

Chemical Analysis Report

NW-DIST-2022-08-17-04

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

Event Description: **Highway 20 Run**
Request ID: **RQ-2022-08-15-27**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 08-SEP-2022 12:11



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: Alaqua Bayou Center

Collection Date/Time: 08/16/2022 11:32

Field ID: G3NW0180

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350111	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P418266	
	SM 2320 B-2011	Total Alkalinity	27		mg CaCO3/L	P418392	
	SM 2540 D-2011	TSS	5	I	mg/L	P418608	
	SM 4500-F- C-2011	Fluoride	0.22		mg F/L	P418404	
2350113	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P418247	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P418644	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418381	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P418514	
	SM 5310 B-2011	Organic Carbon	7.1		mg C/L	P418470	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.

Sample Location: Boggy Bayou at Lincoln Park, Okaloosa County (also 21FLDOH)

Collection Date/Time: 08/16/2022 13:37

Field ID: OKALOOSA355

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350145	EPA 8321B	Acesulfame K	0.10	U	ug/L	P418300	
		2,4-D	0.0020	U	ug/L	P418371	
		AMPA	1.0	U	ug/L	P418300	
		2,4,5-T	0.0040	U	ug/L	P418371	
		Acetaminophen	0.0080	U	ug/L	P418371	
		Endothall	0.25	U	ug/L	P418300	
		Acetamiprid	0.0020	U	ug/L	P418371	
		Glufosinate	1.0	U	ug/L	P418300	
		Glyphosate	1.0	U	ug/L	P418300	
		Afidopyropen	0.0020	U	ug/L	P418371	
		Sucralose	0.070		ug/L	P418300	
		Bentazon	8.0E-04	U	ug/L	P418371	
		Benzovindiflupyr	0.0020	U	ug/L	P418371	
		Carbamazepine	8.0E-04	U	ug/L	P418371	
		Clothianidin	0.0020	U	ug/L	P418371	
		Dinotefuran	0.0020	U	ug/L	P418371	
		Diuron	0.0020	U	ug/L	P418371	
		Fenuron	0.032	U	ug/L	P418371	
		Fluridone	8.0E-04	U	ug/L	P418371	
		Imazapyr	0.0077	I	ug/L	P418371	
		Hydrocodone	0.0020	U	ug/L	P418371	
		Ibuprofen	0.080	U	ug/L	P418371	
		Imidacloprid	0.0020	U	ug/L	P418371	
		Linuron	0.0040	U	ug/L	P418371	
		Mandestrobin	0.0020	U	ug/L	P418371	
		MCPP	0.0040	U	ug/L	P418371	
		Naproxen	0.0080	U	ug/L	P418371	
		Primidone	0.0040	U	ug/L	P418371	
		Pyraclostrobin	0.0020	U	ug/L	P418371	
		Silvex	0.0040	U	ug/L	P418371	
		Thiamethoxam	0.0020	U	ug/L	P418371	
		Tolfenpyrad	0.0020	U	ug/L	P418371	
		Triclopyr	0.0040	U	ug/L	P418371	

Ref. Method and Comment:
EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Sample Location: Boggy Bayou Mouth

Collection Date/Time: 08/16/2022 14:02

Field ID: G3NW0186

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350112	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P418266	
	SM 2320 B-2011	Total Alkalinity	76		mg CaCO3/L	P418392	
	SM 2540 D-2011	TSS	3	U	mg/L	P418612	
	SM 4500-F- C-2011	Fluoride	0.69		mg F/L	P418404	
2350114	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P418247	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P418507	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P418381	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P418514	
	SM 5310 B-2011	Organic Carbon	4.1		mg C/L	P418503	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418266

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418247

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418507

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418644

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418381

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418514

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

Reference Method: EPA 8321B
Batch ID: P418300

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: P418371

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P418371

Component	Result	Code	Units
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P418392

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

Reference Method: SM 2540 D-2011

Batch ID: P418608

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P418612

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P418404

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P418470

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P418503

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418266

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418247

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418507

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418644

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418514

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

Reference Method: EPA 8321B
Batch ID: P418300

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	93.5		P	40 - 150
AMPA	111		P	40 - 150
Endothall	108		P	40 - 150
Glufosinate	117		P	40 - 150
Glyphosate	109		P	40 - 150
Sucralose	107		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	66.7		P	40 - 150
2,4,5-T	72.5		P	40 - 150
Acetaminophen	88.1		P	30 - 150
Acetamiprid	80.9		P	40 - 150
Afidopyropen	89.0		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P418371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	114		P	30 - 150
Benzovindiflupyr	98.5		P	40 - 150
Carbamazepine	117		P	40 - 150
Clothianidin	100		P	40 - 150
Dinotefuran	108		P	40 - 150
Diuron	86.2		P	40 - 150
Fenuron	113		P	40 - 150
Fluridone	90.2		P	40 - 150
Hydrocodone	99.0		P	40 - 150
Ibuprofen	81.9		P	40 - 150
Imazapyr	86.3		P	40 - 150
Imidacloprid	93.3		P	40 - 150
Linuron	101		P	40 - 150
Mandestrobin	101		P	40 - 150
MCPP	85.7		P	40 - 150
Naproxen	148		P	40 - 150
Primidone	89.4		P	40 - 150
Pyraclostrobin	88.9		P	40 - 150
Silvex	66.8		P	40 - 150
Thiamethoxam	101		P	40 - 150
Tolfenpyrad	40.5		P	30 - 150
Triclopyr	68.9		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P418392

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P418404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Reference Method: SM 5310 B-2011

Batch ID: P418470

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P418503

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349966	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347656	Kjeldahl Nitrogen	98.8	99.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349796	Kjeldahl Nitrogen	99.2	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349791	NO2NO3-N	98.1	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350116	Total-P	98.3	99.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P418300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349650	Acesulfame K	79.1	90.9	P/P	40 - 150
2349650	AMPA	103	98.5	P/P	40 - 150
2349650	Endothall	127	131	P/P	40 - 150
2349650	Glufosinate	103	102	P/P	40 - 150
2349650	Glyphosate	110	107	P/P	40 - 150
2349650	Sucralose	93.0	109	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350002	2,4-D	68.8	70.9	P/P	40 - 150
2350002	2,4,5-T	68.5	72.4	P/P	40 - 150
2350002	Acetaminophen	71.5	74.1	P/P	30 - 150
2350002	Acetamiprid	57.5	58.9	P/P	40 - 150
2350002	Afidopyrophen	52.4	67.1	P/P	30 - 150
2350002	Bentazon	103	90.0	P/P	30 - 150
2350002	Benzovindiflupyr	70.0	92.2	P/P	40 - 150
2350002	Carbamazepine	90.8	90.3	P/P	40 - 150
2350002	Clothianidin	66.9	55.7	P/P	40 - 150
2350002	Dinotefuran	96.9	96.5	P/P	40 - 150
2350002	Diuron	76.3	86.0	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P418371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350002	Fenuron	80.3	80.9	P/P	40 - 150
2350002	Fluridone	93.5	109	P/P	40 - 150
2350002	Hydrocodone	103	104	P/P	40 - 150
2350002	Ibuprofen	71.3	75.7	P/P	40 - 150
2350002	Imazapyr	70.8	74.5	P/P	40 - 150
2350002	Imidacloprid	53.3	65.8	P/P	40 - 150
2350002	Linuron	86.8	80.1	P/P	40 - 150
2350002	Mandestrobin	89.9	89.6	P/P	40 - 150
2350002	MCP	75.3	65.7	P/P	40 - 150
2350002	Naproxen	84.6	81.0	P/P	40 - 150
2350002	Primidone	46.9	51.1	P/P	40 - 150
2350002	Pyraclostrobin	84.9	84.6	P/P	40 - 150
2350002	Silvex	63.0	63.6	P/P	40 - 150
2350002	Thiamethoxam	94.8	92.0	P/P	40 - 150
2350002	Tolfenpyrad	46.9	50.0	P/P	30 - 150
2350002	Triclopyr	65.7	66.5	P/P	40 - 150

Reference Method: SM 5310 B-2011
Batch ID: P418470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349844	Organic Carbon	99.3	99.4	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P418503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2349551	Organic Carbon	94.2	94.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350028	Turbidity	16.4	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349966	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347656	Kjeldahl Nitrogen	0.394	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349796	Kjeldahl Nitrogen	0.961	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349791	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350116	Total-P	0.780	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P418300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349650	Acesulfame K	13.8	Spike	P	0 - 30
2349650	AMPA	4.26	Spike	P	0 - 30
2349650	Endothall	2.83	Spike	P	0 - 30
2349650	Glufosinate	0.409	Spike	P	0 - 30
2349650	Glyphosate	3.07	Spike	P	0 - 30
2349650	Sucralose	15.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P418371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350002	2,4-D	2.78	Spike	P	0 - 30
2350002	2,4,5-T	5.55	Spike	P	0 - 30
2350002	Acetaminophen	3.62	Spike	P	0 - 30
2350002	Acetamiprid	2.51	Spike	P	0 - 30
2350002	Afidopyropen	24.5	Spike	P	0 - 30
2350002	Bentazon	8.29	Spike	P	0 - 30
2350002	Benzovindiflupyr	27.3	Spike	P	0 - 30
2350002	Carbamazepine	0.568	Spike	P	0 - 30
2350002	Clothianidin	18.2	Spike	P	0 - 30
2350002	Dinotefuran	0.482	Spike	P	0 - 30
2350002	Diuron	11.9	Spike	P	0 - 30
2350002	Fenuron	0.732	Spike	P	0 - 30
2350002	Fluridone	15.4	Spike	P	0 - 30
2350002	Hydrocodone	1.10	Spike	P	0 - 30
2350002	Ibuprofen	6.05	Spike	P	0 - 30
2350002	Imazapyr	4.43	Spike	P	0 - 30
2350002	Imidacloprid	19.9	Spike	P	0 - 30
2350002	Linuron	8.07	Spike	P	0 - 30
2350002	Mandestrobin	0.383	Spike	P	0 - 30
2350002	MCPP	9.35	Spike	P	0 - 30
2350002	Naproxen	4.33	Spike	P	0 - 30
2350002	Primidone	8.47	Spike	P	0 - 30
2350002	Pyraclostrobin	0.375	Spike	P	0 - 30
2350002	Silvex	0.989	Spike	P	0 - 30
2350002	Thiamethoxam	2.91	Spike	P	0 - 30
2350002	Tolfenpyrad	6.38	Spike	P	0 - 30
2350002	Triclopyr	1.32	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P418392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349557	Total Alkalinity	0.0308	Sample	P	0 - 3.8

Reference Method: SM 5310 B-2011
Batch ID: P418470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349844	Organic Carbon	0.0327	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P418503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2349551	Organic Carbon	0.0840	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2350145

Field Sample ID: OKALOOSA355

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	67.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	100	P	30 - 160
EPA 8321B	Diuron-d6	78.1	P	30 - 160
EPA 8321B	Endothall-d6	89.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	46.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	52.4	P	30 - 160
EPA 8321B	Primidone-d5	84.1	P	30 - 160
EPA 8321B	Sucralose-d6	79.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114157

Included Lab Sample IDs: 2350113, 2350114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.9	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114165

Included Lab Sample IDs: 2350111, 2350112

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114209

Included Lab Sample IDs: 2350113, 2350114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114212

Included Lab Sample IDs: 2350111, 2350112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114212

Included Lab Sample IDs: 2350111, 2350112

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

Reference Method: EPA 8321B

Run ID: A114235

Included Lab Sample IDs: 2350145

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	114	115	P/P	60 - 160
Endothall	109	122	P/P	60 - 160
Glufosinate	110	124	P/P	60 - 160
Glyphosate	108	114	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A114238

Included Lab Sample IDs: 2350145

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	96.5	95.3	P/P	60 - 160
Sucralose	109	109	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A114244

Included Lab Sample IDs: 2350113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.1	97.4	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A114255

Included Lab Sample IDs: 2350114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114337

Included Lab Sample IDs: 2350114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.5	94.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114348

Included Lab Sample IDs: 2350113, 2350114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A114369

Included Lab Sample IDs: 2350145

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	107	P/P	50 - 150
2,4,5-T	116	93.6	P/P	50 - 150
Acetaminophen	90.1	90.8	P/P	60 - 160
Acetamiprid	122	115	P/P	50 - 150
Afidopyropen	94.4	108	P/P	50 - 150
Bentazon	96.7	111	P/P	50 - 160
Benzovindiflupyr	115	112	P/P	50 - 150
Carbamazepine	106	113	P/P	60 - 150
Clothianidin	86.1	95.8	P/P	60 - 150
Dinotefuran	102	99.7	P/P	50 - 150
Diuron	89.8	94.2	P/P	60 - 160
Fenuron	95.4	93.1	P/P	60 - 150
Fluridone	102	105	P/P	60 - 160
Hydrocodone	96.1	95.5	P/P	60 - 150
Ibuprofen	60.3	104	P/P	50 - 160
Imazapyr	83.0	72.3	P/P	50 - 150
Imidacloprid	97.8	100	P/P	60 - 150
Linuron	97.1	111	P/P	60 - 150
Mandestrobin	94.9	98.1	P/P	50 - 150
MCPP	88.0	85.1	P/P	50 - 150
Naproxen	110	111	P/P	50 - 160
Primidone	102	87.3	P/P	60 - 150
Pyraclostrobin	99.8	95.7	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114369
Included Lab Sample IDs: 2350145

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silvex	99.3	71.3	P/P	50 - 150
Thiamethoxam	103	99.1	P/P	50 - 150
Tolfenpyrad	93.6	98.7	P/P	60 - 150
Triclopyr	106	83.0	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114393
Included Lab Sample IDs: 2350113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	99.6	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
EPA 180.1 Rev. 2.0	Turbidity	97.1				16.4
EPA 350.1 Rev. 2.0	Ammonia-N	100	102	102		0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.0	98.8	99.3		0.394
	Kjeldahl Nitrogen	102	99.2	100		0.961
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	97.0	98.1	98.1		0.0
EPA 365.1 Rev. 2.0	Total-P	103	98.3	99.1		0.780
EPA 8321B	2,4-D	66.7	68.8	70.9		2.78
	2,4,5-T	72.5	68.5	72.4		5.55
	Acesulfame K	93.5	79.1	90.9		13.8
	Acetaminophen	88.1	71.5	74.1		3.62
	Acetamiprid	80.9	57.5	58.9		2.51
	Afidopyropen	89.0	52.4	67.1		24.5
	AMPA	111	103	98.5		4.26
	Bentazon	114	103	90.0		8.29
	Benzovindiflupyr	98.5	70.0	92.2		27.3
	Carbamazepine	117	90.8	90.3		0.568
	Clothianidin	100	66.9	55.7		18.2
	Dinotefuran	108	96.9	96.5		0.482
	Diuron	86.2	76.3	86.0		11.9
	Endothall	108	127	131		2.83
	Fenuron	113	80.3	80.9		0.732
	Fluridone	90.2	93.5	109		15.4
	Glufosinate	117	103	102		0.409
	Glyphosate	109	110	107		3.07
	Hydrocodone	99.0	103	104		1.10
	Ibuprofen	81.9	71.3	75.7		6.05
	Imazapyr	86.3	70.8	74.5		4.43
	Imidacloprid	93.3	53.3	65.8		19.9
	Linuron	101	86.8	80.1		8.07
	Mandestrobin	101	89.9	89.6		0.383
	MCPP	85.7	75.3	65.7		9.35
	Naproxen	148	84.6	81.0		4.33
	Primidone	89.4	46.9	51.1		8.47
	Pyraclostrobin	88.9	84.9	84.6		0.375
	Silvex	66.8	63.0	63.6		0.989
	Sucralose	107	93.0	109		15.2
	Thiamethoxam	101	94.8	92.0		2.91
	Tolfenpyrad	40.5	46.9	50.0		6.38
	Triclopyr	68.9	65.7	66.5		1.32
SM 2320 B-2011	Total Alkalinity	99.9				0.0308
SM 4500-F- C-2011	Fluoride	100				
SM 5310 B-2011	Organic Carbon	97.0	99.3	99.4		0.0327
	Organic Carbon	96.2	94.2	94.3		0.0840

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2350111, 2350112
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2350113, 2350114
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2350113, 2350114
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2350113, 2350114
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2350113, 2350114
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2350145

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2350111, 2350112
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2350111, 2350112
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2350111, 2350112
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2350113, 2350114

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/17/2022			08/17/2022 15:20	Khloe J Berg	2350111
	08/17/2022			08/17/2022 15:23	Khloe J Berg	2350112
EPA 350.1 Rev. 2.0	08/17/2022			08/17/2022 12:59	Ping Hua	2350113
	08/17/2022			08/17/2022 13:01	Ping Hua	2350114
EPA 351.2 Rev. 2.0	08/17/2022	08/24/2022 13:32	Alexandra J Mattheus	08/25/2022 11:40	Samantha L Bates	2350114
	08/17/2022	08/25/2022 14:20	Alexandra J Mattheus	08/26/2022 13:54	Alexandra J Mattheus	2350113
EPA 353.2 Rev. 2.0	08/17/2022			08/19/2022 11:51	Beverly Y. Sanders	2350113
	08/17/2022			08/19/2022 11:52	Beverly Y. Sanders	2350114
EPA 365.1 Rev. 2.0	08/17/2022	08/24/2022 15:20	Simonne.V. Calhoun	08/25/2022 14:27	James L Waggerby	2350113
	08/17/2022	08/24/2022 15:20	Simonne.V. Calhoun	08/25/2022 14:28	James L Waggerby	2350114
EPA 8321B	08/17/2022	08/19/2022 09:00	Umesh Chiluwal	08/19/2022 12:55	Umesh Chiluwal	2350145
	08/17/2022	08/19/2022 09:00	Umesh Chiluwal	08/19/2022 15:31	Umesh Chiluwal	2350145
	08/17/2022	08/19/2022 09:00	Umesh Chiluwal	08/19/2022 21:39	Umesh Chiluwal	2350145
	08/17/2022	08/22/2022 09:30	June Rhew	08/26/2022 11:04	Juyoung Kim	2350145
SM 2320 B-2011	08/17/2022			08/19/2022 10:29	Adam P Silver	2350111
	08/17/2022			08/19/2022 11:39	Adam P Silver	2350112
SM 2540 D-2011	08/17/2022			08/19/2022 15:07	Yijie Li	2350111, 2350112
SM 4500-F- C-2011	08/17/2022			08/19/2022 07:54	Adam P Silver	2350111
	08/17/2022			08/19/2022 08:20	Adam P Silver	2350112
SM 5310 B-2011	08/17/2022			08/19/2022 23:36	Judith K. Clark	2350113
	08/17/2022			08/23/2022 03:57	Khloe J Berg	2350114