

Chemical Analysis Report

NW-DIST-2021-03-12-02

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

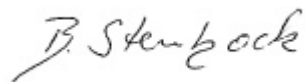
Event Description: **Laurel Hill West Run**
Request ID: **RQ-2021-03-08-56**
Customer: **NW-DIST**
Project ID: **SMP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 02-APR-2021 12:15



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: Wilkinson Creek upstream of Wilkinson Bluff Road

Collection Date/Time: 03/11/2021 09:45

Field ID: G4NW0357

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2231337	EPA 8321B	2,4-D	0.0020	U	ug/L	P394766	
		Acesulfame K	0.10	U	ug/L	P395013	MS
		2,4,5-T	0.0040	U	ug/L	P394766	
		AMPA	0.10	U	ug/L	P395013	
		Sucralose	0.16		ug/L	P395013	
		Acetaminophen	0.0080	U	ug/L	P394766	
		Acetamiprid	0.0020	U	ug/L	P394766	
		Endothall	0.25	U	ug/L	P395013	
		Glufosinate	0.10	U	ug/L	P395013	
		Glyphosate	0.10	U	ug/L	P395013	
		Afidopyropen	0.0020	U	ug/L	P394766	
		Bentazon	8.0E-04	U	ug/L	P394766	
		Benzovindiflupyr	0.0020	U	ug/L	P394766	
		Carbamazepine	8.0E-04	U	ug/L	P394766	
		Clothianidin	0.0020	U	ug/L	P394766	
		Dinotefuran	0.0020	U	ug/L	P394766	
		Diuron	0.0020	U	ug/L	P394766	
		Fenuron	0.016	U	ug/L	P394766	
		Fluridone	8.0E-04	U	ug/L	P394766	
		Imazapyr	0.0040	U	ug/L	P394766	
		Hydrocodone	0.0020	U	ug/L	P394766	
		Ibuprofen	0.020	U	ug/L	P394766	
		Imidacloprid	0.0062	I	ug/L	P394766	
		Linuron	0.0040	U	ug/L	P394766	
		Mandestrobin	0.0020	U	ug/L	P394766	
		MCPP	0.0020	U	ug/L	P394766	
		Naproxen	0.0080	U	ug/L	P394766	
		Primidone	0.0040	U	ug/L	P394766	
		Pyraclostrobin	0.0020	U	ug/L	P394766	
		Thiamethoxam	0.0020	U	ug/L	P394766	
		Tolfenpyrad	0.0020	U	ug/L	P394766	
		Triclopyr	0.0040	U	ug/L	P394766	

Sample Location: Deadfall Creek upstream of Old River Rd

Collection Date/Time: 03/11/2021 11:05

Field ID: G4NW0491

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2231324	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P394921	
	EPA 300.0 Rev. 2.1	Chloride	3.3		mg Cl/L	P395191	
		Sulfate	1.3		mg SO4/L	P395194	
		Color (true)	24		PCU	P394918	
	SM 2320 B-2011	Total Alkalinity	1.3	I	mg CaCO3/L	P395081	
	SM 2540 C-2011	TDS	24	I	mg/L	P395368	
	SM 2540 D-2011	TSS	2	I	mg/L	P395374	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P395084	
2231326	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P395252	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.10	I	mg N/L	P395282	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P395074	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P395102	
	SM 5310 B-2011	Organic Carbon	2.3		mg C/L	P395501	
2231328	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P394915	

Sample Location: Deadfall Creek upstream of Shockley Springs Rd **Collection Date/Time: 03/11/2021 10:50**

Field ID: G4NW0490

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2231325	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P394921	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P395191	
		Sulfate	1.6		mg SO4/L	P395194	
	SM 2120 B-2011	Color (true)	24		PCU	P394918	
	SM 2320 B-2011	Total Alkalinity	0.82	I	mg CaCO3/L	P395081	
	SM 2540 C-2011	TDS	23	I	mg/L	P395368	
	SM 2540 D-2011	TSS	2	U	mg/L	P395374	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P395084	
2231327	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P395252	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.12	I	mg N/L	P395282	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P395074	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P395102	
	SM 5310 B-2011	Organic Carbon	2.3		mg C/L	P395501	
2231329	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P394915	

Sample Location: Oak Creek below Tommy Steele Road

Collection Date/Time: 03/11/2021 12:25

Field ID: G4NW0395

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2231338	EPA 200.7 Rev. 4.4	Barium	19.1		ug/L	P395033	
		Calcium	1.36		mg/L	P395033	
		Iron	1.14E+03		ug/L	P395033	
		Magnesium	0.80		mg/L	P395033	
		Manganese	61.5		ug/L	P395033	
		Potassium	0.37	I	mg/L	P395033	
		Sodium	2.0	I	mg/L	P395033	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P395033	
		Aluminum	138		ug/L	P395033	
		Antimony	0.050	U	ug/L	P395033	
		Arsenic	0.31		ug/L	P395033	
		Beryllium	0.094		ug/L	P395033	
		Boron**	7.5	I	ug/L	P395033	
		Cadmium	0.020	U	ug/L	P395033	
		Chromium	0.40	U	ug/L	P395033	
		Copper	0.40	U	ug/L	P395033	
		Lead	0.37	I	ug/L	P395033	
		Nickel	0.72	I	ug/L	P395033	
		Selenium	0.20	U	ug/L	P395033	
		Silver	0.010	U	ug/L	P395033	
		Thallium	0.10	U	ug/L	P395033	
	SM 2340B	Hardness	6.7		mg/L	P395033	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P394921

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395033

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: P395033

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	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: P395191

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395194

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395252

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395282

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395074

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395102

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394915

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

Reference Method: EPA 8321B
Batch ID: P394766

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P395013

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: P394918

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P395081

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

Reference Method: SM 2540 C-2011

Batch ID: P395368

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P395374

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P395084

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P395501

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: P395033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	107		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Manganese	103		P	85 - 115
Potassium	105		P	85 - 115
Sodium	108		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	94.5		P	85 - 115
Antimony	96.7		P	85 - 115
Arsenic	92.9		P	85 - 115
Beryllium	89.2		P	85 - 115
Boron	92.4		P	85 - 115
Cadmium	95.0		P	85 - 115
Chromium	94.1		P	85 - 115
Copper	96.2		P	85 - 115
Lead	100		P	85 - 115
Nickel	94.6		P	85 - 115
Selenium	89.6		P	85 - 115
Silver	101		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395191

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395194

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395252

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395282

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P395074

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P395102

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P394915

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

Reference Method: EPA 8321B

Batch ID: P394766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	119		P	30 - 160
2,4,5-T	115		P	30 - 160
Acetaminophen	144		P	30 - 160
Acetamiprid	88.1		P	30 - 160
Afidopyropen	64.2		P	30 - 160
Bentazon	80.8		P	30 - 160
Benzovindiflupyr	98.0		P	30 - 160
Carbamazepine	102		P	30 - 160
Clothianidin	70.1		P	30 - 160
Dinotefuran	94.7		P	30 - 160
Diuron	84.1		P	30 - 160
Fenuron	106		P	30 - 160
Fluridone	84.2		P	30 - 160
Hydrocodone	100		P	30 - 160
Ibuprofen	99.4		P	30 - 160
Imazapyr	90.4		P	30 - 160
Imidacloprid	99.3		P	30 - 160
Linuron	80.7		P	30 - 160
Mandestrobin	96.0		P	30 - 160
MCPP	133		P	30 - 160
Naproxen	63.5		P	30 - 160
Primidone	93.8		P	30 - 160
Pyraclostrobin	84.4		P	30 - 160
Thiamethoxam	101		P	30 - 160
Tolfenpyrad	56.5		P	30 - 160
Triclopyr	121		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P395013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	132		P	40 - 150
AMPA	96.9		P	40 - 150
Endothall	91.9		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P395013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glufosinate	109		P	40 - 150
Glyphosate	125		P	40 - 140
Sucralose	92.4		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P394918

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P395081

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

Reference Method: SM 4500 F-C-2011
Batch ID: P395084

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.2		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P395501

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P395033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231307	Barium	101	102	P/P	80 - 120
2231307	Calcium	104	106	P/P	80 - 120
2231307	Iron	105	107	P/P	80 - 120
2231307	Magnesium	105	106	P/P	80 - 120
2231307	Manganese	101	102	P/P	80 - 120
2231307	Potassium	105	106	P/P	80 - 120
2231307	Sodium	105	106	P/P	80 - 120
2231307	Zinc	98.9	99.7	P/P	80 - 120
2231368	Barium	102		P	80 - 120
2231368	Calcium	106		P	80 - 120
2231368	Iron	107		P	80 - 120
2231368	Magnesium	108		P	80 - 120
2231368	Manganese	102		P	80 - 120
2231368	Potassium	104		P	80 - 120
2231368	Sodium	104		P	80 - 120
2231368	Zinc	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P395033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231307	Aluminum	92.7	93.3	P/P	80 - 120
2231307	Antimony	95.6	96.4	P/P	80 - 120
2231307	Arsenic	93.6	93.1	P/P	80 - 120
2231307	Beryllium	88.6	88.8	P/P	80 - 120
2231307	Boron	90.1	90.9	P/P	80 - 120
2231307	Cadmium	95.6	97.1	P/P	80 - 120
2231307	Chromium	93.4	94.4	P/P	80 - 120
2231307	Copper	95.3	95.7	P/P	80 - 120
2231307	Lead	99.5	99.1	P/P	80 - 120
2231307	Nickel	93.7	94.1	P/P	80 - 120
2231307	Selenium	94.2	94.1	P/P	80 - 120
2231307	Silver	101	101	P/P	80 - 120
2231307	Thallium	98.9	98.5	P/P	80 - 120
2231368	Aluminum	93.1		P	80 - 120
2231368	Antimony	99.9		P	80 - 120
2231368	Arsenic	93.3		P	80 - 120
2231368	Beryllium	90.6		P	80 - 120
2231368	Boron	94.3		P	80 - 120
2231368	Cadmium	97.0		P	80 - 120
2231368	Chromium	94.9		P	80 - 120
2231368	Copper	95.3		P	80 - 120
2231368	Lead	103		P	80 - 120
2231368	Nickel	93.6		P	80 - 120
2231368	Selenium	92.1		P	80 - 120
2231368	Silver	101		P	80 - 120
2231368	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395191

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231130	Chloride	102		P	90 - 110
2231289	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231130	Sulfate	98.8		P	90 - 110
2231289	Sulfate	96.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231296	Ammonia-N	98.2	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231326	Kjeldahl Nitrogen	108	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231290	NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231296	Total-P	105	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231297	O-Phosphate-P	102	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P394766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229932	2,4-D	101	119	P/P	30 - 160
2229932	2,4,5-T	103	106	P/P	30 - 160
2229932	Acetaminophen	93.0	98.4	P/P	30 - 160
2229932	Acetamiprid	84.4	89.6	P/P	30 - 160
2229932	Afidopyropen	67.3	77.7	P/P	30 - 160
2229932	Bentazon	60.1	65.2	P/P	30 - 160
2229932	Benzovindiflupyr	88.7	99.1	P/P	30 - 160
2229932	Carbamazepine	93.9	104	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P394766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229932	Clothianidin	69.2	78.9	P/P	30 - 160
2229932	Dinotefuran	94.4	108	P/P	30 - 160
2229932	Diuron	70.2	72.2	P/P	30 - 160
2229932	Fenuron	93.4	97.9	P/P	30 - 160
2229932	Fluridone	77.5	78.4	P/P	30 - 160
2229932	Hydrocodone	96.6	109	P/P	30 - 160
2229932	Ibuprofen	72.5	85.8	P/P	30 - 160
2229932	Imazapyr	76.1	86.5	P/P	30 - 160
2229932	Imidacloprid	119	127	P/P	30 - 160
2229932	Linuron	65.3	72.2	P/P	30 - 160
2229932	Mandestrobin	94.4	98.9	P/P	30 - 160
2229932	MCPP	119	136	P/P	30 - 160
2229932	Naproxen	64.5	58.0	P/P	30 - 160
2229932	Primidone	101	105	P/P	30 - 160
2229932	Pyraclostrobin	83.4	91.7	P/P	30 - 160
2229932	Thiamethoxam	118	122	P/P	30 - 160
2229932	Tolfenpyrad	55.5	59.4	P/P	30 - 160
2229932	Triclopyr	108	110	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P395013

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231261	Acesulfame K	174	176	F/F	40 - 150
2231261	AMPA	126	117	P/P	40 - 150
2231261	Endothall	86.4	78.0	P/P	40 - 150
2231261	Glufosinate	108	134	P/P	40 - 150
2231261	Glyphosate	106	119	P/P	40 - 140
2231261	Sucralose	88.1	85.2	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P395084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231391	Fluoride	100	99.0	P/P	94 - 107

Reference Method: SM 5310 B-2011

Batch ID: P395501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2231290	Organic Carbon	97.0	97.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P394921

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231115	Turbidity	2.34	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P395033

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231307	Barium	0.419	Spike	P	0 - 20
2231307	Calcium	1.78	Spike	P	0 - 20
2231307	Iron	1.63	Spike	P	0 - 20
2231307	Magnesium	1.20	Spike	P	0 - 20
2231307	Manganese	0.828	Spike	P	0 - 20
2231307	Potassium	0.903	Spike	P	0 - 20
2231307	Sodium	0.178	Spike	P	0 - 20
2231307	Zinc	0.780	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P395033

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231307	Aluminum	0.559	Spike	P	0 - 20
2231307	Antimony	0.838	Spike	P	0 - 20
2231307	Arsenic	0.543	Spike	P	0 - 20
2231307	Beryllium	0.186	Spike	P	0 - 20
2231307	Boron	0.777	Spike	P	0 - 20
2231307	Cadmium	1.52	Spike	P	0 - 20
2231307	Chromium	1.03	Spike	P	0 - 20
2231307	Copper	0.438	Spike	P	0 - 20
2231307	Lead	0.389	Spike	P	0 - 20
2231307	Nickel	0.433	Spike	P	0 - 20
2231307	Selenium	0.116	Spike	P	0 - 20
2231307	Silver	0.734	Spike	P	0 - 20
2231307	Thallium	0.392	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395191

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231130	Chloride	1.69	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395194

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231130	Sulfate	1.34	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P395252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231296	Ammonia-N	1.01	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P395282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231326	Kjeldahl Nitrogen	3.10	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P395074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231290	NO2NO3-N	0.506	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P395102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231296	Total-P	4.07	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P394915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231297	O-Phosphate-P	0.590	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P394766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229932	2,4-D	14.6	Spike	P	0 - 30
2229932	2,4,5-T	2.72	Spike	P	0 - 30
2229932	Acetaminophen	5.69	Spike	P	0 - 30
2229932	Acetamiprid	5.98	Spike	P	0 - 30
2229932	Afidopyropen	14.3	Spike	P	0 - 30
2229932	Bentazon	8.06	Spike	P	0 - 30
2229932	Benzovindiflupyr	11.1	Spike	P	0 - 30
2229932	Carbamazepine	10.4	Spike	P	0 - 30
2229932	Clothianidin	13.1	Spike	P	0 - 30
2229932	Dinotefuran	13.5	Spike	P	0 - 30
2229932	Diuron	2.89	Spike	P	0 - 30
2229932	Fenuron	4.75	Spike	P	0 - 30
2229932	Fluridone	1.23	Spike	P	0 - 30
2229932	Hydrocodone	11.9	Spike	P	0 - 30
2229932	Ibuprofen	16.8	Spike	P	0 - 30
2229932	Imazapyr	12.9	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P394766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229932	Imidacloprid	6.71	Spike	P	0 - 30
2229932	Linuron	10.1	Spike	P	0 - 30
2229932	Mandestrobin	4.61	Spike	P	0 - 30
2229932	MCPP	13.3	Spike	P	0 - 30
2229932	Naproxen	10.7	Spike	P	0 - 30
2229932	Primidone	4.17	Spike	P	0 - 30
2229932	Pyraclostrobin	9.49	Spike	P	0 - 30
2229932	Thiamethoxam	3.02	Spike	P	0 - 30
2229932	Tolfenpyrad	6.95	Spike	P	0 - 30
2229932	Triclopyr	2.15	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P395013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231261	Acesulfame K	1.28	Spike	P	0 - 30
2231261	AMPA	7.79	Spike	P	0 - 30
2231261	Endothall	10.2	Spike	P	0 - 30
2231261	Glufosinate	21.6	Spike	P	0 - 30
2231261	Glyphosate	11.3	Spike	P	0 - 30
2231261	Sucralose	3.27	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P394918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231289	Color (true)	0.579	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P395081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231391	Total Alkalinity	0.245	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P395368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231115	TDS	2.45	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P395374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231115	TSS	8.96	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P395084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231391	Fluoride	0.946	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P395501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2231290	Organic Carbon	0.389	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2231337

Field Sample ID: G4NW0357

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	129	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	116	P	30 - 160
EPA 8321B	Diuron-d6	107	P	30 - 160
EPA 8321B	Endothall-d6	118	P	40 - 160
EPA 8321B	Endothall-d6	118	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	114	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	114	P	40 - 160
EPA 8321B	Ibuprofen-d3	106	P	30 - 160
EPA 8321B	Primidone-d5	121	P	30 - 160
EPA 8321B	Sucralose-d6	96.8	P	30 - 160
EPA 8321B	Sucralose-d6	96.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A104041

Included Lab Sample IDs: 2231328, 2231329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.2	98.8	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A104042

Included Lab Sample IDs: 2231324, 2231325

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A104045

Included Lab Sample IDs: 2231324, 2231325

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A104088

Included Lab Sample IDs: 2231337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	155	110	P/P	60 - 160
AMPA	112	114	P/P	60 - 160
Endothall	126	98.2	P/P	60 - 160
Glufosinate	108	101	P/P	60 - 160
Glyphosate	120	145	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104102

Included Lab Sample IDs: 2231326, 2231327

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

Reference Method: SM 2320 B-2011

Run ID: A104103

Included Lab Sample IDs: 2231324, 2231325

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.5	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A104103

Included Lab Sample IDs: 2231324, 2231325

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A104152

Included Lab Sample IDs: 2231338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.7	100	P/P	90 - 110
Antimony	97.9	99.5	P/P	90 - 110
Arsenic	98.8	97.1	P/P	90 - 110
Beryllium	99.0	97.8	P/P	90 - 110
Boron	96.0	101	P/P	90 - 110
Cadmium	98.7	101	P/P	90 - 110
Chromium	98.7	98.9	P/P	90 - 110
Copper	99.7	98.5	P/P	90 - 110
Lead	106	107	P/P	90 - 110
Nickel	100	98.0	P/P	90 - 110
Selenium	100	99.3	P/P	90 - 110
Silver	100	101	P/P	90 - 110
Thallium	103	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A104153

Included Lab Sample IDs: 2231324, 2231325

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104154

Included Lab Sample IDs: 2231326, 2231327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A104157

Included Lab Sample IDs: 2231337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	120	117	P/P	50 - 150
2,4,5-T	127	120	P/P	50 - 150
Acetaminophen	111	107	P/P	60 - 160
Acetamiprid	117	111	P/P	50 - 150
Afidopyropen	109	124	P/P	50 - 150
Bentazon	109	107	P/P	50 - 160
Benzovindiflupyr	121	116	P/P	50 - 160
Carbamazepine	120	106	P/P	60 - 150
Clothianidin	107	105	P/P	60 - 150
Dinotefuran	113	107	P/P	50 - 150
Diuron	119	114	P/P	60 - 160
Fenuron	104	106	P/P	60 - 150
Fluridone	105	101	P/P	60 - 160
Hydrocodone	116	106	P/P	60 - 150
Ibuprofen	134	151	P/P	50 - 160
Imazapyr	120	114	P/P	50 - 160
Imidacloprid	97.1	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A104157
Included Lab Sample IDs: 2231337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	110	103	P/P	60 - 150
Mandestrobin	126	122	P/P	50 - 150
MCPD	126	126	P/P	50 - 150
Naproxen	128	119	P/P	50 - 160
Primidone	110	116	P/P	60 - 150
Pyraclostrobin	115	119	P/P	60 - 150
Thiamethoxam	116	107	P/P	50 - 150
Tolfenpyrad	126	118	P/P	60 - 150
Triclopyr	120	117	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A104179
Included Lab Sample IDs: 2231326, 2231327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.4	97.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A104250
Included Lab Sample IDs: 2231326, 2231327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	105	P/P	90 - 110
Kjeldahl Nitrogen	105	106	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A104251
Included Lab Sample IDs: 2231338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.6	99.3	P/P	90 - 110
Calcium	102	102	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	100	100	P/P	90 - 110
Manganese	102	101	P/P	90 - 110
Potassium	103	103	P/P	90 - 110
Sodium	100	100	P/P	90 - 110
Zinc	102	101	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A104272
Included Lab Sample IDs: 2231337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	96.4	96.7	P/P	60 - 160

Reference Method: SM 5310 B-2011
Run ID: A104280
Included Lab Sample IDs: 2231326, 2231327

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: A104280

Included Lab Sample IDs: 2231326, 2231327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	97.3	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						2.34	
EPA 200.7 Rev. 4.4	Barium	102	101	102	102			0.419
	Calcium	107	104	106	106			1.78
	Iron	105	105	107	107			1.63
	Magnesium	105	105	106	108			1.20
	Manganese	103	101	102	102			0.828
	Potassium	105	105	106	104			0.903
	Sodium	108	105	106	104			0.178
	Zinc	100	98.9	99.7	100			0.780
EPA 200.8 Rev. 5.4	Aluminum	94.5	92.7	93.3	93.1			0.559
	Antimony	96.7	95.6	96.4	99.9			0.838
	Arsenic	92.9	93.6	93.1	93.3			0.543
	Beryllium	89.2	88.6	88.8	90.6			0.186
	Boron	92.4	90.1	90.9	94.3			0.777
	Cadmium	95.0	95.6	97.1	97.0			1.52
	Chromium	94.1	93.4	94.4	94.9			1.03
	Copper	96.2	95.3	95.7	95.3			0.438
	Lead	100	99.5	99.1	103			0.389
	Nickel	94.6	93.7	94.1	93.6			0.433
	Selenium	89.6	94.2	94.1	92.1			0.116
	Silver	101	101	101	101			0.734
	Thallium	102	98.9	98.5	103			0.392
EPA 300.0 Rev. 2.1	Chloride	102	102	101			1.69	
	Sulfate	101	98.8	96.2			1.34	
EPA 350.1 Rev. 2.0	Ammonia-N	95.8	98.2	99.2				1.01
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	108	105				3.10
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	99.0	98.5				0.506
EPA 365.1 Rev. 2.0	Total-P	103	105	109				4.07
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	102	101				0.590
EPA 8321B	2,4-D	119	101	119				14.6
	2,4,5-T	115	103	106				2.72
	Acesulfame K	132	174	176				1.28
	Acetaminophen	144	93.0	98.4				5.69
	Acetamiprid	88.1	84.4	89.6				5.98
	Afidopyropen	64.2	67.3	77.7				14.3
	AMPA	96.9	126	117				7.79
	Bentazon	80.8	60.1	65.2				8.06
	Benzovindiflupyr	98.0	88.7	99.1				11.1
	Carbamazepine	102	93.9	104				10.4
	Clothianidin	70.1	69.2	78.9				13.1
	Dinotefuran	94.7	94.4	108				13.5
	Diuron	84.1	70.2	72.2				2.89
	Endothall	91.9	86.4	78.0				10.2
	Fenuron	106	93.4	97.9				4.75
	Fluridone	84.2	77.5	78.4				1.23
	Glufosinate	109	108	134				21.6
	Glyphosate	125	106	119				11.3
	Hydrocodone	100	96.6	109				11.9
	Ibuprofen	99.4	72.5	85.8				16.8
	Imazapyr	90.4	76.1	86.5				12.9
	Imidacloprid	99.3	119	127				6.71
	Linuron	80.7	65.3	72.2				10.1
	Mandestrobin	96.0	94.4	98.9				4.61
	MCPD	133	119	136				13.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Naproxen	63.5	64.5	58.0		10.7
	Primidone	93.8	101	105		4.17
	Pyraclostrobin	84.4	83.4	91.7		9.49
	Sucralose	92.4	88.1	85.2		3.27
	Thiamethoxam	101	118	122		3.02
	Tolfenpyrad	56.5	55.5	59.4		6.95
	Triclopyr	121	108	110		2.15
SM 2120 B-2011	Color (true)	102			0.579	
SM 2320 B-2011	Total Alkalinity	101			0.245	
SM 2540 C-2011	TDS				2.45	
SM 2540 D-2011	TSS				8.96	
SM 4500 F-C-2011	Fluoride	99.2	100	99.0		0.946
SM 5310 B-2011	Organic Carbon	95.5	97.0	97.6		0.389

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2231324, 2231325
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2231338
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2231338
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2231324, 2231325
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2231324, 2231325
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2231326, 2231327
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2231326, 2231327
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2231326, 2231327
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2231326, 2231327
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2231328, 2231329
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2231337
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2231337
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2231324, 2231325
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2231324, 2231325
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2231338
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2231324, 2231325
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2231324, 2231325
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2231324, 2231325
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2231326, 2231327

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	03/12/2021			03/12/2021 14:31	Yen Ta	2231324, 2231325
EPA 200.7 Rev. 4.4	03/12/2021	03/16/2021 15:50	Elliott D. Healy	03/22/2021 16:25	Josef B Mick	2231338
EPA 200.8 Rev. 5.4	03/12/2021	03/16/2021 15:50	Elliott D. Healy	03/18/2021 16:36	McKinley C Carter	2231338
EPA 300.0 Rev. 2.1	03/12/2021			03/16/2021 06:05	Lipi Saha	2231324
	03/12/2021			03/16/2021 06:17	Lipi Saha	2231325
EPA 350.1 Rev. 2.0	03/12/2021			03/20/2021 11:37	Ping Hua	2231326
	03/12/2021			03/20/2021 11:39	Ping Hua	2231327
EPA 351.2 Rev. 2.0	03/12/2021	03/22/2021 13:25	Benjamin T. Nordmann	03/23/2021 21:51	Julia Storbeck	2231326
	03/12/2021	03/22/2021 13:25	Benjamin T. Nordmann	03/23/2021 21:59	Julia Storbeck	2231327
EPA 353.2 Rev. 2.0	03/12/2021			03/17/2021 09:17	Beverly Y. Sanders	2231326
	03/12/2021			03/17/2021 09:18	Beverly Y. Sanders	2231327
EPA 365.1 Rev. 2.0	03/12/2021	03/17/2021 13:18	Yen Ta	03/18/2021 15:47	Shengyu Ding	2231326
	03/12/2021	03/17/2021 13:18	Yen Ta	03/18/2021 15:48	Shengyu Ding	2231327
EPA 365.1 Rev. 2.0 dissolved	03/12/2021			03/12/2021 15:16	Patrick M. Roche	2231328
	03/12/2021			03/12/2021 15:17	Patrick M. Roche	2231329
EPA 8321B	03/12/2021	03/12/2021 14:30	Hoor Shaik	03/15/2021 14:04	Juyoung Kim	2231337
	03/12/2021	03/16/2021 10:30	Rebecca Ware	03/16/2021 13:50	Rebecca Ware	2231337
	03/12/2021	03/16/2021 10:30	Rebecca Ware	03/24/2021 14:32	Rebecca Ware	2231337
SM 2120 B-2011	03/12/2021			03/12/2021 16:18	Benjamin T. Nordmann	2231324
	03/12/2021			03/12/2021 16:19	Benjamin T. Nordmann	2231325
SM 2320 B-2011	03/12/2021			03/17/2021 05:06	Dale L. Simmons	2231324
	03/12/2021			03/17/2021 05:15	Dale L. Simmons	2231325
SM 2340B	03/12/2021			03/22/2021 16:25	Josef B Mick	2231338
SM 2540 C-2011	03/12/2021			03/15/2021 15:01	Yijie Li	2231324, 2231325
SM 2540 D-2011	03/12/2021			03/15/2021 15:01	Yijie Li	2231324, 2231325
SM 4500 F-C-2011	03/12/2021			03/17/2021 05:06	Dale L. Simmons	2231324
	03/12/2021			03/17/2021 05:15	Dale L. Simmons	2231325
SM 5310 B-2011	03/12/2021			03/24/2021 23:18	Madeline Gruver	2231326
	03/12/2021			03/24/2021 23:30	Madeline Gruver	2231327