

Chemical Analysis Report

NW-DIST-2022-10-28-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Highway 20 Run**
Request ID: **RQ-2022-10-24-16**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 21-NOV-2022 09:22

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the name.

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: Boggy Bayou Mouth

Collection Date/Time: 10/27/2022 12:59

Field ID: G3NW0186

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2365989	EPA 180.1 Rev. 2.0	Turbidity	0.80	I	NTU	P421621	
	SM 2320 B-2011	Total Alkalinity	81		mg CaCO3/L	P421902	
	SM 2540 D-2015	TSS	3	U	mg/L	P421964	
	SM 4500-F- C-2011	Fluoride	0.80		mg F/L	P421905	
2365991	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P422036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24	I	mg N/L	P421876	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P422027	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P421935	
	SM 5310 B-2011	Organic Carbon	2.5	I	mg C/L	P422326	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Alaqua Bayou Center

Collection Date/Time: 10/27/2022 10:55

Field ID: G3NW0180

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2365990	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P421621	
	SM 2320 B-2011	Total Alkalinity	82		mg CaCO3/L	P421902	
	SM 2540 D-2015	TSS	3	U	mg/L	P421964	
	SM 4500-F- C-2011	Fluoride	0.79		mg F/L	P421905	
2365992	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P422036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P421876	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P422027	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P421935	
	SM 5310 B-2011	Organic Carbon	2.7	I	mg C/L	P422226	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Collection Date/Time: 10/27/2022 12:38

Field ID: OKALOOSA355

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2366030	EPA 8321B	Acesulfame K	0.10	U	ug/L	P421714	
		2,4-D	0.0020	U	ug/L	P421666	
		AMPA	1.0	U	ug/L	P421714	
		2,4,5-T	0.0040	U	ug/L	P421666	
		Acetaminophen	0.0080	U	ug/L	P421666	
		Acetamiprid	0.0020	U	ug/L	P421666	
		Endothall	0.25	U	ug/L	P421714	MS
		Glufosinate	1.0	U	ug/L	P421714	
		Glyphosate	1.0	U	ug/L	P421714	
		Afidopyropen	0.0020	U	ug/L	P421666	
		Sucralose	0.076		ug/L	P421714	
		Bentazon	8.0E-04	U	ug/L	P421666	
		Benzovindiflupyr	0.0020	U	ug/L	P421666	
		Carbamazepine	8.0E-04	U	ug/L	P421666	
		Clothianidin	0.0020	U	ug/L	P421666	
		Dinotefuran	0.0020	U	ug/L	P421666	
		Diuron	0.0020	U	ug/L	P421666	
		Fenuron	0.032	U	ug/L	P421666	
		Fluridone	8.0E-04	U	ug/L	P421666	
		Imazapyr	0.0040	U	ug/L	P421666	
		Hydrocodone	0.0020	U	ug/L	P421666	
		Ibuprofen	0.20	U	ug/L	P421666	
		Imidacloprid	0.0020	U	ug/L	P421666	
		Linuron	0.0040	U	ug/L	P421666	
		Mandestrobin	0.0020	U	ug/L	P421666	
		MCPP	0.0040	U	ug/L	P421666	
		Naproxen	0.0080	U	ug/L	P421666	
		Primidone	0.0040	U	ug/L	P421666	
		Pyraclostrobin	0.0020	U	ug/L	P421666	
		Silvex	0.0040	U	ug/L	P421666	
		Thiamethoxam	0.0020	U	ug/L	P421666	
		Tolfenpyrad	0.0020	U	ug/L	P421666	
		Triclopyr	0.0040	U	ug/L	P421666	

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421621

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422036

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421876

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422027

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421935

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

Reference Method: EPA 8321B
Batch ID: P421666

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	0.20	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P421666

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P421714

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P421902

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

Reference Method: SM 2540 D-2015

Batch ID: P421964

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P421905

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P422226

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

Reference Method: SM 5310 B-2011

Batch ID: P422326

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: P421621

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422036

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421935

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

Reference Method: EPA 8321B
Batch ID: P421666

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.0		P	40 - 150
2,4,5-T	74.0		P	40 - 150
Acetaminophen	92.8		P	30 - 150
Acetamiprid	89.9		P	40 - 150
Afidopyropen	70.3		P	30 - 150
Bentazon	106		P	30 - 150
Benzovindiflupyr	92.8		P	40 - 150
Carbamazepine	94.4		P	40 - 150
Clothianidin	101		P	40 - 150
Dinotefuran	106		P	40 - 150
Diuron	84.1		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	100		P	40 - 150
Hydrocodone	98.5		P	40 - 150
Ibuprofen	89.5		P	40 - 150
Imazapyr	88.6		P	40 - 150
Imidacloprid	97.4		P	40 - 150
Linuron	91.5		P	40 - 150
Mandestrobin	87.5		P	40 - 150
MCPP	102		P	40 - 150
Naproxen	73.3		P	40 - 150
Primidone	99.1		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P421666

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	78.7		P	40 - 150
Silvex	75.4		P	40 - 150
Thiamethoxam	93.8		P	40 - 150
Tolfenpyrad	50.6		P	30 - 150
Triclopyr	78.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P421714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	90.2		P	40 - 150
AMPA	116		P	40 - 150
Endothall	101		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	103		P	40 - 150
Sucralose	83.0		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P421902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.5		P	94 - 106

Reference Method: SM 2540 D-2015
Batch ID: P421964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.6		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P421905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P422226

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P422326

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365938	Ammonia-N	98.0	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366263	Kjeldahl Nitrogen	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365943	NO2NO3-N	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365943	Total-P	98.6	99.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P421666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365604	2,4-D	113	118	P/P	40 - 150
2365604	2,4,5-T	91.0	86.3	P/P	40 - 150
2365604	Acetaminophen	106	112	P/P	30 - 150
2365604	Acetamiprid	109	110	P/P	40 - 150
2365604	Afidopyropen	92.3	89.9	P/P	30 - 150
2365604	Bentazon	125	116	P/P	30 - 150
2365604	Benzovindiflupyr	97.5	99.7	P/P	40 - 150
2365604	Carbamazepine	105	95.7	P/P	40 - 150
2365604	Clothianidin	114	112	P/P	40 - 150
2365604	Dinotefuran	132	137	P/P	40 - 150
2365604	Diuron	86.0	82.0	P/P	40 - 150
2365604	Fenuron	106	109	P/P	40 - 150
2365604	Fluridone	117	113	P/P	40 - 150
2365604	Hydrocodone	113	118	P/P	40 - 150
2365604	Ibuprofen	85.8	88.7	P/P	40 - 150
2365604	Imazapyr	115	107	P/P	40 - 150
2365604	Imidacloprid	125	122	P/P	40 - 150
2365604	Linuron	99.2	89.7	P/P	40 - 150
2365604	Mandestrobin	96.7	91.6	P/P	40 - 150
2365604	MCCP	117	113	P/P	40 - 150
2365604	Naproxen	75.0	79.1	P/P	40 - 150
2365604	Primidone	113	108	P/P	40 - 150
2365604	Pyraclostrobin	93.3	92.6	P/P	40 - 150
2365604	Silvex	91.0	85.2	P/P	40 - 150
2365604	Thiamethoxam	120	117	P/P	40 - 150
2365604	Tolfenpyrad	50.9	51.1	P/P	30 - 150
2365604	Triclopyr	91.3	83.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P421714

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366047	Acesulfame K	76.5	77.7	P/P	40 - 150
2366047	AMPA	85.9	92.7	P/P	40 - 150
2366047	Endothall	193	193	F/F	40 - 150
2366047	Glufosinate	81.1	90.0	P/P	40 - 150
2366047	Glyphosate	85.5	95.0	P/P	40 - 150
2366047	Sucralose	92.2	94.6	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P421905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365270	Fluoride	97.9	98.6	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P422226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2365992	Organic Carbon	87.5	92.1	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P422326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2366263	Organic Carbon	90.4	91.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365914	Turbidity	1.45	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365938	Ammonia-N	0.822	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366263	Kjeldahl Nitrogen	0.112	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365943	NO2NO3-N	0.462	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365943	Total-P	0.707	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P421666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365604	2,4-D	4.08	Spike	P	0 - 30
2365604	2,4,5-T	5.33	Spike	P	0 - 30
2365604	Acetaminophen	5.73	Spike	P	0 - 30
2365604	Acetamiprid	1.05	Spike	P	0 - 30
2365604	Afidopyropen	2.57	Spike	P	0 - 30
2365604	Bentazon	7.06	Spike	P	0 - 30
2365604	Benzovindiflupyr	2.29	Spike	P	0 - 30
2365604	Carbamazepine	9.38	Spike	P	0 - 30
2365604	Clothianidin	2.04	Spike	P	0 - 30
2365604	Dinotefuran	3.94	Spike	P	0 - 30
2365604	Diuron	4.70	Spike	P	0 - 30
2365604	Fenuron	2.56	Spike	P	0 - 30
2365604	Fluridone	3.54	Spike	P	0 - 30
2365604	Hydrocodone	3.68	Spike	P	0 - 30
2365604	Ibuprofen	3.35	Spike	P	0 - 30
2365604	Imazapyr	6.24	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P421666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365604	Imidacloprid	2.14	Spike	P	0 - 30
2365604	Linuron	9.96	Spike	P	0 - 30
2365604	Mandestrobin	5.49	Spike	P	0 - 30
2365604	MCP	3.73	Spike	P	0 - 30
2365604	Naproxen	5.38	Spike	P	0 - 30
2365604	Primidone	4.72	Spike	P	0 - 30
2365604	Pyraclostrobin	0.682	Spike	P	0 - 30
2365604	Silvex	6.68	Spike	P	0 - 30
2365604	Thiamethoxam	2.35	Spike	P	0 - 30
2365604	Tolfenpyrad	0.521	Spike	P	0 - 30
2365604	Triclopyr	8.50	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P421714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366047	Acesulfame K	1.55	Spike	P	0 - 30
2366047	AMPA	6.57	Spike	P	0 - 30
2366047	Endothall	0.162	Spike	P	0 - 30
2366047	Glufosinate	10.4	Spike	P	0 - 30
2366047	Glyphosate	8.88	Spike	P	0 - 30
2366047	Sucralose	2.44	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P421902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365471	Total Alkalinity	0.472	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011

Batch ID: P421905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365270	Fluoride	0.509	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011

Batch ID: P422226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2365992	Organic Carbon	4.94	Spike	P	0 - 20

Reference Method: SM 5310 B-2011

Batch ID: P422326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2366263	Organic Carbon	0.492	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2366030

Field Sample ID: OKALOOSA355

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.7	P	30 - 160
EPA 8321B	Diuron-d6	80.7	P	30 - 160
EPA 8321B	Endothall-d6	74.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	37.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.5	P	30 - 160
EPA 8321B	Primidone-d5	105	P	30 - 160
EPA 8321B	Sucralose-d6	78.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A115604

Included Lab Sample IDs: 2365989, 2365990

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

Reference Method: EPA 8321B

Run ID: A115677

Included Lab Sample IDs: 2366030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.0	104	P/P	50 - 150
2,4,5-T	107	110	P/P	50 - 150
Acetaminophen	102	98.3	P/P	60 - 160
Acetamiprid	111	110	P/P	50 - 150
Afidopyropen	110	118	P/P	50 - 150
Bentazon	118	119	P/P	50 - 160
Benzovindiflupyr	119	125	P/P	50 - 150
Carbamazepine	117	119	P/P	60 - 150
Clothianidin	114	125	P/P	60 - 150
Dinotefuran	121	119	P/P	50 - 150
Diuron	107	106	P/P	60 - 160
Fenuron	106	111	P/P	60 - 150
Fluridone	121	120	P/P	60 - 160
Hydrocodone	120	120	P/P	60 - 150
Ibuprofen	88.7	113	P/P	50 - 160
Imazapyr	110	106	P/P	50 - 150
Imidacloprid	103	98.4	P/P	60 - 150
Linuron	117	125	P/P	60 - 150
Mandestrobin	111	113	P/P	50 - 150
MCPP	110	111	P/P	50 - 150
Naproxen	123	110	P/P	50 - 160
Primidone	116	107	P/P	60 - 150
Pyraclostrobin	117	111	P/P	60 - 150
Silvex	105	105	P/P	50 - 150
Thiamethoxam	117	113	P/P	50 - 150
Tolfenpyrad	119	118	P/P	60 - 150
Triclopyr	105	115	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A115696

Included Lab Sample IDs: 2366030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	107	P/P	60 - 160
Endothall	98.0	96.2	P/P	60 - 160
Glufosinate	98.6	95.5	P/P	60 - 160
Glyphosate	100	96.8	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A115743

Included Lab Sample IDs: 2365989, 2365990

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.9	95.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A115743

Included Lab Sample IDs: 2365989, 2365990

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115782

Included Lab Sample IDs: 2365991, 2365992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	105	106	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A115783

Included Lab Sample IDs: 2366030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	84.6	86.9	P/P	60 - 160
Sucralose	81.0	80.8	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A115789

Included Lab Sample IDs: 2365991, 2365992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A115790

Included Lab Sample IDs: 2365991, 2365992

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A115808

Included Lab Sample IDs: 2365991, 2365992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	94.0	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A115874

Included Lab Sample IDs: 2365992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	93.7	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A115934

Included Lab Sample IDs: 2365991

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.7	97.6	P/P	90 - 110

Quality Assurance Report

Calibration Verification

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity	101				1.45	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	98.0	99.0			0.822
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.2	101	101			0.112
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	108	108			0.462
EPA 365.1 Rev. 2.0	Total-P	103	98.6	99.3			0.707
EPA 8321B	2,4-D	90.0	113	118			4.08
	2,4,5-T	74.0	91.0	86.3			5.33
	Acesulfame K	90.2	76.5	77.7			1.55
	Acetaminophen	92.8	106	112			5.73
	Acetamiprid	89.9	109	110			1.05
	Afidopyropen	70.3	92.3	89.9			2.57
	AMPA	116	85.9	92.7			6.57
	Bentazon	106	125	116			7.06
	Benzovindiflupyr	92.8	97.5	99.7			2.29
	Carbamazepine	94.4	105	95.7			9.38
	Clothianidin	101	114	112			2.04
	Dinotefuran	106	132	137			3.94
	Diuron	84.1	86.0	82.0			4.70
	Endothall	101	193	193			0.162
	Fenuron	104	106	109			2.56
	Fluridone	100	117	113			3.54
	Glufosinate	104	81.1	90.0			10.4
	Glyphosate	103	85.5	95.0			8.88
	Hydrocodone	98.5	113	118			3.68
	Ibuprofen	89.5	85.8	88.7			3.35
	Imazapyr	88.6	115	107			6.24
	Imidacloprid	97.4	125	122			2.14
	Linuron	91.5	99.2	89.7			9.96
	Mandestrobin	87.5	96.7	91.6			5.49
	MCPP	102	117	113			3.73
	Naproxen	73.3	75.0	79.1			5.38
	Primidone	99.1	113	108			4.72
	Pyraclostrobin	78.7	93.3	92.6			0.682
	Silvex	75.4	91.0	85.2			6.68
	Sucralose	83.0	92.2	94.6			2.44
	Thiamethoxam	93.8	120	117			2.35
	Tolfenpyrad	50.6	50.9	51.1			0.521
	Triclopyr	78.7	91.3	83.9			8.50
SM 2320 B-2011	Total Alkalinity	96.5				0.472	
SM 2540 D-2015	TSS	93.6					
SM 4500-F- C-2011	Fluoride	99.1	97.9	98.6			0.509
SM 5310 B-2011	Organic Carbon	96.4	87.5	92.1			4.94
	Organic Carbon	94.6	90.4	91.0			0.492

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2365989, 2365990
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2365991, 2365992
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2365991, 2365992
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2365991, 2365992
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2365991, 2365992
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2366030

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2365989, 2365990
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2365989, 2365990
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2365989, 2365990
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2365991, 2365992

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	10/28/2022			10/28/2022 13:46	Chandler E Cox	2365989
	10/28/2022			10/28/2022 13:47	Chandler E Cox	2365990
EPA 350.1 Rev. 2.0	10/28/2022			11/07/2022 14:12	Ping Hua	2365991
	10/28/2022			11/07/2022 14:13	Ping Hua	2365992
EPA 351.2 Rev. 2.0	10/28/2022	11/04/2022 10:30	Simonne.V. Calhoun	11/08/2022 14:27	Samantha L Bates	2365991
	10/28/2022	11/04/2022 10:30	Simonne.V. Calhoun	11/08/2022 14:29	Samantha L Bates	2365992
EPA 353.2 Rev. 2.0	10/28/2022			11/07/2022 11:16	Beverly Y. Sanders	2365991
	10/28/2022			11/07/2022 11:17	Beverly Y. Sanders	2365992
EPA 365.1 Rev. 2.0	10/28/2022	11/04/2022 13:44	Adam P Silver	11/07/2022 14:34	James L Waggerby	2365991
	10/28/2022	11/04/2022 13:44	Adam P Silver	11/07/2022 14:35	James L Waggerby	2365992
EPA 8321B	10/28/2022	11/01/2022 09:30	June Rhew	11/01/2022 22:35	Juyoung Kim	2366030
	10/28/2022	11/02/2022 12:00	Umesh Chiluwal	11/02/2022 13:51	Umesh Chiluwal	2366030
	10/28/2022	11/02/2022 12:00	Umesh Chiluwal	11/02/2022 18:11	Umesh Chiluwal	2366030
	10/28/2022	11/02/2022 12:00	Umesh Chiluwal	11/03/2022 05:40	Umesh Chiluwal	2366030
SM 2320 B-2011	10/28/2022			11/04/2022 05:51	Dale L. Simmons	2365989
	10/28/2022			11/04/2022 06:04	Dale L. Simmons	2365990
SM 2540 D-2015	10/28/2022			11/02/2022 15:18	Yijie Li	2365989, 2365990
SM 4500-F- C-2011	10/28/2022			11/04/2022 02:17	Dale L. Simmons	2365989
	10/28/2022			11/04/2022 02:22	Dale L. Simmons	2365990
SM 5310 B-2011	10/28/2022			11/11/2022 03:26	Khloe J Berg	2365992
	10/28/2022			11/15/2022 08:05	Khloe J Berg	2365991