

Chemical Analysis Report

NE-DIST-2022-08-02-01

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

Event Description: **LSJR East**
Request ID: **RQ-2022-06-27-09**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 22-AUG-2022 09:59

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Red Bay Branch at Lone Star Road

Collection Date/Time: 08/01/2022 11:05

Field ID: 20030674

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2345028	DEP SOP: NU-094-1	Color (true)	15		PCU	P417530	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P417523	
	EPA 300.0 Rev. 2.1	Chloride	43		mg Cl/L	P417882	
		Sulfate	48		mg SO4/L	P417887	
	SM 2320 B-2011	Total Alkalinity	60		mg CaCO3/L	P417841	
	SM 2540 C-2011	TDS	218		mg/L	P417985	
	SM 2540 D-2011	TSS	6	I	mg/L	P418064	
	SM 4500-F- C-2011	Fluoride	0.036	I	mg F/L	P417846	
2345029	EPA 350.1 Rev. 2.0	Ammonia-N	0.052		mg N/L	P417776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P417573	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.5		mg N/L	P417647	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P417612	
	SM 5310 B-2011	Organic Carbon	3.6		mg C/L	P417762	

Ref. Method and Comment:

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

Sample Location: Greenfield CR Trib. @ Princess Kelly Dr

Collection Date/Time: 08/01/2022 12:30

Field ID: 20030810

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2345104	EPA 200.7 Rev. 4.4	Calcium	217		mg/L	P417609	
		Iron	980		ug/L	P417609	
		Magnesium	624		mg/L	P417609	
		Strontium	3.71E+03		ug/L	P417609	
		Tin	25	I	ug/L	P417609	
		Titanium	35.4		ug/L	P417609	
		Vanadium	6.0	U	ug/L	P417609	
	EPA 200.8 Rev. 5.4	Zinc	15	U	ug/L	P417609	
		Aluminum	449		ug/L	P417609	
		Antimony	0.20	U	ug/L	P417609	
		Arsenic	3.05		ug/L	P417609	
		Beryllium	0.049	I	ug/L	P417609	
		Cadmium	0.080	U	ug/L	P417609	
		Chromium	1.6	U	ug/L	P417609	
		Cobalt	0.21	I	ug/L	P417609	
		Copper	1.6	U	ug/L	P417609	
		Lead	0.80	U	ug/L	P417609	
		Manganese	54.1		ug/L	P417609	
		Molybdenum	5.8		ug/L	P417609	
		Nickel	2.0	U	ug/L	P417609	
		Selenium	0.80	U	ug/L	P417609	
		Silver	0.040	U	ug/L	P417609	
		Thallium	0.40	U	ug/L	P417609	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Jones Creek at Arboretum Trail

Collection Date/Time: 08/01/2022 11:50

Field ID: G2NE1190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2345086	EPA 8321B	2,4-D	0.0020	U	ug/L	P417503	
		Acesulfame K	0.17	I	ug/L	P417397	
		2,4,5-T	0.0040	U	ug/L	P417503	
		AMPA	0.52		ug/L	P417397	
		Acetaminophen	0.0080	U	ug/L	P417503	
		Acetamiprid	0.0020	U	ug/L	P417503	
		Endothall	0.25	U	ug/L	P417397	
		Glufosinate	0.10	U	ug/L	P417397	
		Glyphosate	0.39	I	ug/L	P417397	
		Afidopyropen	0.0020	U	ug/L	P417503	
		Bentazon	0.023		ug/L	P417503	
		Sucralose	0.73		ug/L	P417397	
		Benzovindiflupyr	0.0020	U	ug/L	P417503	
		Carbamazepine	0.0018	I	ug/L	P417503	
		Clothianidin	0.0020	U	ug/L	P417503	
		Dinotefuran	0.0093		ug/L	P417503	
		Diuron	0.030		ug/L	P417503	
		Fenuron	0.032	U	ug/L	P417503	
		Fluridone	0.0096		ug/L	P417503	
		Imazapyr	0.13		ug/L	P417503	
		Hydrocodone	0.0020	U	ug/L	P417503	
		Ibuprofen	0.080	U	ug/L	P417503	
		Imidacloprid	0.0051	I	ug/L	P417503	MS
		Linuron	0.0040	U	ug/L	P417503	
		Mandestrobin	0.0020	U	ug/L	P417503	
		MCPP	0.0040	U	ug/L	P417503	
		Naproxen	0.0080	U	ug/L	P417503	
		Primidone	0.0040	U	ug/L	P417503	
		Pyraclostrobin	0.0020	U	ug/L	P417503	
		Silvex	0.0040	U	ug/L	P417503	
		Thiamethoxam	0.0031	I	ug/L	P417503	
		Tolfenpyrad	0.0020	U	ug/L	P417503	
		Triclopyr	0.0040	U	ug/L	P417503	

Sample Location: FB

Collection Date/Time: 08/01/2022 11:10

Field ID: FB_08012022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2345195	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P417532	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P417524	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P417882	
		Sulfate	0.20	U	mg SO4/L	P417887	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P417841	
	SM 2540 C-2011	TDS	15	U	mg/L	P417985	
	SM 2540 D-2011	TSS	2	U	mg/L	P418064	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P417846	
2345196	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P417771	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P417573	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417649	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P417738	
	SM 5310 B-2011	Organic Carbon	0.59	I	mg C/L	P417762	

Ref. Method and Comment:

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

SM 5310 B-2011: The result was confirmed on 08/09/2022.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P417530

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P417532

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417523

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417524

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417609

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417609

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
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417882

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417887

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417771

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417776

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417573

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417647

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417649

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417612

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417738

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P417397

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: P417503

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P417841

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

Reference Method: SM 2540 C-2011

Batch ID: P417985

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P418064

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417846

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P417762

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P417530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.1		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P417532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417523

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	97.0		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417609

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	110		P	85 - 115
Magnesium	104		P	85 - 115
Strontium	104		P	85 - 115
Tin	103		P	85 - 115
Titanium	105		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417609

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	101		P	85 - 115
Beryllium	91.1		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	99.6		P	85 - 115
Cobalt	98.4		P	85 - 115
Copper	97.5		P	85 - 115
Lead	93.0		P	85 - 115
Manganese	103		P	85 - 115
Molybdenum	98.0		P	85 - 115
Nickel	98.2		P	85 - 115
Selenium	99.0		P	85 - 115
Silver	95.9		P	85 - 115
Thallium	95.5		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417882

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417771

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417776

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417573

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417647

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417649

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417612

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: P417738

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P417397

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	110		P	40 - 150
Endothall	80.0		P	40 - 150
Glufosinate	89.2		P	40 - 150
Glyphosate	91.0		P	40 - 150
Sucralose	98.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P417503

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.1		P	40 - 150
2,4,5-T	47.2		P	40 - 150
Acetaminophen	88.1		P	30 - 150
Acetamiprid	93.6		P	40 - 150
Afidopyropen	46.1		P	30 - 150
Bentazon	59.2		P	30 - 150
Benzovindiflupyr	41.0		P	40 - 150
Carbamazepine	62.4		P	40 - 150
Clothianidin	105		P	40 - 150
Dinotefuran	108		P	40 - 150
Diuron	40.5		P	40 - 150
Fenuron	106		P	40 - 150
Fluridone	58.5		P	40 - 150
Hydrocodone	96.3		P	40 - 150
Ibuprofen	67.9		P	40 - 150
Imazapyr	130		P	40 - 150
Imidacloprid	143		P	40 - 150
Linuron	65.5		P	40 - 150
Mandestrobin	52.0		P	40 - 150
MCPP	61.8		P	40 - 150
Naproxen	43.5		P	40 - 150
Primidone	110		P	40 - 150
Pyraclostrobin	44.2		P	40 - 150
Silvex	45.1		P	40 - 150
Thiamethoxam	107		P	40 - 150
Tolfenpyrad	36.4		P	30 - 150
Triclopyr	57.5		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P417841

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P417846

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P417762

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P417609

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345651	Iron	105	98.6	P/P	70 - 130
2345651	Tin	93.1	86.8	P/P	70 - 130
2345651	Titanium	109	104	P/P	70 - 130
2345651	Vanadium	103	95.9	P/P	70 - 130
2345651	Zinc	102	96.3	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417609

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345651	Aluminum	101	99.3	P/P	70 - 130
2345651	Antimony	101	100	P/P	70 - 130
2345651	Arsenic	112	110	P/P	70 - 130
2345651	Beryllium	97.5	97.7	P/P	70 - 130
2345651	Cadmium	95.8	98.0	P/P	70 - 130
2345651	Chromium	84.8	83.4	P/P	70 - 130
2345651	Cobalt	106	106	P/P	70 - 130
2345651	Copper	97.4	97.4	P/P	70 - 130
2345651	Lead	97.3	96.5	P/P	70 - 130
2345651	Manganese	93.6	93.2	P/P	70 - 130
2345651	Molybdenum	111	109	P/P	70 - 130
2345651	Nickel	105	106	P/P	70 - 130
2345651	Selenium	99.9	99.2	P/P	70 - 130
2345651	Silver	87.9	85.6	P/P	70 - 130
2345651	Thallium	99.9	99.4	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417882

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344988	Chloride	96.5		P	90 - 110
2345203	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344988	Sulfate	94.0		P	90 - 110
2345203	Sulfate	94.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P417771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345111	Ammonia-N	97.0	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P417776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345595	Ammonia-N	98.2	97.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344748	Kjeldahl Nitrogen	101	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344857	NO2NO3-N	97.8	98.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345199	NO2NO3-N	100	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344853	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417738

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345164	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P417397

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344712	Acesulfame K	86.6	90.1	P/P	40 - 150
2344712	AMPA	72.3	76.7	P/P	40 - 150
2344712	Endothall	104	102	P/P	40 - 150
2344712	Glufosinate	79.0	82.5	P/P	40 - 150
2344712	Glyphosate	71.1	76.7	P/P	40 - 150
2344712	Sucralose	95.7	101	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P417503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344678	2,4-D	90.4	70.6	P/P	40 - 150
2344678	2,4,5-T	57.0	43.8	P/P	40 - 150
2344678	Acetaminophen	110	103	P/P	30 - 150
2344678	Acetamiprid	104	91.9	P/P	40 - 150
2344678	Afidopyrophen	53.6	46.4	P/P	30 - 150
2344678	Bentazon	64.3	56.9	P/P	30 - 150
2344678	Benzovindiflupyr	46.5	41.8	P/P	40 - 150
2344678	Carbamazepine	74.2	59.9	P/P	40 - 150
2344678	Clothianidin	120	110	P/P	40 - 150
2344678	Dinotefuran	143	128	P/P	40 - 150
2344678	Diuron	42.7	42.7	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P417503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344678	Fenuron	114	111	P/P	40 - 150
2344678	Fluridone	58.3	55.9	P/P	40 - 150
2344678	Hydrocodone	117	105	P/P	40 - 150
2344678	Ibuprofen	67.1	80.3	P/P	40 - 150
2344678	Imazapyr	132	104	P/P	40 - 150
2344678	Imidacloprid	154	120	F/P	40 - 150
2344678	Linuron	73.7	63.2	P/P	40 - 150
2344678	Mandestrobin	53.6	48.4	P/P	40 - 150
2344678	MCPD	67.2	54.2	P/P	40 - 150
2344678	Naproxen	66.1	57.3	P/P	40 - 150
2344678	Primidone	118	110	P/P	40 - 150
2344678	Pyraclostrobin	50.5	45.6	P/P	40 - 150
2344678	Silvex	56.7	42.7	P/P	40 - 150
2344678	Thiamethoxam	143	123	P/P	40 - 150
2344678	Tolfenpyrad	37.3	33.4	P/P	30 - 150
2344678	Triclopyr	53.4	43.8	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P417846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345203	Fluoride	99.8	100	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P417762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345344	Organic Carbon	94.7	96.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P417530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344916	Color (true)	1.30	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P417532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345047	Color (true)	1.73	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344916	Turbidity	6.18	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344749	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417609

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345651	Calcium	2.46	Spike	P	0 - 20
2345651	Iron	5.88	Spike	P	0 - 20
2345651	Magnesium	7.61	Spike	P	0 - 20
2345651	Strontium	4.52	Spike	P	0 - 20
2345651	Tin	5.64	Spike	P	0 - 20
2345651	Titanium	4.98	Spike	P	0 - 20
2345651	Vanadium	6.86	Spike	P	0 - 20
2345651	Zinc	5.81	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417609

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345651	Aluminum	1.54	Spike	P	0 - 20
2345651	Antimony	1.13	Spike	P	0 - 20
2345651	Arsenic	1.86	Spike	P	0 - 20
2345651	Beryllium	0.172	Spike	P	0 - 20
2345651	Cadmium	2.22	Spike	P	0 - 20
2345651	Chromium	1.68	Spike	P	0 - 20
2345651	Cobalt	0.0238	Spike	P	0 - 20
2345651	Copper	0.00546	Spike	P	0 - 20
2345651	Lead	0.842	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417609

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345651	Manganese	0.288	Spike	P	0 - 20
2345651	Molybdenum	1.58	Spike	P	0 - 20
2345651	Nickel	0.561	Spike	P	0 - 20
2345651	Selenium	0.744	Spike	P	0 - 20
2345651	Silver	2.58	Spike	P	0 - 20
2345651	Thallium	0.451	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417882

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344988	Chloride	2.44	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344988	Sulfate	3.34	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345111	Ammonia-N	2.81	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345595	Ammonia-N	0.416	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344748	Kjeldahl Nitrogen	5.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344857	NO2NO3-N	0.355	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345199	NO2NO3-N	1.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344853	Total-P	0.589	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345164	Total-P	1.44	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P417397

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344712	Acesulfame K	3.90	Spike	P	0 - 30
2344712	AMPA	5.19	Spike	P	0 - 30
2344712	Endothall	1.77	Spike	P	0 - 30
2344712	Glufosinate	4.28	Spike	P	0 - 30
2344712	Glyphosate	6.37	Spike	P	0 - 30
2344712	Sucralose	5.61	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P417503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344678	2,4-D	24.6	Spike	P	0 - 30
2344678	2,4,5-T	26.2	Spike	P	0 - 30
2344678	Acetaminophen	6.72	Spike	P	0 - 30
2344678	Acetamiprid	12.4	Spike	P	0 - 30
2344678	Afidopyropen	14.4	Spike	P	0 - 30
2344678	Bentazon	12.2	Spike	P	0 - 30
2344678	Benzovindiflupyr	10.6	Spike	P	0 - 30
2344678	Carbamazepine	21.3	Spike	P	0 - 30
2344678	Clothianidin	8.80	Spike	P	0 - 30
2344678	Dinotefuran	11.3	Spike	P	0 - 30
2344678	Diuron	0.0307	Spike	P	0 - 30
2344678	Fenuron	3.25	Spike	P	0 - 30
2344678	Fluridone	4.24	Spike	P	0 - 30
2344678	Hydrocodone	10.6	Spike	P	0 - 30
2344678	Ibuprofen	17.9	Spike	P	0 - 30
2344678	Imazapyr	23.7	Spike	P	0 - 30
2344678	Imidacloprid	25.0	Spike	P	0 - 30
2344678	Linuron	15.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P417503

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344678	Mandestrobin	10.2	Spike	P	0 - 30
2344678	MCP	21.4	Spike	P	0 - 30
2344678	Naproxen	14.3	Spike	P	0 - 30
2344678	Primidone	7.03	Spike	P	0 - 30
2344678	Pyraclostrobin	10.1	Spike	P	0 - 30
2344678	Silvex	28.2	Spike	P	0 - 30
2344678	Thiamethoxam	15.2	Spike	P	0 - 30
2344678	Tolfenpyrad	11.0	Spike	P	0 - 30
2344678	Triclopyr	19.8	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P417841

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345203	Total Alkalinity	1.40	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P417985

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344745	TDS	4.37	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P417846

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345203	Fluoride	0.516	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011

Batch ID: P417762

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345344	Organic Carbon	1.17	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2345086
Field Sample ID: G2NE1190

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	101	P	30 - 160
EPA 8321B	Diuron-d6	85.5	P	30 - 160
EPA 8321B	Endothall-d6	98.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	85.7	P	30 - 160
EPA 8321B	Primidone-d5	127	P	30 - 160
EPA 8321B	Sucralose-d6	99.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A113832
Included Lab Sample IDs: 2345086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	106	99.8	P/P	60 - 160
Endothall	75.5	76.0	P/P	60 - 160
Glufosinate	93.8	84.0	P/P	60 - 160
Glyphosate	110	105	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A113833
Included Lab Sample IDs: 2345086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.3	97.7	P/P	60 - 160
Sucralose	100	101	P/P	60 - 160

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A113859
Included Lab Sample IDs: 2345028, 2345195

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

Reference Method: DEP SOP: NU-094-1
Run ID: A113861
Included Lab Sample IDs: 2345028, 2345195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 110
Color (true)	103	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A113906
Included Lab Sample IDs: 2345029, 2345196

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A113918
Included Lab Sample IDs: 2345104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	100	102	P/P	90 - 110
Cobalt	100	102	P/P	90 - 110
Manganese	104	106	P/P	90 - 110
Nickel	100	102	P/P	90 - 110
Silver	97.3	97.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A113922
Included Lab Sample IDs: 2345086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	105	P/P	50 - 150
2,4,5-T	108	93.2	P/P	50 - 150
Acetaminophen	96.9	98.4	P/P	60 - 160
Acetamiprid	97.8	95.5	P/P	50 - 150
Afidopyropen	117	105	P/P	50 - 150
Bentazon	92.7	96.0	P/P	50 - 160
Benzovindiflupyr	97.1	92.7	P/P	50 - 150
Carbamazepine	108	105	P/P	60 - 150
Clothianidin	96.4	96.0	P/P	60 - 150
Dinotefuran	97.9	105	P/P	50 - 150
Diuron	104	107	P/P	60 - 160
Fenuron	97.5	99.6	P/P	60 - 150
Fluridone	107	111	P/P	60 - 160
Hydrocodone	101	105	P/P	60 - 150
Ibuprofen	99.6	91.6	P/P	50 - 160
Imazapyr	106	117	P/P	50 - 150
Imidacloprid	93.1	90.2	P/P	60 - 150
Linuron	106	113	P/P	60 - 150
Mandestrobin	106	104	P/P	50 - 150
MCPP	103	97.0	P/P	50 - 150
Naproxen	74.3	70.2	P/P	50 - 160
Primidone	104	104	P/P	60 - 150
Pyraclostrobin	103	102	P/P	60 - 150
Silvex	94.1	99.9	P/P	50 - 150
Thiamethoxam	104	105	P/P	50 - 150
Tolfenpyrad	130	133	P/P	60 - 150
Triclopyr	84.1	91.1	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113932
Included Lab Sample IDs: 2345029

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.1	99.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A113942
Included Lab Sample IDs: 2345104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	103	P/P	90 - 110
Iron	105	104	P/P	90 - 110
Magnesium	106	104	P/P	90 - 110
Strontium	98.0	99.7	P/P	90 - 110
Tin	100	99.0	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Zinc	98.7	99.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113944

Included Lab Sample IDs: 2345104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.5	99.3	P/P	90 - 110
Antimony	97.9	98.1	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Beryllium	97.3	103	P/P	90 - 110
Chromium	100	98.6	P/P	90 - 110
Copper	100	101	P/P	90 - 110
Lead	91.1	91.2	P/P	90 - 110
Molybdenum	97.7	97.4	P/P	90 - 110
Selenium	99.2	101	P/P	90 - 110
Thallium	92.2	92.1	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113961

Included Lab Sample IDs: 2345029, 2345196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113965

Included Lab Sample IDs: 2345196

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113967

Included Lab Sample IDs: 2345029, 2345196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.2	P/P	90 - 110
Ammonia-N	99.4	99.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A113988

Included Lab Sample IDs: 2345028, 2345195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.7	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113988

Included Lab Sample IDs: 2345028, 2345195

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113990

Included Lab Sample IDs: 2345029, 2345196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.6	92.4	P/P	90 - 110
Kjeldahl Nitrogen	96.0	95.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114002

Included Lab Sample IDs: 2345028, 2345195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	101	P/P	90 - 110
Sulfate	98.3	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	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	99.1				1.30	
	Color (true)	99.0				1.73	
EPA 180.1 Rev. 2.0	Turbidity	96.9				6.18	
	Turbidity	97.0				0.0	
EPA 200.7 Rev. 4.4	Calcium	104					2.46
	Iron	110	105	98.6			5.88
	Magnesium	104					7.61
	Strontium	104					4.52
	Tin	103	93.1	86.8			5.64
	Titanium	105	109	104			4.98
	Vanadium	103	103	95.9			6.86
	Zinc	102	102	96.3			5.81
	Aluminum	100	101	99.3			1.54
	Antimony	101	101	100			1.13
EPA 200.8 Rev. 5.4	Arsenic	101	112	110			1.86
	Beryllium	91.1	97.5	97.7			0.172
	Cadmium	99.5	95.8	98.0			2.22
	Chromium	99.6	84.8	83.4			1.68
	Cobalt	98.4	106	106			0.0238
	Copper	97.5	97.4	97.4			0.0054
	Lead	93.0	97.3	96.5			0.842
	Manganese	103	93.6	93.2			0.288
	Molybdenum	98.0	111	109			1.58
	Nickel	98.2	105	106			0.561
	Selenium	99.0	99.9	99.2			0.744
	Silver	95.9	87.9	85.6			2.58
	Thallium	95.5	99.9	99.4			0.451
	Chloride	101	96.5	100		2.44	
	Sulfate	98.7	94.0	94.0		3.34	
	Ammonia-N	97.4	97.0	100			2.81
	Ammonia-N	95.4	98.2	97.6			0.416
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	101	108			5.11
EPA 353.2 Rev. 2.0	NO2NO3-N	100	97.8	98.3			0.355
	NO2NO3-N	100	100	98.9			1.10
EPA 365.1 Rev. 2.0	Total-P	101	102	103			0.589
	Total-P	105	103	104			1.44
EPA 8321B	2,4-D	86.1	90.4	70.6			24.6
	2,4,5-T	47.2	57.0	43.8			26.2
	Acesulfame K	101	86.6	90.1			3.90
	Acetaminophen	88.1	110	103			6.72
	Acetamiprid	93.6	104	91.9			12.4
	Afidopyropen	46.1	53.6	46.4			14.4
	AMPA	110	72.3	76.7			5.19
	Bentazon	59.2	64.3	56.9			12.2
	Benzovindiflupyr	41.0	46.5	41.8			10.6
	Carbamazepine	62.4	74.2	59.9			21.3
	Clothianidin	105	120	110			8.80
	Dinotefuran	108	143	128			11.3
	Diuron	40.5	42.7	42.7			0.0307
	Endothall	80.0	104	102			1.77
	Fenuron	106	114	111			3.25
	Fluridone	58.5	58.3	55.9			4.24
	Glufosinate	89.2	79.0	82.5			4.28
	Glyphosate	91.0	71.1	76.7			6.37

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	96.3	117	105		10.6
	Ibuprofen	67.9	67.1	80.3		17.9
	Imazapyr	130	132	104		23.7
	Imidacloprid	143	154	120		25.0
	Linuron	65.5	73.7	63.2		15.3
	Mandestrobin	52.0	53.6	48.4		10.2
	MCPP	61.8	67.2	54.2		21.4
	Naproxen	43.5	66.1	57.3		14.3
	Primidone	110	118	110		7.03
	Pyraclostrobin	44.2	50.5	45.6		10.1
	Silvex	45.1	56.7	42.7		28.2
	Sucralose	98.2	95.7	101		5.61
	Thiamethoxam	107	143	123		15.2
	Tolfenpyrad	36.4	37.3	33.4		11.0
	Triclopyr	57.5	53.4	43.8		19.8
SM 2320 B-2011	Total Alkalinity	100			1.40	
SM 2540 C-2011	TDS				4.37	
SM 4500-F- C-2011	Fluoride	102	99.8	100		0.516
SM 5310 B-2011	Organic Carbon	96.5	94.7	96.7		1.17

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2345028, 2345195
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2345028, 2345195
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2345104
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2345104
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2345028, 2345195
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2345028, 2345195
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2345029, 2345196
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2345029, 2345196
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2345029, 2345196
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2345029, 2345196
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2345086
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2345028, 2345195
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2345028, 2345195
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2345028, 2345195
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2345028, 2345195
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2345029, 2345196

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	08/02/2022			08/02/2022 15:46	Anna M. Plaviak	2345028
	08/02/2022			08/02/2022 16:07	Anna M. Plaviak	2345195
EPA 180.1 Rev. 2.0	08/02/2022			08/02/2022 14:20	Khloe J Berg	2345028
	08/02/2022			08/02/2022 15:22	Khloe J Berg	2345195
EPA 200.7 Rev. 4.4	08/02/2022	08/04/2022 09:06	Mackenzie Hunt	08/05/2022 23:53	McKinley C Carter	2345104
	08/02/2022	08/04/2022 09:06	Mackenzie Hunt	08/06/2022 00:04	McKinley C Carter	2345104
EPA 200.8 Rev. 5.4	08/02/2022	08/04/2022 09:06	Mackenzie Hunt	08/04/2022 18:30	Alexander Thompson	2345104
	08/02/2022	08/04/2022 09:06	Mackenzie Hunt	08/05/2022 18:26	Alexander Thompson	2345104
EPA 300.0 Rev. 2.1	08/02/2022			08/09/2022 01:44	Anna M. Plaviak	2345028
	08/02/2022			08/09/2022 02:20	Anna M. Plaviak	2345195
EPA 350.1 Rev. 2.0	08/02/2022			08/08/2022 14:57	Ping Hua	2345196
	08/02/2022			08/08/2022 16:59	Ping Hua	2345029
EPA 351.2 Rev. 2.0	08/02/2022	08/04/2022 12:05	Samantha L Bates	08/09/2022 14:39	Samantha L Bates	2345029
	08/02/2022	08/04/2022 12:05	Samantha L Bates	08/09/2022 15:41	Samantha L Bates	2345196
EPA 353.2 Rev. 2.0	08/02/2022			08/04/2022 12:41	Beverly Y. Sanders	2345196
	08/02/2022			08/04/2022 13:03	Beverly Y. Sanders	2345029
EPA 365.1 Rev. 2.0	08/02/2022	08/04/2022 15:40	Simonne.V. Calhoun	08/05/2022 11:47	Simonne.V. Calhoun	2345029
	08/02/2022	08/05/2022 18:15	Adam P Silver	08/08/2022 14:34	Simonne.V. Calhoun	2345196
EPA 8321B	08/02/2022	08/02/2022 13:00	Umesh Chiluwal	08/02/2022 14:47	Umesh Chiluwal	2345086
	08/02/2022	08/02/2022 13:00	Umesh Chiluwal	08/02/2022 22:06	Umesh Chiluwal	2345086
	08/02/2022	08/03/2022 09:30	June Rhew	08/05/2022 05:08	Juyoung Kim	2345086
SM 2320 B-2011	08/02/2022			08/05/2022 13:32	Adam P Silver	2345028
	08/02/2022			08/05/2022 14:15	Adam P Silver	2345195
SM 2540 C-2011	08/02/2022			08/05/2022 16:02	Yijie Li	2345195
SM 2540 D-2011	08/02/2022			08/05/2022 16:02	Yijie Li	2345028
SM 4500-F- C-2011	08/02/2022			08/05/2022 13:32	Adam P Silver	2345028
	08/02/2022			08/05/2022 14:15	Adam P Silver	2345195
SM 5310 B-2011	08/02/2022			08/05/2022 16:54	Khloe J Berg	2345029
	08/02/2022			08/05/2022 18:01	Khloe J Berg	2345196