255821	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399948	
2255827	EPA 8321B	2,4-D	0.29		ug/L	P399973	
		Acesulfame K	0.10	U	ug/L	P399865	
		2,4,5-T	0.0040	U	ug/L	P399973	
		AMPA	0.10	U	ug/L	P399865	
		Acetaminophen	0.0080	U	ug/L	P399973	
		Acetamiprid	0.0020	U	ug/L	P399973	
		Endothall	0.25	U	ug/L	P399865	
		Glufosinate	0.10	U	ug/L	P399865	
		Glyphosate	0.10	U	ug/L	P399865	
		Afidopyropen	0.0020	UJ	ug/L	P399973	MS, RPD
		Bentazon	8.0E-04	U	ug/L	P399973	
		Sucralose	0.19		ug/L	P399865	
		Benzovindiflupyr	0.0020	U	ug/L	P399973	
		Carbamazepine	8.0E-04	U	ug/L	P399973	
		Clothianidin	0.0020	U	ug/L	P399973	
		Dinotefuran	0.0020	U	ug/L	P399973	
		Diuron	0.0020	U	ug/L	P399973	
		Fenuron	0.016	U	ug/L	P399973	
		Fluridone	8.0E-04	U	ug/L	P399973	
		Imazapyr	0.0061	I	ug/L	P399973	
		Hydrocodone	0.0020	U	ug/L	P399973	
		Ibuprofen	0.020	U	ug/L	P399973	
		Imidacloprid	0.0020	U	ug/L	P399973	
		Linuron	0.0040	U	ug/L	P399973	
		Mandestrobin	0.0020	U	ug/L	P399973	
		MCP	0.0020	U	ug/L	P399973	
		Naproxen	0.0080	U	ug/L	P399973	
		Primidone	0.0040	U	ug/L	P399973	
		Pyraclostrobin	0.0020	U	ug/L	P399973	

Field ID: G2NE1219

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255827	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P399973	
		Tolfenpyrad	0.0020	U	ug/L	P399973	
		Triclopyr	0.0040	U	ug/L	P399973	
2255829	EPA 200.7 Rev. 4.4	Barium	9.0		ug/L	P399987	
		Calcium	4.27		mg/L	P399987	
		Iron	30	U	ug/L	P399987	
		Magnesium	1.61		mg/L	P399987	
		Manganese	2.7	I	ug/L	P399987	
		Potassium	1.1	I	mg/L	P399987	
		Sodium	9.1		mg/L	P399987	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P399987	
		Aluminum	44		ug/L	P399987	
		Antimony	0.086	I	ug/L	P399987	
		Arsenic	2.37		ug/L	P399987	
		Beryllium	0.010	U	ug/L	P399987	
		Boron**	31.5		ug/L	P399987	
		Cadmium	0.020	U	ug/L	P399987	
		Chromium	0.40	U	ug/L	P399987	
		Copper	0.40	U	ug/L	P399987	
		Lead	0.21	I	ug/L	P399987	
		Nickel	0.50	U	ug/L	P399987	
		Selenium	0.20	U	ug/L	P399987	
		Silver	0.010	U	ug/L	P399987	
		Thallium	0.10	U	ug/L	P399987	
	SM 2340B	Hardness	17.3		mg/L	P399987	

Ref. Method and Comment:

SM 2320 B-2011: Analyte was detected above the MDL in both the CCB and sample.

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

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P399958

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P399987

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
Manganese	1.0	U	ug/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: P399987

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	2.00		ug/L
Lead	0.20	U	ug/L
Nickel	0.77	I	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400451

Component	Result	Code	Units
Copper	0.40	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400506

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400507

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400334

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400040

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400028

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400216

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399948

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

Reference Method: EPA 8321B
Batch ID: P399865

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

Reference Method: EPA 8321B
Batch ID: P399973

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P399973

Component	Result	Code	Units
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
MCP	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: SM 2120 B-2011
Batch ID: P399956

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P400371

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

Reference Method: SM 2540 C-2011
Batch ID: P400343

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400170

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400374

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400360

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: P399987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	109		P	85 - 115
Iron	110		P	85 - 115
Magnesium	111		P	85 - 115
Manganese	104		P	85 - 115
Potassium	103		P	85 - 115
Sodium	103		P	85 - 115
Zinc	98.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P399987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	105		P	85 - 115
Beryllium	104		P	85 - 115
Boron	106		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	99.9		P	85 - 115
Copper	101		P	85 - 115
Lead	114		P	85 - 115
Nickel	103		P	85 - 115
Selenium	103		P	85 - 115
Silver	99.6		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400451

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	108		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400506

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400507

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400334

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400040

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400028

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400216

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P399948

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

Reference Method: EPA 8321B

Batch ID: P399865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	80.5		P	40 - 150
AMPA	99.4		P	40 - 150
Endothall	71.4		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	103		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P399973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	104		P	30 - 160
2,4,5-T	98.0		P	30 - 160
Acetaminophen	78.3		P	30 - 160
Acetamiprid	75.5		P	30 - 160
Afidopyropen	71.5		P	30 - 160
Bentazon	76.8		P	30 - 160
Benzovindiflupyr	84.2		P	30 - 160
Carbamazepine	88.8		P	30 - 160
Clothianidin	81.4		P	30 - 160
Dinotefuran	88.5		P	30 - 160
Diuron	79.9		P	30 - 160
Fenuron	89.1		P	30 - 160
Fluridone	90.7		P	30 - 160
Hydrocodone	78.0		P	30 - 160
Ibuprofen	77.0		P	30 - 160
Imazapyr	110		P	30 - 160
Imidacloprid	81.6		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P399973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	72.2		P	30 - 160
Mandestrobin	101		P	30 - 160
MCP	101		P	30 - 160
Naproxen	101		P	30 - 160
Primidone	90.5		P	30 - 160
Pyraclostrobin	78.0		P	30 - 160
Thiamethoxam	90.2		P	30 - 160
Tolfenpyrad	52.3		P	30 - 160
Triclopyr	93.3		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P399956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P400371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P400374

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P400360

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P399987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255313	Barium	101		P	80 - 120
2255313	Calcium	104		P	80 - 120
2255313	Iron	108		P	80 - 120
2255313	Magnesium	107		P	80 - 120
2255313	Manganese	102		P	80 - 120
2255313	Potassium	107		P	80 - 120
2255313	Sodium	100		P	80 - 120
2255313	Zinc	97.8		P	80 - 120
2255626	Barium	103	104	P/P	80 - 120
2255626	Calcium	111	111	P/P	80 - 120
2255626	Iron	112	112	P/P	80 - 120
2255626	Magnesium	113	112	P/P	80 - 120
2255626	Manganese	105	105	P/P	80 - 120
2255626	Potassium	109	108	P/P	80 - 120
2255626	Sodium	110	107	P/P	80 - 120
2255626	Zinc	98.4	99.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P399987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255313	Aluminum	104		P	80 - 120
2255313	Antimony	102		P	80 - 120
2255313	Arsenic	103		P	80 - 120
2255313	Beryllium	102		P	80 - 120
2255313	Boron	109		P	80 - 120
2255313	Cadmium	100		P	80 - 120
2255313	Chromium	99.5		P	80 - 120
2255313	Copper	104		P	80 - 120
2255313	Lead	118		P	80 - 120
2255313	Nickel	102		P	80 - 120
2255313	Selenium	102		P	80 - 120
2255313	Silver	100		P	80 - 120
2255313	Thallium	105		P	80 - 120
2255626	Aluminum	102	102	P/P	80 - 120
2255626	Antimony	102	101	P/P	80 - 120
2255626	Arsenic	104	102	P/P	80 - 120
2255626	Beryllium	103	104	P/P	80 - 120
2255626	Boron	105	106	P/P	80 - 120
2255626	Cadmium	99.0	98.8	P/P	80 - 120
2255626	Chromium	99.8	98.8	P/P	80 - 120
2255626	Copper	103	101	P/P	80 - 120
2255626	Lead	116	115	P/P	80 - 120
2255626	Nickel	101	101	P/P	80 - 120
2255626	Selenium	102	101	P/P	80 - 120
2255626	Silver	101	100	P/P	80 - 120
2255626	Thallium	105	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255346	Copper	106	109	P/P	80 - 120
2255828	Copper	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255816	Chloride	98.6		P	90 - 110
2256031	Chloride	96.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255816	Sulfate	95.8		P	90 - 110
2256031	Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255650	Ammonia-N	97.4	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255818	Kjeldahl Nitrogen	104	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255818	NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255650	Total-P	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255821	O-Phosphate-P	97.8	97.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P399865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255020	Acesulfame K	84.0	86.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P399865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255020	AMPA	95.1	97.3	P/P	40 - 150
2255020	Endothall	70.2	82.7	P/P	40 - 150
2255020	Glufosinate	103	105	P/P	40 - 150
2255020	Glyphosate	106	111	P/P	40 - 150
2255020	Sucralose	99.7	103	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P399973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255827	2,4,5-T	104	87.5	P/P	30 - 160
2255827	Acetaminophen	97.1	89.2	P/P	30 - 160
2255827	Acetamiprid	77.8	58.4	P/P	30 - 160
2255827	Afidopyropen	67.5	6.62	P/F	30 - 160
2255827	Bentazon	64.4	59.5	P/P	30 - 160
2255827	Benzovindiflupyr	89.4	78.1	P/P	30 - 160
2255827	Carbamazepine	97.2	89.8	P/P	30 - 160
2255827	Clothianidin	95.7	99.6	P/P	30 - 160
2255827	Dinotefuran	114	93.7	P/P	30 - 160
2255827	Diuron	77.8	71.8	P/P	30 - 160
2255827	Fenuron	88.0	84.8	P/P	30 - 160
2255827	Fluridone	91.5	81.3	P/P	30 - 160
2255827	Hydrocodone	111	86.8	P/P	30 - 160
2255827	Ibuprofen	91.3	82.4	P/P	30 - 160
2255827	Imazapyr	158	140	P/P	30 - 160
2255827	Imidacloprid	127	116	P/P	30 - 160
2255827	Linuron	72.1	61.6	P/P	30 - 160
2255827	Mandestrobin	107	88.5	P/P	30 - 160
2255827	MCP	104	93.8	P/P	30 - 160
2255827	Naproxen	80.3	97.0	P/P	30 - 160
2255827	Primidone	103	98.0	P/P	30 - 160
2255827	Pyraclostrobin	80.6	75.0	P/P	30 - 160
2255827	Thiamethoxam	128	117	P/P	30 - 160
2255827	Tolfenpyrad	54.2	48.1	P/P	30 - 160
2255827	Triclopyr	105	93.6	P/P	30 - 160

Reference Method: SM 4500 F-C-2011

Batch ID: P400374

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255491	Fluoride	98.2	97.2	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P400360

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255650	Organic Carbon	100	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P399958

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255870	Turbidity	0.438	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P399987

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255626	Barium	0.818	Spike	P	0 - 20
2255626	Calcium	0.0361	Spike	P	0 - 20
2255626	Iron	0.0727	Spike	P	0 - 20
2255626	Magnesium	0.296	Spike	P	0 - 20
2255626	Manganese	0.738	Spike	P	0 - 20
2255626	Potassium	1.28	Spike	P	0 - 20
2255626	Sodium	2.36	Spike	P	0 - 20
2255626	Zinc	1.20	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P399987

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255626	Aluminum	0.0119	Spike	P	0 - 20
2255626	Antimony	1.45	Spike	P	0 - 20
2255626	Arsenic	1.74	Spike	P	0 - 20
2255626	Beryllium	0.853	Spike	P	0 - 20
2255626	Boron	0.622	Spike	P	0 - 20
2255626	Cadmium	0.112	Spike	P	0 - 20
2255626	Chromium	1.00	Spike	P	0 - 20
2255626	Copper	1.55	Spike	P	0 - 20
2255626	Lead	1.23	Spike	P	0 - 20
2255626	Nickel	0.737	Spike	P	0 - 20
2255626	Selenium	0.706	Spike	P	0 - 20
2255626	Silver	0.321	Spike	P	0 - 20
2255626	Thallium	1.00	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400451

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255346	Copper	2.93	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400506

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256031	Chloride	0.439	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256031	Sulfate	0.675	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255650	Ammonia-N	0.990	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255818	Kjeldahl Nitrogen	1.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255818	NO2NO3-N	0.506	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255650	Total-P	0.785	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255821	O-Phosphate-P	0.513	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P399865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255020	Acesulfame K	2.82	Spike	P	0 - 30
2255020	AMPA	2.28	Spike	P	0 - 30
2255020	Endothall	16.3	Spike	P	0 - 30
2255020	Glufosinate	1.33	Spike	P	0 - 30
2255020	Glyphosate	4.62	Spike	P	0 - 30
2255020	Sucralose	2.76	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P399973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255827	2,4-D	7.19	Spike	P	0 - 30
2255827	2,4,5-T	17.4	Spike	P	0 - 30
2255827	Acetaminophen	8.47	Spike	P	0 - 30
2255827	Acetamiprid	28.4	Spike	P	0 - 30
2255827	Afidopyropen	164	Spike	F	0 - 30
2255827	Bentazon	8.00	Spike	P	0 - 30
2255827	Benzovindiflupyr	13.5	Spike	P	0 - 30
2255827	Carbamazepine	7.89	Spike	P	0 - 30
2255827	Clothianidin	3.92	Spike	P	0 - 30
2255827	Dinotefuran	19.4	Spike	P	0 - 30
2255827	Diuron	8.07	Spike	P	0 - 30
2255827	Fenuron	3.65	Spike	P	0 - 30
2255827	Fluridone	11.8	Spike	P	0 - 30
2255827	Hydrocodone	24.1	Spike	P	0 - 30
2255827	Ibuprofen	10.3	Spike	P	0 - 30
2255827	Imazapyr	11.2	Spike	P	0 - 30
2255827	Imidacloprid	8.80	Spike	P	0 - 30
2255827	Linuron	15.8	Spike	P	0 - 30
2255827	Mandestrobin	19.3	Spike	P	0 - 30
2255827	MCPP	10.4	Spike	P	0 - 30
2255827	Naproxen	18.8	Spike	P	0 - 30
2255827	Primidone	4.52	Spike	P	0 - 30
2255827	Pyraclostrobin	7.11	Spike	P	0 - 30
2255827	Thiamethoxam	8.77	Spike	P	0 - 30
2255827	Tolfenpyrad	11.9	Spike	P	0 - 30
2255827	Triclopyr	11.8	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P399956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255866	Color (true)	0.361	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P400371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255491	Total Alkalinity	0.858	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P400343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255527	TDS	2.99	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P400374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255491	Fluoride	0.919	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P400360

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255650	Organic Carbon	0.186	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2255826
Field Sample ID: G2NE1218

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.7	P	30 - 160
EPA 8321B	Diuron-d6	69.2	P	30 - 160
EPA 8321B	Endothall-d6	77.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.7	P	30 - 160
EPA 8321B	Primidone-d5	85.1	P	30 - 160
EPA 8321B	Sucralose-d6	99.4	P	30 - 160

Lab Sample ID: 2255827
Field Sample ID: G2NE1219

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.7	P	30 - 160
EPA 8321B	Diuron-d6	82.7	P	30 - 160
EPA 8321B	Endothall-d6	79.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	91.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.8	P	30 - 160
EPA 8321B	Primidone-d5	93.2	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106176

Included Lab Sample IDs: 2255820, 2255821

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

Reference Method: SM 2120 B-2011

Run ID: A106177

Included Lab Sample IDs: 2255816, 2255817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106178

Included Lab Sample IDs: 2255816, 2255817

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

Reference Method: EPA 8321B

Run ID: A106190

Included Lab Sample IDs: 2255826, 2255827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	82.6	85.6	P/P	60 - 160
AMPA	97.2	82.6	P/P	60 - 160
Glufosinate	89.7	88.5	P/P	60 - 160
Glufosinate	95.5	89.7	P/P	60 - 160
Glyphosate	93.6	89.6	P/P	60 - 160
Glyphosate	99.1	93.6	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A106192

Included Lab Sample IDs: 2255826, 2255827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	77.2	76.7	P/P	60 - 160
Endothall	75.7	82.8	P/P	60 - 160
Sucralose	110	107	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106207

Included Lab Sample IDs: 2255818, 2255819

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106231

Included Lab Sample IDs: 2255828, 2255829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	97.2	96.3	P/P	90 - 110
Calcium	101	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106231

Included Lab Sample IDs: 2255828, 2255829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	99.5	P/P	90 - 110
Magnesium	99.6	98.6	P/P	90 - 110
Manganese	101	100	P/P	90 - 110
Potassium	98.9	97.3	P/P	90 - 110
Sodium	99.9	98.0	P/P	90 - 110
Zinc	97.2	97.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106289

Included Lab Sample IDs: 2255818, 2255819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	95.7	P/P	90 - 110
Kjeldahl Nitrogen	95.3	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106322

Included Lab Sample IDs: 2255826, 2255827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.4	95.9	P/P	50 - 150
2,4-D	95.9	94.3	P/P	50 - 150
2,4,5-T	114	121	P/P	50 - 150
2,4,5-T	117	114	P/P	50 - 150
Acetaminophen	105	93.5	P/P	60 - 160
Acetaminophen	93.5	102	P/P	60 - 160
Acetamiprid	104	98.7	P/P	50 - 150
Acetamiprid	108	104	P/P	50 - 150
Afidopyropen	106	121	P/P	50 - 150
Afidopyropen	121	113	P/P	50 - 150
Bentazon	86.7	87.8	P/P	50 - 160
Bentazon	89.9	86.7	P/P	50 - 160
Benzovindiflupyr	104	100	P/P	50 - 160
Benzovindiflupyr	104	104	P/P	50 - 160
Carbamazepine	113	99.8	P/P	60 - 150
Carbamazepine	99.8	101	P/P	60 - 150
Clothianidin	101	104	P/P	60 - 150
Clothianidin	104	100	P/P	60 - 150
Dinotefuran	109	93.9	P/P	50 - 150
Dinotefuran	93.9	118	P/P	50 - 150
Diuron	103	111	P/P	60 - 160
Diuron	107	103	P/P	60 - 160
Fenuron	103	96.6	P/P	60 - 150
Fenuron	96.6	98.4	P/P	60 - 150
Fluridone	104	103	P/P	60 - 160
Fluridone	91.2	104	P/P	60 - 160
Hydrocodone	101	103	P/P	60 - 150
Hydrocodone	94.9	101	P/P	60 - 150
Ibuprofen	103	124	P/P	50 - 160
Ibuprofen	124	97.8	P/P	50 - 160
Imazapyr	119	119	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A106322

Included Lab Sample IDs: 2255826, 2255827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	128	119	P/P	50 - 160
Imidacloprid	94.8	93.8	P/P	60 - 150
Imidacloprid	99.3	94.8	P/P	60 - 150
Linuron	85.7	93.1	P/P	60 - 150
Linuron	87.7	85.7	P/P	60 - 150
Mandestrobin	118	117	P/P	50 - 150
Mandestrobin	130	118	P/P	50 - 150
MCP	107	109	P/P	50 - 150
MCP	113	107	P/P	50 - 150
Naproxen	105	110	P/P	50 - 160
Naproxen	106	105	P/P	50 - 160
Primidone	102	94.8	P/P	60 - 150
Primidone	103	102	P/P	60 - 150
Pyraclostrobin	103	99.8	P/P	60 - 150
Pyraclostrobin	99.8	97.8	P/P	60 - 150
Thiamethoxam	101	99.4	P/P	50 - 150
Thiamethoxam	99.4	102	P/P	50 - 150
Tolfenpyrad	106	95.1	P/P	60 - 150
Tolfenpyrad	95.1	94.5	P/P	60 - 150
Triclopyr	112	97.4	P/P	50 - 150
Triclopyr	97.4	113	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106346

Included Lab Sample IDs: 2255818, 2255819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106355

Included Lab Sample IDs: 2255818, 2255819

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106356

Included Lab Sample IDs: 2255828, 2255829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.5	96.5	P/P	90 - 110
Antimony	97.9	96.8	P/P	90 - 110
Arsenic	98.0	97.8	P/P	90 - 110
Beryllium	92.2	93.3	P/P	90 - 110
Boron	101	97.2	P/P	90 - 110
Cadmium	96.3	95.4	P/P	90 - 110
Chromium	94.7	95.4	P/P	90 - 110
Copper	96.6	98.1	P/P	90 - 110
Nickel	96.8	97.5	P/P	90 - 110
Selenium	97.7	94.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106356

Included Lab Sample IDs: 2255828, 2255829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	97.5	96.6	P/P	90 - 110
Thallium	94.0	92.1	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106360

Included Lab Sample IDs: 2255818, 2255819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.1	96.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106363

Included Lab Sample IDs: 2255816, 2255817

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

Reference Method: SM 4500 F-C-2011

Run ID: A106363

Included Lab Sample IDs: 2255816, 2255817

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106377

Included Lab Sample IDs: 2255828, 2255829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	107	105	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106423

Included Lab Sample IDs: 2255816, 2255817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Sulfate	100	99.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106446

Included Lab Sample IDs: 2255828

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

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.438	
EPA 200.7 Rev. 4.4	Barium	102	101	103	104			0.818
	Calcium	109	104	111	111			0.0361
	Iron	110	108	112	112			0.0727
	Magnesium	111	107	113	112			0.296
	Manganese	104	102	105	105			0.738
	Potassium	103	107	109	108			1.28
	Sodium	103	100	110	107			2.36
	Zinc	98.5	97.8	98.4	99.6			1.20
EPA 200.8 Rev. 5.4	Aluminum	102	102	102	104			0.0119
	Antimony	102	102	101	102			1.45
	Arsenic	105	104	102	103			1.74
	Beryllium	104	103	104	102			0.853
	Boron	106	105	106	109			0.622
	Cadmium	101	99.0	98.8	100			0.112
	Chromium	99.9	99.8	98.8	99.5			1.00
	Copper	101	103	101	104			1.55
	Copper	108	106	109	107			2.93
	Lead	114	116	115	118			1.23
	Nickel	103	101	101	102			0.737
	Selenium	103	102	101	102			0.706
	Silver	99.6	101	100	100			0.321
	Thallium	103	105	104	105			1.00
EPA 300.0 Rev. 2.1	Chloride	102	96.3	98.6			0.439	
	Sulfate	96.9	97.6	95.8			0.675	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	97.4	96.2				0.990
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	104	102				1.12
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	99.0	98.5				0.506
EPA 365.1 Rev. 2.0	Total-P	104	106	107				0.785
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	97.8	97.3				0.513
EPA 8321B	2,4-D	104						7.19
	2,4,5-T	98.0	104	87.5				17.4
	Acesulfame K	80.5	84.0	86.4				2.82
	Acetaminophen	78.3	97.1	89.2				8.47
	Acetamiprid	75.5	77.8	58.4				28.4
	Afidopyropen	71.5	67.5	6.62				164
	AMPA	99.4	95.1	97.3				2.28
	Bentazon	76.8	64.4	59.5				8.00
	Benzovindiflupyr	84.2	89.4	78.1				13.5
	Carbamazepine	88.8	97.2	89.8				7.89
	Clothianidin	81.4	95.7	99.6				3.92
	Dinotefuran	88.5	114	93.7				19.4
	Diuron	79.9	77.8	71.8				8.07
	Endothall	71.4	70.2	82.7				16.3
	Fenuron	89.1	88.0	84.8				3.65
	Fluridone	90.7	91.5	81.3				11.8
	Glufosinate	101	103	105				1.33
	Glyphosate	103	106	111				4.62
	Hydrocodone	78.0	111	86.8				24.1
	Ibuprofen	77.0	91.3	82.4				10.3
	Imazapyr	110	158	140				11.2
	Imidacloprid	81.6	127	116				8.80
	Linuron	72.2	72.1	61.6				15.8
	Mandestrobin	101	107	88.5				19.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	MCP	101	104	93.8		10.4
	Naproxen	101	80.3	97.0		18.8
	Primidone	90.5	103	98.0		4.52
	Pyraclostrobin	78.0	80.6	75.0		7.11
	Sucralose	102	99.7	103		2.76
	Thiamethoxam	90.2	128	117		8.77
	Tolfenpyrad	52.3	54.2	48.1		11.9
	Triclopyr	93.3	105	93.6		11.8
SM 2120 B-2011	Color (true)	99.7			0.361	
SM 2320 B-2011	Total Alkalinity	103			0.858	
SM 2540 C-2011	TDS				2.99	
SM 4500 F-C-2011	Fluoride	98.0	98.2	97.2		0.919
SM 5310 B-2011	Organic Carbon	95.1	100	100		0.186

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2255816, 2255817
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2255828, 2255829
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2255828, 2255829
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2255816, 2255817
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2255816, 2255817
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2255818, 2255819
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2255818, 2255819
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2255818, 2255819
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2255818, 2255819
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2255820, 2255821
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2255826, 2255827
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2255816, 2255817
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2255816, 2255817
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2255828, 2255829
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2255816, 2255817
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2255816, 2255817
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2255816, 2255817
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2255818, 2255819

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	06/18/2021			06/18/2021 15:08	Sarah A Nixon	2255816, 2255817
EPA 200.7 Rev. 4.4	06/18/2021	06/21/2021 13:15	Elliott D. Healy	06/22/2021 17:21	Josef B Mick	2255828
	06/18/2021	06/21/2021 13:15	Elliott D. Healy	06/22/2021 17:29	Josef B Mick	2255829
EPA 200.8 Rev. 5.4	06/18/2021	06/21/2021 13:15	Elliott D. Healy	06/29/2021 17:24	Alexander Thompson	2255828
	06/18/2021	06/21/2021 13:15	Elliott D. Healy	06/29/2021 17:34	Alexander Thompson	2255829
	06/18/2021	06/21/2021 13:15	Elliott D. Healy	06/30/2021 15:11	Alexander Thompson	2255828
	06/18/2021	06/21/2021 13:15	Elliott D. Healy	06/30/2021 15:17	Alexander Thompson	2255829
	06/18/2021	07/01/2021 13:10	Elliott D. Healy	07/03/2021 01:23	Alexander Thompson	2255828
EPA 300.0 Rev. 2.1	06/18/2021			07/01/2021 19:32	Lipi Saha	2255816
	06/18/2021			07/01/2021 19:56	Lipi Saha	2255817
EPA 350.1 Rev. 2.0	06/18/2021			06/29/2021 12:40	Roberta Tatti	2255818
	06/18/2021			06/29/2021 12:42	Roberta Tatti	2255819
EPA 351.2 Rev. 2.0	06/18/2021	06/22/2021 12:54	Benjamin T. Nordmann	06/24/2021 11:28	Letuzia M De Oliveira	2255818
	06/18/2021	06/22/2021 12:54	Benjamin T. Nordmann	06/24/2021 11:36	Letuzia M De Oliveira	2255819
EPA 353.2 Rev. 2.0	06/18/2021			06/22/2021 09:21	Beverly Y. Sanders	2255818
	06/18/2021			06/22/2021 09:27	Beverly Y. Sanders	2255819
EPA 365.1 Rev. 2.0	06/18/2021	06/25/2021 12:24	Madeline Gruver	06/29/2021 16:23	Shengyu Ding	2255818
	06/18/2021	06/25/2021 12:24	Madeline Gruver	06/29/2021 16:24	Shengyu Ding	2255819
EPA 365.1 Rev. 2.0 dissolved	06/18/2021			06/18/2021 15:25	Ping Hua	2255821
	06/18/2021			06/18/2021 15:27	Ping Hua	2255820
EPA 8321B	06/18/2021	06/18/2021 11:00	Juyoung Kim	06/18/2021 16:55	Juyoung Kim	2255826
	06/18/2021	06/18/2021 11:00	Juyoung Kim	06/18/2021 17:09	Juyoung Kim	2255827
	06/18/2021	06/18/2021 11:00	Juyoung Kim	06/19/2021 00:07	Juyoung Kim	2255826
	06/18/2021	06/18/2021 11:00	Juyoung Kim	06/19/2021 00:28	Juyoung Kim	2255827
	06/18/2021	06/23/2021 09:00	Hoor Shaik	06/25/2021 15:40	Juyoung Kim	2255827
	06/18/2021	06/23/2021 09:00	Hoor Shaik	06/25/2021 17:58	Juyoung Kim	2255826
SM 2120 B-2011	06/18/2021			06/18/2021 15:40	Sarah A Nixon	2255816
	06/18/2021			06/18/2021 15:41	Sarah A Nixon	2255817
SM 2320 B-2011	06/18/2021			06/29/2021 17:52	Dale L. Simmons	2255816
	06/18/2021			06/29/2021 18:01	Dale L. Simmons	2255817
SM 2340B	06/18/2021			06/22/2021 17:21	Josef B Mick	2255828
	06/18/2021			06/22/2021 17:29	Josef B Mick	2255829
SM 2540 C-2011	06/18/2021			06/22/2021 14:06	Yijie Li	2255816, 2255817
SM 2540 D-2011	06/18/2021			06/22/2021 14:15	Yijie Li	2255816, 2255817
SM 4500 F-C-2011	06/18/2021			06/29/2021 17:52	Dale L. Simmons	2255816
	06/18/2021			06/29/2021 18:01	Dale L. Simmons	2255817
SM 5310 B-2011	06/18/2021			06/29/2021 03:11	Madeline Gruver	2255818
	06/18/2021			06/29/2021 03:23	Madeline Gruver	2255819