

Chemical Analysis Report

SW-DIST-2023-10-13-01

Florida DEP Laboratory
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DOH Accreditation E31780

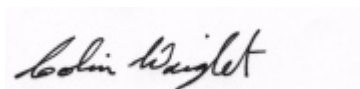
Event Description: **Chito and Trib Grange Hall**
Request ID: **RQ-2023-10-09-71**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 30-OCT-2023 12:23



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: CHITO BRANCH AT CR39

Collection Date/Time: 10/12/2023 09:15

Field ID: G2SW0135

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2444956	DEP SOP: NU-094-1	Color (true)	360		PCU	P436497	
	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P436501	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P436820	
		Sulfate	4.9		mg SO4/L	P436823	
	SM 2320 B-2011	Total Alkalinity	66		mg CaCO3/L	P436674	
	SM 2540 C-2015	TDS	179		mg/L	P436961	
	SM 2540 D-2015	TSS	4	I	mg/L	P436854	
2444957	SM 4500-F- C-2011	Fluoride	0.41		mg F/L	P436675	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P436763	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P436520	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.076		mg N/L	P436631	
	EPA 365.1 Rev. 2.0	Total-P	0.47		mg P/L	P436515	
2444963	EPA 8321B	SM 5310 B-2011	Organic Carbon	34	mg C/L	P436849	
		2,4-D	0.075		ug/L	P436596	
		Acesulfame K	0.10	U	ug/L	P436330	
		2,4,5-T	0.0040	U	ug/L	P436596	
		AMPA	0.23	I	ug/L	P436330	
		Acetaminophen	0.0082	I	ug/L	P436596	
		Acetamiprid	0.0020	U	ug/L	P436596	
		Endothall	0.25	U	ug/L	P436330	
		Glufosinate	0.10	U	ug/L	P436330	
		Glyphosate	0.10	U	ug/L	P436330	
		Afidopyropen	0.0020	U	ug/L	P436596	
		Bentazon	8.0E-04	U	ug/L	P436596	
		Sucralose	0.018	I	ug/L	P436330	
		Benzovindiflupyr	0.0020	U	ug/L	P436596	
		Carbamazepine	8.0E-04	U	ug/L	P436596	
		Clothianidin	0.0020	U	ug/L	P436596	
		Dinotefuran	0.0020	U	ug/L	P436596	
		Diuron	0.0020	U	ug/L	P436596	
		Fenuron	0.032	U	ug/L	P436596	
		Fluridone	8.0E-04	U	ug/L	P436596	
		Imazapyr	0.027		ug/L	P436596	
		Hydrocodone	0.0020	U	ug/L	P436596	
		Ibuprofen	0.080	U	ug/L	P436596	
		Imidacloprid	0.0020	U	ug/L	P436596	
		Linuron	0.0040	U	ug/L	P436596	
		Mandestrobin	0.0020	U	ug/L	P436596	
		MCPP	0.0020	U	ug/L	P436596	
		Naproxen	0.0080	U	ug/L	P436596	
		Primidone	0.0040	U	ug/L	P436596	
		Pyraclostrobin	0.0020	U	ug/L	P436596	
		Silvex	0.0040	U	ug/L	P436596	
		Thiamethoxam	0.0020	U	ug/L	P436596	

Field ID: G2SW0135

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2444963	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P436596	
		Triclopyr	0.0040	U	ug/L	P436596	

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: HOWARD PRAIRIE BRANCH AT GRANGE HALL Collection Date/Time: 10/12/2023 09:45

Field ID: G2SW0153

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2444954	DEP SOP: NU-094-1	Color (true)	260		PCU	P436497	
	EPA 180.1 Rev. 2.0	Turbidity	2.2	A	NTU	P436501	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P436820	
		Sulfate	15		mg SO4/L	P436823	
	SM 2320 B-2011	Total Alkalinity	87		mg CaCO3/L	P436674	
	SM 2540 C-2015	TDS	151		mg/L	P436961	
	SM 2540 D-2015	TSS	2	I	mg/L	P436854	
	SM 4500-F- C-2011	Fluoride	0.66		mg F/L	P436675	
2444955	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P436762	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P436520	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.070		mg N/L	P436631	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P436515	
	SM 5310 B-2011	Organic Carbon	36		mg C/L	P436849	

Ref. Method and Comment:

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: P436497

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436501

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436820

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436823

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436762

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436763

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436520

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436631

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436515

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P436330

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P436596

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: P436674

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

Reference Method: SM 2540 C-2015

Batch ID: P436961

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P436854

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P436675

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P436849

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: P436497

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436501

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436820

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436823

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436762

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436763

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436520

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436631

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436515

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P436330

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	85.5		P	40 - 150
Endothall	97.0		P	40 - 150
Glufosinate	91.6		P	40 - 150
Glyphosate	86.8		P	40 - 150
Sucralose	105		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P436596

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	65.2		P	40 - 150
2,4,5-T	80.5		P	40 - 150
Acetaminophen	88.6		P	30 - 150
Acetamiprid	73.6		P	40 - 150
Afidopyropen	73.8		P	30 - 150
Bentazon	105		P	30 - 150
Benzovindiflupyr	73.8		P	40 - 150
Carbamazepine	75.9		P	40 - 150
Clothianidin	83.4		P	40 - 150
Dinotefuran	93.6		P	40 - 150
Diuron	68.1		P	40 - 150
Fenuron	88.5		P	40 - 150
Fluridone	74.0		P	40 - 150
Hydrocodone	90.2		P	40 - 150
Ibuprofen	74.8		P	40 - 150
Imazapyr	72.6		P	40 - 150
Imidacloprid	78.4		P	40 - 150
Linuron	61.4		P	40 - 150
Mandestrobin	79.1		P	40 - 150
MCPP	77.8		P	40 - 150
Naproxen	44.8		P	40 - 150
Primidone	78.2		P	40 - 150
Pyraclostrobin	69.6		P	40 - 150
Silvex	59.8		P	40 - 150
Thiamethoxam	84.0		P	40 - 150
Tolfenpyrad	49.3		P	30 - 150
Triclopyr	64.8		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P436674

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.6		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P436961

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	91.6		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P436854

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	107		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P436675

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P436849

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436820

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444713	Chloride	103		P	90 - 110
2444954	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444713	Sulfate	102		P	90 - 110
2444954	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444792	Ammonia-N	97.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436763

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444968	Ammonia-N	99.4	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444969	Kjeldahl Nitrogen	93.4	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436631

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444879	NO2NO3-N	94.8	93.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444890	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P436330

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444339	Acesulfame K	131	135	P/P	40 - 150
2444339	AMPA	86.2	96.9	P/P	40 - 150
2444339	Endothall	119	122	P/P	40 - 150
2444339	Glufosinate	92.1	86.6	P/P	40 - 150
2444339	Glyphosate	103	102	P/P	40 - 150
2444339	Sucralose	98.2	110	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P436596

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445134	2,4-D	77.7	74.4	P/P	40 - 150
2445134	2,4,5-T	86.1	90.4	P/P	40 - 150
2445134	Acetaminophen	94.8	94.4	P/P	30 - 150
2445134	Acetamiprid	55.9	56.6	P/P	40 - 150
2445134	Afidopyropen	64.5	66.7	P/P	30 - 150
2445134	Bentazon	135	133	P/P	30 - 150
2445134	Benzovindiflupyr	62.1	66.4	P/P	40 - 150
2445134	Carbamazepine	60.2	62.5	P/P	40 - 150
2445134	Clothianidin	79.6	81.7	P/P	40 - 150
2445134	Dinotefuran	78.3	80.2	P/P	40 - 150
2445134	Diuron	48.2	49.5	P/P	40 - 150
2445134	Fenuron	51.4	53.3	P/P	40 - 150
2445134	Fluridone	59.0	59.4	P/P	40 - 150
2445134	Hydrocodone	68.0	69.8	P/P	40 - 150
2445134	Ibuprofen	77.3	66.6	P/P	40 - 150
2445134	Imazapyr	88.4	88.1	P/P	40 - 150
2445134	Imidacloprid	97.3	103	P/P	40 - 150
2445134	Linuron	51.7	57.2	P/P	40 - 150
2445134	Mandestrobin	75.7	73.1	P/P	40 - 150
2445134	MCCPP	91.2	88.5	P/P	40 - 150
2445134	Naproxen	45.4	50.8	P/P	40 - 150
2445134	Primidone	70.4	75.9	P/P	40 - 150
2445134	Pyraclostrobin	69.7	71.9	P/P	40 - 150
2445134	Silvex	75.7	74.6	P/P	40 - 150
2445134	Thiamethoxam	84.6	88.7	P/P	40 - 150
2445134	Tolfenpyrad	58.1	58.8	P/P	30 - 150
2445134	Triclopyr	72.0	78.7	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P436675

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444889	Fluoride	101	100	P/P	94 - 106

Reference Method: SM 5310 B-2011

Batch ID: P436849

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445098	Organic Carbon	94.3	97.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P436497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444966	Color (true)	0.539	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444954	Turbidity	9.09	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436820

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444713	Chloride	1.32	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444713	Sulfate	1.03	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444792	Ammonia-N	1.87	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444968	Ammonia-N	0.531	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444969	Kjeldahl Nitrogen	7.34	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444879	NO2NO3-N	1.53	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P436515

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444890	Total-P	0.0660	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P436330

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444339	Acesulfame K	2.92	Spike	P	0 - 30
2444339	AMPA	10.3	Spike	P	0 - 30
2444339	Endothall	2.11	Spike	P	0 - 30
2444339	Glufosinate	6.16	Spike	P	0 - 30
2444339	Glyphosate	0.344	Spike	P	0 - 30
2444339	Sucralose	6.82	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P436596

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445134	2,4-D	4.27	Spike	P	0 - 30
2445134	2,4,5-T	4.88	Spike	P	0 - 30
2445134	Acetaminophen	0.454	Spike	P	0 - 30
2445134	Acetamiprid	1.14	Spike	P	0 - 30
2445134	Afidopyropen	3.33	Spike	P	0 - 30
2445134	Bentazon	1.55	Spike	P	0 - 30
2445134	Benzovindiflupyr	6.76	Spike	P	0 - 30
2445134	Carbamazepine	3.63	Spike	P	0 - 30
2445134	Clothianidin	2.70	Spike	P	0 - 30
2445134	Dinotefuran	2.33	Spike	P	0 - 30
2445134	Diuron	2.55	Spike	P	0 - 30
2445134	Fenuron	3.67	Spike	P	0 - 30
2445134	Fluridone	0.534	Spike	P	0 - 30
2445134	Hydrocodone	2.68	Spike	P	0 - 30
2445134	Ibuprofen	14.9	Spike	P	0 - 30
2445134	Imazapyr	0.247	Spike	P	0 - 30
2445134	Imidacloprid	5.72	Spike	P	0 - 30
2445134	Linuron	10.0	Spike	P	0 - 30
2445134	Mandestrobin	3.44	Spike	P	0 - 30
2445134	MCPP	3.00	Spike	P	0 - 30
2445134	Naproxen	11.3	Spike	P	0 - 30
2445134	Primidone	7.55	Spike	P	0 - 30
2445134	Pyraclostrobin	3.01	Spike	P	0 - 30
2445134	Silvex	1.52	Spike	P	0 - 30
2445134	Thiamethoxam	4.80	Spike	P	0 - 30
2445134	Tolfenpyrad	1.21	Spike	P	0 - 30
2445134	Triclopyr	8.92	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P436674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444889	Total Alkalinity	0.329	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P436961

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444291	TDS	5.00	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P436675

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444889	Fluoride	0.520	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P436849

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445098	Organic Carbon	2.47	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2444963

Field Sample ID: G2SW0135

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	99.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	65.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	44.4	P	30 - 160
EPA 8321B	Diuron-d6	44.9	P	30 - 160
EPA 8321B	Endothall-d6	125	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	85.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	62.3	P	30 - 160
EPA 8321B	Primidone-d5	39.8	P	30 - 160
EPA 8321B	Sucralose-d6	99.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A122146

Included Lab Sample IDs: 2444954, 2444956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122147

Included Lab Sample IDs: 2444954, 2444956

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

Reference Method: EPA 8321B

Run ID: A122179

Included Lab Sample IDs: 2444963

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	109	119	P/P	60 - 160
Sucralose	103	111	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A122180

Included Lab Sample IDs: 2444963

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	92.5	95.4	P/P	60 - 160
Endothall	92.0	94.8	P/P	60 - 160
Glufosinate	107	100	P/P	60 - 160
Glyphosate	92.7	91.4	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122193

Included Lab Sample IDs: 2444955, 2444957

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122201

Included Lab Sample IDs: 2444955, 2444957

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	97.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122209

Included Lab Sample IDs: 2444954, 2444956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	102	P/P	90 - 110
Chloride	101	100	P/P	90 - 110
Sulfate	100	103	P/P	90 - 110
Sulfate	101	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A122214

Included Lab Sample IDs: 2444954, 2444956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.9	95.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122214

Included Lab Sample IDs: 2444954, 2444956

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122221

Included Lab Sample IDs: 2444955, 2444957

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122246

Included Lab Sample IDs: 2444955, 2444957

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

Reference Method: SM 5310 B-2011

Run ID: A122276

Included Lab Sample IDs: 2444955, 2444957

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	97.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122342

Included Lab Sample IDs: 2444963

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	84.8	78.7	P/P	50 - 150
2,4,5-T	84.0	83.8	P/P	50 - 150
Acetaminophen	114	113	P/P	60 - 160
Acetamiprid	110	108	P/P	50 - 150
Afidopyropen	107	114	P/P	50 - 150
Bentazon	110	113	P/P	50 - 160
Benzovindiflupyr	98.6	103	P/P	50 - 150
Carbamazepine	114	104	P/P	60 - 150
Clothianidin	102	104	P/P	60 - 150
Dinotefuran	113	111	P/P	50 - 150
Diuron	116	119	P/P	60 - 160
Fenuron	109	111	P/P	60 - 150
Fluridone	107	108	P/P	60 - 160
Hydrocodone	111	114	P/P	60 - 150
Ibuprofen	110	99.2	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A122342
Included Lab Sample IDs: 2444963

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	90.4	82.6	P/P	50 - 150
Imidacloprid	99.2	97.7	P/P	60 - 150
Linuron	103	97.1	P/P	60 - 150
Mandestrobin	108	111	P/P	50 - 150
MCPP	102	90.3	P/P	50 - 150
Naproxen	99.1	108	P/P	50 - 160
Primidone	94.4	97.6	P/P	60 - 150
Pyraclostrobin	109	114	P/P	60 - 150
Silvex	95.4	85.9	P/P	50 - 150
Thiamethoxam	104	107	P/P	50 - 150
Tolfenpyrad	107	119	P/P	60 - 150
Triclopyr	100	77.5	P/P	50 - 150

* 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	MS
DEP SOP: NU-094-1	Color (true)	99.9			0.539	
EPA 180.1 Rev. 2.0	Turbidity	104			9.09	
EPA 300.0 Rev. 2.1	Chloride	103	103	101	1.32	
	Sulfate	102	102	100	1.03	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	97.8	100		1.87
	Ammonia-N	100	99.4	100		0.531
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	93.4	106		7.34
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	94.8	93.3		1.53
EPA 365.1 Rev. 2.0	Total-P	102	104	104		0.0660
EPA 8321B	2,4-D	65.2	74.4	77.7		4.27
	2,4,5-T	80.5	90.4	86.1		4.88
	Acesulfame K	101	131	135		2.92
	Acetaminophen	88.6	94.8	94.4		0.454
	Acetamiprid	73.6	55.9	56.6		1.14
	Afidopyropen	73.8	64.5	66.7		3.33
	AMPA	85.5	86.2	96.9		10.3
	Bentazon	105	133	135		1.55
	Benzovindiflupyr	73.8	62.1	66.4		6.76
	Carbamazepine	75.9	60.2	62.5		3.63
	Clothianidin	83.4	79.6	81.7		2.70
	Dinotefuran	93.6	78.3	80.2		2.33
	Diuron	68.1	48.2	49.5		2.55
	Endothall	97.0	119	122		2.11
	Fenuron	88.5	51.4	53.3		3.67
	Fluridone	74.0	59.0	59.4		0.534
	Glufosinate	91.6	92.1	86.6		6.16
	Glyphosate	86.8	103	102		0.344
	Hydrocodone	90.2	68.0	69.8		2.68
	Ibuprofen	74.8	66.6	77.3		14.9
	Imazapyr	72.6	88.1	88.4		0.247
	Imidacloprid	78.4	97.3	103		5.72
	Linuron	61.4	51.7	57.2		10.0
	Mandestrobin	79.1	75.7	73.1		3.44
	MCPP	77.8	88.5	91.2		3.00
	Naproxen	44.8	50.8	45.4		11.3
	Primidone	78.2	70.4	75.9		7.55
	Pyraclostrobin	69.6	69.7	71.9		3.01
	Silvex	59.8	74.6	75.7		1.52
	Sucralose	105	98.2	110		6.82
	Thiamethoxam	84.0	84.6	88.7		4.80
	Tolfenpyrad	49.3	58.1	58.8		1.21
	Triclopyr	64.8	78.7	72.0		8.92
SM 2320 B-2011	Total Alkalinity	97.6			0.329	
SM 2540 C-2015	TDS	91.6			5.00	
SM 2540 D-2015	TSS	107				
SM 4500-F- C-2011	Fluoride	99.4	101	100		0.520
SM 5310 B-2011	Organic Carbon	97.4	94.3	97.1		2.47

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2444954, 2444956
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2444954, 2444956

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2444954, 2444956
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2444954, 2444956
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2444955, 2444957
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2444955, 2444957
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2444955, 2444957
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2444955, 2444957
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2444963
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2444954, 2444956
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2444954, 2444956
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2444954, 2444956
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2444954, 2444956
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2444955, 2444957

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	10/13/2023			10/13/2023 15:00	Anna M. Plaviak	2444954, 2444956
EPA 180.1 Rev. 2.0	10/13/2023			10/13/2023 14:08	Khloe J Berg	2444954
	10/13/2023			10/13/2023 14:11	Khloe J Berg	2444956
EPA 300.0 Rev. 2.1	10/13/2023			10/18/2023 20:50	James L Waggeberby	2444954
	10/13/2023			10/19/2023 01:06	James L Waggeberby	2444956
EPA 350.1 Rev. 2.0	10/13/2023			10/19/2023 13:46	Khloe J Berg	2444955
	10/13/2023			10/19/2023 14:02	Khloe J Berg	2444957
EPA 351.2 Rev. 2.0	10/13/2023	10/16/2023 13:15	Simonne.V. Calhoun	10/18/2023 12:52	Samantha L Bates	2444955
	10/13/2023	10/16/2023 13:15	Simonne.V. Calhoun	10/18/2023 12:54	Samantha L Bates	2444957
EPA 353.2 Rev. 2.0	10/13/2023			10/17/2023 12:47	Fadila Guebre	2444955
	10/13/2023			10/17/2023 12:48	Fadila Guebre	2444957
EPA 365.1 Rev. 2.0	10/13/2023	10/16/2023 12:31	Adam P Silver	10/17/2023 10:26	James L Waggeberby	2444955
	10/13/2023	10/16/2023 12:31	Adam P Silver	10/17/2023 10:27	James L Waggeberby	2444957
EPA 8321B	10/13/2023	10/16/2023 12:00	Hana Lee	10/16/2023 19:12	Hana Lee	2444963
	10/13/2023	10/16/2023 12:00	Hana Lee	10/17/2023 04:03	Hana Lee	2444963
	10/13/2023	10/18/2023 09:00	Hoor Shaik	10/20/2023 22:51	Juyoung Kim	2444963
SM 2320 B-2011	10/13/2023			10/17/2023 19:57	Chandler E Cox	2444954
	10/13/2023			10/17/2023 20:10	Chandler E Cox	2444956
SM 2540 C-2015	10/13/2023			10/16/2023 15:32	Yijie Li	2444954, 2444956
SM 2540 D-2015	10/13/2023			10/16/2023 15:32	Yijie Li	2444954, 2444956
SM 4500-F- C-2011	10/13/2023			10/17/2023 19:57	Chandler E Cox	2444954
	10/13/2023			10/17/2023 20:10	Chandler E Cox	2444956
SM 5310 B-2011	10/13/2023			10/19/2023 18:34	Elise M. Gillis	2444955
	10/13/2023			10/19/2023 18:48	Elise M. Gillis	2444957