

Chemical Analysis Report

CEN-DIST-2022-07-21-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

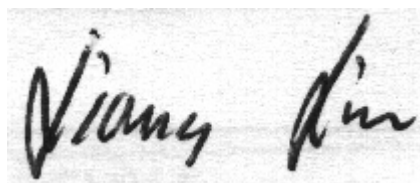
Event Description: **Foxy and Puzzles - Lakes**
Request ID: **RQ-2022-07-11-31**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Matthew Bearden

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 09-AUG-2022 09:16

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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: SJR @ 1.65 km US of Lake Harney

Collection Date/Time: 07/20/2022 10:20

Field ID: G2CE0261

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2343116	EPA 8321B	2,4-D	0.015		ug/L	P417136	
		Acesulfame K	0.10	U	ug/L	P416993	
		2,4,5-T	0.0040	U	ug/L	P417136	
		AMPA	0.10	I	ug/L	P416993	
		Acetaminophen	0.0080	U	ug/L	P417136	
		Acetamiprid	0.0023	I	ug/L	P417136	
		Endothall	0.25	U	ug/L	P416993	
		Glufosinate	0.10	U	ug/L	P416993	MS
		Glyphosate	0.27	I	ug/L	P416993	
		Afidopyropen	0.0020	U	ug/L	P417136	
		Bentazon	0.027		ug/L	P417136	
		Sucralose	1.7		ug/L	P416993	
		Benzovindiflupyr	0.0020	U	ug/L	P417136	
		Carbamazepine	0.0045		ug/L	P417136	
		Clothianidin	0.011		ug/L	P417136	
		Dinotefuran	0.0050	I	ug/L	P417136	
		Diuron	0.0065	I	ug/L	P417136	
		Fenuron	0.032	U	ug/L	P417136	
		Fluridone	0.034		ug/L	P417136	
		Imazapyr	0.24		ug/L	P417136	
		Hydrocodone	0.0020	U	ug/L	P417136	
		Ibuprofen	0.080	U	ug/L	P417136	
		Imidacloprid	0.015		ug/L	P417136	
		Linuron	0.0040	U	ug/L	P417136	
		Mandestrobin	0.0020	U	ug/L	P417136	
		MCPP	0.0040	U	ug/L	P417136	
		Naproxen	0.0080	U	ug/L	P417136	
		Primidone	0.0094	I	ug/L	P417136	
		Pyraclostrobin	0.0020	U	ug/L	P417136	
		Silvex	0.0040	U	ug/L	P417136	
		Thiamethoxam	0.0020	U	ug/L	P417136	MS
		Tolfenpyrad	0.0020	U	ug/L	P417136	
		Triclopyr	0.0040	U	ug/L	P417136	

Ref. Method and Comment:

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

Sample Location: Fox Lake Near Center

Collection Date/Time: 07/20/2022 11:14

Field ID: G3CE0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2343113	DEP SOP: NU-094-1	Color (true)	130		PCU	P417013	
	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P417011	
	EPA 300.0 Rev. 2.1	Chloride	230		mg Cl/L	P417634	
		Sulfate	34		mg SO4/L	P417386	
	SM 2320 B-2011	Total Alkalinity	37		mg CaCO3/L	P417354	
	SM 2540 C-2011	TDS	556		mg/L	P417490	
	SM 2540 D-2011	TSS	4	I	mg/L	P417478	
	SM 4500-F- C-2011	Fluoride	0.059	I	mg F/L	P417356	
2343114	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P417259	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P417236	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417228	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P417095	
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P417222	

Ref. Method and Comment:

SM 2540 D-2011: 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.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P417013

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417011

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417386

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417634

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417259

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417236

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417228

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417095

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

Reference Method: EPA 8321B
Batch ID: P416993

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: P416993

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

Reference Method: EPA 8321B

Batch ID: P417136

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	0.0040	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: P417354

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

Reference Method: SM 2540 C-2011

Batch ID: P417490

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P417478

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P417222

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: P417013

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417011

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417634

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	94.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417259

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417236

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417228

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417095

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

Reference Method: EPA 8321B
Batch ID: P416993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	71.7		P	40 - 150
AMPA	108		P	40 - 150
Endothall	92.1		P	40 - 150
Glufosinate	120		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P416993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	102		P	40 - 150
Sucralose	93.7		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P417136

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.2		P	40 - 150
2,4,5-T	76.7		P	40 - 150
Acetaminophen	90.2		P	30 - 150
Acetamiprid	73.6		P	40 - 150
Afidopyropen	73.4		P	30 - 150
Bentazon	96.3		P	30 - 150
Benzovindiflupyr	88.8		P	40 - 150
Carbamazepine	89.2		P	40 - 150
Clothianidin	96.2		P	40 - 150
Dinotefuran	98.7		P	40 - 150
Diuron	72.1		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	92.3		P	40 - 150
Hydrocodone	91.4		P	40 - 150
Ibuprofen	113		P	40 - 150
Imazapyr	74.7		P	40 - 150
Imidacloprid	102		P	40 - 150
Linuron	91.1		P	40 - 150
Mandestrobin	83.8		P	40 - 150
MCPP	97.4		P	40 - 150
Naproxen	99.7		P	40 - 150
Primidone	90.3		P	40 - 150
Pyraclostrobin	76.2		P	40 - 150
Silvex	55.4		P	40 - 150
Thiamethoxam	95.0		P	40 - 150
Tolfenpyrad	41.8		P	30 - 150
Triclopyr	72.7		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P417354

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P417356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	104		P	96 - 104

Reference Method: SM 5310 B-2011

Batch ID: P417222

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343105	Sulfate	91.4		P	90 - 110
2343245	Sulfate	94.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417634

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343731	Chloride	99.9		P	90 - 110
2343766	Chloride	95.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417259

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343094	Ammonia-N	98.4	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417228

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343169	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417095

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343094	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P416993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343069	Acesulfame K	62.4	64.3	P/P	40 - 150
2343069	AMPA	46.7	44.3	P/P	40 - 150
2343069	Endothall	117	116	P/P	40 - 150
2343069	Glufosinate	32.0	34.3	F/F	40 - 150
2343069	Glyphosate	58.1	59.3	P/P	40 - 150
2343069	Sucralose	90.0	93.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P417136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343511	2,4-D	91.6	73.6	P/P	40 - 150
2343511	2,4,5-T	72.4	69.6	P/P	40 - 150
2343511	Acetaminophen	116	110	P/P	30 - 150
2343511	Acetamiprid	92.9	80.0	P/P	40 - 150
2343511	Afidopyropen	86.2	68.9	P/P	30 - 150
2343511	Benzovindiflupyr	104	91.8	P/P	40 - 150
2343511	Carbamazepine	114	104	P/P	40 - 150
2343511	Clothianidin	105	104	P/P	40 - 150
2343511	Dinotefuran	140	133	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P417136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343511	Diuron	76.4	75.8	P/P	40 - 150
2343511	Fenuron	95.6	87.7	P/P	40 - 150
2343511	Hydrocodone	103	100	P/P	40 - 150
2343511	Ibuprofen	90.5	82.2	P/P	40 - 150
2343511	Imazapyr	76.7	66.5	P/P	40 - 150
2343511	Linuron	96.1	92.2	P/P	40 - 150
2343511	Mandestrobin	83.6	74.7	P/P	40 - 150
2343511	MCP	92.7	81.5	P/P	40 - 150
2343511	Naproxen	88.4	92.5	P/P	40 - 150
2343511	Primidone	102	99.6	P/P	40 - 150
2343511	Pyraclostrobin	91.9	84.3	P/P	40 - 150
2343511	Silvex	88.9	71.9	P/P	40 - 150
2343511	Thiamethoxam	152	143	F/P	40 - 150
2343511	Tolfenpyrad	52.3	46.9	P/P	30 - 150
2343511	Triclopyr	74.6	68.2	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P417356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342914	Fluoride	103	103	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P417222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343096	Organic Carbon	98.2	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P417013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343058	Color (true)	0.0162	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343033	Turbidity	13.4	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343105	Sulfate	0.503	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343731	Chloride	2.06	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343094	Ammonia-N	1.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343114	Kjeldahl Nitrogen	3.50	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343169	NO2NO3-N	0.273	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343094	Total-P	1.41	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P416993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343069	Acesulfame K	3.01	Spike	P	0 - 30
2343069	AMPA	4.15	Spike	P	0 - 30
2343069	Endothall	0.729	Spike	P	0 - 30
2343069	Glufosinate	7.13	Spike	P	0 - 30
2343069	Glyphosate	1.39	Spike	P	0 - 30
2343069	Sucralose	3.88	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P417136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343511	2,4-D	19.3	Spike	P	0 - 30
2343511	2,4,5-T	3.93	Spike	P	0 - 30
2343511	Acetaminophen	5.31	Spike	P	0 - 30
2343511	Acetamiprid	14.9	Spike	P	0 - 30
2343511	Afidopyropen	22.3	Spike	P	0 - 30
2343511	Benzovindiflupyr	12.6	Spike	P	0 - 30
2343511	Carbamazepine	8.61	Spike	P	0 - 30
2343511	Clothianidin	0.450	Spike	P	0 - 30
2343511	Dinotefuran	4.79	Spike	P	0 - 30
2343511	Diuron	0.750	Spike	P	0 - 30
2343511	Fenuron	8.61	Spike	P	0 - 30
2343511	Fluridone	9.70	Spike	P	0 - 30
2343511	Hydrocodone	3.29	Spike	P	0 - 30
2343511	Ibuprofen	9.67	Spike	P	0 - 30
2343511	Imazapyr	10.4	Spike	P	0 - 30
2343511	Imidacloprid	8.97	Spike	P	0 - 30
2343511	Linuron	4.19	Spike	P	0 - 30
2343511	Mandestrobin	11.2	Spike	P	0 - 30
2343511	MCPP	12.9	Spike	P	0 - 30
2343511	Naproxen	4.48	Spike	P	0 - 30
2343511	Primidone	2.33	Spike	P	0 - 30
2343511	Pyraclostrobin	8.59	Spike	P	0 - 30
2343511	Silvex	21.1	Spike	P	0 - 30
2343511	Thiamethoxam	6.23	Spike	P	0 - 30
2343511	Tolfenpyrad	10.9	Spike	P	0 - 30
2343511	Triclopyr	8.97	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P417354

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342914	Total Alkalinity	0.352	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P417490

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

Reference Method: SM 2540 C-2011
Batch ID: P417490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343095	TDS	5.98	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342914	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P417222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343096	Organic Carbon	1.48	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2343116

Field Sample ID: G2CE0261

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	109	P	30 - 160
EPA 8321B	Carbamazepine-d10	106	P	30 - 160
EPA 8321B	Diuron-d6	84.4	P	30 - 160
EPA 8321B	Endothall-d6	121	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	88.8	P	30 - 160
EPA 8321B	Primidone-d5	102	P	30 - 160
EPA 8321B	Sucralose-d6	54.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113649

Included Lab Sample IDs: 2343113

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

Reference Method: DEP SOP: NU-094-1

Run ID: A113654

Included Lab Sample IDs: 2343113

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113721

Included Lab Sample IDs: 2343113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	98.5	99.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113725

Included Lab Sample IDs: 2343114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113726

Included Lab Sample IDs: 2343114

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113730

Included Lab Sample IDs: 2343114

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

Reference Method: EPA 8321B

Run ID: A113733

Included Lab Sample IDs: 2343116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.9	107	P/P	50 - 150
2,4,5-T	92.1	116	P/P	50 - 150
Acetaminophen	104	103	P/P	60 - 160
Acetamiprid	101	90.3	P/P	50 - 150
Afidopyropen	111	88.0	P/P	50 - 150
Bentazon	108	98.6	P/P	50 - 160
Benzovindiflupyr	99.2	102	P/P	50 - 150
Carbamazepine	105	106	P/P	60 - 150
Clothianidin	94.2	106	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A113733
Included Lab Sample IDs: 2343116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dinotefuran	107	105	P/P	50 - 150
Diuron	84.4	102	P/P	60 - 160
Fenuron	102	99.1	P/P	60 - 150
Fluridone	112	116	P/P	60 - 160
Hydrocodone	103	102	P/P	60 - 150
Ibuprofen	102	120	P/P	50 - 160
Imazapyr	90.8	81.5	P/P	50 - 150
Imidacloprid	107	105	P/P	60 - 150
Linuron	95.2	108	P/P	60 - 150
Mandestrobin	103	108	P/P	50 - 150
MCPP	105	102	P/P	50 - 150
Naproxen	120	94.5	P/P	50 - 160
Primidone	95.2	105	P/P	60 - 150
Pyraclostrobin	102	101	P/P	60 - 150
Silvex	91.0	86.8	P/P	50 - 150
Thiamethoxam	102	101	P/P	50 - 150
Tolfenpyrad	98.8	98.5	P/P	60 - 150
Triclopyr	116	101	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A113739
Included Lab Sample IDs: 2343114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	99.0	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A113754
Included Lab Sample IDs: 2343116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	72.1	77.7	P/P	60 - 160
Sucralose	95.4	98.0	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A113755
Included Lab Sample IDs: 2343116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	116	115	P/P	60 - 160
Endothall	97.4	96.0	P/P	60 - 160
Glufosinate	107	103	P/P	60 - 160
Glyphosate	107	112	P/P	60 - 160

Reference Method: SM 2320 B-2011
Run ID: A113778
Included Lab Sample IDs: 2343113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.4	97.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A113778

Included Lab Sample IDs: 2343113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	107	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113782

Included Lab Sample IDs: 2343114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.2	98.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113902

Included Lab Sample IDs: 2343113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.4	96.9	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	99.6				0.0162	
EPA 180.1 Rev. 2.0	Turbidity	96.4				13.4	
EPA 300.0 Rev. 2.1	Chloride	94.8	99.9	95.5		2.06	
	Sulfate	97.7	91.4	94.9		0.503	
EPA 350.1 Rev. 2.0	Ammonia-N	96.6	98.4	100			1.44
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109					3.50
EPA 353.2 Rev. 2.0	NO2NO3-N	102	99.5	100			0.273
EPA 365.1 Rev. 2.0	Total-P	101	102	104			1.41
EPA 8321B	2,4-D	86.2	91.6	73.6			19.3
	2,4,5-T	76.7	72.4	69.6			3.93
	Acesulfame K	71.7	62.4	64.3			3.01
	Acetaminophen	90.2	116	110			5.31
	Acetamiprid	73.6	92.9	80.0			14.9
	Afidopyropen	73.4	86.2	68.9			22.3
	AMPA	108	46.7	44.3			4.15
	Bentazon	96.3					
	Benzovindiflupyr	88.8	104	91.8			12.6
	Carbamazepine	89.2	114	104			8.61
	Clothianidin	96.2	105	104			0.450
	Dinotefuran	98.7	140	133			4.79
	Diuron	72.1	76.4	75.8			0.750
	Endothall	92.1	117	116			0.729
	Fenuron	101	95.6	87.7			8.61
	Fluridone	92.3					9.70
	Glufosinate	120	32.0	34.3			7.13
	Glyphosate	102	58.1	59.3			1.39
	Hydrocodone	91.4	103	100			3.29
	Ibuprofen	113	90.5	82.2			9.67
	Imazapyr	74.7	76.7	66.5			10.4
	Imidacloprid	102					8.97
	Linuron	91.1	96.1	92.2			4.19
	Mandestrobin	83.8	83.6	74.7			11.2
	MCP	97.4	92.7	81.5			12.9
	Naproxen	99.7	88.4	92.5			4.48
	Primidone	90.3	102	99.6			2.33
	Pyraclostrobin	76.2	91.9	84.3			8.59
	Silvex	55.4	88.9	71.9			21.1
	Sucralose	93.7	90.0	93.6			3.88
	Thiamethoxam	95.0	152	143			6.23
	Tolfenpyrad	41.8	52.3	46.9			10.9
	Triclopyr	72.7	74.6	68.2			8.97
SM 2320 B-2011	Total Alkalinity	99.1				0.352	
SM 2540 C-2011	TDS					5.98	
SM 4500-F- C-2011	Fluoride	104	103	103			0.0
SM 5310 B-2011	Organic Carbon	95.6	98.2	101			1.48

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2343113
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2343113
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2343113
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2343113

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2343114
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2343114
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2343114
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2343114
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2343116
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2343113
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2343113
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2343113
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2343113
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2343114

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	07/21/2022			07/21/2022 14:34	Blanca Fach	2343113
EPA 180.1 Rev. 2.0	07/21/2022			07/21/2022 13:57	Anna M. Plaviak	2343113
EPA 300.0 Rev. 2.1	07/21/2022			07/28/2022 16:07	Anna M. Plaviak	2343113
	07/21/2022			08/03/2022 16:06	Anna M. Plaviak	2343113
EPA 350.1 Rev. 2.0	07/21/2022			07/27/2022 12:18	Judith K. Clark	2343114
EPA 351.2 Rev. 2.0	07/21/2022	07/27/2022 16:00	Simonne.V. Calhoun	07/28/2022 15:24	Samantha L Bates	2343114
EPA 353.2 Rev. 2.0	07/21/2022			07/27/2022 11:03	Beverly Y. Sanders	2343114
EPA 365.1 Rev. 2.0	07/21/2022	07/25/2022 15:50	Adam P Silver	07/27/2022 10:39	James L Waggerby	2343114
EPA 8321B	07/21/2022	07/26/2022 09:00	Umesh Chiluwal	07/26/2022 11:58	Umesh Chiluwal	2343116
	07/21/2022	07/26/2022 09:00	Umesh Chiluwal	07/26/2022 21:05	Umesh Chiluwal	2343116
	07/21/2022	07/26/2022 10:00	June Rhew	07/26/2022 19:42	Juyoung Kim	2343116
SM 2320 B-2011	07/21/2022			07/29/2022 01:04	Dale L. Simmons	2343113
SM 2540 C-2011	07/21/2022			07/26/2022 15:02	Yijie Li	2343113
SM 2540 D-2011	07/21/2022			07/26/2022 15:02	Yijie Li	2343113
SM 4500-F- C-2011	07/21/2022			07/29/2022 01:04	Dale L. Simmons	2343113
SM 5310 B-2011	07/21/2022			07/26/2022 22:38	Khloe J Berg	2343114