

Chemical Analysis Report

CEN-DIST-2023-09-13-03

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

Event Description: **Run 5**
Request ID: **RQ-2023-09-11-32**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 03-OCT-2023 09:43



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: SECOND CREEK AT SR 520

Collection Date/Time: 09/12/2023 09:35

Field ID: G3CE0066

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2436433	DEP SOP: NU-094-1	Color (true)	470		PCU	P434943	
	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P434940	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P435111	
		Sulfate	0.83		mg SO4/L	P435115	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P435435	
	SM 2540 C-2015	TDS	140		mg/L	P435389	
	SM 2540 D-2015	TSS	2	I	mg/L	P435298	
2436434	SM 4500-F- C-2011	Fluoride	0.034	I	mg F/L	P435589	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P435135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P435487	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P435282	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P435035	
	SM 5310 B-2011	Organic Carbon	41		mg C/L	P435437	

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: FLORENCE LAKE AT CENTER

Collection Date/Time: 09/12/2023 10:16

Field ID: G3CE0012

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2436430	DEP SOP: NU-094-1	Color (true)	280		PCU	P434943	
	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P434940	
	EPA 300.0 Rev. 2.1	Chloride	240		mg Cl/L	P435111	
		Sulfate	57		mg SO4/L	P435115	
	SM 2320 B-2011	Total Alkalinity	72		mg CaCO3/L	P435266	
	SM 2540 C-2015	TDS	612	A	mg/L	P435389	
	SM 2540 D-2015	TSS	6	IA	mg/L	P435298	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P435271	RPD
2436431	EPA 350.1 Rev. 2.0	Ammonia-N	0.091		mg N/L	P435135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P435487	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.055		mg N/L	P435281	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P435035	
	SM 5310 B-2011	Organic Carbon	29		mg C/L	P435437	
2436432	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.059		mg P/L	P434932	
2436442	EPA 200.7 Rev. 4.4	Calcium	51.7		mg/L	P435076	
		Iron	870		ug/L	P435076	
		Magnesium	18.8		mg/L	P435076	
		Potassium	3.7		mg/L	P435076	
		Sodium	123		mg/L	P435076	
		Strontium	2.03E+03		ug/L	P435076	
		Tin	3.0	U	ug/L	P435076	
	EPA 200.8 Rev. 5.4	Titanium	1.2	I	ug/L	P435076	
		Vanadium	2.0	U	ug/L	P435076	
		Zinc	5.0	U	ug/L	P435076	
		Aluminum	87		ug/L	P435076	
		Antimony	0.15	I	ug/L	P435076	
		Arsenic	1.72		ug/L	P435076	
		Barium	38.2		ug/L	P435076	
		Beryllium	0.017	I	ug/L	P435076	
		Boron	49.3		ug/L	P435076	
		Cadmium	0.020	U	ug/L	P435076	
		Chromium	0.55	I	ug/L	P435076	
		Cobalt	0.147		ug/L	P435076	
		Copper	0.62	I	ug/L	P435076	
		Lead	0.79		ug/L	P435076	
		Manganese	13.5		ug/L	P435076	
		Molybdenum	2.20		ug/L	P435076	
		Nickel	0.50	U	ug/L	P435076	
		Selenium	0.22	I	ug/L	P435076	
		Silver	0.010	U	ug/L	P435076	
		Thallium	0.10	U	ug/L	P435076	
	SM 2340 B-2011	Hardness	207		mg/L	P435076	

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: FB

Collection Date/Time: 09/12/2023 10:29

Field ID: FB_09122023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2436441	EPA 8321B	2,4-D	0.0020	U	ug/L	P434924	
		Acesulfame K	0.10	U	ug/L	P434773	
		2,4,5-T	0.0040	U	ug/L	P434924	
		AMPA	0.10	U	ug/L	P434773	
		Acetaminophen	0.0080	U	ug/L	P434924	
		Acetamiprid	0.0020	U	ug/L	P434924	
		Endothall	0.25	U	ug/L	P434773	
		Glufosinate	0.10	U	ug/L	P434773	
		Glyphosate	0.10	U	ug/L	P434773	
		Afidopyropen	0.0020	U	ug/L	P434924	
		Bentazon	8.0E-04	U	ug/L	P434924	
		Sucralose	0.010	U	ug/L	P434773	
		Benzovindiflupyr	0.0020	U	ug/L	P434924	
		Carbamazepine	8.0E-04	U	ug/L	P434924	
		Clothianidin	0.0020	U	ug/L	P434924	
		Dinotefuran	0.0020	U	ug/L	P434924	
		Diuron	0.0020	U	ug/L	P434924	
		Fenuron	0.032	U	ug/L	P434924	
		Fluridone	8.0E-04	U	ug/L	P434924	
		Imazapyr	0.0040	U	ug/L	P434924	
		Hydrocodone	0.0020	U	ug/L	P434924	
		Ibuprofen	0.080	U	ug/L	P434924	
		Imidacloprid	0.0020	U	ug/L	P434924	
		Linuron	0.0040	U	ug/L	P434924	
		Mandestrobin	0.0020	U	ug/L	P434924	
		MCPP	0.0020	U	ug/L	P434924	
		Naproxen	0.0080	U	ug/L	P434924	
		Primidone	0.0040	U	ug/L	P434924	
		Pyraclostrobin	0.0020	U	ug/L	P434924	
		Silvex	0.0040	U	ug/L	P434924	
		Thiamethoxam	0.0020	U	ug/L	P434924	
		Tolfenpyrad	0.0020	U	ug/L	P434924	
		Triclopyr	0.0040	U	ug/L	P434924	
2436443	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P435076	
		Iron	30	U	ug/L	P435076	
		Magnesium	0.040	U	mg/L	P435076	
		Potassium	0.30	U	mg/L	P435076	
		Sodium	0.50	U	mg/L	P435076	
		Strontium	2.0	U	ug/L	P435076	
		Tin	3.0	U	ug/L	P435076	
		Titanium	0.75	U	ug/L	P435076	
		Vanadium	2.0	U	ug/L	P435076	
		Zinc	5.0	U	ug/L	P435076	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P435076	

Field ID: FB_09122023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2436443	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P435076	
		Arsenic	0.050	U	ug/L	P435076	
		Barium	0.20	U	ug/L	P435076	
		Beryllium	0.010	U	ug/L	P435076	
		Boron	2.0	U	ug/L	P435076	
		Cadmium	0.020	U	ug/L	P435076	
		Chromium	0.40	U	ug/L	P435076	
		Cobalt	0.020	U	ug/L	P435076	
		Copper	0.40	U	ug/L	P435076	
		Lead	0.20	U	ug/L	P435076	
		Manganese	0.10	U	ug/L	P435076	
		Molybdenum	0.15	U	ug/L	P435076	
		Nickel	0.50	U	ug/L	P435076	
		Selenium	0.20	U	ug/L	P435076	
		Silver	0.010	U	ug/L	P435076	
		Thallium	0.10	U	ug/L	P435076	

**Sample Location: FALK CANAL AT 50M UPSTREAM OF FISKE
BLVD**

Collection Date/Time: 09/12/2023 11:02

Field ID: G3CE0016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2436440	EPA 8321B	2,4-D	0.0020	U	ug/L	P434924	
		Acesulfame K	0.10	U	ug/L	P434773	
		2,4,5-T	0.0040	U	ug/L	P434924	
		AMPA	0.48		ug/L	P434773	
		Acetaminophen	0.0080	U	ug/L	P434924	
		Acetamiprid	0.0020	U	ug/L	P434924	
		Endothall	0.25	U	ug/L	P434773	
		Glufosinate	0.10	U	ug/L	P434773	
		Glyphosate	0.98		ug/L	P434773	
		Afidopyropen	0.0020	U	ug/L	P434924	
		Bentazon	0.018		ug/L	P434924	
		Sucralose	0.045		ug/L	P434773	
		Benzovindiflupyr	0.0020	U	ug/L	P434924	
		Carbamazepine	8.0E-04	U	ug/L	P434924	
		Clothianidin	0.0051	I	ug/L	P434924	
		Dinotefuran	0.0020	U	ug/L	P434924	
		Diuron	0.0020	U	ug/L	P434924	
		Fenuron	0.032	U	ug/L	P434924	
		Fluridone	8.0E-04	U	ug/L	P434924	
		Imazapyr	0.0069	I	ug/L	P434924	
		Hydrocodone	0.0020	U	ug/L	P434924	
		Ibuprofen	0.080	U	ug/L	P434924	
		Imidacloprid	0.0065	I	ug/L	P434924	
		Linuron	0.0040	U	ug/L	P434924	
		Mandestrobin	0.0020	U	ug/L	P434924	
		MCPP	0.0025	I	ug/L	P434924	
		Naproxen	0.0080	U	ug/L	P434924	
		Primidone	0.0040	U	ug/L	P434924	
		Pyraclostrobin	0.0020	U	ug/L	P434924	
		Silvex	0.0040	U	ug/L	P434924	
		Thiamethoxam	0.0020	U	ug/L	P434924	
		Tolfenpyrad	0.0020	U	ug/L	P434924	
		Triclopyr	0.0040	U	ug/L	P434924	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P434943

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434940

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P435076

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: P435076

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435111

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435115

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435135

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435487

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435281

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435282

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435035

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P434932

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

Reference Method: EPA 8321B
Batch ID: P434773

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P434924

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: P435266

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

Reference Method: SM 2320 B-2011

Batch ID: P435435

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

Reference Method: SM 2540 C-2015

Batch ID: P435389

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P435298

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P435271

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P435589

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P435437

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: P434943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.6		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434940

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P435076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	103		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	101		P	85 - 115
Sodium	102		P	85 - 115
Strontium	98.9		P	85 - 115
Tin	99.2		P	85 - 115
Titanium	97.4		P	85 - 115
Vanadium	97.6		P	85 - 115
Zinc	98.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P435076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.7		P	85 - 115
Antimony	99.9		P	85 - 115
Arsenic	101		P	85 - 115
Barium	104		P	85 - 115
Beryllium	95.4		P	85 - 115
Boron	98.0		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	101		P	85 - 115
Copper	99.8		P	85 - 115
Lead	95.8		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	99.7		P	85 - 115
Nickel	99.1		P	85 - 115
Selenium	101		P	85 - 115
Silver	113		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435111

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435115

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435487

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435281

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435282

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: P435035

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P434932

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

Reference Method: EPA 8321B
Batch ID: P434773

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	137		P	40 - 150
AMPA	83.8		P	40 - 150
Endothall	100		P	40 - 150
Glufosinate	99.2		P	40 - 150
Glyphosate	98.6		P	40 - 150
Sucralose	94.9		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P434924

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.0		P	40 - 150
2,4,5-T	77.3		P	40 - 150
Acetaminophen	70.9		P	30 - 150
Acetamiprid	84.3		P	40 - 150
Afidopyropen	73.1		P	30 - 150
Bentazon	91.6		P	30 - 150
Benzovindiflupyr	82.8		P	40 - 150
Carbamazepine	89.8		P	40 - 150
Clothianidin	89.3		P	40 - 150
Dinotefuran	97.3		P	40 - 150
Diuron	87.2		P	40 - 150
Fenuron	90.6		P	40 - 150
Fluridone	80.5		P	40 - 150
Hydrocodone	94.6		P	40 - 150
Ibuprofen	77.2		P	40 - 150
Imazapyr	74.1		P	40 - 150
Imidacloprid	83.5		P	40 - 150
Linuron	77.8		P	40 - 150
Mandestrobin	97.2		P	40 - 150
MCPP	90.2		P	40 - 150
Naproxen	64.1		P	40 - 150
Primidone	87.1		P	40 - 150
Pyraclostrobin	78.3		P	40 - 150
Silvex	76.5		P	40 - 150
Thiamethoxam	91.0		P	40 - 150
Tolfenpyrad	42.8		P	30 - 150
Triclopyr	82.3		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P435266

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.6		P	92 - 105

Reference Method: SM 2320 B-2011

Batch ID: P435435

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.6		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P435389

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

Reference Method: SM 2540 D-2015

Batch ID: P435298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	103		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P435271

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P435589

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

Reference Method: SM 5310 B-2011
Batch ID: P435437

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P435076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436454	Calcium	100		P	80 - 120
2436454	Iron	105	105	P/P	80 - 120
2436454	Magnesium	103		P	80 - 120
2436454	Potassium	99.3	99.1	P/P	80 - 120
2436454	Sodium	102		P	80 - 120
2436454	Strontium	98.8	98.3	P/P	80 - 120
2436454	Tin	104	102	P/P	80 - 120
2436454	Titanium	100	99.9	P/P	80 - 120
2436454	Vanadium	102	101	P/P	80 - 120
2436454	Zinc	99.6	98.6	P/P	80 - 120
2437108	Calcium	103		P	80 - 120
2437108	Iron	109		P	80 - 120
2437108	Magnesium	107		P	80 - 120
2437108	Potassium	103		P	80 - 120
2437108	Sodium	102		P	80 - 120
2437108	Strontium	99.8		P	80 - 120
2437108	Tin	101		P	80 - 120
2437108	Titanium	99.7		P	80 - 120
2437108	Vanadium	101		P	80 - 120
2437108	Zinc	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P435076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436454	Aluminum	96.3	104	P/P	80 - 120
2436454	Antimony	102	103	P/P	80 - 120
2436454	Arsenic	101	101	P/P	80 - 120
2436454	Barium	104	105	P/P	80 - 120
2436454	Beryllium	99.8	99.7	P/P	80 - 120
2436454	Boron	99.6	101	P/P	80 - 120
2436454	Cadmium	105	105	P/P	80 - 120
2436454	Chromium	103	103	P/P	80 - 120
2436454	Cobalt	99.2	98.4	P/P	80 - 120
2436454	Copper	96.1	94.2	P/P	80 - 120
2436454	Lead	97.2	97.1	P/P	80 - 120
2436454	Manganese	101	102	P/P	80 - 120
2436454	Molybdenum	102	103	P/P	80 - 120
2436454	Nickel	96.9	96.0	P/P	80 - 120
2436454	Selenium	100	99.6	P/P	80 - 120
2436454	Silver	114	116	P/P	80 - 120
2436454	Thallium	107	107	P/P	80 - 120
2437108	Aluminum	99.2		P	80 - 120
2437108	Antimony	102		P	80 - 120
2437108	Arsenic	103		P	80 - 120
2437108	Barium	104		P	80 - 120
2437108	Beryllium	97.3		P	80 - 120
2437108	Boron	102		P	80 - 120
2437108	Cadmium	104		P	80 - 120
2437108	Chromium	102		P	80 - 120
2437108	Cobalt	99.6		P	80 - 120
2437108	Copper	98.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P435076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437108	Lead	98.2		P	80 - 120
2437108	Manganese	101		P	80 - 120
2437108	Molybdenum	102		P	80 - 120
2437108	Nickel	97.1		P	80 - 120
2437108	Selenium	101		P	80 - 120
2437108	Silver	113		P	80 - 120
2437108	Thallium	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436448	Chloride	104		P	90 - 110
2436595	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435115

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436448	Sulfate	101		P	90 - 110
2436595	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436388	Ammonia-N	96.6	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436449	Kjeldahl Nitrogen	100	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2434714	NO2NO3-N	99.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436434	NO2NO3-N	90.4	95.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436449	Total-P	108	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P434932

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436352	O-Phosphate-P	98.3	99.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P434773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2435764	Acesulfame K	147	144	P/P	40 - 150
2435764	AMPA	68.0	66.8	P/P	40 - 150
2435764	Endothall	146	145	P/P	40 - 150
2435764	Glufosinate	85.3	90.6	P/P	40 - 150
2435764	Glyphosate	80.8	88.5	P/P	40 - 150
2435764	Sucralose	101	97.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P434924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2435764	2,4-D	105	112	P/P	40 - 150
2435764	2,4,5-T	106	108	P/P	40 - 150
2435764	Acetaminophen	84.0	83.8	P/P	30 - 150
2435764	Acetamiprid	61.2	62.7	P/P	40 - 150
2435764	Afidopyrophen	73.7	68.9	P/P	30 - 150
2435764	Bentazon	57.6	56.6	P/P	30 - 150
2435764	Benzovindiflupyr	113	110	P/P	40 - 150
2435764	Carbamazepine	74.8	75.5	P/P	40 - 150
2435764	Clothianidin	90.5	90.6	P/P	40 - 150
2435764	Dinotefuran	61.3	60.4	P/P	40 - 150
2435764	Diuron	64.1	64.3	P/P	40 - 150
2435764	Fenuron	48.7	49.4	P/P	40 - 150
2435764	Fluridone	70.6	66.5	P/P	40 - 150
2435764	Hydrocodone	59.6	58.3	P/P	40 - 150
2435764	Ibuprofen	74.2	76.6	P/P	40 - 150
2435764	Imazapyr	76.0	76.5	P/P	40 - 150
2435764	Imidacloprid	116	116	P/P	40 - 150
2435764	Linuron	74.2	73.9	P/P	40 - 150
2435764	Mandestrobin	107	101	P/P	40 - 150
2435764	MCPP	117	122	P/P	40 - 150
2435764	Naproxen	82.6	94.2	P/P	40 - 150
2435764	Primidone	92.2	88.8	P/P	40 - 150
2435764	Pyraclostrobin	98.2	97.5	P/P	40 - 150
2435764	Silvex	110	105	P/P	40 - 150
2435764	Thiamethoxam	74.7	77.0	P/P	40 - 150
2435764	Tolfenpyrad	72.6	70.0	P/P	30 - 150
2435764	Triclopyr	122	117	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P435271

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436938	Fluoride	99.0	96.8	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P435589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438825	Fluoride	100	99.0	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P435437

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436026	Organic Carbon	98.0	99.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P434943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436416	Color (true)	4.48	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434940

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436306	Turbidity	0.778	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P435076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436454	Calcium	0.273	Spike	P	0 - 20
2436454	Iron	0.00202	Spike	P	0 - 20
2436454	Magnesium	0.107	Spike	P	0 - 20
2436454	Potassium	0.162	Spike	P	0 - 20
2436454	Sodium	0.293	Spike	P	0 - 20
2436454	Strontium	0.483	Spike	P	0 - 20
2436454	Tin	1.56	Spike	P	0 - 20
2436454	Titanium	0.524	Spike	P	0 - 20
2436454	Vanadium	0.639	Spike	P	0 - 20
2436454	Zinc	1.01	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P435076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436454	Aluminum	7.29	Spike	P	0 - 20
2436454	Antimony	0.706	Spike	P	0 - 20
2436454	Arsenic	0.209	Spike	P	0 - 20
2436454	Barium	0.877	Spike	P	0 - 20
2436454	Beryllium	0.125	Spike	P	0 - 20
2436454	Boron	1.16	Spike	P	0 - 20
2436454	Cadmium	0.111	Spike	P	0 - 20
2436454	Chromium	0.112	Spike	P	0 - 20
2436454	Cobalt	0.765	Spike	P	0 - 20
2436454	Copper	1.35	Spike	P	0 - 20
2436454	Lead	0.109	Spike	P	0 - 20
2436454	Manganese	0.487	Spike	P	0 - 20
2436454	Molybdenum	0.666	Spike	P	0 - 20
2436454	Nickel	0.951	Spike	P	0 - 20
2436454	Selenium	0.835	Spike	P	0 - 20
2436454	Silver	1.84	Spike	P	0 - 20
2436454	Thallium	0.130	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436448	Chloride	0.190	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435115

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436448	Sulfate	0.732	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436388	Ammonia-N	1.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436449	Kjeldahl Nitrogen	5.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2434714	NO2NO3-N	0.755	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436434	NO2NO3-N	5.74	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436449	Total-P	1.27	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P434932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436352	O-Phosphate-P	1.01	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P434773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2435764	Acesulfame K	2.10	Spike	P	0 - 30
2435764	AMPA	1.75	Spike	P	0 - 30
2435764	Endothall	0.524	Spike	P	0 - 30
2435764	Glufosinate	6.02	Spike	P	0 - 30
2435764	Glyphosate	9.12	Spike	P	0 - 30
2435764	Sucralose	3.11	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P434924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2435764	2,4-D	6.19	Spike	P	0 - 30
2435764	2,4,5-T	1.74	Spike	P	0 - 30
2435764	Acetaminophen	0.272	Spike	P	0 - 30
2435764	Acetamiprid	2.54	Spike	P	0 - 30
2435764	Afidopyropen	6.73	Spike	P	0 - 30
2435764	Bentazon	1.65	Spike	P	0 - 30
2435764	Benzovindiflupyr	2.30	Spike	P	0 - 30
2435764	Carbamazepine	1.02	Spike	P	0 - 30
2435764	Clothianidin	0.161	Spike	P	0 - 30
2435764	Dinotefuran	1.49	Spike	P	0 - 30
2435764	Diuron	0.295	Spike	P	0 - 30
2435764	Fenuron	1.58	Spike	P	0 - 30
2435764	Fluridone	5.92	Spike	P	0 - 30
2435764	Hydrocodone	2.10	Spike	P	0 - 30
2435764	Ibuprofen	3.17	Spike	P	0 - 30
2435764	Imazapyr	0.580	Spike	P	0 - 30
2435764	Imidacloprid	0.332	Spike	P	0 - 30
2435764	Linuron	0.444	Spike	P	0 - 30
2435764	Mandestrobin	5.32	Spike	P	0 - 30
2435764	MCPP	3.92	Spike	P	0 - 30
2435764	Naproxen	13.2	Spike	P	0 - 30
2435764	Primidone	3.70	Spike	P	0 - 30
2435764	Pyraclostrobin	0.746	Spike	P	0 - 30
2435764	Silvex	4.77	Spike	P	0 - 30
2435764	Thiamethoxam	3.09	Spike	P	0 - 30
2435764	Tolfenpyrad	3.60	Spike	P	0 - 30
2435764	Triclopyr	3.85	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P435266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436938	Total Alkalinity	0.789	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P435435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437957	Total Alkalinity	0.921	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P435389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436430	TDS	7.67	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P435271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436938	Fluoride	1.97	Spike	F	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P435589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438825	Fluoride	0.990	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P435437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436026	Organic Carbon	1.67	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2436440
Field Sample ID: G3CE0016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	82.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.7	P	30 - 160
EPA 8321B	Diuron-d6	47.3	P	30 - 160
EPA 8321B	Endothall-d6	109	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.6	P	30 - 160
EPA 8321B	Primidone-d5	69.1	P	30 - 160
EPA 8321B	Sucralose-d6	84.8	P	30 - 160

Lab Sample ID: 2436441
Field Sample ID: FB_09122023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	76.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.4	P	30 - 160
EPA 8321B	Diuron-d6	91.8	P	30 - 160
EPA 8321B	Endothall-d6	90.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.8	P	30 - 160
EPA 8321B	Primidone-d5	94.3	P	30 - 160
EPA 8321B	Sucralose-d6	95.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A121506

Included Lab Sample IDs: 2436432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.9	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A121509

Included Lab Sample IDs: 2436430, 2436433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	97.0	97.0	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A121511

Included Lab Sample IDs: 2436430, 2436433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121513

Included Lab Sample IDs: 2436440, 2436441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	139	129	P/P	60 - 160
Sucralose	106	91.2	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A121515

Included Lab Sample IDs: 2436440, 2436441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	80.9	86.1	P/P	60 - 160
Endothall	96.2	103	P/P	60 - 160
Glufosinate	102	105	P/P	60 - 160
Glyphosate	89.1	96.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A121518

Included Lab Sample IDs: 2436440, 2436441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.5	93.4	P/P	50 - 150
2,4,5-T	82.6	82.1	P/P	50 - 150
Acetaminophen	89.6	89.8	P/P	60 - 160
Acetamiprid	114	114	P/P	50 - 150
Afidopyropen	119	105	P/P	50 - 150
Bentazon	113	117	P/P	50 - 160
Benzovindiflupyr	105	109	P/P	50 - 150
Carbamazepine	114	120	P/P	60 - 150
Clothianidin	105	104	P/P	60 - 150
Dinotefuran	116	116	P/P	50 - 150
Diuron	112	117	P/P	60 - 160
Fenuron	109	110	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A121518

Included Lab Sample IDs: 2436440, 2436441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	101	98.3	P/P	60 - 160
Hydrocodone	118	121	P/P	60 - 150
Ibuprofen	77.3	115	P/P	50 - 160
Imazapyr	90.2	85.5	P/P	50 - 150
Imidacloprid	101	99.9	P/P	60 - 150
Linuron	104	109	P/P	60 - 150
Mandestrobin	114	120	P/P	50 - 150
MCPP	89.0	88.8	P/P	50 - 150
Naproxen	74.5	122	P/P	50 - 160
Primidone	105	103	P/P	60 - 150
Pyraclostrobin	111	112	P/P	60 - 150
Silvex	83.1	95.1	P/P	50 - 150
Thiamethoxam	114	116	P/P	50 - 150
Tolfenpyrad	103	103	P/P	60 - 150
Triclopyr	89.9	100	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121585

Included Lab Sample IDs: 2436430, 2436433

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121598

Included Lab Sample IDs: 2436431, 2436434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121610

Included Lab Sample IDs: 2436442, 2436443

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.9	96.9	P/P	90 - 110
Aluminum	96.9	99.0	P/P	90 - 110
Antimony	96.3	98.2	P/P	90 - 110
Antimony	98.2	98.5	P/P	90 - 110
Arsenic	102	99.7	P/P	90 - 110
Arsenic	99.7	101	P/P	90 - 110
Barium	101	102	P/P	90 - 110
Barium	102	102	P/P	90 - 110
Beryllium	98.5	99.3	P/P	90 - 110
Beryllium	99.3	98.7	P/P	90 - 110
Boron	94.2	98.2	P/P	90 - 110
Boron	98.2	98.4	P/P	90 - 110
Cadmium	101	104	P/P	90 - 110
Cadmium	104	104	P/P	90 - 110
Chromium	101	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121610

Included Lab Sample IDs: 2436442, 2436443

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	104	105	P/P	90 - 110
Cobalt	101	98.9	P/P	90 - 110
Cobalt	98.9	100	P/P	90 - 110
Copper	97.3	98.7	P/P	90 - 110
Copper	99.7	97.3	P/P	90 - 110
Lead	94.8	96.2	P/P	90 - 110
Lead	96.2	96.6	P/P	90 - 110
Manganese	100	104	P/P	90 - 110
Manganese	104	104	P/P	90 - 110
Molybdenum	99.0	99.7	P/P	90 - 110
Molybdenum	99.7	99.1	P/P	90 - 110
Nickel	97.4	98.6	P/P	90 - 110
Nickel	99.8	97.4	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Silver	102	103	P/P	90 - 110
Thallium	100	101	P/P	90 - 110
Thallium	99.8	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121611

Included Lab Sample IDs: 2436431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A121613

Included Lab Sample IDs: 2436442, 2436443

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Calcium	97.8	101	P/P	95 - 105
Iron	103	106	P/P	90 - 110
Iron	99.9	103	P/P	95 - 105
Magnesium	102	105	P/P	90 - 110
Magnesium	98.7	102	P/P	95 - 105
Potassium	96.0	98.7	P/P	95 - 105
Potassium	98.7	102	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Sodium	98.0	101	P/P	95 - 105
Strontium	96.4	98.2	P/P	90 - 110
Strontium	97.4	96.4	P/P	95 - 105
Tin	97.1	98.4	P/P	90 - 110
Tin	99.4	97.1	P/P	95 - 105
Titanium	97.3	99.1	P/P	90 - 110
Titanium	98.1	97.3	P/P	95 - 105
Vanadium	95.7	97.9	P/P	90 - 110
Vanadium	96.9	95.7	P/P	95 - 105
Zinc	95.7	98.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A121613

Included Lab Sample IDs: 2436442, 2436443

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	99.4	95.7	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121626

Included Lab Sample IDs: 2436434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A121658

Included Lab Sample IDs: 2436430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.3	93.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121658

Included Lab Sample IDs: 2436430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121662

Included Lab Sample IDs: 2436431, 2436434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A121739

Included Lab Sample IDs: 2436433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.0	96.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A121744

Included Lab Sample IDs: 2436431, 2436434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.7	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121790

Included Lab Sample IDs: 2436433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121802

Included Lab Sample IDs: 2436431, 2436434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.5	106	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
DEP SOP: NU-094-1	Color (true)	99.6					4.48	
EPA 180.1 Rev. 2.0	Turbidity	101					0.778	
EPA 200.7 Rev. 4.4	Calcium	102	100	103				0.273
	Iron	103	105	105	109			0.0020
	Magnesium	104	103	107				0.107
	Potassium	101	99.3	99.1	103			0.162
	Sodium	102	102	102				0.293
	Strontium	98.9	98.8	98.3	99.8			0.483
	Tin	99.2	104	102	101			1.56
	Titanium	97.4	100	99.9	99.7			0.524
	Vanadium	97.6	102	101	101			0.639
	Zinc	98.1	99.6	98.6	104			1.01
EPA 200.8 Rev. 5.4	Aluminum	97.7	96.3	104	99.2			7.29
	Antimony	99.9	102	103	102			0.706
	Arsenic	101	101	101	103			0.209
	Barium	104	104	105	104			0.877
	Beryllium	95.4	99.8	99.7	97.3			0.125
	Boron	98.0	99.6	101	102			1.16
	Cadmium	102	105	105	104			0.111
	Chromium	102	103	103	102			0.112
	Cobalt	101	99.2	98.4	99.6			0.765
	Copper	99.8	96.1	94.2	98.0			1.35
	Lead	95.8	97.2	97.1	98.2			0.109
	Manganese	101	101	102	101			0.487
	Molybdenum	99.7	102	103	102			0.666
	Nickel	99.1	96.9	96.0	97.1			0.951
	Selenium	101	100	99.6	101			0.835
	Silver	113	114	116	113			1.84
	Thallium	103	107	107	107			0.130
EPA 300.0 Rev. 2.1	Chloride	104	104	105			0.190	
	Sulfate	102	101	102			0.732	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	96.6	98.6				1.80
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.6	100	106				5.04
EPA 353.2 Rev. 2.0	NO2NO3-N	102	99.0	98.0				0.755
	NO2NO3-N	104	90.4	95.9				5.74
EPA 365.1 Rev. 2.0	Total-P	107	108	107				1.27
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	98.3	99.3				1.01
EPA 8321B	2,4-D	89.0	105	112				6.19
	2,4,5-T	77.3	106	108				1.74
	Acesulfame K	137	147	144				2.10
	Acetaminophen	70.9	84.0	83.8				0.272
	Acetamiprid	84.3	61.2	62.7				2.54
	Afidopyropen	73.1	73.7	68.9				6.73
	AMPA	83.8	68.0	66.8				1.75
	Bentazon	91.6	57.6	56.6				1.65
	Benzovindiflupyr	82.8	113	110				2.30
	Carbamazepine	89.8	74.8	75.5				1.02
	Clothianidin	89.3	90.5	90.6				0.161
	Dinotefuran	97.3	61.3	60.4				1.49
	Diuron	87.2	64.1	64.3				0.295
	Endothall	100	146	145				0.524
	Fenuron	90.6	48.7	49.4				1.58
	Fluridone	80.5	70.6	66.5				5.92
	Glufosinate	99.2	85.3	90.6				6.02

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glyphosate	98.6	80.8	88.5		9.12
	Hydrocodone	94.6	59.6	58.3		2.10
	Ibuprofen	77.2	74.2	76.6		3.17
	Imazapyr	74.1	76.0	76.5		0.580
	Imidacloprid	83.5	116	116		0.332
	Linuron	77.8	74.2	73.9		0.444
	Mandestrobin	97.2	107	101		5.32
	MCP	90.2	117	122		3.92
	Naproxen	64.1	82.6	94.2		13.2
	Primidone	87.1	92.2	88.8		3.70
	Pyraclostrobin	78.3	98.2	97.5		0.746
	Silvex	76.5	110	105		4.77
	Sucralose	94.9	101	97.9		3.11
	Thiamethoxam	91.0	74.7	77.0		3.09
	Tolfenpyrad	42.8	72.6	70.0		3.60
	Triclopyr	82.3	122	117		3.85
SM 2320 B-2011	Total Alkalinity	96.6			0.789	
	Total Alkalinity	95.6			0.921	
SM 2540 C-2015	TDS	103			7.67	
SM 2540 D-2015	TSS	103				
SM 4500-F- C-2011	Fluoride	98.3	99.0	96.8		1.97
	Fluoride	100	100	99.0		0.990
SM 5310 B-2011	Organic Carbon	96.1	98.0	99.6		1.67

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2436430, 2436433
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2436430, 2436433
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2436442, 2436443
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2436442, 2436443
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2436430, 2436433
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2436430, 2436433
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2436431, 2436434
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2436431, 2436434
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2436431, 2436434
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2436431, 2436434
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2436432
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2436440, 2436441
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2436430, 2436433
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2436442
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2436430, 2436433
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2436430, 2436433
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2436430, 2436433
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2436431, 2436434

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	09/13/2023			09/13/2023 16:45	Alexis Price	2436430
	09/13/2023			09/13/2023 16:46	Alexis Price	2436433
EPA 180.1 Rev. 2.0	09/13/2023			09/13/2023 14:26	Alexis Price	2436430, 2436433
EPA 200.7 Rev. 4.4	09/13/2023	09/15/2023 12:40	George D Taylor	09/18/2023 12:57	McKinley C Carter	2436443
	09/13/2023	09/15/2023 12:40	George D Taylor	09/18/2023 14:38	McKinley C Carter	2436442
EPA 200.8 Rev. 5.4	09/13/2023	09/15/2023 12:40	George D Taylor	09/18/2023 14:21	Emily M Philpot	2436443
	09/13/2023	09/15/2023 12:40	George D Taylor	09/18/2023 16:26	Emily M Philpot	2436442
EPA 300.0 Rev. 2.1	09/13/2023			09/16/2023 09:38	James L Waggeberby	2436430
	09/13/2023			09/16/2023 09:53	James L Waggeberby	2436433
EPA 350.1 Rev. 2.0	09/13/2023			09/18/2023 12:46	Khloe J Berg	2436431
	09/13/2023			09/18/2023 12:47	Khloe J Berg	2436434
EPA 351.2 Rev. 2.0	09/13/2023	09/26/2023 11:48	Simonne.V. Calhoun	09/27/2023 16:39	Samantha L Bates	2436431
	09/13/2023	09/26/2023 11:48	Simonne.V. Calhoun	09/27/2023 16:41	Samantha L Bates	2436434
EPA 353.2 Rev. 2.0	09/13/2023			09/19/2023 14:12	Anna M. Plaviak	2436431
	09/13/2023			09/19/2023 14:19	Anna M. Plaviak	2436434
EPA 365.1 Rev. 2.0	09/13/2023	09/15/2023 14:15	Adam P Silver	09/19/2023 09:33	James L Waggeberby	2436431
	09/13/2023	09/15/2023 14:15	Adam P Silver	09/19/2023 13:57	James L Waggeberby	2436434
EPA 365.1 Rev. 2.0 dissolved	09/13/2023			09/13/2023 14:04	Elise M. Gillis	2436432
EPA 8321B	09/13/2023	09/13/2023 12:30	Hana Lee	09/13/2023 12:51	Tae K Lee	2436440
	09/13/2023	09/13/2023 12:30	Hana Lee	09/13/2023 13:04	Tae K Lee	2436441
	09/13/2023	09/13/2023 12:30	Hana Lee	09/13/2023 22:35	Tae K Lee	2436440
	09/13/2023	09/13/2023 12:30	Hana Lee	09/13/2023 22:49	Tae K Lee	2436441
	09/13/2023	09/13/2023 14:00	Hoor Shaik	09/14/2023 00:12	Juyoung Kim	2436440
	09/13/2023	09/13/2023 14:00	Hoor Shaik	09/14/2023 00:30	Juyoung Kim	2436441
SM 2320 B-2011	09/13/2023			09/20/2023 04:58	Adam P Silver	2436430
	09/13/2023			09/22/2023 16:27	Dale L. Simmons	2436433
SM 2340 B-2011	09/13/2023			09/18/2023 14:38	McKinley C Carter	2436442
SM 2540 C-2015	09/13/2023			09/15/2023 16:01	Yijie Li	2436430, 2436433
SM 2540 D-2015	09/13/2023			09/15/2023 16:01	Yijie Li	2436430, 2436433
SM 4500-F- C-2011	09/13/2023			09/20/2023 04:58	Adam P Silver	2436430
	09/13/2023			09/27/2023 05:36	Adam P Silver	2436433
SM 5310 B-2011	09/13/2023			09/23/2023 00:14	Elise M. Gillis	2436431
	09/13/2023			09/23/2023 00:28	Elise M. Gillis	2436434