

Chemical Analysis Report

SW-DIST-2023-08-17-01

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

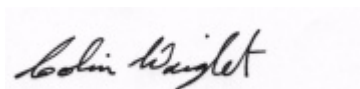
Event Description: **Kit A plus Ecoli & Tracers**
Request ID: **RQ-2023-08-14-48**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

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Certified by: Colin Wright, Program Administrator

Date Certified: 12-SEP-2023 09:32

A handwritten signature in black ink, reading "Colin Wright", is displayed on a light blue rectangular background.

Case Narrative

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

Results for the following analytical groups are included in this report: 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: LAKE GARFIELD DRAIN AT SNELL RD

Collection Date/Time: 08/16/2023 10:35

Field ID: G3SW0106

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2431932	DEP SOP: NU-094-1	Color (true)	21		PCU	P433993	
	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P434000	
	EPA 300.0 Rev. 2.1	Chloride	14	A	mg Cl/L	P434299	
		Sulfate	22	A	mg SO4/L	P434304	
	SM 2320 B-2011	Total Alkalinity	4.9		mg CaCO3/L	P434410	
	SM 2540 C-2015	TDS	84		mg/L	P434365	
	SM 2540 D-2015	TSS	3	I	mg/L	P434121	
2431933	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P434144	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P434434	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34		mg N/L	P434292	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.0		mg N/L	P434640	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P434468	
2431936	EPA 8321B	SM 5310 B-2011	Organic Carbon	4.8	mg C/L	P434203	
		2,4-D	0.0020	U	ug/L	P434161	
		Acesulfame K	0.10	U	ug/L	P434027	
		2,4,5-T	0.0040	U	ug/L	P434161	
		AMPA	0.10	U	ug/L	P434027	MS
		Acetaminophen	0.0080	U	ug/L	P434161	
		Endothall	0.25	U	ug/L	P434027	
		Acetamiprid	0.0020	U	ug/L	P434161	MS, RPD
		Glufosinate	0.10	U	ug/L	P434027	
		Glyphosate	0.10	U	ug/L	P434027	
		Afidopyropen	0.0020	U	ug/L	P434161	
		Bentazon	8.0E-04	U	ug/L	P434161	
		Sucralose	0.073		ug/L	P434027	
		Benzovindiflupyr	0.0020	U	ug/L	P434161	
		Carbamazepine	8.0E-04	U	ug/L	P434161	
		Clothianidin	0.0020	U	ug/L	P434161	
		Dinotefuran	0.0020	U	ug/L	P434161	MS
		Diuron	0.0020	U	ug/L	P434161	
		Fenuron	0.032	U	ug/L	P434161	MS
		Fluridone	8.0E-04	U	ug/L	P434161	
		Imazapyr	0.0059	I	ug/L	P434161	
		Hydrocodone	0.0020	U	ug/L	P434161	
		Ibuprofen	0.080	U	ug/L	P434161	
		Imidacloprid	0.13		ug/L	P434161	
		Linuron	0.0040	U	ug/L	P434161	
		Mandestrobin	0.0020	U	ug/L	P434161	
		MCP	0.0020	U	ug/L	P434161	
		Naproxen	0.0080	U	ug/L	P434161	
		Primidone	0.0040	U	ug/L	P434161	
		Pyraclostrobin	0.0020	U	ug/L	P434161	
		Silvex	0.0040	U	ug/L	P434161	
		Thiamethoxam	0.0020	U	ug/L	P434161	

Field ID: G3SW0106

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2431936	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P434161	
		Triclopyr	0.0040	U	ug/L	P434161	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some 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: P433993

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434000

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434299

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434304

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434434

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434292

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434640

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434468

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

Reference Method: EPA 8321B
Batch ID: P434027

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: P434027

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

Reference Method: EPA 8321B
Batch ID: P434161

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: P434410

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

Reference Method: SM 2540 C-2015
Batch ID: P434365

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P434121

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P434144

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P434203

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: P433993

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434299

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434434

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434292

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434468

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

Reference Method: EPA 8321B
Batch ID: P434027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	139		P	40 - 150
Endothall	85.5		P	40 - 150
Glufosinate	82.2		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P434027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	85.3		P	40 - 150
Sucralose	111		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P434161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	87.1		P	40 - 150
2,4,5-T	92.5		P	40 - 150
Acetaminophen	104		P	30 - 150
Acetamiprid	106		P	40 - 150
Afidopyropen	82.8		P	30 - 150
Bentazon	135		P	30 - 150
Benzovindiflupyr	119		P	40 - 150
Carbamazepine	92.6		P	40 - 150
Clothianidin	104		P	40 - 150
Dinotefuran	102		P	40 - 150
Diuron	104		P	40 - 150
Fenuron	113		P	40 - 150
Fluridone	95.0		P	40 - 150
Hydrocodone	110		P	40 - 150
Ibuprofen	79.7		P	40 - 150
Imazapyr	87.9		P	40 - 150
Imidacloprid	93.9		P	40 - 150
Linuron	86.4		P	40 - 150
Mandestrobin	125		P	40 - 150
MCPP	98.8		P	40 - 150
Naproxen	75.9		P	40 - 150
Primidone	98.0		P	40 - 150
Pyraclostrobin	96.8		P	40 - 150
Silvex	92.4		P	40 - 150
Thiamethoxam	107		P	40 - 150
Tolfenpyrad	64.6		P	30 - 150
Triclopyr	110		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P434410

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.4		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P434365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	92.7		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P434121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.9		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P434144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P434203

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434299

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431932	Chloride	103		P	90 - 110
2432064	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431932	Sulfate	98.8		P	90 - 110
2432064	Sulfate	99.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434434

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431882	Ammonia-N	96.6	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431908	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432383	Total-P	108	107	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P434027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431835	Acesulfame K	105	90.9	P/P	40 - 150
2431835	AMPA	159	158	F/F	40 - 150
2431835	Endothall	100	91.4	P/P	40 - 150
2431835	Glufosinate	84.8	79.7	P/P	40 - 150
2431835	Glyphosate	55.7	66.7	P/P	40 - 150
2431835	Sucralose	113	107	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P434161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431707	2,4-D	84.7	87.4	P/P	40 - 150
2431707	2,4,5-T	115	128	P/P	40 - 150
2431707	Acetaminophen	68.5	72.9	P/P	30 - 150
2431707	Acetamiprid	43.8	25.6	P/F	40 - 150
2431707	Afidopyropen	76.8	59.9	P/P	30 - 150
2431707	Benzovindiflupyr	102	99.8	P/P	40 - 150
2431707	Carbamazepine	48.6	51.0	P/P	40 - 150
2431707	Clothianidin	54.3	54.3	P/P	40 - 150
2431707	Dinotefuran	31.9	33.4	F/F	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P434161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431707	Diuron	44.5	43.5	P/P	40 - 150
2431707	Fenuron	25.7	25.6	F/F	40 - 150
2431707	Fluridone	55.9	53.1	P/P	40 - 150
2431707	Hydrocodone	40.9	41.3	P/P	40 - 150
2431707	Ibuprofen	63.1	67.4	P/P	40 - 150
2431707	Imidacloprid	74.8	75.5	P/P	40 - 150
2431707	Linuron	59.3	50.9	P/P	40 - 150
2431707	Mandestrobin	98.6	95.0	P/P	40 - 150
2431707	MCCPP	116	117	P/P	40 - 150
2431707	Naproxen	108	96.8	P/P	40 - 150
2431707	Primidone	49.1	45.8	P/P	40 - 150
2431707	Pyraclostrobin	87.5	87.4	P/P	40 - 150
2431707	Silvex	135	136	P/P	40 - 150
2431707	Thiamethoxam	45.5	46.5	P/P	40 - 150
2431707	Tolfenpyrad	55.7	62.1	P/P	30 - 150
2431707	Triclopyr	134	125	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P434144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432063	Fluoride	97.4	98.6	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P434203

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431923	Organic Carbon	95.0	96.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P433993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431907	Color (true)	0.912	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431801	Turbidity	1.26	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431932	Chloride	1.49	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431932	Sulfate	1.27	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431882	Ammonia-N	1.19	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431902	Kjeldahl Nitrogen	7.78	Sample	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431908	NO2NO3-N	0.952	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432383	Total-P	0.862	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P434027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431835	Acesulfame K	14.1	Spike	P	0 - 30
2431835	AMPA	0.213	Spike	P	0 - 30
2431835	Endothall	9.39	Spike	P	0 - 30
2431835	Glufosinate	6.29	Spike	P	0 - 30
2431835	Glyphosate	17.9	Spike	P	0 - 30
2431835	Sucralose	6.09	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P434161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431707	2,4-D	2.90	Spike	P	0 - 30
2431707	2,4,5-T	10.7	Spike	P	0 - 30
2431707	Acetaminophen	6.23	Spike	P	0 - 30
2431707	Acetamiprid	52.3	Spike	F	0 - 30
2431707	Afidopyropen	24.7	Spike	P	0 - 30
2431707	Bentazon	4.63	Spike	P	0 - 30
2431707	Benzovindiflupyr	2.55	Spike	P	0 - 30
2431707	Carbamazepine	4.99	Spike	P	0 - 30
2431707	Clothianidin	0.0186	Spike	P	0 - 30
2431707	Dinotefuran	4.63	Spike	P	0 - 30
2431707	Diuron	2.30	Spike	P	0 - 30
2431707	Fenuron	0.216	Spike	P	0 - 30
2431707	Fluridone	5.00	Spike	P	0 - 30
2431707	Hydrocodone	0.866	Spike	P	0 - 30
2431707	Ibuprofen	6.53	Spike	P	0 - 30
2431707	Imazapyr	0.0360	Spike	P	0 - 30
2431707	Imidacloprid	0.853	Spike	P	0 - 30
2431707	Linuron	15.3	Spike	P	0 - 30
2431707	Mandestrobin	3.69	Spike	P	0 - 30
2431707	MCPP	0.802	Spike	P	0 - 30
2431707	Naproxen	10.6	Spike	P	0 - 30
2431707	Primidone	7.02	Spike	P	0 - 30
2431707	Pyraclostrobin	0.173	Spike	P	0 - 30
2431707	Silvex	0.931	Spike	P	0 - 30
2431707	Thiamethoxam	2.07	Spike	P	0 - 30
2431707	Tolfenpyrad	10.9	Spike	P	0 - 30
2431707	Triclopyr	7.27	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P434410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432171	Total Alkalinity	1.63	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P434365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431922	TDS	2.43	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P434144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432063	Fluoride	1.01	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P434203

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431923	Organic Carbon	1.11	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2431936

Field Sample ID: G3SW0106

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	113	P	30 - 160
EPA 8321B	Acetaminophen-d4	120	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.6	P	30 - 160
EPA 8321B	Diuron-d6	58.9	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	70.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.0	P	30 - 160
EPA 8321B	Primidone-d5	86.0	P	30 - 160
EPA 8321B	Sucralose-d6	117	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A121099

Included Lab Sample IDs: 2431932

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A121101

Included Lab Sample IDs: 2431932

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

Reference Method: SM 4500-F- C-2011

Run ID: A121155

Included Lab Sample IDs: 2431932

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121182

Included Lab Sample IDs: 2431932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.9	99.9	P/P	90 - 110
Sulfate	99.0	99.4	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A121186

Included Lab Sample IDs: 2431933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	95.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121187

Included Lab Sample IDs: 2431936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	100	115	P/P	60 - 160
Sucralose	119	120	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A121190

Included Lab Sample IDs: 2431936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	79.0	88.6	P/P	60 - 160
Endothall	84.0	89.6	P/P	60 - 160
Glufosinate	105	91.4	P/P	60 - 160
Glyphosate	77.8	83.1	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121247

Included Lab Sample IDs: 2431933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.7	93.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A121272

Included Lab Sample IDs: 2431932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.6	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121289

Included Lab Sample IDs: 2431933

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

Reference Method: EPA 8321B

Run ID: A121350

Included Lab Sample IDs: 2431936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	84.8	82.7	P/P	50 - 150
2,4,5-T	90.2	91.5	P/P	50 - 150
Acetaminophen	109	105	P/P	60 - 160
Acetamiprid	120	119	P/P	50 - 150
Afidopyropen	120	120	P/P	50 - 150
Bentazon	128	132	P/P	50 - 160
Benzovindiflupyr	115	117	P/P	50 - 150
Carbamazepine	110	112	P/P	60 - 150
Clothianidin	106	114	P/P	60 - 150
Dinotefuran	107	112	P/P	50 - 150
Diuron	105	108	P/P	60 - 160
Fenuron	113	113	P/P	60 - 150
Fluridone	108	106	P/P	60 - 160
Hydrocodone	126	128	P/P	60 - 150
Ibuprofen	102	91.0	P/P	50 - 160
Imazapyr	98.9	99.0	P/P	50 - 150
Imidacloprid	99.7	99.0	P/P	60 - 150
Linuron	100	109	P/P	60 - 150
Mandestrobin	116	124	P/P	50 - 150
MCPP	84.3	88.5	P/P	50 - 150
Naproxen	67.6	121	P/P	50 - 160
Primidone	99.3	105	P/P	60 - 150
Pyraclostrobin	118	120	P/P	60 - 150
Silvex	90.7	94.4	P/P	50 - 150
Thiamethoxam	118	121	P/P	50 - 150
Tolfenpyrad	105	106	P/P	60 - 150
Triclopyr	86.6	79.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121359

Included Lab Sample IDs: 2431933

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121386

Included Lab Sample IDs: 2431933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	102	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	MS
DEP SOP: NU-094-1	Color (true)	100			0.912	
EPA 180.1 Rev. 2.0	Turbidity	98.1			1.26	
EPA 300.0 Rev. 2.1	Chloride	102	103	102	1.49	
	Sulfate	99.1	98.8	99.0	1.27	
EPA 350.1 Rev. 2.0	Ammonia-N	101	96.6	98.2		1.19
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105			7.78	
EPA 353.2 Rev. 2.0	NO2NO3-N	107	102	103		0.952
EPA 365.1 Rev. 2.0	Total-P	107	108	107		0.862
EPA 8321B	2,4-D	87.1	84.7	87.4		2.90
	2,4,5-T	92.5	115	128		10.7
	Acesulfame K	103	105	90.9		14.1
	Acetaminophen	104	68.5	72.9		6.23
	Acetamiprid	106	43.8	25.6		52.3
	Afidopyropen	82.8	76.8	59.9		24.7
	AMPA	139	159	158		0.213
	Bentazon	135				4.63
	Benzovindiflupyr	119	102	99.8		2.55
	Carbamazepine	92.6	48.6	51.0		4.99
	Clothianidin	104	54.3	54.3		0.0186
	Dinotefuran	102	31.9	33.4		4.63
	Diuron	104	44.5	43.5		2.30
	Endothall	85.5	100	91.4		9.39
	Fenuron	113	25.7	25.6		0.216
	Fluridone	95.0	55.9	53.1		5.00
	Glufosinate	82.2	84.8	79.7		6.29
	Glyphosate	85.3	55.7	66.7		17.9
	Hydrocodone	110	40.9	41.3		0.866
	Ibuprofen	79.7	63.1	67.4		6.53
	Imazapyr	87.9				0.0360
	Imidacloprid	93.9	74.8	75.5		0.853
	Linuron	86.4	59.3	50.9		15.3
	Mandestrobin	125	98.6	95.0		3.69
	MCPP	98.8	116	117		0.802
	Naproxen	75.9	108	96.8		10.6
	Primidone	98.0	49.1	45.8		7.02
	Pyraclostrobin	96.8	87.5	87.4		0.173
	Silvex	92.4	135	136		0.931
	Sucralose	111	113	107		6.09
	Thiamethoxam	107	45.5	46.5		2.07
	Tolfenpyrad	64.6	55.7	62.1		10.9
	Triclopyr	110	134	125		7.27
SM 2320 B-2011	Total Alkalinity	96.4			1.63	
SM 2540 C-2015	TDS	92.7			2.43	
SM 2540 D-2015	TSS	93.9				
SM 4500-F- C-2011	Fluoride	97.1	97.4	98.6		1.01
SM 5310 B-2011	Organic Carbon	92.8	95.0	96.5		1.11

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2431932
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2431932
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2431932

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2431932
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2431933
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2431933
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2431933
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2431933
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2431936
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2431932
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2431932
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2431932
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2431932
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2431933

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	08/17/2023			08/17/2023 15:25	Alexis Price	2431932
EPA 180.1 Rev. 2.0	08/17/2023			08/17/2023 14:18	Khloe J Berg	2431932
EPA 300.0 Rev. 2.1	08/17/2023			08/24/2023 04:57	James L Waggeberby	2431932
EPA 350.1 Rev. 2.0	08/17/2023			08/28/2023 13:32	Khloe J Berg	2431933
EPA 351.2 Rev. 2.0	08/17/2023	08/24/2023 12:32	Dana G. Hughes	08/25/2023 10:40	Samantha L Bates	2431933
EPA 353.2 Rev. 2.0	08/17/2023			09/06/2023 16:01	Anna M. Plaviak	2431933
EPA 365.1 Rev. 2.0	08/17/2023	08/29/2023 15:30	Adam P Silver	09/05/2023 13:06	Chandler E Cox	2431933
EPA 8321B	08/17/2023	08/22/2023 08:00	Hana Lee	08/22/2023 10:03	Tae K Lee	2431936
	08/17/2023	08/22/2023 08:00	Hana Lee	08/22/2023 19:42	Tae K Lee	2431936
	08/17/2023	08/23/2023 09:00	Hoor Shaik	09/01/2023 23:28	Juyoung Kim	2431936
SM 2320 B-2011	08/17/2023			08/27/2023 16:11	Dale L. Simmons	2431932
SM 2540 C-2015	08/17/2023			08/21/2023 11:15	Dana G. Hughes	2431932
SM 2540 D-2015	08/17/2023			08/18/2023 12:51	Dana G. Hughes	2431932
SM 4500-F- C-2011	08/17/2023			08/21/2023 23:53	Dale L. Simmons	2431932
SM 5310 B-2011	08/17/2023			08/22/2023 15:16	Elise M. Gillis	2431933