

Chemical Analysis Report

NE-DIST-2021-09-17-01

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

Event Description: **LSJR East make up**
Request ID: **RQ-2021-09-20-34**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 11-OCT-2021 12:43

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the "T" and a long horizontal stroke at the end.

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: Drainage Ditch Parental Home Rd

Collection Date/Time: 09/16/2021 10:10

Field ID: 20030071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2276465	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P403901	
	EPA 300.0 Rev. 2.1	Chloride	30	A	mg Cl/L	P404086	
		Sulfate	24	A	mg SO4/L	P404089	
	SM 2120 B-2011	Color (true)	38	A	PCU	P403896	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P404044	
	SM 2540 C-2011	TDS	238	A	mg/L	P404322	
	SM 2540 D-2011	TSS	2	IA	mg/L	P404315	
	SM 4500 F-C-2011	Fluoride	0.16		mg F/L	P404045	
2276466	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P404119	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P403965	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.085		mg N/L	P404039	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P403930	
	SM 5310 B-2011	Organic Carbon	9.3		mg C/L	P404088	
2276467	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.022		mg P/L	P403890	
2276474	EPA 8321B	2,4-D	25		ug/L	P403865	
		Acesulfame K	0.29	I	ug/L	P403676	
		2,4,5-T	0.0057	I	ug/L	P403865	
		AMPA	2.1		ug/L	P403676	
		Acetaminophen	0.0080	U	ug/L	P403865	
		Acetamiprid	0.0020	U	ug/L	P403865	
		Endothall	0.25	U	ug/L	P403676	
		Glufosinate	0.10	U	ug/L	P403676	
		Glyphosate	3.6		ug/L	P403676	
		Afidopyropen	0.0020	U	ug/L	P403865	
		Bentazon	0.060		ug/L	P403865	
		Sucralose	0.20		ug/L	P403676	
		Benzovindiflupyr	0.0020	U	ug/L	P403865	
		Carbamazepine	8.0E-04	U	ug/L	P403865	
		Clothianidin	0.0020	I	ug/L	P403865	
		Dinotefuran	0.0053	I	ug/L	P403865	
		Diuron	0.072		ug/L	P403865	
		Fenuron	0.016	U	ug/L	P403865	
		Fluridone	9.9E-04	I	ug/L	P403865	
		Imazapyr	0.13		ug/L	P403865	
		Hydrocodone	0.0020	U	ug/L	P403865	
		Ibuprofen	0.020	U	ug/L	P403865	RPD
		Imidacloprid	0.045		ug/L	P403865	
		Linuron	0.0040	U	ug/L	P403865	
		Mandestrobin	0.0020	U	ug/L	P403865	
		MCP	0.0079	I	ug/L	P403865	
		Naproxen	0.0080	U	ug/L	P403865	
		Primidone	0.0040	U	ug/L	P403865	
		Pyraclostrobin	0.0020	U	ug/L	P403865	

Field ID: 20030071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2276474	EPA 8321B	Thiamethoxam	0.0032	I	ug/L	P403865	
		Tolfenpyrad	0.0020	U	ug/L	P403865	
		Triclopyr	0.0065	I	ug/L	P403865	

Ref. Method and Comment:

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

EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample. The surrogate 2,4-D-d3 recovery could not be assessed due to an elevated level of 2,4-D in the sample matrix.

Sample Location: Greenfield Creek @ Queens Harbour Blvd

Collection Date/Time: 09/16/2021 09:20

Field ID: 20030809

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2276462	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P403901	
	SM 2320 B-2011	Total Alkalinity	94		mg CaCO3/L	P404044	
	SM 2540 D-2011	TSS	8	I	mg/L	P404315	
	SM 4500 F-C-2011	Fluoride	0.21		mg F/L	P404045	
2276463	EPA 350.1 Rev. 2.0	Ammonia-N	0.090		mg N/L	P404120	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P403956	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P403960	
	EPA 365.1 Rev. 2.0	Total-P	0.094		mg P/L	P404053	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P404088	
2276464	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.040		mg P/L	P403892	
2276478	EPA 200.7 Rev. 4.4	Calcium	87.9		mg/L	P404091	
		Iron	320		ug/L	P404091	
		Magnesium	164		mg/L	P404091	
		Manganese	33.2		ug/L	P404091	
		Zinc	5.0	U	ug/L	P404091	
	EPA 200.8 Rev. 5.4	Aluminum	132		ug/L	P404091	
		Antimony	0.11	I	ug/L	P404091	
		Arsenic	1.43		ug/L	P404091	
		Beryllium	0.013	I	ug/L	P404091	
		Cadmium	0.020	U	ug/L	P404091	
		Chromium	1.0	I	ug/L	P404091	
		Copper	8.72		ug/L	P404091	
		Lead	0.21	I	ug/L	P404091	
		Nickel	1.6	I	ug/L	P404091	
		Selenium	0.20	U	ug/L	P404091	
		Silver	0.010	U	ug/L	P404091	
		Thallium	0.10	U	ug/L	P404091	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 09/27/2021.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403901

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404091

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404091

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404086

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404089

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404119

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404120

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: P403956

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403965

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403960

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404039

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403930

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404053

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403890

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403892

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

Reference Method: EPA 8321B
Batch ID: P403676

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P403676

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P403865

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

Reference Method: SM 2120 B-2011
Batch ID: P403896

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P404044

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

Reference Method: SM 2540 C-2011
Batch ID: P404322

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P404315

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P404045

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P404088

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: P404091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	109		P	85 - 115
Magnesium	112		P	85 - 115
Manganese	102		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.8		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	99.4		P	85 - 115
Beryllium	94.1		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	97.3		P	85 - 115
Copper	97.2		P	85 - 115
Lead	97.2		P	85 - 115
Nickel	97.4		P	85 - 115
Selenium	97.7		P	85 - 115
Silver	100		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404089

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404119

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404120

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403965

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403960

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404039

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403930

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404053

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403890

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403892

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

Reference Method: EPA 8321B
Batch ID: P403676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	92.8		P	40 - 150
AMPA	95.3		P	40 - 160
Endothall	85.4		P	40 - 150
Glufosinate	95.0		P	40 - 160
Glyphosate	89.3		P	40 - 160
Sucralose	86.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P403865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
2,4,5-T	104		P	40 - 150
Acetaminophen	87.8		P	30 - 150
Acetamiprid	86.8		P	40 - 150
Afidopyropen	100		P	40 - 150
Bentazon	147		P	30 - 150
Benzovindiflupyr	83.0		P	40 - 150
Carbamazepine	93.5		P	40 - 150
Clothianidin	95.6		P	40 - 150
Dinotefuran	77.6		P	40 - 150
Diuron	96.1		P	40 - 150
Fenuron	87.6		P	40 - 150
Fluridone	89.7		P	40 - 150
Hydrocodone	91.3		P	40 - 150
Ibuprofen	71.1		P	40 - 150
Imazapyr	83.7		P	40 - 150
Imidacloprid	89.2		P	40 - 150
Linuron	82.9		P	40 - 150
Mandestrobin	87.6		P	40 - 150
MCPP	115		P	40 - 150
Naproxen	98.7		P	40 - 150
Primidone	86.5		P	40 - 150
Pyraclostrobin	74.5		P	40 - 150
Thiamethoxam	88.3		P	40 - 150
Tolfenpyrad	46.9		P	30 - 150
Triclopyr	102		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P403896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P404044

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

Reference Method: SM 4500 F-C-2011

Batch ID: P404045

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.6		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P404088

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P404091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276759	Calcium	99.1		P	80 - 120
2276759	Iron	105		P	80 - 120
2276759	Magnesium	100		P	80 - 120
2276759	Manganese	100		P	80 - 120
2276759	Zinc	102		P	80 - 120
2276979	Calcium	102		P	80 - 120
2276979	Iron	111	110	P/P	80 - 120
2276979	Magnesium	111	111	P/P	80 - 120
2276979	Manganese	102	103	P/P	80 - 120
2276979	Zinc	90.2	92.2	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P404091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276759	Aluminum	95.1		P	80 - 120
2276759	Antimony	101		P	80 - 120
2276759	Arsenic	97.2		P	80 - 120
2276759	Beryllium	90.2		P	80 - 120
2276759	Cadmium	99.2		P	80 - 120
2276759	Chromium	96.0		P	80 - 120
2276759	Copper	90.9		P	80 - 120
2276759	Lead	94.6		P	80 - 120
2276759	Nickel	93.0		P	80 - 120
2276759	Selenium	94.5		P	80 - 120
2276759	Silver	96.6		P	80 - 120
2276759	Thallium	101		P	80 - 120
2276979	Aluminum	99.4	98.7	P/P	80 - 120
2276979	Antimony	105	104	P/P	80 - 120
2276979	Arsenic	102	102	P/P	80 - 120
2276979	Beryllium	95.1	94.0	P/P	80 - 120
2276979	Cadmium	102	99.7	P/P	80 - 120
2276979	Chromium	101	101	P/P	80 - 120
2276979	Copper	98.6	97.7	P/P	80 - 120
2276979	Lead	98.7	97.8	P/P	80 - 120
2276979	Nickel	98.0	98.4	P/P	80 - 120
2276979	Selenium	99.0	99.0	P/P	80 - 120
2276979	Silver	99.9	99.1	P/P	80 - 120
2276979	Thallium	109	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276465	Chloride	98.7		P	90 - 110
2276741	Chloride	96.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276465	Sulfate	98.4		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276741	Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276524	Ammonia-N	96.8	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276906	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276313	Kjeldahl Nitrogen	100	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403965

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276330	Kjeldahl Nitrogen	105	94.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403960

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276425	NO2NO3-N	98.4	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276466	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276590	Total-P	105	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276900	Total-P	95.4	94.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276406	O-Phosphate-P	97.8	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276430	O-Phosphate-P	101	99.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P403676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275530	Acesulfame K	96.1	91.3	P/P	40 - 150
2275530	AMPA	99.1	99.3	P/P	40 - 160
2275530	Endothall	91.1	91.6	P/P	40 - 150
2275530	Glufosinate	93.6	93.3	P/P	40 - 160
2275530	Glyphosate	87.4	85.4	P/P	40 - 160
2275530	Sucralose	92.9	92.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P403865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275791	2,4-D	112	127	P/P	40 - 150
2275791	2,4,5-T	109	104	P/P	40 - 150
2275791	Acetaminophen	62.1	66.4	P/P	30 - 150
2275791	Acetamiprid	79.5	88.1	P/P	40 - 150
2275791	Afidopyropen	90.3	96.0	P/P	40 - 150
2275791	Benzovindiflupyr	73.0	79.4	P/P	40 - 150
2275791	Carbamazepine	84.6	91.8	P/P	40 - 150
2275791	Clothianidin	80.3	86.7	P/P	40 - 150
2275791	Dinotefuran	94.2	110	P/P	40 - 150
2275791	Diuron	75.6	85.6	P/P	40 - 150
2275791	Fenuron	75.7	82.0	P/P	40 - 150
2275791	Fluridone	80.4	87.3	P/P	40 - 150
2275791	Hydrocodone	117	125	P/P	40 - 150
2275791	Ibuprofen	59.5	90.6	P/P	40 - 150
2275791	Imazapyr	82.1	95.2	P/P	40 - 150
2275791	Imidacloprid	121	143	P/P	40 - 150
2275791	Linuron	77.9	79.7	P/P	40 - 150
2275791	Mandestrobin	79.6	86.4	P/P	40 - 150
2275791	MCPP	136	147	P/P	40 - 150
2275791	Naproxen	79.6	95.4	P/P	40 - 150
2275791	Primidone	70.6	82.0	P/P	40 - 150
2275791	Pyraclostrobin	71.9	76.8	P/P	40 - 150
2275791	Thiamethoxam	116	133	P/P	40 - 150
2275791	Tolfenpyrad	43.8	47.0	P/P	30 - 150
2275791	Triclopyr	113	104	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P404045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276523	Fluoride	100	98.4	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P404088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276463	Organic Carbon	98.2	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276329	Turbidity	1.96	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276979	Calcium	0.0799	Spike	P	0 - 20
2276979	Iron	0.530	Spike	P	0 - 20
2276979	Magnesium	0.0115	Spike	P	0 - 20
2276979	Manganese	1.66	Spike	P	0 - 20
2276979	Zinc	1.91	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276979	Aluminum	0.694	Spike	P	0 - 20
2276979	Antimony	0.937	Spike	P	0 - 20
2276979	Arsenic	0.133	Spike	P	0 - 20
2276979	Beryllium	1.12	Spike	P	0 - 20
2276979	Cadmium	2.04	Spike	P	0 - 20
2276979	Chromium	0.151	Spike	P	0 - 20
2276979	Copper	0.854	Spike	P	0 - 20
2276979	Lead	0.883	Spike	P	0 - 20
2276979	Nickel	0.329	Spike	P	0 - 20
2276979	Selenium	0.00544	Spike	P	0 - 20
2276979	Silver	0.818	Spike	P	0 - 20
2276979	Thallium	3.21	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276465	Chloride	0.574	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276465	Sulfate	1.07	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276524	Ammonia-N	0.884	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276906	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276313	Kjeldahl Nitrogen	2.03	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276330	Kjeldahl Nitrogen	8.21	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276425	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276466	NO2NO3-N	0.348	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276590	Total-P	2.51	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276900	Total-P	1.17	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276406	O-Phosphate-P	0.126	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276430	O-Phosphate-P	0.583	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P403676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275530	Acesulfame K	5.07	Spike	P	0 - 30
2275530	AMPA	0.211	Spike	P	0 - 30
2275530	Endothall	0.561	Spike	P	0 - 30
2275530	Glufosinate	0.339	Spike	P	0 - 30
2275530	Glyphosate	2.16	Spike	P	0 - 30
2275530	Sucralose	0.689	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P403865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275791	2,4-D	9.65	Spike	P	0 - 30
2275791	2,4,5-T	4.57	Spike	P	0 - 30
2275791	Acetaminophen	6.59	Spike	P	0 - 30
2275791	Acetamiprid	10.3	Spike	P	0 - 30
2275791	Afidopyropen	6.16	Spike	P	0 - 30
2275791	Bentazon	18.3	Spike	P	0 - 30
2275791	Benzovindiflupyr	8.43	Spike	P	0 - 30
2275791	Carbamazepine	7.77	Spike	P	0 - 30
2275791	Clothianidin	7.49	Spike	P	0 - 30
2275791	Dinotefuran	15.2	Spike	P	0 - 30
2275791	Diuron	10.9	Spike	P	0 - 30
2275791	Fenuron	7.93	Spike	P	0 - 30
2275791	Fluridone	6.22	Spike	P	0 - 30
2275791	Hydrocodone	6.95	Spike	P	0 - 30
2275791	Ibuprofen	41.4	Spike	F	0 - 30
2275791	Imazapyr	9.13	Spike	P	0 - 30
2275791	Imidacloprid	11.9	Spike	P	0 - 30
2275791	Linuron	2.30	Spike	P	0 - 30
2275791	Mandestrobin	8.16	Spike	P	0 - 30
2275791	MCPP	6.93	Spike	P	0 - 30
2275791	Naproxen	18.0	Spike	P	0 - 30
2275791	Primidone	15.0	Spike	P	0 - 30
2275791	Pyraclostrobin	6.60	Spike	P	0 - 30
2275791	Thiamethoxam	13.3	Spike	P	0 - 30
2275791	Tolfenpyrad	7.02	Spike	P	0 - 30
2275791	Triclopyr	8.01	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P403896

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

Reference Method: SM 2120 B-2011
Batch ID: P403896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276465	Color (true)	1.79	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P404044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276523	Total Alkalinity	0.236	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P404322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276465	TDS	5.88	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P404045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276523	Fluoride	0.953	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P404088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276463	Organic Carbon	0.259	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2276474

Field Sample ID: 20030071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	54.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	66.3	P	30 - 160
EPA 8321B	Diuron-d6	63.5	P	30 - 160
EPA 8321B	Endothall-d6	66.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	70.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	89.1	P	30 - 160
EPA 8321B	Primidone-d5	59.0	P	30 - 160
EPA 8321B	Sucralose-d6	92.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107860

Included Lab Sample IDs: 2276464, 2276467

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.5	P/P	90 - 110
O-Phosphate-P	99.5	99.7	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A107862

Included Lab Sample IDs: 2276465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107865

Included Lab Sample IDs: 2276462, 2276465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	100	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A107868

Included Lab Sample IDs: 2276474

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	87.8	75.6	P/P	60 - 160
Endothall	66.7	60.1	P/P	60 - 160
Sucralose	90.1	87.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A107869

Included Lab Sample IDs: 2276474

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	87.2	86.8	P/P	60 - 160
Glufosinate	87.8	84.5	P/P	60 - 160
Glyphosate	81.4	82.3	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107897

Included Lab Sample IDs: 2276463

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107927

Included Lab Sample IDs: 2276466

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A107928

Included Lab Sample IDs: 2276462, 2276465

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

Reference Method: SM 4500 F-C-2011

Run ID: A107928

Included Lab Sample IDs: 2276462, 2276465

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

Reference Method: EPA 8321B

Run ID: A107932

Included Lab Sample IDs: 2276474

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	121	P/P	50 - 150
2,4,5-T	94.6	94.6	P/P	50 - 150
Acetaminophen	113	118	P/P	60 - 160
Acetamiprid	101	103	P/P	50 - 150
Afidopyropen	138	68.6	P/P	50 - 150
Bentazon	105	103	P/P	50 - 160
Benzovindiflupyr	105	104	P/P	50 - 150
Carbamazepine	109	113	P/P	60 - 150
Clothianidin	104	106	P/P	60 - 150
Dinotefuran	99.2	98.9	P/P	50 - 150
Diuron	124	120	P/P	60 - 160
Fenuron	101	102	P/P	60 - 150
Fluridone	108	111	P/P	60 - 160
Hydrocodone	108	105	P/P	60 - 150
Ibuprofen	87.0	89.9	P/P	50 - 160
Imazapyr	100	96.9	P/P	50 - 150
Imidacloprid	95.8	96.0	P/P	60 - 150
Linuron	90.8	99.4	P/P	60 - 150
Mandestrobin	106	105	P/P	50 - 150
MCP	98.1	93.6	P/P	50 - 150
Naproxen	110	101	P/P	50 - 160
Primidone	101	104	P/P	60 - 150
Pyraclostrobin	104	104	P/P	60 - 150
Thiamethoxam	95.3	96.9	P/P	50 - 150
Tolfenpyrad	105	97.7	P/P	60 - 150
Triclopyr	96.2	96.7	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107942

Included Lab Sample IDs: 2276466

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107953

Included Lab Sample IDs: 2276465

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

Reference Method: SM 5310 B-2011

Run ID: A107954

Included Lab Sample IDs: 2276463, 2276466

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.0	P/P	90 - 110
Organic Carbon	97.0	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107960

Included Lab Sample IDs: 2276463, 2276466

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.0	P/P	90 - 110
Kjeldahl Nitrogen	98.2	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107961

Included Lab Sample IDs: 2276463, 2276466

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	99.2	P/P	90 - 110
Ammonia-N	99.2	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107967

Included Lab Sample IDs: 2276463

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107991

Included Lab Sample IDs: 2276478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.1	99.2	P/P	90 - 110
Antimony	102	102	P/P	90 - 110
Arsenic	97.7	97.5	P/P	90 - 110
Beryllium	92.8	93.7	P/P	90 - 110
Cadmium	98.4	99.7	P/P	90 - 110
Chromium	95.7	95.2	P/P	90 - 110
Copper	93.5	94.5	P/P	90 - 110
Lead	92.7	93.3	P/P	90 - 110
Nickel	92.7	93.7	P/P	90 - 110
Selenium	98.1	99.0	P/P	90 - 110
Silver	97.6	97.7	P/P	90 - 110
Thallium	98.8	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107992

Included Lab Sample IDs: 2276478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Manganese	101	102	P/P	90 - 110
Zinc	100	100	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						1.96	
EPA 200.7 Rev. 4.4	Calcium	101	99.1	102				0.0799
	Iron	109	105	111	110			0.530
	Magnesium	112	100	111	111			0.0115
	Manganese	102	100	102	103			1.66
	Zinc	101	102	90.2	92.2			1.91
EPA 200.8 Rev. 5.4	Aluminum	99.8	99.4	98.7	95.1			0.694
	Antimony	103	105	104	101			0.937
	Arsenic	99.4	102	102	97.2			0.133
	Beryllium	94.1	95.1	94.0	90.2			1.12
	Cadmium	100	102	99.7	99.2			2.04
	Chromium	97.3	101	101	96.0			0.151
	Copper	97.2	98.6	97.7	90.9			0.854
	Lead	97.2	98.7	97.8	94.6			0.883
	Nickel	97.4	98.0	98.4	93.0			0.329
	Selenium	97.7	99.0	99.0	94.5			0.0054
	Silver	100	99.9	99.1	96.6			0.818
	Thallium	102	109	105	101			3.21
EPA 300.0 Rev. 2.1	Chloride	98.5	98.7	96.9			0.574	
	Sulfate	99.0	98.4	97.3			1.07	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	96.8	97.8				0.884
	Ammonia-N	99.0	104	104				0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.0	100	103				2.03
	Kjeldahl Nitrogen	97.1	105	94.6				8.21
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	98.4	98.4				0.0
	NO2NO3-N	104	101	102				0.348
EPA 365.1 Rev. 2.0	Total-P	101	105	102				2.51
	Total-P	102	95.4	94.2				1.17
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	97.8	97.6				0.126
	O-Phosphate-P	101	101	99.8				0.583
EPA 8321B	2,4-D	109	127	112				9.65
	2,4,5-T	104	104	109				4.57
	Acesulfame K	92.8	96.1	91.3				5.07
	Acetaminophen	87.8	62.1	66.4				6.59
	Acetamiprid	86.8	79.5	88.1				10.3
	Afidopyropen	100	90.3	96.0				6.16
	AMPA	95.3	99.1	99.3				0.211
	Bentazon	147						18.3
	Benzovindiflupyr	83.0	73.0	79.4				8.43
	Carbamazepine	93.5	84.6	91.8				7.77
	Clothianidin	95.6	80.3	86.7				7.49
	Dinotefuran	77.6	94.2	110				15.2
	Diuron	96.1	75.6	85.6				10.9
	Endothall	85.4	91.1	91.6				0.561
	Fenuron	87.6	75.7	82.0				7.93
	Fluridone	89.7	80.4	87.3				6.22
	Glufosinate	95.0	93.6	93.3				0.339
	Glyphosate	89.3	87.4	85.4				2.16
	Hydrocodone	91.3	117	125				6.95
	Ibuprofen	71.1	90.6	59.5				41.4
	Imazapyr	83.7	82.1	95.2				9.13
	Imidacloprid	89.2	121	143				11.9
	Linuron	82.9	77.9	79.7				2.30
	Mandestrobin	87.6	79.6	86.4				8.16

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	MCPP	115	136	147		6.93
	Naproxen	98.7	79.6	95.4		18.0
	Primidone	86.5	70.6	82.0		15.0
	Pyraclostrobin	74.5	71.9	76.8		6.60
	Sucralose	86.5	92.9	92.0		0.689
	Thiamethoxam	88.3	116	133		13.3
	Tolfenpyrad	46.9	43.8	47.0		7.02
	Triclopyr	102	113	104		8.01
SM 2120 B-2011	Color (true)	99.2			1.79	
SM 2320 B-2011	Total Alkalinity	103			0.236	
SM 2540 C-2011	TDS				5.88	
SM 4500 F-C-2011	Fluoride	97.6	100	98.4		0.953
SM 5310 B-2011	Organic Carbon	96.6	98.2	97.8		0.259

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2276462, 2276465
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2276478
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2276478
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2276465
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2276465
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2276463, 2276466
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2276463, 2276466
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2276463, 2276466
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2276463, 2276466
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2276464, 2276467
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2276474
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2276465
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2276462, 2276465
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2276465
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2276462, 2276465
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2276462, 2276465
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2276463, 2276466

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	09/17/2021			09/17/2021 14:36	Khloe J Berg	2276462, 2276465
EPA 200.7 Rev. 4.4	09/17/2021	09/23/2021 11:00	Emily M Philpot	09/24/2021 13:11	Josef B Mick	2276478
	09/17/2021	09/23/2021 11:00	Emily M Philpot	09/24/2021 13:19	Josef B Mick	2276478
EPA 200.8 Rev. 5.4	09/17/2021	09/23/2021 11:00	Emily M Philpot	09/24/2021 17:42	Alexander Thompson	2276478
EPA 300.0 Rev. 2.1	09/17/2021			09/22/2021 17:51	Roberta Tatti	2276465
EPA 350.1 Rev. 2.0	09/17/2021			09/23/2021 12:12	Ping Hua	2276466
	09/17/2021			09/23/2021 12:45	Ping Hua	2276463
EPA 351.2 Rev. 2.0	09/17/2021	09/21/2021 10:48	Benjamin T. Nordmann	09/23/2021 09:43	Alexandra J Mattheus	2276463
	09/17/2021	09/21/2021 10:48	Benjamin T. Nordmann	09/23/2021 10:20	Alexandra J Mattheus	2276466
EPA 353.2 Rev. 2.0	09/17/2021			09/21/2021 09:08	Beverly Y. Sanders	2276463
	09/17/2021			09/22/2021 09:17	Beverly Y. Sanders	2276466
EPA 365.1 Rev. 2.0	09/17/2021	09/20/2021 15:50	Simonne.V. Calhoun	09/22/2021 11:57	Virginia P. Brown	2276466
	09/17/2021	09/22/2021 13:13	Simonne.V. Calhoun	09/23/2021 14:51	Sarah A Nixon	2276463
EPA 365.1 Rev. 2.0 dissolved	09/17/2021			09/17/2021 14:06	James L Waggeberby	2276464
	09/17/2021			09/17/2021 14:20	James L Waggeberby	2276467
EPA 8321B	09/17/2021	09/17/2021 13:00	Mohammad Ghaffari	09/17/2021 14:04	Mohammad Ghaffari	2276474
	09/17/2021	09/17/2021 13:00	Mohammad Ghaffari	09/17/2021 16:55	Manjita Shrestha	2276474
	09/17/2021	09/20/2021 09:00	Hoor Shaik	09/22/2021 05:04	Juyoung Kim	2276474
	09/17/2021	09/20/2021 09:00	Hoor Shaik	09/22/2021 14:18	Juyoung Kim	2276474
	09/17/2021	09/20/2021 09:00	Hoor Shaik	09/22/2021 14:53	Juyoung Kim	2276474
SM 2120 B-2011	09/17/2021			09/17/2021 16:04	Benjamin T. Nordmann	2276465
SM 2320 B-2011	09/17/2021			09/21/2021 17:33	Dale L. Simmons	2276465
	09/17/2021			09/21/2021 19:04	Dale L. Simmons	2276462
SM 2540 C-2011	09/17/2021			09/21/2021 13:36	Yijie Li	2276465
SM 2540 D-2011	09/17/2021			09/21/2021 13:36	Yijie Li	2276462, 2276465
SM 4500 F-C-2011	09/17/2021			09/21/2021 17:33	Dale L. Simmons	2276465
	09/17/2021			09/21/2021 19:04	Dale L. Simmons	2276462
SM 5310 B-2011	09/17/2021			09/22/2021 14:41	Madeline Gruver	2276463
	09/17/2021			09/22/2021 17:20	Madeline Gruver	2276466