

Chemical Analysis Report

CEN-DIST-2022-01-20-01

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

Event Description: **Run 21**
Request ID: **RQ-2022-01-17-24**
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: Colin Wright, Program Administrator

Date Certified: 11-FEB-2022 09:14

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray 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: Gum Slough DS of Springs

Collection Date/Time: 01/19/2022 10:42

Field ID: G4CE0225

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300679	EPA 8321B	2,4-D	0.0020	U	ug/L	P408736	
		Acesulfame K	0.10	U	ug/L	P408755	MS
		2,4,5-T	0.0040	U	ug/L	P408736	
		AMPA	0.10	U	ug/L	P408755	
		Acetaminophen	0.0080	U	ug/L	P408736	
		Acetamiprid	0.0020	U	ug/L	P408736	
		Endothall	0.25	U	ug/L	P408755	
		Glufosinate	0.10	U	ug/L	P408755	
		Glyphosate	0.10	U	ug/L	P408755	
		Afidopyropen	0.0020	U	ug/L	P408736	
		Bentazon	8.0E-04	U	ug/L	P408736	
		Sucralose	0.043		ug/L	P408755	
		Benzovindiflupyr	0.0020	U	ug/L	P408736	
		Carbamazepine	8.0E-04	U	ug/L	P408736	
		Clothianidin	0.0020	U	ug/L	P408736	
		Dinotefuran	0.0020	U	ug/L	P408736	
		Diuron	0.0020	U	ug/L	P408736	RPD
		Fenuron	0.016	U	ug/L	P408736	
		Fluridone	8.0E-04	U	ug/L	P408736	
		Imazapyr	0.0040	U	ug/L	P408736	
		Hydrocodone	0.0020	U	ug/L	P408736	
		Ibuprofen	0.020	U	ug/L	P408736	
		Imidacloprid	0.0020	U	ug/L	P408736	
		Linuron	0.0040	U	ug/L	P408736	
		Mandestrobin	0.0020	U	ug/L	P408736	
		MCPP	0.0040	U	ug/L	P408736	
		Naproxen	0.0080	U	ug/L	P408736	
		Primidone	0.0040	U	ug/L	P408736	
		Pyraclostrobin	0.0020	U	ug/L	P408736	
		Silvex	0.0040	U	ug/L	P408736	
		Thiamethoxam	0.0020	U	ug/L	P408736	
		Tolfenpyrad	0.0020	U	ug/L	P408736	MS
		Triclopyr	0.0040	U	ug/L	P408736	

Ref. Method and Comment:

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

Sample Location: Hidden Lake @ Center

Collection Date/Time: 01/19/2022 12:33

Field ID: G4CE0158

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300675	DEP SOP: NU-094-1	Color (true)**	130		PCU	P408744	
	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P408768	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P409266	
		Sulfate	1.5		mg SO4/L	P409269	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P408901	
	SM 2540 C-2011	TDS	203	A	mg/L	P409305	
	SM 2540 D-2011	TSS	4	IA	mg/L	P409308	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P408904	
2300676	EPA 350.1 Rev. 2.0	Ammonia-N	0.078		mg N/L	P409272	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P409068	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P408982	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P408764	MS
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P409633	
2300677	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.049		mg P/L	P408739	

Ref. Method and Comment:

SM 2540 D-2011: 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: P408744

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P408768

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409266

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409269

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409272

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409068

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408764

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408739

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P408736

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	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	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: EPA 8321B

Batch ID: P408755

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: SM 2320 B-2011

Batch ID: P408901

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

Reference Method: SM 2540 C-2011

Batch ID: P409305

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P409308

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P408904

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P409633

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: P408744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409266

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409272

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409068

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408764

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408739

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

Reference Method: EPA 8321B
Batch ID: P408736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	113		P	40 - 150
2,4,5-T	77.3		P	40 - 150
Acetaminophen	92.5		P	30 - 150
Acetamiprid	95.8		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P408736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Afidopyropen	89.7		P	40 - 150
Bentazon	112		P	30 - 150
Benzovindiflupyr	119		P	40 - 150
Carbamazepine	111		P	40 - 150
Clothianidin	115		P	40 - 150
Dinotefuran	100		P	40 - 150
Diuron	126		P	40 - 150
Fenuron	97.2		P	40 - 150
Fluridone	103		P	40 - 150
Hydrocodone	97.1		P	40 - 150
Ibuprofen	102		P	40 - 150
Imazapyr	113		P	40 - 150
Imidacloprid	91.5		P	40 - 150
Linuron	103		P	40 - 150
Mandestrobin	103		P	40 - 150
MCPP	112		P	40 - 150
Naproxen	71.7		P	40 - 150
Primidone	90.3		P	40 - 150
Pyraclostrobin	75.0		P	40 - 150
Silvex	88.2		P	40 - 150
Thiamethoxam	99.4		P	40 - 150
Tolfenpyrad	49.0		P	30 - 150
Triclopyr	97.4		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P408755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	109		P	40 - 150
AMPA	99.5		P	40 - 150
Endothall	125		P	40 - 150
Glufosinate	93.5		P	40 - 150
Glyphosate	88.8		P	40 - 150
Sucralose	97.5		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P408901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P408904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P409633

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300613	Chloride	97.9		P	90 - 110
2300762	Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300613	Sulfate	96.6		P	90 - 110
2300762	Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300663	Ammonia-N	95.0	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300846	Kjeldahl Nitrogen	104	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300768	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300614	Total-P	111	114	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300541	O-Phosphate-P	98.1	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P408736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300481	2,4,5-T	88.7	88.4	P/P	40 - 150
2300481	Acetaminophen	125	111	P/P	30 - 150
2300481	Acetamiprid	122	125	P/P	40 - 150
2300481	Afidopyrophen	64.7	83.0	P/P	40 - 150
2300481	Bentazon	56.7	62.1	P/P	30 - 150
2300481	Benzovindiflupyr	115	130	P/P	40 - 150
2300481	Carbamazepine	116	118	P/P	40 - 150
2300481	Dinotefuran	136	144	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P408736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300481	Fenuron	90.6	99.8	P/P	40 - 150
2300481	Fluridone	88.2	97.5	P/P	40 - 150
2300481	Hydrocodone	90.3	102	P/P	40 - 150
2300481	Ibuprofen	101	91.4	P/P	40 - 150
2300481	Imazapyr	99.6	121	P/P	40 - 150
2300481	Linuron	88.1	118	P/P	40 - 150
2300481	Mandestrobin	108	108	P/P	40 - 150
2300481	MCCP	111	119	P/P	40 - 150
2300481	Naproxen	103	119	P/P	40 - 150
2300481	Primidone	81.0	109	P/P	40 - 150
2300481	Pyraclostrobin	85.8	84.9	P/P	40 - 150
2300481	Silvex	109	96.9	P/P	40 - 150
2300481	Tolfenpyrad	38.7	29.5	P/F	30 - 150
2300481	Triclopyr	111	130	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P408755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300418	Acesulfame K	130	154	P/F	40 - 150
2300418	AMPA	79.9	84.8	P/P	40 - 150
2300418	Endothall	134	134	P/P	40 - 150
2300418	Glufosinate	87.7	96.1	P/P	40 - 150
2300418	Glyphosate	90.4	93.9	P/P	40 - 150
2300418	Sucralose	90.1	82.0	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P408904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300716	Fluoride	101	98.4	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P409633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300717	Organic Carbon	96.6	94.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P408744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300763	Color (true)	2.19	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P408768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300659	Turbidity	0.366	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300613	Chloride	0.129	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300613	Sulfate	0.0644	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300663	Ammonia-N	1.57	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300846	Kjeldahl Nitrogen	4.02	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300768	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300614	Total-P	2.33	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300541	O-Phosphate-P	2.02	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P408736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300481	2,4-D	17.3	Spike	P	0 - 30
2300481	2,4,5-T	0.317	Spike	P	0 - 30
2300481	Acetaminophen	11.8	Spike	P	0 - 30
2300481	Acetamiprid	2.47	Spike	P	0 - 30
2300481	Afidopyropen	24.8	Spike	P	0 - 30
2300481	Bentazon	6.97	Spike	P	0 - 30
2300481	Benzovindiflupyr	12.9	Spike	P	0 - 30
2300481	Carbamazepine	1.31	Spike	P	0 - 30
2300481	Clothianidin	12.4	Spike	P	0 - 30
2300481	Dinotefuran	5.25	Spike	P	0 - 30
2300481	Diuron	46.6	Spike	F	0 - 30
2300481	Fenuron	5.05	Spike	P	0 - 30
2300481	Fluridone	10.1	Spike	P	0 - 30
2300481	Hydrocodone	12.1	Spike	P	0 - 30
2300481	Ibuprofen	10.2	Spike	P	0 - 30
2300481	Imazapyr	12.0	Spike	P	0 - 30
2300481	Imidacloprid	8.25	Spike	P	0 - 30
2300481	Linuron	29.2	Spike	P	0 - 30
2300481	Mandestrobin	0.142	Spike	P	0 - 30
2300481	MCP	6.39	Spike	P	0 - 30
2300481	Naproxen	14.7	Spike	P	0 - 30
2300481	Primidone	26.1	Spike	P	0 - 30
2300481	Pyraclostrobin	1.07	Spike	P	0 - 30
2300481	Silvex	11.3	Spike	P	0 - 30
2300481	Thiamethoxam	2.92	Spike	P	0 - 30
2300481	Tolfenpyrad	27.0	Spike	P	0 - 30
2300481	Triclopyr	15.7	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P408755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300418	Acesulfame K	16.9	Spike	P	0 - 30
2300418	AMPA	6.03	Spike	P	0 - 30
2300418	Endothall	0.0913	Spike	P	0 - 30
2300418	Glufosinate	9.19	Spike	P	0 - 30
2300418	Glyphosate	3.74	Spike	P	0 - 30
2300418	Sucralose	9.06	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P408901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300716	Total Alkalinity	0.0427	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P409305

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300675	TDS	1.97	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P408904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300716	Fluoride	2.03	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P409633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300717	Organic Carbon	1.82	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2300679

Field Sample ID: G4CE0225

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	75.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	101	P	30 - 160
EPA 8321B	Diuron-d6	96.1	P	30 - 160
EPA 8321B	Endothall-d6	93.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	89.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.1	P	30 - 160
EPA 8321B	Primidone-d5	61.3	P	30 - 160
EPA 8321B	Sucralose-d6	83.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A109920
Included Lab Sample IDs: 2300679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	65.6	108	P/P	50 - 150
2,4,5-T	84.7	119	P/P	50 - 150
Acetaminophen	61.3	62.4	P/P	60 - 160
Acetamiprid	84.0	103	P/P	50 - 150
Afidopyropen	115	110	P/P	50 - 150
Bentazon	84.6	110	P/P	50 - 160
Benzovindiflupyr	125	67.5	P/P	50 - 150
Carbamazepine	111	95.9	P/P	60 - 150
Clothianidin	100	113	P/P	60 - 150
Dinotefuran	94.0	95.7	P/P	50 - 150
Diuron	108	99.7	P/P	60 - 160
Fenuron	97.2	97.2	P/P	60 - 150
Fluridone	99.9	97.9	P/P	60 - 160
Hydrocodone	91.6	83.8	P/P	60 - 150
Ibuprofen	123	139	P/P	50 - 160
Imazapyr	88.2	121	P/P	50 - 150
Imidacloprid	93.0	111	P/P	60 - 150
Linuron	90.7	130	P/P	60 - 150
Mandestrobin	132	109	P/P	50 - 150
MCPP	104	95.8	P/P	50 - 150
Naproxen	116	102	P/P	50 - 160
Primidone	119	64.2	P/P	60 - 150
Pyraclostrobin	109	101	P/P	60 - 150
Silvex	89.4	99.9	P/P	50 - 150
Thiamethoxam	100	91.5	P/P	50 - 150
Tolfenpyrad	87.0	71.9	P/P	60 - 150
Triclopyr	102	95.2	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A109950
Included Lab Sample IDs: 2300677

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A109951
Included Lab Sample IDs: 2300675

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.4	102	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A109963
Included Lab Sample IDs: 2300675

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A109991
Included Lab Sample IDs: 2300679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	75.7	76.7	P/P	60 - 160
Endothall	80.5	74.4	P/P	60 - 160
Sucralose	85.8	95.2	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A110009
Included Lab Sample IDs: 2300676

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

Reference Method: SM 2320 B-2011
Run ID: A110022
Included Lab Sample IDs: 2300675

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.5	97.3	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A110022
Included Lab Sample IDs: 2300675

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

Reference Method: EPA 8321B
Run ID: A110023
Included Lab Sample IDs: 2300679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	95.4	106	P/P	60 - 160
Glufosinate	94.4	98.3	P/P	60 - 160
Glyphosate	93.3	93.2	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A110046
Included Lab Sample IDs: 2300676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A110152
Included Lab Sample IDs: 2300676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.2	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A110154

Included Lab Sample IDs: 2300675

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	100	P/P	90 - 110
Sulfate	99.0	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A110312

Included Lab Sample IDs: 2300676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	99.9	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)	97.7				2.19	
EPA 180.1 Rev. 2.0	Turbidity					0.366	
EPA 300.0 Rev. 2.1	Chloride	98.2	97.9	99.7		0.129	
	Sulfate	97.9	96.6	98.8		0.0644	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	95.0	97.0			1.57
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.1	104	99.5			4.02
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	110	111	114			2.33
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	98.1	100			2.02
EPA 8321B	2,4-D	113					17.3
	2,4,5-T	77.3	88.7	88.4			0.317
	Acesulfame K	109	130	154			16.9
	Acetaminophen	92.5	125	111			11.8
	Acetamiprid	95.8	122	125			2.47
	Afidopyropen	89.7	64.7	83.0			24.8
	AMPA	99.5	79.9	84.8			6.03
	Bentazon	112	56.7	62.1			6.97
	Benzovindiflupyr	119	115	130			12.9
	Carbamazepine	111	116	118			1.31
	Clothianidin	115					12.4
	Dinotefuran	100	136	144			5.25
	Diuron	126					46.6
	Endothall	125	134	134			0.0913
	Fenuron	97.2	90.6	99.8			5.05
	Fluridone	103	88.2	97.5			10.1
	Glufosinate	93.5	87.7	96.1			9.19
	Glyphosate	88.8	90.4	93.9			3.74
	Hydrocodone	97.1	90.3	102			12.1
	Ibuprofen	102	101	91.4			10.2
	Imazapyr	113	99.6	121			12.0
	Imidacloprid	91.5					8.25
	Linuron	103	88.1	118			29.2
	Mandestrobin	103	108	108			0.142
	MCPP	112	111	119			6.39
	Naproxen	71.7	103	119			14.7
	Primidone	90.3	81.0	109			26.1
	Pyraclostrobin	75.0	85.8	84.9			1.07
	Silvex	88.2	109	96.9			11.3
	Sucralose	97.5	90.1	82.0			9.06
	Thiamethoxam	99.4					2.92
	Tolfenpyrad	49.0	38.7	29.5			27.0
	Triclopyr	97.4	111	130			15.7
SM 2320 B-2011	Total Alkalinity	99.3				0.0427	
SM 2540 C-2011	TDS					1.97	
SM 4500 F-C-2011	Fluoride	99.0	101	98.4			2.03
SM 5310 B-2011	Organic Carbon	95.2	96.6	94.1			1.82

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2300675
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2300675
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2300675

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2300675
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2300676
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2300676
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2300676
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2300676
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2300677
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2300679
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2300675
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2300675
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2300675
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2300675
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2300676

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	01/20/2022			01/20/2022 15:20	Blanca Fach	2300675
EPA 180.1 Rev. 2.0	01/20/2022			01/20/2022 17:34	Sarah A Nixon	2300675
EPA 300.0 Rev. 2.1	01/20/2022			02/01/2022 03:48	James L Waggeberby	2300675
EPA 350.1 Rev. 2.0	01/20/2022			02/01/2022 16:00	Roberta Tatti	2300676
EPA 351.2 Rev. 2.0	01/20/2022	01/28/2022 11:05	Samantha L Bates	02/01/2022 13:42	Virginia P. Brown	2300676
EPA 353.2 Rev. 2.0	01/20/2022			01/25/2022 13:59	Nathaniel J Jones	2300676
EPA 365.1 Rev. 2.0	01/20/2022	01/21/2022 15:10	Simonne.V. Calhoun	01/24/2022 12:16	Shengyu Ding	2300676
EPA 365.1 Rev. 2.0 dissolved	01/20/2022			01/20/2022 14:52	James L Waggeberby	2300677
EPA 8321B	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/22/2022 06:49	Juyoung Kim	2300679
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 14:30	Manjita Shrestha	2300679
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 16:42	Manjita Shrestha	2300679
SM 2320 B-2011	01/20/2022			01/22/2022 00:11	Dale L. Simmons	2300675
SM 2540 C-2011	01/20/2022			01/25/2022 16:02	Yijie Li	2300675
SM 2540 D-2011	01/20/2022			01/25/2022 16:02	Yijie Li	2300675
SM 4500 F-C-2011	01/20/2022			01/22/2022 00:11	Dale L. Simmons	2300675
SM 5310 B-2011	01/20/2022			02/08/2022 23:39	Touraj Touran	2300676