

Chemical Analysis Report

NE-DIST-2023-12-14-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

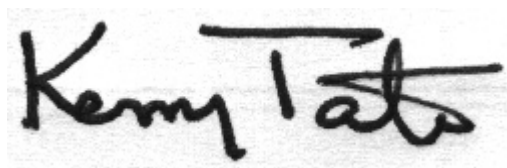
Event Description: **Pellicer Creek 2023**
Request ID: **RQ-2023-12-11-14**
Customer: **NE-DIST**
Project ID: **SMP**

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

Date Certified: 04-JAN-2024 12:23

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 first name.

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: Schoolhouse Branch at RR Tracks

Collection Date/Time: 12/13/2023 10:05

Field ID: G5NE0599

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457040	DEP SOP: NU-094-1	Color (true)	130	A	PCU	P439000	
	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P439002	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P439205	
		Sulfate	6.2	A	mg SO4/L	P439409	
	SM 2320 B-2011	Total Alkalinity	75		mg CaCO3/L	P439285	
	SM 2540 C-2015	TDS	138		mg/L	P439432	
	SM 2540 D-2015	TSS	2	I	mg/L	P439347	
	SM 4500-F- C-2011	Fluoride	0.043	I	mg F/L	P439291	
2457042	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P439218	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P439109	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P439174	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P439047	
	SM 5310 B-2014	Organic Carbon	12		mg C/L	P439357	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

**Sample Location: Pringle Branch at SJRWMD Easement 300M
Abv Dave Branch**

Collection Date/Time: 12/13/2023 10:55

Field ID: G5NE0611

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457051	EPA 8321B	Acesulfame K	0.10	U	ug/L	P439028	
		2,4-D	0.0020	U	ug/L	P439060	
		AMPA	0.10	U	ug/L	P439028	
		2,4,5-T	0.0040	U	ug/L	P439060	
		Acetaminophen	0.0080	U	ug/L	P439060	
		Endothall	0.25	U	ug/L	P439028	
		Acetamiprid	0.0020	U	ug/L	P439060	
		Glufosinate	0.10	U	ug/L	P439028	
		Glyphosate	0.10	U	ug/L	P439028	
		Afidopyropen	0.0020	U	ug/L	P439060	
		Sucralose	0.010	I	ug/L	P439028	
		Bentazon	8.0E-04	U	ug/L	P439060	
		Benzovindiflupyr	0.0020	U	ug/L	P439060	
		Carbamazepine	8.0E-04	U	ug/L	P439060	
		Clothianidin	0.0020	U	ug/L	P439060	
		Dinotefuran	0.0020	U	ug/L	P439060	
		Diuron	0.0020	U	ug/L	P439060	
		Fenuron	0.032	U	ug/L	P439060	
		Fluridone	8.0E-04	U	ug/L	P439060	
		Imazapyr	0.048		ug/L	P439060	
		Hydrocodone	0.0020	U	ug/L	P439060	
		Ibuprofen	0.080	U	ug/L	P439060	
		Imidacloprid	0.0020	U	ug/L	P439060	
		Linuron	0.0040	U	ug/L	P439060	
		Mandestrobin	0.0020	U	ug/L	P439060	
		MCPP	0.0020	U	ug/L	P439060	
		Naproxen	0.0080	U	ug/L	P439060	
		Primidone	0.0040	U	ug/L	P439060	
		Pyraclostrobin	0.0020	U	ug/L	P439060	
		Silvex	0.0040	U	ug/L	P439060	
		Thiamethoxam	0.0020	U	ug/L	P439060	
		Tolfenpyrad	0.0020	U	ug/L	P439060	
		Triclopyr	0.0040	U	ug/L	P439060	
2457052	EPA 200.7 Rev. 4.4	Calcium	21.8		mg/L	P439098	
		Iron	980		ug/L	P439098	
		Magnesium	2.06		mg/L	P439098	
		Potassium	0.30	U	mg/L	P439098	
		Sodium	12.9		mg/L	P439098	
		Strontium	109		ug/L	P439098	
		Tin	3.0	U	ug/L	P439098	
		Titanium	1.6	I	ug/L	P439098	
		Vanadium	2.0	U	ug/L	P439098	
		Zinc	5.0	U	ug/L	P439098	

Field ID: G5NE0611

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457052	EPA 200.8 Rev. 5.4	Aluminum	333		ug/L	P439098	
		Antimony	0.050	U	ug/L	P439098	
		Arsenic	0.29		ug/L	P439098	
		Barium	14.1		ug/L	P439098	
		Beryllium	0.032	I	ug/L	P439098	
		Boron	19.8		ug/L	P439098	
		Cadmium	0.020	U	ug/L	P439098	
		Chromium	1.4	I	ug/L	P439098	
		Cobalt	0.163		ug/L	P439098	
		Copper	0.40	U	ug/L	P439098	
		Lead	0.20	I	ug/L	P439098	
		Manganese	6.34		ug/L	P439098	
		Molybdenum	0.15	U	ug/L	P439098	
		Nickel	0.65	I	ug/L	P439098	
		Selenium	0.20	U	ug/L	P439098	
		Silver	0.010	U	ug/L	P439098	
		Thallium	0.10	U	ug/L	P439098	
	SM 2340 B-2011	Hardness	62.8		mg/L	P439098	

Ref. Method and Comment:

EPA 8321B: MS accuracy for glyphosate could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Unnamed Drain at Eagles Nest Rd

Collection Date/Time: 12/13/2023 11:50

Field ID: 27010079

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457041	DEP SOP: NU-094-1	Color (true)	320		PCU	P438999	
	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P439002	
	EPA 300.0 Rev. 2.1	Chloride	800		mg Cl/L	P439205	
		Sulfate	100		mg SO4/L	P439409	
	SM 2320 B-2011	Total Alkalinity	62		mg CaCO3/L	P439285	
	SM 2540 C-2015	TDS	1.38E+03		mg/L	P439432	
	SM 2540 D-2015	TSS	2	I	mg/L	P439347	
2457043	SM 4500-F- C-2011	Fluoride	0.088	I	mg F/L	P439291	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P439219	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P439109	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P439381	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P439047	
	SM 5310 B-2014	Organic Carbon	32		mg C/L	P439357	

Ref. Method and Comment:

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 2770 umhos/cm.

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P438999

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P439000

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439002

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439098

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
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: P439098

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	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
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: P439205

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439409

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439218

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439219

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439109

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439174

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439381

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439047

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

Reference Method: EPA 8321B
Batch ID: P439028

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: P439028

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

Reference Method: EPA 8321B
Batch ID: P439060

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	0.0020	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: P439285

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

Reference Method: SM 2540 C-2015
Batch ID: P439432

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P439347

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P439291

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P439357

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: P438999

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P439000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439002

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	103		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	98.4		P	85 - 115
Sodium	99.3		P	85 - 115
Strontium	96.5		P	85 - 115
Tin	96.4		P	85 - 115
Titanium	98.6		P	85 - 115
Vanadium	98.5		P	85 - 115
Zinc	95.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	103		P	85 - 115
Barium	103		P	85 - 115
Beryllium	97.2		P	85 - 115
Boron	105		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	106		P	85 - 115
Cobalt	102		P	85 - 115
Copper	101		P	85 - 115
Lead	97.9		P	85 - 115
Manganese	104		P	85 - 115
Molybdenum	100		P	85 - 115
Nickel	102		P	85 - 115
Selenium	101		P	85 - 115
Silver	103		P	85 - 115
Thallium	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439205

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439409

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439218

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439219

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439109

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439174

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	94.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439047

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

Reference Method: EPA 8321B
Batch ID: P439028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	133		P	40 - 150
AMPA	58.3		P	40 - 160
Endothall	45.4		P	40 - 160
Glufosinate	59.2		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P439028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	47.4		P	40 - 160
Sucralose	83.5		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P439060

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
2,4,5-T	105		P	40 - 150
Acetaminophen	76.3		P	30 - 150
Acetamiprid	82.4		P	40 - 150
Afidopyropen	68.6		P	30 - 150
Bentazon	56.0		P	30 - 150
Benzovindiflupyr	78.4		P	40 - 150
Carbamazepine	70.7		P	40 - 150
Clothianidin	89.6		P	40 - 150
Dinotefuran	92.9		P	40 - 150
Diuron	66.7		P	40 - 150
Fenuron	140		P	40 - 150
Fluridone	82.1		P	40 - 150
Hydrocodone	89.3		P	40 - 150
Ibuprofen	68.4		P	40 - 150
Imazapyr	90.1		P	40 - 150
Imidacloprid	86.9		P	40 - 150
Linuron	66.5		P	40 - 150
Mandestrobin	84.5		P	40 - 150
MCPP	96.3		P	40 - 150
Naproxen	66.0		P	40 - 150
Primidone	85.0		P	40 - 150
Pyraclostrobin	71.9		P	40 - 150
Silvex	84.7		P	40 - 150
Thiamethoxam	86.7		P	40 - 150
Tolfenpyrad	43.5		P	30 - 150
Triclopyr	121		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P439285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P439432

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.4		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P439347

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.2		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P439291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P439357

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P439098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456988	Calcium	103		P	80 - 120
2456988	Iron	109	105	P/P	80 - 120
2456988	Magnesium	109	104	P/P	80 - 120
2456988	Potassium	104	100	P/P	80 - 120
2456988	Sodium	98.2		P	80 - 120
2456988	Strontium	97.8	97.9	P/P	80 - 120
2456988	Tin	99.9	99.4	P/P	80 - 120
2456988	Titanium	103	102	P/P	80 - 120
2456988	Vanadium	103	102	P/P	80 - 120
2456988	Zinc	99.4	98.9	P/P	80 - 120
2457243	Calcium	110		P	80 - 120
2457243	Iron	109		P	80 - 120
2457243	Magnesium	112		P	80 - 120
2457243	Potassium	101		P	80 - 120
2457243	Sodium	100		P	80 - 120
2457243	Strontium	99.1		P	80 - 120
2457243	Tin	101		P	80 - 120
2457243	Titanium	104		P	80 - 120
2457243	Vanadium	103		P	80 - 120
2457243	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P439098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456988	Aluminum	102	102	P/P	80 - 120
2456988	Antimony	106	106	P/P	80 - 120
2456988	Arsenic	104	105	P/P	80 - 120
2456988	Barium	104	105	P/P	80 - 120
2456988	Beryllium	98.5	98.8	P/P	80 - 120
2456988	Boron	105	106	P/P	80 - 120
2456988	Cadmium	107	104	P/P	80 - 120
2456988	Chromium	104	104	P/P	80 - 120
2456988	Cobalt	101	100	P/P	80 - 120
2456988	Copper	99.7	99.5	P/P	80 - 120
2456988	Lead	100	99.6	P/P	80 - 120
2456988	Manganese	101	101	P/P	80 - 120
2456988	Molybdenum	105	104	P/P	80 - 120
2456988	Nickel	101	101	P/P	80 - 120
2456988	Selenium	89.3	87.9	P/P	80 - 120
2456988	Silver	104	104	P/P	80 - 120
2456988	Thallium	106	106	P/P	80 - 120
2457243	Aluminum	102		P	80 - 120
2457243	Antimony	104		P	80 - 120
2457243	Arsenic	101		P	80 - 120
2457243	Barium	104		P	80 - 120
2457243	Beryllium	95.1		P	80 - 120
2457243	Boron	107		P	80 - 120
2457243	Cadmium	101		P	80 - 120
2457243	Chromium	106		P	80 - 120
2457243	Cobalt	99.9		P	80 - 120
2457243	Copper	99.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457243	Lead	98.8		P	80 - 120
2457243	Manganese	102		P	80 - 120
2457243	Molybdenum	101		P	80 - 120
2457243	Nickel	99.7		P	80 - 120
2457243	Selenium	101		P	80 - 120
2457243	Silver	103		P	80 - 120
2457243	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457093	Chloride	100		P	90 - 110
2457262	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457040	Sulfate	100		P	90 - 110
2457220	Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439218

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456985	Ammonia-N	99.0	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439219

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457043	Ammonia-N	104	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439109

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456985	Kjeldahl Nitrogen	101	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456923	NO2NO3-N	99.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457806	NO2NO3-N	92.8	93.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P439047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457042	Total-P	109	108	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P439028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456963	Acesulfame K	123	126	P/P	40 - 150
2456963	AMPA	72.3	45.4	P/P	40 - 160
2456963	Endothall	65.0	50.4	P/P	40 - 160
2456963	Glufosinate	74.6	64.9	P/P	40 - 160
2456963	Sucralose	64.6	65.5	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P439060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456963	2,4-D	93.2	94.3	P/P	40 - 150
2456963	2,4,5-T	72.0	76.3	P/P	40 - 150
2456963	Acetaminophen	84.1	95.8	P/P	30 - 150
2456963	Acetamiprid	63.5	69.2	P/P	40 - 150
2456963	Afidopyropen	66.6	73.5	P/P	30 - 150
2456963	Benzovindiflupyr	75.8	82.6	P/P	40 - 150
2456963	Carbamazepine	57.1	62.9	P/P	40 - 150
2456963	Clothianidin	88.7	98.1	P/P	40 - 150
2456963	Dinotefuran	77.8	81.7	P/P	40 - 150
2456963	Diuron	54.6	58.6	P/P	40 - 150
2456963	Fenuron	91.4	94.1	P/P	40 - 150
2456963	Fluridone	55.0	78.2	P/P	40 - 150
2456963	Hydrocodone	72.3	75.5	P/P	40 - 150
2456963	Ibuprofen	59.9	62.3	P/P	40 - 150
2456963	Imidacloprid	104	115	P/P	40 - 150
2456963	Linuron	59.4	63.3	P/P	40 - 150
2456963	Mandestrobin	77.4	85.4	P/P	40 - 150
2456963	MCPP	84.5	88.6	P/P	40 - 150
2456963	Naproxen	59.4	78.2	P/P	40 - 150
2456963	Primidone	88.8	100	P/P	40 - 150
2456963	Pyraclostrobin	72.3	80.0	P/P	40 - 150
2456963	Silvex	83.0	87.7	P/P	40 - 150
2456963	Thiamethoxam	74.8	82.3	P/P	40 - 150
2456963	Tolfenpyrad	46.6	54.5	P/P	30 - 150
2456963	Triclopyr	76.2	79.6	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P439291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457220	Fluoride	101	102	P/P	94 - 106

Reference Method: SM 5310 B-2014

Batch ID: P439357

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

Matrix Spike Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P439357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457007	Organic Carbon	101	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P438999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457008	Color (true)	5.87	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P439000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457040	Color (true)	1.83	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456913	Turbidity	2.12	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456988	Calcium	1.03	Spike	P	0 - 20
2456988	Iron	2.97	Spike	P	0 - 20
2456988	Magnesium	2.64	Spike	P	0 - 20
2456988	Potassium	3.28	Spike	P	0 - 20
2456988	Sodium	0.517	Spike	P	0 - 20
2456988	Strontium	0.151	Spike	P	0 - 20
2456988	Tin	0.523	Spike	P	0 - 20
2456988	Titanium	0.650	Spike	P	0 - 20
2456988	Vanadium	0.876	Spike	P	0 - 20
2456988	Zinc	0.453	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456988	Aluminum	0.0377	Spike	P	0 - 20
2456988	Antimony	0.0544	Spike	P	0 - 20
2456988	Arsenic	1.42	Spike	P	0 - 20
2456988	Barium	0.537	Spike	P	0 - 20
2456988	Beryllium	0.269	Spike	P	0 - 20
2456988	Boron	0.752	Spike	P	0 - 20
2456988	Cadmium	2.79	Spike	P	0 - 20
2456988	Chromium	0.239	Spike	P	0 - 20
2456988	Cobalt	0.819	Spike	P	0 - 20
2456988	Copper	0.123	Spike	P	0 - 20
2456988	Lead	0.718	Spike	P	0 - 20
2456988	Manganese	0.262	Spike	P	0 - 20
2456988	Molybdenum	0.217	Spike	P	0 - 20
2456988	Nickel	0.549	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456988	Selenium	1.58	Spike	P	0 - 20
2456988	Silver	0.480	Spike	P	0 - 20
2456988	Thallium	0.0550	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457093	Chloride	0.908	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457040	Sulfate	1.17	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439218

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456985	Ammonia-N	0.697	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439219

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457043	Ammonia-N	3.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456985	Kjeldahl Nitrogen	0.185	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456923	NO2NO3-N	0.875	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439381

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457806	NO2NO3-N	0.957	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457042	Total-P	1.08	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P439028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456963	Acesulfame K	2.29	Spike	P	0 - 30
2456963	AMPA	24.3	Spike	P	0 - 30
2456963	Endothall	25.2	Spike	P	0 - 30
2456963	Glufosinate	13.9	Spike	P	0 - 30
2456963	Glyphosate	17.3	Spike	P	0 - 30
2456963	Sucralose	1.15	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P439060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456963	2,4-D	0.986	Spike	P	0 - 30
2456963	2,4,5-T	5.69	Spike	P	0 - 30
2456963	Acetaminophen	13.1	Spike	P	0 - 30
2456963	Acetamiprid	8.64	Spike	P	0 - 30
2456963	Afidopyropen	9.82	Spike	P	0 - 30
2456963	Bentazon	3.83	Spike	P	0 - 30
2456963	Benzovindiflupyr	8.56	Spike	P	0 - 30
2456963	Carbamazepine	7.99	Spike	P	0 - 30
2456963	Clothianidin	10.0	Spike	P	0 - 30
2456963	Dinotefuran	4.53	Spike	P	0 - 30
2456963	Diuron	6.14	Spike	P	0 - 30
2456963	Fenuron	2.92	Spike	P	0 - 30
2456963	Fluridone	6.02	Spike	P	0 - 30
2456963	Hydrocodone	4.46	Spike	P	0 - 30
2456963	Ibuprofen	3.91	Spike	P	0 - 30
2456963	Imazapyr	1.95	Spike	P	0 - 30
2456963	Imidacloprid	7.89	Spike	P	0 - 30
2456963	Linuron	6.42	Spike	P	0 - 30
2456963	Mandestrobin	9.82	Spike	P	0 - 30
2456963	MCPP	4.68	Spike	P	0 - 30
2456963	Naproxen	27.4	Spike	P	0 - 30
2456963	Primidone	12.2	Spike	P	0 - 30
2456963	Pyraclostrobin	10.1	Spike	P	0 - 30
2456963	Silvex	5.61	Spike	P	0 - 30
2456963	Thiamethoxam	9.43	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P439060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456963	Tolfenpyrad	15.7	Spike	P	0 - 30
2456963	Triclopyr	4.33	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P439285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457220	Total Alkalinity	3.36	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P439432

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456919	TDS	0.766	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P439291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457220	Fluoride	0.500	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P439357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457007	Organic Carbon	0.643	Spike	P	0 - 15

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

Quality Assurance Report Surrogates

Lab Sample ID: 2457051
Field Sample ID: G5NE0611

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	82.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	49.6	P	30 - 160
EPA 8321B	Diuron-d6	46.6	P	30 - 160
EPA 8321B	Endothall-d6	119	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	66.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.7	P	30 - 160
EPA 8321B	Primidone-d5	74.6	P	30 - 160
EPA 8321B	Sucralose-d6	93.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A123235

Included Lab Sample IDs: 2457040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A123236

Included Lab Sample IDs: 2457041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A123238

Included Lab Sample IDs: 2457040, 2457041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.5	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A123270

Included Lab Sample IDs: 2457051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	132	128	P/P	60 - 160
Sucralose	87.9	84.8	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123291

Included Lab Sample IDs: 2457043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A123301

Included Lab Sample IDs: 2457051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	127	135	P/P	60 - 160
Endothall	127	109	P/P	60 - 160
Glufosinate	136	144	P/P	60 - 160
Glyphosate	138	150	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123304

Included Lab Sample IDs: 2457042

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A123310
Included Lab Sample IDs: 2457051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.9	108	P/P	50 - 150
2,4,5-T	101	101	P/P	50 - 150
Acetaminophen	109	114	P/P	60 - 160
Acetamiprid	109	112	P/P	50 - 150
Afidopyropen	112	99.7	P/P	50 - 150
Bentazon	96.1	93.1	P/P	50 - 160
Benzovindiflupyr	108	112	P/P	50 - 150
Carbamazepine	108	108	P/P	60 - 150
Clothianidin	107	110	P/P	60 - 150
Dinotefuran	104	112	P/P	50 - 150
Diuron	110	113	P/P	60 - 160
Fenuron	106	109	P/P	60 - 150
Fluridone	116	112	P/P	60 - 160
Hydrocodone	112	114	P/P	60 - 150
Ibuprofen	103	104	P/P	50 - 160
Imazapyr	88.8	86.4	P/P	50 - 150
Imidacloprid	99.0	104	P/P	60 - 150
Linuron	101	113	P/P	60 - 150
Mandestrobin	114	112	P/P	50 - 150
MCPP	101	97.9	P/P	50 - 150
Naproxen	92.6	98.8	P/P	50 - 160
Primidone	94.3	102	P/P	60 - 150
Pyraclostrobin	109	112	P/P	60 - 150
Silvex	104	105	P/P	50 - 150
Thiamethoxam	113	120	P/P	50 - 150
Tolfenpyrad	101	100	P/P	60 - 150
Triclopyr	98.3	105	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123311
Included Lab Sample IDs: 2457042

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A123321
Included Lab Sample IDs: 2457040, 2457041

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A123325
Included Lab Sample IDs: 2457042, 2457043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.7	P/P	90 - 110
Ammonia-N	99.7	99.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123332

Included Lab Sample IDs: 2457052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	104	P/P	90 - 110
Iron	103	105	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Potassium	99.6	101	P/P	90 - 110
Sodium	98.9	99.5	P/P	90 - 110
Strontium	99.1	98.2	P/P	90 - 110
Tin	100	102	P/P	90 - 110
Titanium	101	102	P/P	90 - 110
Vanadium	101	102	P/P	90 - 110
Zinc	101	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123335

Included Lab Sample IDs: 2457052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.5	99.9	P/P	90 - 110
Antimony	101	101	P/P	90 - 110
Arsenic	99.1	98.6	P/P	90 - 110
Barium	100	99.3	P/P	90 - 110
Beryllium	99.7	98.9	P/P	90 - 110
Boron	99.5	99.4	P/P	90 - 110
Cadmium	98.8	99.4	P/P	90 - 110
Chromium	98.1	100	P/P	90 - 110
Cobalt	95.9	97.5	P/P	90 - 110
Copper	97.0	97.1	P/P	90 - 110
Lead	96.7	96.4	P/P	90 - 110
Manganese	97.4	99.8	P/P	90 - 110
Molybdenum	100	100	P/P	90 - 110
Nickel	96.8	97.3	P/P	90 - 110
Selenium	99.1	101	P/P	90 - 110
Silver	101	102	P/P	90 - 110
Thallium	102	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123338

Included Lab Sample IDs: 2457040, 2457041

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

Reference Method: SM 2320 B-2011

Run ID: A123353

Included Lab Sample IDs: 2457040, 2457041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	102	P/P	90 - 110
Total Alkalinity	98.0	95.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A123353

Included Lab Sample IDs: 2457040, 2457041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	104	P/P	90 - 110
Fluoride	104	103	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A123379

Included Lab Sample IDs: 2457042, 2457043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	114	95.4	P/P	70 - 130

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123396

Included Lab Sample IDs: 2457043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.5	94.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123424

Included Lab Sample IDs: 2457042, 2457043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.3	97.0	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			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	100				5.87	
	Color (true)	101				1.83	
EPA 180.1 Rev. 2.0	Turbidity	103				2.12	
EPA 200.7 Rev. 4.4	Calcium	104	103	110			1.03
	Iron	103	109	105	109		2.97
	Magnesium	105	109	104	112		2.64
	Potassium	98.4	104	100	101		3.28
	Sodium	99.3	98.2	100			0.517
	Strontium	96.5	97.8	97.9	99.1		0.151
	Tin	96.4	99.9	99.4	101		0.523
	Titanium	98.6	103	102	104		0.650
	Vanadium	98.5	103	102	103		0.876
	Zinc	95.5	99.4	98.9	101		0.453
EPA 200.8 Rev. 5.4	Aluminum	103	102	102	102		0.0377
	Antimony	103	106	106	104		0.0544
	Arsenic	103	104	105	101		1.42
	Barium	103	104	105	104		0.537
	Beryllium	97.2	98.5	98.8	95.1		0.269
	Boron	105	105	106	107		0.752
	Cadmium	102	107	104	101		2.79
	Chromium	106	104	104	106		0.239
	Cobalt	102	101	100	99.9		0.819
	Copper	101	99.7	99.5	99.2		0.123
	Lead	97.9	100	99.6	98.8		0.718
	Manganese	104	101	101	102		0.262
	Molybdenum	100	105	104	101		0.217
	Nickel	102	101	101	99.7		0.549
	Selenium	101	89.3	87.9	101		1.58
	Silver	103	104	104	103		0.480
	Thallium	102	106	106	104		0.0550
EPA 300.0 Rev. 2.1	Chloride	105	100	106		0.908	
	Sulfate	104	100	99.7		1.17	
EPA 350.1 Rev. 2.0	Ammonia-N	93.8	99.0	99.8			0.697
	Ammonia-N	96.8	104	99.2			3.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.2	101	100			0.185
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.2				0.875
	NO2NO3-N	94.5	92.8	93.8			0.957
EPA 365.1 Rev. 2.0	Total-P	103	109	108			1.08
EPA 8321B	2,4-D	109	93.2	94.3			0.986
	2,4,5-T	105	72.0	76.3			5.69
	Acesulfame K	133	123	126			2.29
	Acetaminophen	76.3	84.1	95.8			13.1
	Acetamiprid	82.4	63.5	69.2			8.64
	Afidopyropen	68.6	66.6	73.5			9.82
	AMPA	58.3	72.3	45.4			24.3
	Bentazon	56.0					3.83
	Benzovindiflupyr	78.4	75.8	82.6			8.56
	Carbamazepine	70.7	57.1	62.9			7.99
	Clothianidin	89.6	88.7	98.1			10.0
	Dinotefuran	92.9	77.8	81.7			4.53
	Diuron	66.7	54.6	58.6			6.14
	Endothall	45.4	65.0	50.4			25.2
	Fenuron	140	91.4	94.1			2.92
	Fluridone	82.1	55.0	78.2			6.02

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glufosinate	59.2	74.6	64.9		13.9
	Glyphosate	47.4				17.3
	Hydrocodone	89.3	72.3	75.5		4.46
	Ibuprofen	68.4	59.9	62.3		3.91
	Imazapyr	90.1				1.95
	Imidacloprid	86.9	104	115		7.89
	Linuron	66.5	59.4	63.3		6.42
	Mandestrobin	84.5	77.4	85.4		9.82
	MCP	96.3	84.5	88.6		4.68
	Naproxen	66.0	59.4	78.2		27.4
	Primidone	85.0	88.8	100		12.2
	Pyraclostrobin	71.9	72.3	80.0		10.1
	Silvex	84.7	83.0	87.7		5.61
	Sucralose	83.5	64.6	65.5		1.15
	Thiamethoxam	86.7	74.8	82.3		9.43
	Tolfenpyrad	43.5	46.6	54.5		15.7
	Triclopyr	121	76.2	79.6		4.33
SM 2320 B-2011	Total Alkalinity	100			3.36	
SM 2540 C-2015	TDS	96.4			0.766	
SM 2540 D-2015	TSS	95.2				
SM 4500-F- C-2011	Fluoride	102	101	102		0.500
SM 5310 B-2014	Organic Carbon	98.9	101	100		0.643

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2457040, 2457041
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2457040, 2457041
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2457052
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2457052
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2457040, 2457041
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2457040, 2457041
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2457042, 2457043
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2457042, 2457043
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2457042, 2457043
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2457042, 2457043
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2457051
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2457040, 2457041
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2457052
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2457040, 2457041
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2457040, 2457041
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2457040, 2457041
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2457042, 2457043

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	12/14/2023			12/14/2023 14:44	Samantha L Bates	2457040
	12/14/2023			12/14/2023 15:40	Samantha L Bates	2457041
EPA 180.1 Rev. 2.0	12/14/2023			12/14/2023 15:08	Anna M. Plaviak	2457040
	12/14/2023			12/14/2023 15:09	Anna M. Plaviak	2457041
EPA 200.7 Rev. 4.4	12/14/2023	12/18/2023 11:15	George D Taylor	12/19/2023 13:50	Samatha Luckman	2457052
EPA 200.8 Rev. 5.4	12/14/2023	12/18/2023 11:15	George D Taylor	12/19/2023 17:39	Emily M Philpot	2457052
EPA 300.0 Rev. 2.1	12/14/2023			12/19/2023 02:38	James L Waggeberby	2457040
	12/14/2023			12/19/2023 02:53	James L Waggeberby	2457041
	12/14/2023			12/21/2023 19:24	James L Waggeberby	2457040
	12/14/2023			12/21/2023 21:24	James L Waggeberby	2457041
EPA 350.1 Rev. 2.0	12/14/2023			12/19/2023 13:42	Khloe J Berg	2457042
	12/14/2023			12/19/2023 13:57	Khloe J Berg	2457043
EPA 351.2 Rev. 2.0	12/14/2023	12/18/2023 13:10	Simonne.V. Calhoun	12/27/2023 10:36	Samantha L Bates	2457042
	12/14/2023	12/18/2023 13:10	Simonne.V. Calhoun	12/27/2023 10:37	Samantha L Bates	2457043
EPA 353.2 Rev. 2.0	12/14/2023			12/18/2023 13:35	Fadila Guebre	2457042
	12/14/2023			12/21/2023 15:09	Fadila Guebre	2457043
EPA 365.1 Rev. 2.0	12/14/2023	12/15/2023 12:55	Adam P Silver	12/18/2023 13:24	Elise M. Gillis	2457043
	12/14/2023	12/15/2023 12:55	Adam P Silver	12/19/2023 12:00	James L Waggeberby	2457042
EPA 8321B	12/14/2023	12/15/2023 12:00	Hana Lee	12/15/2023 15:56	Hana Lee	2457051
	12/14/2023	12/15/2023 12:00	Hana Lee	12/16/2023 07:52	Tae K Lee	2457051
	12/14/2023	12/18/2023 09:00	Hoor Shaik	12/18/2023 18:37	Juyoung Kim	2457051
SM 2320 B-2011	12/14/2023			12/19/2023 20:52	Dale L. Simmons	2457040
	12/14/2023			12/19/2023 22:52	Dale L. Simmons	2457041
SM 2340 B-2011	12/14/2023			12/19/2023 13:50	Samatha Luckman	2457052
SM 2540 C-2015	12/14/2023			12/19/2023 15:26	Yijie Li	2457040, 2457041
SM 2540 D-2015	12/14/2023			12/19/2023 15:26	Yijie Li	2457040, 2457041
SM 4500-F- C-2011	12/14/2023			12/19/2023 20:52	Dale L. Simmons	2457040
	12/14/2023			12/19/2023 22:52	Dale L. Simmons	2457041
SM 5310 B-2014	12/14/2023			12/19/2023 16:49	Kenneth H Lee	2457042
	12/14/2023			12/19/2023 17:03	Kenneth H Lee	2457043