

Chemical Analysis Report

CEN-DIST-2022-02-03-03

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

Event Description: **Run 9**
Request ID: **RQ-2022-01-31-18**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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3319 Maguire Blvd., Suite 232
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 24-FEB-2022 14:58

A handwritten signature in black ink, appearing to read "Liang Lin", is shown 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: Fox Lake Near Center

Collection Date/Time: 02/02/2022 11:02

Field ID: G3CE0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2303482	DEP SOP: NU-094-1	Color (true)**	230		PCU	P409409	
	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P409439	
	EPA 300.0 Rev. 2.1	Chloride	180		mg Cl/L	P409771	
		Sulfate	21		mg SO4/L	P409780	
	SM 2320 B-2011	Total Alkalinity	35		mg CaCO3/L	P409546	
	SM 2540 C-2011	TDS	410	A	mg/L	P409571	
	SM 2540 D-2011	TSS	6	IA	mg/L	P409575	
2303483	SM 4500 F-C-2011	Fluoride	0.039	I	mg F/L	P409549	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P409951	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P409427	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.030		mg N/L	P409611	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P409513	
2303484	SM 5310 B-2011	Organic Carbon	26		mg C/L	P410065	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P409395	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: SJR @ 1.65km US of Lake Harney

Collection Date/Time: 02/02/2022 10:05

Field ID: G2CE0261

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2303488	EPA 8321B	2,4-D	0.0047	I	ug/L	P409461	
		Acesulfame K	0.10	U	ug/L	P409457	
		2,4,5-T	0.0040	U	ug/L	P409461	
		AMPA	0.10	U	ug/L	P409457	
		Acetaminophen	0.0080	U	ug/L	P409461	
		Acetamiprid	0.0050	I	ug/L	P409461	
		Endothall	0.25	U	ug/L	P409457	
		Glufosinate	0.10	U	ug/L	P409457	
		Glyphosate	0.10	U	ug/L	P409457	
		Afidopyropen	0.0020	U	ug/L	P409461	
		Bentazon	0.021		ug/L	P409461	
		Sucralose	2.5		ug/L	P409457	
		Benzovindiflupyr	0.0020	U	ug/L	P409461	
		Carbamazepine	0.0054		ug/L	P409461	
		Clothianidin	0.0020	U	ug/L	P409461	
		Dinotefuran	0.0059	I	ug/L	P409461	MS
		Diuron	0.0020	U	ug/L	P409461	
		Fenuron	0.016	U	ug/L	P409461	
		Fluridone	0.0097		ug/L	P409461	
		Imazapyr	0.27		ug/L	P409461	
		Hydrocodone	0.0020	U	ug/L	P409461	
		Ibuprofen	0.020	UJ	ug/L	P409461	CCV
		Imidacloprid	0.0070	I	ug/L	P409461	MS
		Linuron	0.0040	U	ug/L	P409461	
		Mandestrobin	0.0020	U	ug/L	P409461	
		MCPP	0.0040	U	ug/L	P409461	
		Naproxen	0.0080	UJ	ug/L	P409461	CCV
		Primidone	0.012	I	ug/L	P409461	MS, RPD
		Pyraclostrobin	0.0020	U	ug/L	P409461	
		Silvex	0.0040	U	ug/L	P409461	RPD
		Thiamethoxam	0.0020	U	ug/L	P409461	MS
		Tolfenpyrad	0.0020	U	ug/L	P409461	
		Triclopyr	0.0040	U	ug/L	P409461	

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. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P409409

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409439

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409771

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409780

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409951

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409427

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409611

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409513

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409395

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: P409457

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: P409461

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: SM 2320 B-2011

Batch ID: P409546

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

Reference Method: SM 2540 C-2011

Batch ID: P409571

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P409575

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P409549

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P410065

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: P409409

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.7		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409439

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409771

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409780

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: P409951

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409427

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409611

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409513

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409395

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.6		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P409457

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	76.7		P	40 - 150
AMPA	109		P	40 - 150
Endothall	68.2		P	40 - 150
Glufosinate	103		P	40 - 150
Glyphosate	96.0		P	40 - 150
Sucralose	81.7		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P409461

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.5		P	40 - 150
2,4,5-T	66.3		P	40 - 150
Acetaminophen	57.1		P	30 - 150
Acetamiprid	84.4		P	40 - 150
Afidopyropen	64.1		P	40 - 150
Bentazon	80.8		P	30 - 150
Benzovindiflupyr	78.0		P	40 - 150
Carbamazepine	94.0		P	40 - 150
Clothianidin	107		P	40 - 150
Dinotefuran	104		P	40 - 150
Diuron	119		P	40 - 150
Fenuron	94.8		P	40 - 150
Fluridone	81.2		P	40 - 150
Hydrocodone	91.2		P	40 - 150
Ibuprofen	81.3		P	40 - 150
Imazapyr	109		P	40 - 150
Imidacloprid	89.4		P	40 - 150
Linuron	78.0		P	40 - 150
Mandestrobin	88.9		P	40 - 150
MCPP	86.1		P	40 - 150
Naproxen	74.3		P	40 - 150
Primidone	117		P	40 - 150
Pyraclostrobin	73.4		P	40 - 150
Silvex	68.2		P	40 - 150
Thiamethoxam	97.3		P	40 - 150
Tolfenpyrad	44.6		P	30 - 150
Triclopyr	69.2		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P409546

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P409549

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P410065

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303352	Chloride	100		P	90 - 110
2303444	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409780

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303352	Sulfate	96.9		P	90 - 110
2303444	Sulfate	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303445	Ammonia-N	98.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409427

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303259	Kjeldahl Nitrogen	97.8	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409611

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303445	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409513

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303498	Total-P	103	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303260	O-Phosphate-P	97.5	98.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P409457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303298	Acesulfame K	90.8	101	P/P	40 - 150
2303298	AMPA	93.5	87.5	P/P	40 - 150
2303298	Endothall	92.3	86.3	P/P	40 - 150
2303298	Glufosinate	100	99.3	P/P	40 - 150
2303298	Glyphosate	89.1	90.5	P/P	40 - 150
2303298	Sucralose	82.1	92.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P409461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303298	2,4-D	121	94.6	P/P	40 - 150
2303298	2,4,5-T	85.3	76.6	P/P	40 - 150
2303298	Acetaminophen	101	83.7	P/P	30 - 150
2303298	Acetamiprid	112	108	P/P	40 - 150
2303298	Afidopyropen	79.7	74.0	P/P	40 - 150
2303298	Benzovindiflupyr	74.7	90.0	P/P	40 - 150
2303298	Carbamazepine	149	121	P/P	40 - 150
2303298	Clothianidin	137	145	P/P	40 - 150
2303298	Dinotefuran	153	142	F/P	40 - 150
2303298	Diuron	106	99.7	P/P	40 - 150
2303298	Fenuron	97.4	95.5	P/P	40 - 150
2303298	Fluridone	78.3	84.2	P/P	40 - 150
2303298	Hydrocodone	127	116	P/P	40 - 150
2303298	Ibuprofen	82.2	102	P/P	40 - 150
2303298	Imidacloprid	182	189	F/F	40 - 150
2303298	Linuron	84.0	79.8	P/P	40 - 150
2303298	Mandestrobin	94.6	107	P/P	40 - 150
2303298	MCPP	111	126	P/P	40 - 150
2303298	Naproxen	124	98.1	P/P	40 - 150
2303298	Primidone	167	110	F/P	40 - 150
2303298	Pyraclostrobin	91.5	85.7	P/P	40 - 150
2303298	Silvex	97.6	61.7	P/P	40 - 150
2303298	Thiamethoxam	177	170	F/F	40 - 150
2303298	Tolfenpyrad	51.3	49.2	P/P	30 - 150
2303298	Triclopyr	99.6	86.5	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P409549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303494	Fluoride	96.2	97.8	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P410065

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303636	Organic Carbon	93.4	94.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P409409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303444	Color (true)	0.733	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303492	Turbidity	0.639	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303352	Chloride	0.270	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303352	Sulfate	0.240	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303445	Ammonia-N	1.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303259	Kjeldahl Nitrogen	2.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303445	NO2NO3-N	0.629	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409513

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303498	Total-P	4.39	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303260	O-Phosphate-P	1.22	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P409457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303298	Acesulfame K	10.5	Spike	P	0 - 30
2303298	AMPA	6.65	Spike	P	0 - 30
2303298	Endothall	6.68	Spike	P	0 - 30
2303298	Glufosinate	0.830	Spike	P	0 - 30
2303298	Glyphosate	1.42	Spike	P	0 - 30
2303298	Sucralose	9.21	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P409461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303298	2,4-D	24.3	Spike	P	0 - 30
2303298	2,4,5-T	10.8	Spike	P	0 - 30
2303298	Acetaminophen	18.9	Spike	P	0 - 30
2303298	Acetamiprid	4.32	Spike	P	0 - 30
2303298	Afidopyropen	7.39	Spike	P	0 - 30
2303298	Bentazon	9.76	Spike	P	0 - 30
2303298	Benzovindiflupyr	18.6	Spike	P	0 - 30
2303298	Carbamazepine	21.2	Spike	P	0 - 30
2303298	Clothianidin	5.60	Spike	P	0 - 30
2303298	Dinotefuran	7.56	Spike	P	0 - 30
2303298	Diuron	5.85	Spike	P	0 - 30
2303298	Fenuron	1.93	Spike	P	0 - 30
2303298	Fluridone	5.83	Spike	P	0 - 30
2303298	Hydrocodone	9.10	Spike	P	0 - 30
2303298	Ibuprofen	21.8	Spike	P	0 - 30
2303298	Imazapyr	8.24	Spike	P	0 - 30
2303298	Imidacloprid	4.15	Spike	P	0 - 30
2303298	Linuron	5.22	Spike	P	0 - 30
2303298	Mandestrobin	11.9	Spike	P	0 - 30
2303298	MCP	13.2	Spike	P	0 - 30
2303298	Naproxen	23.7	Spike	P	0 - 30
2303298	Primidone	41.3	Spike	F	0 - 30
2303298	Pyraclostrobin	6.54	Spike	P	0 - 30
2303298	Silvex	45.1	Spike	F	0 - 30
2303298	Thiamethoxam	3.98	Spike	P	0 - 30
2303298	Tolfenpyrad	4.30	Spike	P	0 - 30
2303298	Triclopyr	14.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P409546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303494	Total Alkalinity	1.12	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P409571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303482	TDS	1.71	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P409549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303494	Fluoride	0.993	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P410065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303636	Organic Carbon	0.491	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2303488

Field Sample ID: G2CE0261

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	120	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	122	P	30 - 160
EPA 8321B	Diuron-d6	91.1	P	30 - 160
EPA 8321B	Endothall-d6	53.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	86.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.1	P	30 - 160
EPA 8321B	Primidone-d5	135	P	30 - 160
EPA 8321B	Sucralose-d6	78.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A110206

Included Lab Sample IDs: 2303484

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	98.5	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A110213

Included Lab Sample IDs: 2303482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A110226

Included Lab Sample IDs: 2303482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: SM 2320 B-2011

Run ID: A110279

Included Lab Sample IDs: 2303482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.8	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A110279

Included Lab Sample IDs: 2303482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110301

Included Lab Sample IDs: 2303483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A110307

Included Lab Sample IDs: 2303488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	92.6	90.2	P/P	60 - 160
Endothall	86.7	75.5	P/P	60 - 160
Sucralose	93.6	75.6	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110308

Included Lab Sample IDs: 2303483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110308

Included Lab Sample IDs: 2303483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A110310

Included Lab Sample IDs: 2303488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	124	127	P/P	60 - 160
Glufosinate	103	102	P/P	60 - 160
Glyphosate	98.7	102	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A110320

Included Lab Sample IDs: 2303488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	80.2	P/P	50 - 150
2,4,5-T	84.1	96.3	P/P	50 - 150
Acetaminophen	94.4	100	P/P	60 - 160
Acetamiprid	112	102	P/P	50 - 150
Afidopyropen	86.2	114	P/P	50 - 150
Bentazon	106	103	P/P	50 - 160
Benzovindiflupyr	108	106	P/P	50 - 150
Carbamazepine	105	124	P/P	60 - 150
Clothianidin	129	135	P/P	60 - 150
Dinotefuran	102	112	P/P	50 - 150
Diuron	132	115	P/P	60 - 160
Fenuron	107	111	P/P	60 - 150
Fluridone	107	100	P/P	60 - 160
Hydrocodone	110	107	P/P	60 - 150
Ibuprofen	164*	122	F/P	50 - 160
Imazapyr	136	146	P/P	50 - 150
Imidacloprid	110	90.4	P/P	60 - 150
Linuron	108	130	P/P	60 - 150
Mandestrobin	114	107	P/P	50 - 150
MCPP	83.4	91.1	P/P	50 - 150
Naproxen	206*	133	F/P	50 - 160
Primidone	114	82.2	P/P	60 - 150
Pyraclostrobin	106	110	P/P	60 - 150
Silvex	95.1	91.7	P/P	50 - 150
Thiamethoxam	102	114	P/P	50 - 150
Tolfenpyrad	92.3	86.3	P/P	60 - 150
Triclopyr	98.5	86.3	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110331

Included Lab Sample IDs: 2303483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	99.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A110370

Included Lab Sample IDs: 2303482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	104	P/P	90 - 110
Sulfate	103	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A110454

Included Lab Sample IDs: 2303483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	98.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A110496

Included Lab Sample IDs: 2303483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	95.7	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)	98.7			0.733	
EPA 180.1 Rev. 2.0	Turbidity	96.8			0.639	
EPA 300.0 Rev. 2.1	Chloride	101	100	100	0.270	
	Sulfate	99.1	96.9	96.3	0.240	
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	98.8	100		1.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.5	97.8	102		2.35
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	99.5		0.629
EPA 365.1 Rev. 2.0	Total-P	105	103	108		4.39
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6	97.5	98.7		1.22
EPA 8321B	2,4-D	85.5	121	94.6		24.3
	2,4,5-T	66.3	85.3	76.6		10.8
	Acesulfame K	76.7	90.8	101		10.5
	Acetaminophen	57.1	101	83.7		18.9
	Acetamiprid	84.4	112	108		4.32
	Afidopyropen	64.1	79.7	74.0		7.39
	AMPA	109	93.5	87.5		6.65
	Bentazon	80.8				9.76
	Benzovindiflupyr	78.0	74.7	90.0		18.6
	Carbamazepine	94.0	149	121		21.2
	Clothianidin	107	137	145		5.60
	Dinotefuran	104	153	142		7.56
	Diuron	119	106	99.7		5.85
	Endothall	68.2	92.3	86.3		6.68
	Fenuron	94.8	97.4	95.5		1.93
	Fluridone	81.2	78.3	84.2		5.83
	Glufosinate	103	100	99.3		0.830
	Glyphosate	96.0	89.1	90.5		1.42
	Hydrocodone	91.2	127	116		9.10
	Ibuprofen	81.3	82.2	102		21.8
	Imazapyr	109				8.24
	Imidacloprid	89.4	182	189		4.15
	Linuron	78.0	84.0	79.8		5.22
	Mandestrobin	88.9	94.6	107		11.9
	MCPP	86.1	111	126		13.2
	Naproxen	74.3	124	98.1		23.7
	Primidone	117	167	110		41.3
	Pyraclostrobin	73.4	91.5	85.7		6.54
	Silvex	68.2	97.6	61.7		45.1
	Sucralose	81.7	82.1	92.1		9.21
	Thiamethoxam	97.3	177	170		3.98
	Tolfenpyrad	44.6	51.3	49.2		4.30
	Triclopyr	69.2	99.6	86.5		14.1
SM 2320 B-2011	Total Alkalinity	100			1.12	
SM 2540 C-2011	TDS				1.71	
SM 4500 F-C-2011	Fluoride	97.3	96.2	97.8		0.993
SM 5310 B-2011	Organic Carbon	93.4	93.4	94.0		0.491

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2303482
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2303482
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2303482

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2303482
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2303483
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2303483
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2303483
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2303483
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2303484
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2303488
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2303482
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2303482
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2303482
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2303482
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2303483

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	02/03/2022			02/03/2022 15:35	Anna M. Plaviak	2303482
EPA 180.1 Rev. 2.0	02/03/2022			02/03/2022 17:17	Khloe J Berg	2303482
EPA 300.0 Rev. 2.1	02/03/2022			02/11/2022 16:19	James L Waggeberby	2303482
EPA 350.1 Rev. 2.0	02/03/2022			02/16/2022 13:10	Ping Hua	2303483
EPA 351.2 Rev. 2.0	02/03/2022	02/08/2022 13:21	Samantha L Bates	02/10/2022 10:15	Alexandra J Mattheus	2303483
EPA 353.2 Rev. 2.0	02/03/2022			02/09/2022 10:38	Beverly Y. Sanders	2303483
EPA 365.1 Rev. 2.0	02/03/2022	02/08/2022 14:30	Simonne.V. Calhoun	02/09/2022 12:14	Shengyu Ding	2303483
EPA 365.1 Rev. 2.0 dissolved	02/03/2022			02/03/2022 14:17	James L Waggeberby	2303484
EPA 8321B	02/03/2022	02/07/2022 13:30	Hoor Shaik	02/10/2022 01:47	Juyoung Kim	2303488
	02/03/2022	02/08/2022 10:00	Manjita Shrestha	02/08/2022 12:09	Manjita Shrestha	2303488
	02/03/2022	02/08/2022 10:00	Manjita Shrestha	02/08/2022 17:29	Manjita Shrestha	2303488
SM 2320 B-2011	02/03/2022			02/08/2022 04:26	Dale L. Simmons	2303482
SM 2540 C-2011	02/03/2022			02/04/2022 11:30	Simonne.V. Calhoun	2303482
SM 2540 D-2011	02/03/2022			02/04/2022 15:00	Simonne.V. Calhoun	2303482
SM 4500 F-C-2011	02/03/2022			02/08/2022 04:26	Dale L. Simmons	2303482
SM 5310 B-2011	02/03/2022			02/17/2022 20:48	Khloe J Berg	2303483