Chemical Analysis Report

SW-DIST-2022-05-20-03

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

Event Description: **SMP:: Run 12**
Request ID: **RQ-2022-05-16-26**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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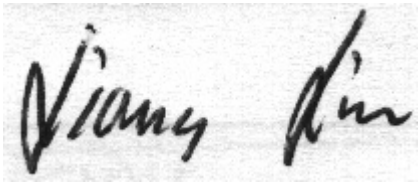
Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-JUN-2022 13:01



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: Sloman Branch @ Nichols Rd. **Collection Date/Time: 05/19/2022 09:00**

Field ID: G2SW0123 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2328838	DEP SOP: NU-094-1	Color (true)**	29	A	PCU	P414185	
	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P414189	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P414529	
		Sulfate	32		mg SO4/L	P414533	
	SM 2320 B-2011	Total Alkalinity	31		mg CaCO3/L	P414623	
	SM 2540 C-2011	TDS	121		mg/L	P414655	
	SM 2540 D-2011	TSS	3	I	mg/L	P414658	
	SM 4500-F- C-2011	Fluoride	0.34		mg F/L	P414624	
2328839	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P414590	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P414559	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.8		mg N/L	P414806	
	EPA 365.1 Rev. 2.0	Total-P	0.49		mg P/L	P414405	
	SM 5310 B-2011	Organic Carbon	3.6		mg C/L	P414506	
2328840	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.46		mg P/L	P414222	

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: Hurrah Creek @ Alifia River SP **Collection Date/Time: 05/19/2022 10:40**

Field ID: G2SW0098 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2328862	EPA 8321B	2,4-D	0.0020	U	ug/L	P414328	
		Acesulfame K	0.10	U	ug/L	P414089	
		2,4,5-T	0.0040	U	ug/L	P414328	
		AMPA	1.3		ug/L	P414089	
		Acetaminophen	0.0080	U	ug/L	P414328	
		Acetamiprid	0.0020	U	ug/L	P414328	
		Endothall	0.25	U	ug/L	P414089	
		Glufosinate	0.10	U	ug/L	P414089	
		Glyphosate	0.79		ug/L	P414089	
		Afidopyropen	0.0020	U	ug/L	P414328	
		Bentazon	0.0061		ug/L	P414328	
		Sucralose	0.050		ug/L	P414089	
		Benzovindiflupyr	0.0020	U	ug/L	P414328	
		Carbamazepine	8.0E-04	U	ug/L	P414328	
		Clothianidin	0.062		ug/L	P414328	
		Dinotefuran	0.0020	U	ug/L	P414328	
		Diuron	0.0020	U	ug/L	P414328	
		Fenuron	0.032	U	ug/L	P414328	
		Fluridone	0.0035		ug/L	P414328	
		Imazapyr	0.074		ug/L	P414328	
		Hydrocodone	0.0020	U	ug/L	P414328	
		Ibuprofen	0.020	U	ug/L	P414328	
		Imidacloprid	0.10		ug/L	P414328	MS
		Linuron	0.0040	U	ug/L	P414328	
		Mandestrobin	0.0020	U	ug/L	P414328	
		MCPP	0.0040	U	ug/L	P414328	
		Naproxen	0.0080	U	ug/L	P414328	
		Primidone	0.0040	U	ug/L	P414328	
		Pyraclostrobin	0.0020	U	ug/L	P414328	
		Silvex	0.0040	U	ug/L	P414328	
		Thiamethoxam	0.036		ug/L	P414328	
		Tolfenpyrad	0.0020	U	ug/L	P414328	
		Triclopyr	0.0040	U	ug/L	P414328	

Sample Location: Fishhawk Creek @ HA Site **Collection Date/Time: 05/19/2022 10:00**

Field ID: G2SW0144 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2328863	EPA 8321B	2,4-D	0.0020	U	ug/L	P414328	
		Acesulfame K	0.10	U	ug/L	P414089	
		2,4,5-T	0.0040	U	ug/L	P414328	
		AMPA	0.99		ug/L	P414089	
		Acetaminophen	0.0080	U	ug/L	P414328	
		Acetamiprid	0.0020	U	ug/L	P414328	
		Endothall	0.25	U	ug/L	P414089	
		Glufosinate	0.10	U	ug/L	P414089	
		Glyphosate	0.49		ug/L	P414089	
		Afidopyropen	0.0020	U	ug/L	P414328	
		Bentazon	8.0E-04	U	ug/L	P414328	
		Sucralose	0.027	I	ug/L	P414089	
		Benzovindiflupyr	0.0020	U	ug/L	P414328	
		Carbamazepine	9.4E-04	I	ug/L	P414328	
		Clothianidin	7.4		ug/L	P414328	
		Dinotefuran	0.0026	I	ug/L	P414328	
		Diuron	0.013		ug/L	P414328	
		Fenuron	0.032	U	ug/L	P414328	
		Fluridone	8.0E-04	U	ug/L	P414328	
		Imazapyr	0.026		ug/L	P414328	
		Hydrocodone	0.0020	U	ug/L	P414328	
		Ibuprofen	0.020	U	ug/L	P414328	
		Imidacloprid	0.45		ug/L	P414328	MS
		Linuron	0.0040	U	ug/L	P414328	
		Mandestrobin	0.0020	U	ug/L	P414328	
		MCPP	0.0040	U	ug/L	P414328	
		Naproxen	0.0080	U	ug/L	P414328	
		Primidone	0.0040	U	ug/L	P414328	
		Pyraclostrobin	0.013		ug/L	P414328	
		Silvex	0.0040	U	ug/L	P414328	
		Thiamethoxam	0.15		ug/L	P414328	
		Tolfenpyrad	0.0020	U	ug/L	P414328	
		Triclopyr	0.0040	U	ug/L	P414328	

Sample Location: Carlton Branch @ SR674 **Collection Date/Time: 05/19/2022 11:10**

Field ID: G2SW0099 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2328864	EPA 8321B	2,4-D	0.0020	U	ug/L	P414328	
		Acesulfame K	0.10	U	ug/L	P414089	
		2,4,5-T	0.0040	U	ug/L	P414328	
		AMPA	0.13	I	ug/L	P414089	
		Acetaminophen	0.0080	U	ug/L	P414328	
		Acetamiprid	0.0020	U	ug/L	P414328	
		Endothall	0.25	U	ug/L	P414089	
		Glufosinate	0.10	U	ug/L	P414089	
		Glyphosate	0.10	U	ug/L	P414089	
		Afidopyropen	0.0020	U	ug/L	P414328	
		Bentazon	8.0E-04	U	ug/L	P414328	
		Sucralose	0.13		ug/L	P414089	
		Benzovindiflupyr	0.0020	U	ug/L	P414328	
		Carbamazepine	8.0E-04	U	ug/L	P414328	
		Clothianidin	0.071		ug/L	P414328	
		Dinotefuran	0.45		ug/L	P414328	
		Diuron	0.0020	U	ug/L	P414328	
		Fenuron	0.032	U	ug/L	P414328	
		Fluridone	8.0E-04	U	ug/L	P414328	
		Imazapyr	0.36		ug/L	P414328	
		Hydrocodone	0.0020	U	ug/L	P414328	
		Ibuprofen	0.020	U	ug/L	P414328	
		Imidacloprid	0.040		ug/L	P414328	MS
		Linuron	0.0040	U	ug/L	P414328	
		Mandestrobin	0.0020	U	ug/L	P414328	
		MCPP	0.0040	U	ug/L	P414328	
		Naproxen	0.0080	U	ug/L	P414328	
		Primidone	0.0040	U	ug/L	P414328	
		Pyraclostrobin	0.0020	U	ug/L	P414328	
		Silvex	0.0040	U	ug/L	P414328	
		Thiamethoxam	0.38		ug/L	P414328	
		Tolfenpyrad	0.0020	U	ug/L	P414328	
		Triclopyr	0.0040	U	ug/L	P414328	

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P414185

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414189

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414529

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414533

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414590

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414559

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414806

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414405

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414222

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: P414089

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: P414328

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	0.020	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: P414623

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

Reference Method: SM 2540 C-2011
Batch ID: P414655

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P414658

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P414624

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P414506

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: P414185

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	95.7		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414189

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: P414529

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414533

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414590

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: P414559

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414806

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414405

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414222

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P414089

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	149		P	40 - 150
AMPA	101		P	40 - 150
Endothall	83.8		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	100		P	40 - 150
Sucralose	98.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P414328

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	92.1		P	40 - 150
2,4,5-T	74.9		P	40 - 150
Acetaminophen	68.4		P	30 - 150
Acetamiprid	88.6		P	40 - 150
Afidopyropen	71.8		P	30 - 150
Bentazon	119		P	30 - 150
Benzovindiflupyr	90.1		P	40 - 150
Carbamazepine	102		P	40 - 150
Clothianidin	98.0		P	40 - 150
Dinotefuran	99.6		P	40 - 150
Diuron	89.1		P	40 - 150
Fenuron	106		P	40 - 150
Fluridone	83.0		P	40 - 150
Hydrocodone	90.1		P	40 - 150
Ibuprofen	78.0		P	40 - 150
Imazapyr	99.4		P	40 - 150
Imidacloprid	96.6		P	40 - 150
Linuron	71.1		P	40 - 150
Mandestrobin	83.0		P	40 - 150
MCPP	119		P	40 - 150
Naproxen	76.0		P	40 - 150
Primidone	94.7		P	40 - 150
Pyraclostrobin	94.8		P	40 - 150
Silvex	75.0		P	40 - 150
Thiamethoxam	94.5		P	40 - 150
Tolfenpyrad	55.0		P	30 - 150
Triclopyr	88.1		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P414623

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.1		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P414624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	96 - 104

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P414506

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: P414529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328825	Chloride	94.7		P	90 - 110
2329252	Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328825	Sulfate	97.3		P	90 - 110
2329252	Sulfate	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328163	Ammonia-N	92.8	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328400	Kjeldahl Nitrogen	104	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331146	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328767	Total-P	97.2	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328738	O-Phosphate-P	97.3	96.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P414089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2327862	Acesulfame K	123	118	P/P	40 - 150
2327862	AMPA	111	104	P/P	40 - 150
2327862	Endothall	88.1	89.5	P/P	40 - 150
2327862	Glufosinate	95.8	89.4	P/P	40 - 150
2327862	Glyphosate	94.2	94.1	P/P	40 - 150
2327862	Sucralose	99.5	101	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P414328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328671	2,4-D	99.7	100	P/P	40 - 150
2328671	2,4,5-T	78.7	79.5	P/P	40 - 150
2328671	Acetaminophen	104	103	P/P	30 - 150
2328671	Acetamiprid	95.9	102	P/P	40 - 150
2328671	Afidopyropen	69.6	72.7	P/P	30 - 150
2328671	Bentazon	105	105	P/P	30 - 150
2328671	Benzovindiflupyr	92.3	94.7	P/P	40 - 150
2328671	Carbamazepine	104	103	P/P	40 - 150
2328671	Clothianidin	126	122	P/P	40 - 150
2328671	Dinotefuran	141	142	P/P	40 - 150
2328671	Diuron	86.5	86.7	P/P	40 - 150
2328671	Fenuron	85.9	90.1	P/P	40 - 150
2328671	Fluridone	86.3	78.4	P/P	40 - 150
2328671	Hydrocodone	93.3	100	P/P	40 - 150
2328671	Ibuprofen	72.5	78.8	P/P	40 - 150
2328671	Imazapyr	116	119	P/P	40 - 150
2328671	Imidacloprid	160	158	F/F	40 - 150
2328671	Linuron	71.0	64.1	P/P	40 - 150
2328671	Mandestrobin	82.9	81.9	P/P	40 - 150
2328671	MCPP	133	133	P/P	40 - 150
2328671	Naproxen	77.6	72.4	P/P	40 - 150
2328671	Primidone	103	104	P/P	40 - 150
2328671	Pyraclostrobin	95.1	91.5	P/P	40 - 150
2328671	Silvex	79.4	72.0	P/P	40 - 150
2328671	Thiamethoxam	147	149	P/P	40 - 150
2328671	Tolfenpyrad	53.0	51.2	P/P	30 - 150
2328671	Triclopyr	88.3	87.7	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P414624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329687	Fluoride	97.6	97.0	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P414506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328839	Organic Carbon	95.9	95.9	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P414185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328838	Color (true)	3.47	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328736	Turbidity	2.65	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328825	Chloride	0.202	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328825	Sulfate	0.776	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328163	Ammonia-N	3.97	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328400	Kjeldahl Nitrogen	4.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331146	NO2NO3-N	0.487	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328767	Total-P	1.89	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328738	O-Phosphate-P	0.320	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P414089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2327862	Acesulfame K	3.98	Spike	P	0 - 30
2327862	AMPA	5.94	Spike	P	0 - 30
2327862	Endothall	1.58	Spike	P	0 - 30
2327862	Glufosinate	6.87	Spike	P	0 - 30
2327862	Glyphosate	0.121	Spike	P	0 - 30
2327862	Sucralose	0.699	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P414328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328671	2,4-D	0.733	Spike	P	0 - 30
2328671	2,4,5-T	1.03	Spike	P	0 - 30
2328671	Acetaminophen	1.25	Spike	P	0 - 30
2328671	Acetamiprid	6.52	Spike	P	0 - 30
2328671	Afidopyropen	4.39	Spike	P	0 - 30
2328671	Bentazon	0.508	Spike	P	0 - 30
2328671	Benzovindiflupyr	2.55	Spike	P	0 - 30
2328671	Carbamazepine	0.940	Spike	P	0 - 30
2328671	Clothianidin	3.38	Spike	P	0 - 30
2328671	Dinotefuran	0.620	Spike	P	0 - 30
2328671	Diuron	0.270	Spike	P	0 - 30
2328671	Fenuron	4.79	Spike	P	0 - 30
2328671	Fluridone	7.57	Spike	P	0 - 30
2328671	Hydrocodone	6.98	Spike	P	0 - 30
2328671	Ibuprofen	8.29	Spike	P	0 - 30
2328671	Imazapyr	2.78	Spike	P	0 - 30
2328671	Imidacloprid	1.70	Spike	P	0 - 30
2328671	Linuron	10.2	Spike	P	0 - 30
2328671	Mandestrobin	1.19	Spike	P	0 - 30
2328671	MCPP	0.234	Spike	P	0 - 30
2328671	Naproxen	6.94	Spike	P	0 - 30
2328671	Primidone	0.838	Spike	P	0 - 30
2328671	Pyraclostrobin	3.81	Spike	P	0 - 30
2328671	Silvex	9.84	Spike	P	0 - 30
2328671	Thiamethoxam	1.33	Spike	P	0 - 30
2328671	Tolfenpyrad	3.57	Spike	P	0 - 30
2328671	Triclopyr	0.661	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: SM 2320 B-2011
Batch ID: P414623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329687	Total Alkalinity	2.03	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P414655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328739	TDS	2.41	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P414624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329687	Fluoride	0.503	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P414506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328839	Organic Carbon	0.0439	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2328862
Field Sample ID: G2SW0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Diuron-d6	72.4	P	30 - 160
EPA 8321B	Endothall-d6	85.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.5	P	30 - 160
EPA 8321B	Primidone-d5	107	P	30 - 160
EPA 8321B	Sucralose-d6	99.8	P	30 - 160

Lab Sample ID: 2328863
Field Sample ID: G2SW0144

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	109	P	30 - 160
EPA 8321B	Diuron-d6	72.8	P	30 - 160
EPA 8321B	Endothall-d6	89.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.5	P	30 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Lab Sample ID: 2328864
Field Sample ID: G2SW0099

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	106	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	113	P	30 - 160
EPA 8321B	Diuron-d6	79.4	P	30 - 160
EPA 8321B	Endothall-d6	88.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.3	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: NU-094-1
Run ID: A112300
Included Lab Sample IDs: 2328838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	99.0	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A112301
Included Lab Sample IDs: 2328838

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A112327
Included Lab Sample IDs: 2328840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A112330
Included Lab Sample IDs: 2328862, 2328863, 2328864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endothall	91.2	91.5	P/P	60 - 160
Glufosinate	102	98.7	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A112331
Included Lab Sample IDs: 2328862, 2328863, 2328864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	153	153	P/P	60 - 160
AMPA	101	98.5	P/P	60 - 160
Glyphosate	102	100	P/P	60 - 160
Sucralose	107	105	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A112361
Included Lab Sample IDs: 2328838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.7	99.0	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A112465
Included Lab Sample IDs: 2328839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.4	98.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 5310 B-2011
Run ID: A112482
Included Lab Sample IDs: 2328839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	97.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A112515
Included Lab Sample IDs: 2328862, 2328863, 2328864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	104	P/P	50 - 150
2,4,5-T	107	98.6	P/P	50 - 150
Acetaminophen	105	105	P/P	60 - 160
Acetamiprid	103	103	P/P	50 - 150
Afidopyropen	101	98.4	P/P	50 - 150
Bentazon	105	104	P/P	50 - 160
Benzovindiflupyr	109	110	P/P	50 - 150
Carbamazepine	101	105	P/P	60 - 150
Clothianidin	105	104	P/P	60 - 150
Dinotefuran	101	105	P/P	50 - 150
Diuron	112	110	P/P	60 - 160
Fenuron	101	101	P/P	60 - 150
Fluridone	101	109	P/P	60 - 160
Hydrocodone	101	98.6	P/P	60 - 150
Ibuprofen	109	102	P/P	50 - 160
Imazapyr	104	101	P/P	50 - 150
Imidacloprid	101	99.8	P/P	60 - 150
Linuron	104	102	P/P	60 - 150
Mandestrobin	105	107	P/P	50 - 150
MCPP	100	102	P/P	50 - 150
Naproxen	108	105	P/P	50 - 160
Primidone	97.7	94.8	P/P	60 - 150
Pyraclostrobin	110	111	P/P	60 - 150
Silvex	103	102	P/P	50 - 150
Thiamethoxam	101	101	P/P	50 - 150
Tolfenpyrad	98.3	103	P/P	60 - 150
Triclopyr	98.5	100	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A112546
Included Lab Sample IDs: 2328839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	97.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A112549
Included Lab Sample IDs: 2328863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Clothianidin	99.5	97.2	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A112563
Included Lab Sample IDs: 2328838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	92.5	93.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A112563
Included Lab Sample IDs: 2328838

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A112613
Included Lab Sample IDs: 2328839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A112638
Included Lab Sample IDs: 2328839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	106	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	SMP	MS
DEP SOP: NU-094-1	Color (true)	95.7				3.47	
EPA 180.1 Rev. 2.0	Turbidity	96.8				2.65	
EPA 300.0 Rev. 2.1	Chloride	98.1	94.7	96.8		0.202	
	Sulfate	99.7	97.3	98.0		0.776	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	92.8	97.0			3.97
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.7	104	99.1			4.35
EPA 353.2 Rev. 2.0	NO2NO3-N	103	102	103			0.487
EPA 365.1 Rev. 2.0	Total-P	97.8	97.2	101			1.89
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.3	96.8			0.320
EPA 8321B	2,4-D	92.1	99.7	100			0.733
	2,4,5-T	74.9	78.7	79.5			1.03
	Acesulfame K	149	123	118			3.98
	Acetaminophen	68.4	104	103			1.25
	Acetamiprid	88.6	95.9	102			6.52
	Afidopyropen	71.8	69.6	72.7			4.39
	AMPA	101	111	104			5.94
	Bentazon	119	105	105			0.508
	Benzovindiflupyr	90.1	92.3	94.7			2.55
	Carbamazepine	102	104	103			0.940
	Clothianidin	98.0	126	122			3.38
	Dinotefuran	99.6	141	142			0.620
	Diuron	89.1	86.5	86.7			0.270
	Endothall	83.8	88.1	89.5			1.58
	Fenuron	106	85.9	90.1			4.79
	Fluridone	83.0	86.3	78.4			7.57
	Glufosinate	102	95.8	89.4			6.87
	Glyphosate	100	94.2	94.1			0.121
	Hydrocodone	90.1	93.3	100			6.98
	Ibuprofen	78.0	72.5	78.8			8.29
	Imazapyr	99.4	116	119			2.78
	Imidacloprid	96.6	160	158			1.70
	Linuron	71.1	71.0	64.1			10.2
	Mandestrobin	83.0	82.9	81.9			1.19
	MCPP	119	133	133			0.234
	Naproxen	76.0	77.6	72.4			6.94
	Primidone	94.7	103	104			0.838
	Pyraclostrobin	94.8	95.1	91.5			3.81
	Silvex	75.0	79.4	72.0			9.84
	Sucralose	98.7	99.5	101			0.699
	Thiamethoxam	94.5	147	149			1.33
	Tolfenpyrad	55.0	53.0	51.2			3.57
	Triclopyr	88.1	88.3	87.7			0.661
SM 2320 B-2011	Total Alkalinity	94.1				2.03	
SM 2540 C-2011	TDS					2.41	
SM 4500-F- C-2011	Fluoride	96.7	97.6	97.0			0.503
SM 5310 B-2011	Organic Carbon	95.2	95.9	95.9			0.0439

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2328838
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2328838
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2328838

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2328838
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2328839
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2328839
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2328839
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2328839
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2328840
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2328862, 2328863, 2328864
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2328838
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2328838
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2328838
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2328838
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2328839

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	05/20/2022			05/20/2022 15:44	Anna M. Plaviak	2328838
EPA 180.1 Rev. 2.0	05/20/2022			05/20/2022 15:59	Sarah A Nixon	2328838
EPA 300.0 Rev. 2.1	05/20/2022			05/27/2022 19:56	Anna M. Plaviak	2328838
EPA 350.1 Rev. 2.0	05/20/2022			06/01/2022 12:45	Ping Hua	2328839
EPA 351.2 Rev. 2.0	05/20/2022	06/02/2022 15:43	Samantha L Bates	06/03/2022 12:58	Alexandra J Mattheus	2328839
EPA 353.2 Rev. 2.0	05/20/2022			06/03/2022 19:19	Nathaniel J Jones	2328839
EPA 365.1 Rev. 2.0	05/20/2022	05/26/2022 15:35	Simonne.V. Calhoun	05/27/2022 13:42	Sarah A Nixon	2328839
EPA 365.1 Rev. 2.0 dissolved	05/20/2022			05/20/2022 18:50	Nathaniel J Jones	2328840
EPA 8321B	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/21/2022 22:04	Manjita Shrestha	2328862
	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/21/2022 22:19	Manjita Shrestha	2328863
	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/21/2022 22:34	Manjita Shrestha	2328864
	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/22/2022 11:34	Manjita Shrestha	2328862
	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/22/2022 11:47	Manjita Shrestha	2328863
	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/22/2022 12:00	Manjita Shrestha	2328864
	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/23/2022 12:08	Manjita Shrestha	2328862
	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/23/2022 12:21	Manjita Shrestha	2328863
	05/20/2022	05/20/2022 14:00	Manjita Shrestha	05/23/2022 12:34	Manjita Shrestha	2328864
	05/20/2022	05/25/2022 10:00	June Rhew	05/28/2022 00:51	Juyoung Kim	2328862
	05/20/2022	05/25/2022 10:00	June Rhew	05/28/2022 01:26	Juyoung Kim	2328863
	05/20/2022	05/25/2022 10:00	June Rhew	05/28/2022 02:01	Juyoung Kim	2328864
	05/20/2022	05/25/2022 10:00	June Rhew	05/31/2022 21:35	Juyoung Kim	2328863
SM 2320 B-2011	05/20/2022			06/01/2022 19:56	Dale L. Simmons	2328838
SM 2540 C-2011	05/20/2022			05/25/2022 15:29	Yijie Li	2328838
SM 2540 D-2011	05/20/2022			05/25/2022 15:29	Yijie Li	2328838
SM 4500-F- C-2011	05/20/2022			06/01/2022 19:56	Dale L. Simmons	2328838
SM 5310 B-2011	05/20/2022			05/26/2022 23:49	Khloe J Berg	2328839