

Chemical Analysis Report

NE-DIST-2023-05-17-01

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

Event Description: **Gainesville 2023**
Request ID: **RQ-2023-05-15-14**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 05-JUN-2023 11:20



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: 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: UPPER LITTLE HATCHET AT AIRPORT FIELD Collection Date/Time: 05/16/2023 10:20

Field ID: G1NE0949

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410488	DEP SOP: NU-094-1	Color (true)	88	A	PCU	P430002	
	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P430010	
	EPA 300.0 Rev. 2.1	Chloride	8.2	A	mg Cl/L	P430367	
		Sulfate	6.0	A	mg SO4/L	P430370	
	SM 2320 B-2011	Total Alkalinity	72		mg CaCO3/L	P430439	
	SM 2540 C-2015	TDS	125		mg/L	P430682	
	SM 2540 D-2015	TSS	3	I	mg/L	P430519	
	SM 4500-F- C-2011	Fluoride	0.089	I	mg F/L	P430531	
2410490	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P430338	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P430089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.037		mg N/L	P430403	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P430096	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P430150	

Ref. Method and Comment:

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

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

Sample Location: ALACHUA SINK AT END OF BROADWALK

Collection Date/Time: 05/16/2023 10:55

Field ID: G1NE0953

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410489	DEP SOP: NU-094-1	Color (true)	140		PCU	P430002	
	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P430010	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P430367	
		Sulfate	11		mg SO4/L	P430370	
	SM 2320 B-2011	Total Alkalinity	36		mg CaCO3/L	P430439	
	SM 2540 C-2015	TDS	147		mg/L	P430682	
	SM 2540 D-2015	TSS	8	I	mg/L	P430519	
	SM 4500-F- C-2011	Fluoride	0.18		mg F/L	P430531	
2410491	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P430338	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P430089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P430403	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P430096	
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P430150	

Ref. Method and Comment:

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

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

Sample Location: LAKE ALICE OUTLET AT GALE LEMERAND DR Collection Date/Time: 05/16/2023 11:55

Field ID: G3NE0010

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410502	EPA 8321B	2,4-D	0.013		ug/L	P430178	
		Acesulfame K	0.22	I	ug/L	P429908	
		2,4,5-T	0.0040	U	ug/L	P430178	
		AMPA	0.64		ug/L	P429908	
		Acetaminophen	0.12		ug/L	P430178	
		Acetamiprid	0.0020	U	ug/L	P430178	
		Endothall	0.98	I	ug/L	P429908	
		Glufosinate	0.10	U	ug/L	P429908	
		Glyphosate	3.7		ug/L	P429908	
		Afidopyropen	0.0020	U	ug/L	P430178	
		Bentazon	8.0E-04	U	ug/L	P430178	
		Sucralose	2.9		ug/L	P429908	
		Benzovindiflupyr	0.0020	U	ug/L	P430178	
		Carbamazepine	8.0E-04	U	ug/L	P430178	
		Clothianidin	0.0020	U	ug/L	P430178	
		Dinotefuran	0.0083		ug/L	P430178	
		Diuron	0.021		ug/L	P430178	
		Fenuron	0.032	U	ug/L	P430178	
		Fluridone	8.0E-04	U	ug/L	P430178	
		Imazapyr	9.2		ug/L	P430178	
		Hydrocodone	0.0020	U	ug/L	P430178	
		Ibuprofen	0.080	U	ug/L	P430178	
		Imidacloprid	0.039		ug/L	P430178	MS
		Linuron	0.0040	U	ug/L	P430178	
		Mandestrobin	0.0020	U	ug/L	P430178	
		MCPP	0.0020	U	ug/L	P430178	
		Naproxen	0.0080	U	ug/L	P430178	
		Primidone	0.0040	U	ug/L	P430178	
		Pyraclostrobin	0.0020	U	ug/L	P430178	
		Silvex	0.0040	U	ug/L	P430178	
		Thiamethoxam	0.0020	U	ug/L	P430178	
		Tolfenpyrad	0.0020	U	ug/L	P430178	
		Triclopyr	0.0040	U	ug/L	P430178	

Ref. Method and Comment:

EPA 8321B: MS accuracy and/or precision for several analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: HOGTOWN CREEK UPSTREAM OF HAILE SINK Collection Date/Time: 05/16/2023 12:25

Field ID: G1NE0913

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410503	EPA 8321B	2,4-D	0.0020	U	ug/L	P430178	
		Acesulfame K	0.10	U	ug/L	P429908	
		2,4,5-T	0.0040	U	ug/L	P430178	
		AMPA	0.33	I	ug/L	P429908	
		Acetaminophen	0.0080	U	ug/L	P430178	
		Acetamiprid	0.0020	U	ug/L	P430178	
		Endothall	0.25	U	ug/L	P429908	
		Glufosinate	0.10	U	ug/L	P429908	
		Glyphosate	0.35	I	ug/L	P429908	
		Afidopyropen	0.0020	U	ug/L	P430178	
		Bentazon	0.0058		ug/L	P430178	
		Sucralose	0.18		ug/L	P429908	
		Benzovindiflupyr	0.0020	U	ug/L	P430178	
		Carbamazepine	8.0E-04	U	ug/L	P430178	
		Clothianidin	0.0076	I	ug/L	P430178	
		Dinotefuran	0.0025	I	ug/L	P430178	
		Diuron	0.0020	U	ug/L	P430178	
		Fenuron	0.032	U	ug/L	P430178	
		Fluridone	8.5E-04	I	ug/L	P430178	
		Imazapyr	0.057		ug/L	P430178	
		Hydrocodone	0.0020	U	ug/L	P430178	
		Ibuprofen	0.080	U	ug/L	P430178	
		Imidacloprid	0.022		ug/L	P430178	MS
		Linuron	0.0040	U	ug/L	P430178	
		Mandestrobin	0.0020	U	ug/L	P430178	
		MCPP	0.0020	U	ug/L	P430178	
		Naproxen	0.0080	U	ug/L	P430178	
		Primidone	0.0040	U	ug/L	P430178	
		Pyraclostrobin	0.0020	U	ug/L	P430178	
		Silvex	0.0040	U	ug/L	P430178	
		Thiamethoxam	0.0020	U	ug/L	P430178	
		Tolfenpyrad	0.0020	U	ug/L	P430178	
		Triclopyr	0.0040	U	ug/L	P430178	

Ref. Method and Comment:

EPA 8321B: MS accuracy and/or precision for several analytes could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P430002

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430010

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430367

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430370

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430338

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430089

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430403

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430096

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

Reference Method: EPA 8321B
Batch ID: P429908

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: P429908

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

Reference Method: EPA 8321B
Batch ID: P430178

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: P430439

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

Reference Method: SM 2540 C-2015
Batch ID: P430682

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P430519

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P430531

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P430150

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: P430002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	93.4		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430010

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430367

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430370

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430338

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430089

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430403

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	95.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430096

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

Reference Method: EPA 8321B
Batch ID: P429908

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	92.2		P	40 - 150
AMPA	106		P	40 - 150
Endothall	85.6		P	40 - 150
Glufosinate	84.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P429908

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	102		P	40 - 150
Sucralose	117		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P430178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.5		P	40 - 150
2,4,5-T	80.0		P	40 - 150
Acetaminophen	86.0		P	30 - 150
Acetamiprid	73.5		P	40 - 150
Afidopyropen	77.3		P	30 - 150
Bentazon	98.3		P	30 - 150
Benzovindiflupyr	77.9		P	40 - 150
Carbamazepine	75.7		P	40 - 150
Clothianidin	90.2		P	40 - 150
Dinotefuran	88.8		P	40 - 150
Diuron	76.7		P	40 - 150
Fenuron	87.0		P	40 - 150
Fluridone	88.4		P	40 - 150
Hydrocodone	83.5		P	40 - 150
Ibuprofen	81.1		P	40 - 150
Imazapyr	89.0		P	40 - 150
Imidacloprid	84.5		P	40 - 150
Linuron	79.8		P	40 - 150
Mandestrobin	76.3		P	40 - 150
MCPP	93.6		P	40 - 150
Naproxen	60.5		P	40 - 150
Primidone	81.1		P	40 - 150
Pyraclostrobin	78.0		P	40 - 150
Silvex	88.6		P	40 - 150
Thiamethoxam	89.7		P	40 - 150
Tolfenpyrad	63.7		P	30 - 150
Triclopyr	84.5		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P430439

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

Reference Method: SM 2540 C-2015
Batch ID: P430682

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

Reference Method: SM 2540 D-2015
Batch ID: P430519

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.3		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P430531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P430150

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410488	Chloride	101		P	90 - 110
2410592	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410488	Sulfate	98.7		P	90 - 110
2410592	Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410490	Ammonia-N	97.4	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410234	Kjeldahl Nitrogen	101	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410461	NO2NO3-N	96.0	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410593	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P429908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409832	Acesulfame K	80.8	81.0	P/P	40 - 150
2409832	AMPA	97.6	102	P/P	40 - 150
2409832	Endothall	95.1	92.9	P/P	40 - 150
2409832	Glufosinate	74.2	82.1	P/P	40 - 150
2409832	Glyphosate	90.3	100	P/P	40 - 150
2409832	Sucralose	119	96.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P430178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410774	2,4-D	85.5	83.4	P/P	40 - 150
2410774	2,4,5-T	98.1	96.2	P/P	40 - 150
2410774	Acetaminophen	93.3	92.7	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P430178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410774	Acetamiprid	68.3	71.1	P/P	40 - 150
2410774	Afidopyropen	69.2	72.0	P/P	30 - 150
2410774	Benzovindiflupyr	83.4	86.7	P/P	40 - 150
2410774	Carbamazepine	71.8	70.0	P/P	40 - 150
2410774	Clothianidin	96.8	109	P/P	40 - 150
2410774	Dinotefuran	87.4	85.9	P/P	40 - 150
2410774	Diuron	72.9	66.0	P/P	40 - 150
2410774	Fenuron	65.0	66.6	P/P	40 - 150
2410774	Hydrocodone	70.5	69.2	P/P	40 - 150
2410774	Ibuprofen	51.8	50.0	P/P	40 - 150
2410774	Imidacloprid	148	155	P/F	40 - 150
2410774	Linuron	68.9	76.2	P/P	40 - 150
2410774	Mandestrobin	81.2	80.3	P/P	40 - 150
2410774	MCP	101	101	P/P	40 - 150
2410774	Naproxen	65.3	60.7	P/P	40 - 150
2410774	Primidone	83.1	84.6	P/P	40 - 150
2410774	Pyraclostrobin	85.4	83.8	P/P	40 - 150
2410774	Silvex	80.8	93.5	P/P	40 - 150
2410774	Thiamethoxam	110	113	P/P	40 - 150
2410774	Tolfenpyrad	63.0	59.2	P/P	30 - 150
2410774	Triclopyr	88.1	93.4	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P430531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410591	Fluoride	99.2	100	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P430150

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410490	Organic Carbon	95.5	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P430002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410488	Color (true)	0.152	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410488	Turbidity	10.5	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410488	Chloride	1.37	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410488	Sulfate	1.71	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410490	Ammonia-N	0.598	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410234	Kjeldahl Nitrogen	5.59	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410461	NO2NO3-N	0.407	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410593	Total-P	0.452	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P429908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409832	Acesulfame K	0.158	Spike	P	0 - 30
2409832	AMPA	4.23	Spike	P	0 - 30
2409832	Endothall	2.43	Spike	P	0 - 30
2409832	Glufosinate	10.1	Spike	P	0 - 30
2409832	Glyphosate	9.05	Spike	P	0 - 30
2409832	Sucralose	14.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P430178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410774	2,4-D	1.47	Spike	P	0 - 30
2410774	2,4,5-T	1.99	Spike	P	0 - 30
2410774	Acetaminophen	0.607	Spike	P	0 - 30
2410774	Acetamiprid	4.09	Spike	P	0 - 30
2410774	Afidopyropen	3.91	Spike	P	0 - 30
2410774	Benzovindiflupyr	3.86	Spike	P	0 - 30
2410774	Carbamazepine	2.21	Spike	P	0 - 30
2410774	Clothianidin	7.91	Spike	P	0 - 30
2410774	Dinotefuran	1.71	Spike	P	0 - 30
2410774	Diuron	9.91	Spike	P	0 - 30
2410774	Fenuron	2.49	Spike	P	0 - 30
2410774	Fluridone	0.155	Spike	P	0 - 30
2410774	Hydrocodone	1.85	Spike	P	0 - 30
2410774	Ibuprofen	3.43	Spike	P	0 - 30
2410774	Imazapyr	1.27	Spike	P	0 - 30
2410774	Imidacloprid	3.81	Spike	P	0 - 30
2410774	Linuron	10.2	Spike	P	0 - 30
2410774	Mandestrobin	1.10	Spike	P	0 - 30
2410774	MCPP	0.226	Spike	P	0 - 30
2410774	Naproxen	7.29	Spike	P	0 - 30
2410774	Primidone	1.53	Spike	P	0 - 30
2410774	Pyraclostrobin	1.93	Spike	P	0 - 30
2410774	Silvex	14.6	Spike	P	0 - 30
2410774	Thiamethoxam	2.74	Spike	P	0 - 30
2410774	Tolfenpyrad	6.36	Spike	P	0 - 30
2410774	Triclopyr	5.80	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P430439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410458	Total Alkalinity	0.522	Sample	P	0 - 3.9

Reference Method: SM 4500-F- C-2011
Batch ID: P430531

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

Reference Method: SM 4500-F- C-2011
Batch ID: P430531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410591	Fluoride	0.953	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P430150

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410490	Organic Carbon	0.210	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2410502
Field Sample ID: G3NE0010

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.5	P	30 - 160
EPA 8321B	Diuron-d6	39.0	P	30 - 160
EPA 8321B	Endothall-d6	89.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	128	P	30 - 160
EPA 8321B	Ibuprofen-d3	44.4	P	30 - 160
EPA 8321B	Primidone-d5	83.3	P	30 - 160
EPA 8321B	Sucralose-d6	115	P	30 - 160

Lab Sample ID: 2410503
Field Sample ID: G1NE0913

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.0	P	30 - 160
EPA 8321B	Diuron-d6	69.7	P	30 - 160
EPA 8321B	Endothall-d6	89.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Ibuprofen-d3	61.2	P	30 - 160
EPA 8321B	Primidone-d5	98.2	P	30 - 160
EPA 8321B	Sucralose-d6	123	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A119229

Included Lab Sample IDs: 2410488, 2410489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.9	98.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A119231

Included Lab Sample IDs: 2410488, 2410489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	97.5	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A119295

Included Lab Sample IDs: 2410502, 2410503

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.9	100	P/P	60 - 160
Sucralose	127	119	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A119300

Included Lab Sample IDs: 2410490, 2410491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.9	98.8	P/P	90 - 110
Organic Carbon	98.8	98.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A119309

Included Lab Sample IDs: 2410502, 2410503

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	118	122	P/P	60 - 160
Endothall	87.4	86.1	P/P	60 - 160
Glufosinate	90.1	89.6	P/P	60 - 160
Glyphosate	114	108	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A119315

Included Lab Sample IDs: 2410490, 2410491

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A119348

Included Lab Sample IDs: 2410490, 2410491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A119351

Included Lab Sample IDs: 2410488, 2410489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.3	98.2	P/P	90 - 110
Sulfate	97.5	96.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A119381

Included Lab Sample IDs: 2410490, 2410491

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A119404

Included Lab Sample IDs: 2410490, 2410491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.0	92.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A119421

Included Lab Sample IDs: 2410488, 2410489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	97.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A119438

Included Lab Sample IDs: 2410502, 2410503

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	99.2	P/P	50 - 150
2,4-D	94.1	101	P/P	50 - 150
2,4,5-T	107	99.1	P/P	50 - 150
2,4,5-T	99.1	97.3	P/P	50 - 150
Acetaminophen	105	97.8	P/P	60 - 160
Acetaminophen	97.8	106	P/P	60 - 160
Acetamiprid	112	114	P/P	50 - 150
Acetamiprid	114	118	P/P	50 - 150
Afidopyropen	111	90.5	P/P	50 - 150
Afidopyropen	118	111	P/P	50 - 150
Bentazon	123	140	P/P	50 - 160
Bentazon	140	129	P/P	50 - 160
Benzovindiflupyr	107	109	P/P	50 - 150
Benzovindiflupyr	109	106	P/P	50 - 150
Carbamazepine	104	114	P/P	60 - 150
Carbamazepine	114	106	P/P	60 - 150
Clothianidin	109	117	P/P	60 - 150
Clothianidin	111	109	P/P	60 - 150
Dinotefuran	108	110	P/P	50 - 150
Dinotefuran	110	115	P/P	50 - 150
Diuron	106	114	P/P	60 - 160
Diuron	109	106	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A119438

Included Lab Sample IDs: 2410502, 2410503

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	108	110	P/P	60 - 150
Fenuron	110	113	P/P	60 - 150
Fluridone	107	120	P/P	60 - 160
Fluridone	117	107	P/P	60 - 160
Hydrocodone	109	113	P/P	60 - 150
Hydrocodone	111	109	P/P	60 - 150
Ibuprofen	109	109	P/P	50 - 160
Ibuprofen	109	115	P/P	50 - 160
Imazapyr	110	102	P/P	50 - 150
Imazapyr	113	114	P/P	50 - 150
Imidacloprid	104	105	P/P	60 - 150
Imidacloprid	105	107	P/P	60 - 150
Linuron	101	106	P/P	60 - 150
Linuron	106	99.8	P/P	60 - 150
Mandestrobin	100	101	P/P	50 - 150
Mandestrobin	99.3	100	P/P	50 - 150
MCPP	104	107	P/P	50 - 150
MCPP	105	104	P/P	50 - 150
Naproxen	115	96.2	P/P	50 - 160
Naproxen	137	115	P/P	50 - 160
Primidone	105	110	P/P	60 - 150
Primidone	97.4	105	P/P	60 - 150
Pyraclostrobin	109	116	P/P	60 - 150
Pyraclostrobin	116	110	P/P	60 - 150
Silvex	103	109	P/P	50 - 150
Silvex	109	117	P/P	50 - 150
Thiamethoxam	111	115	P/P	50 - 150
Thiamethoxam	115	117	P/P	50 - 150
Tolfenpyrad	103	117	P/P	60 - 150
Tolfenpyrad	117	118	P/P	60 - 150
Triclopyr	79.7	109	P/P	50 - 150
Triclopyr	83.2	79.7	P/P	50 - 150

Reference Method: SM 4500-F- C-2011

Run ID: A119457

Included Lab Sample IDs: 2410488, 2410489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	101	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		
					LCS	SMP	MS
DEP SOP: NU-094-1	Color (true)	93.4				0.152	
EPA 180.1 Rev. 2.0	Turbidity	97.2				10.5	
EPA 300.0 Rev. 2.1	Chloride	101	101	99.0		1.37	
	Sulfate	99.9	98.7	99.1		1.71	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	97.4	98.2			0.598
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	101	109			5.59
EPA 353.2 Rev. 2.0	NO2NO3-N	95.0	96.0	95.5			0.407
EPA 365.1 Rev. 2.0	Total-P	99.6	105	105			0.452
EPA 8321B	2,4-D	95.5	85.5	83.4			1.47
	2,4,5-T	80.0	98.1	96.2			1.99
	Acesulfame K	92.2	80.8	81.0			0.158
	Acetaminophen	86.0	93.3	92.7			0.607
	Acetamiprid	73.5	68.3	71.1			4.09
	Afidopyropen	77.3	69.2	72.0			3.91
	AMPA	106	97.6	102			4.23
	Bentazon	98.3					
	Benzovindiflupyr	77.9	83.4	86.7			3.86
	Carbamazepine	75.7	71.8	70.0			2.21
	Clothianidin	90.2	96.8	109			7.91
	Dinotefuran	88.8	87.4	85.9			1.71
	Diuron	76.7	72.9	66.0			9.91
	Endothall	85.6	95.1	92.9			2.43
	Fenuron	87.0	65.0	66.6			2.49
	Fluridone	88.4					0.155
	Glufosinate	84.6	74.2	82.1			10.1
	Glyphosate	102	90.3	100			9.05
	Hydrocodone	83.5	70.5	69.2			1.85
	Ibuprofen	81.1	51.8	50.0			3.43
	Imazapyr	89.0					1.27
	Imidacloprid	84.5	148	155			3.81
	Linuron	79.8	68.9	76.2			10.2
	Mandestrobin	76.3	81.2	80.3			1.10
	MCPP	93.6	101	101			0.226
	Naproxen	60.5	65.3	60.7			7.29
	Primidone	81.1	83.1	84.6			1.53
	Pyraclostrobin	78.0	85.4	83.8			1.93
	Silvex	88.6	80.8	93.5			14.6
	Sucralose	117	119	96.2			14.0
	Thiamethoxam	89.7	110	113			2.74
	Tolfenpyrad	63.7	63.0	59.2			6.36
	Triclopyr	84.5	88.1	93.4			5.80
SM 2320 B-2011	Total Alkalinity	100				0.522	
SM 2540 C-2015	TDS	96.8					
SM 2540 D-2015	TSS	93.3					
SM 4500-F- C-2011	Fluoride	99.6	99.2	100			0.953
SM 5310 B-2011	Organic Carbon	98.5	95.5	95.2			0.210

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2410488, 2410489
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2410488, 2410489
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2410488, 2410489

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2410488, 2410489
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2410490, 2410491
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2410490, 2410491
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2410490, 2410491
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2410490, 2410491
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2410502, 2410503
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2410488, 2410489
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2410488, 2410489
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2410488, 2410489
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2410488, 2410489
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2410490, 2410491

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	05/17/2023			05/17/2023 14:53	Anna M. Plaviak	2410488
	05/17/2023			05/17/2023 14:54	Anna M. Plaviak	2410489
EPA 180.1 Rev. 2.0	05/17/2023			05/17/2023 14:31	Khloe J Berg	2410488
	05/17/2023			05/17/2023 14:33	Khloe J Berg	2410489
EPA 300.0 Rev. 2.1	05/17/2023			05/24/2023 19:25	James L Waggeberby	2410488
	05/17/2023			05/24/2023 21:11	James L Waggeberby	2410489
EPA 350.1 Rev. 2.0	05/17/2023			05/24/2023 13:24	Khloe J Berg	2410490
	05/17/2023			05/24/2023 13:29	Khloe J Berg	2410491
EPA 351.2 Rev. 2.0	05/17/2023	05/19/2023 08:44	Samantha L Bates	05/23/2023 12:39	Samantha L Bates	2410490
	05/17/2023	05/19/2023 08:44	Samantha L Bates	05/23/2023 12:41	Samantha L Bates	2410491
EPA 353.2 Rev. 2.0	05/17/2023			05/25/2023 11:15	Beverly Y. Sanders	2410490
	05/17/2023			05/25/2023 11:16	Beverly Y. Sanders	2410491
EPA 365.1 Rev. 2.0	05/17/2023	05/19/2023 11:40	Adam P Silver	05/22/2023 14:55	Chandler E Cox	2410490
	05/17/2023	05/19/2023 11:40	Adam P Silver	05/22/2023 14:56	Chandler E Cox	2410491
EPA 8321B	05/17/2023	05/19/2023 09:00	Manjita Shrestha	05/19/2023 22:59	Manjita Shrestha	2410502
	05/17/2023	05/19/2023 09:00	Manjita Shrestha	05/19/2023 23:12	Manjita Shrestha	2410503
	05/17/2023	05/19/2023 09:00	Manjita Shrestha	05/21/2023 00:33	Manjita Shrestha	2410502
	05/17/2023	05/19/2023 09:00	Manjita Shrestha	05/21/2023 00:47	Manjita Shrestha	2410503
	05/17/2023	05/23/2023 09:00	Hoor Shaik	05/25/2023 23:38	Juyoung Kim	2410502
	05/17/2023	05/23/2023 09:00	Hoor Shaik	05/26/2023 00:16	Juyoung Kim	2410503
	05/17/2023	05/23/2023 09:00	Hoor Shaik	05/26/2023 10:24	Juyoung Kim	2410502
	05/17/2023			05/25/2023 04:01	Dale L. Simmons	2410488
SM 2320 B-2011	05/17/2023			05/25/2023 04:15	Dale L. Simmons	2410489
	05/17/2023			05/19/2023 16:01	Yijie Li	2410488, 2410489
SM 2540 C-2015	05/17/2023			05/19/2023 16:01	Yijie Li	2410488, 2410489
SM 4500-F- C-2011	05/17/2023			05/27/2023 09:56	Dale L. Simmons	2410488
	05/17/2023			05/27/2023 10:01	Dale L. Simmons	2410489
SM 5310 B-2011	05/17/2023			05/19/2023 18:35	Elise M. Gillis	2410490
	05/17/2023			05/19/2023 21:37	Elise M. Gillis	2410491