

Chemical Analysis Report

NW-DIST-2022-07-13-01

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-2022-07-11-35**
Customer: **NW-DIST**
Project ID: **SMP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 29-JUL-2022 13:34



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 at Lincoln Park, Okaloosa County (also 21FLDOH)

Collection Date/Time: 07/12/2022 13:45

Field ID: OKALOOSA355

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341230	EPA 8321B	2,4-D	0.0020	U	ug/L	P416589	
		Acesulfame K	0.10	U	ug/L	P416590	
		2,4,5-T	0.0040	U	ug/L	P416589	
		AMPA	1.0	U	ug/L	P416590	
		Acetaminophen	0.0080	U	ug/L	P416589	
		Acetamiprid	0.0020	U	ug/L	P416589	
		Endothall	0.25	U	ug/L	P416590	
		Glufosinate	1.0	UJ	ug/L	P416590	LCS
		Glyphosate	1.0	U	ug/L	P416590	
		Afidopyropen	0.0020	U	ug/L	P416589	
		Bentazon	8.0E-04	U	ug/L	P416589	
		Sucralose	0.025	I	ug/L	P416590	
		Benzovindiflupyr	0.0020	U	ug/L	P416589	
		Carbamazepine	8.0E-04	U	ug/L	P416589	
		Clothianidin	0.0020	U	ug/L	P416589	
		Dinotefuran	0.0020	U	ug/L	P416589	
		Diuron	0.0020	U	ug/L	P416589	
		Fenuron	0.032	U	ug/L	P416589	
		Fluridone	8.0E-04	U	ug/L	P416589	
		Imazapyr	0.0050	I	ug/L	P416589	
		Hydrocodone	0.0020	U	ug/L	P416589	
		Ibuprofen	0.080	U	ug/L	P416589	
		Imidacloprid	0.0020	U	ug/L	P416589	
		Linuron	0.0040	U	ug/L	P416589	
		Mandestrobin	0.0020	U	ug/L	P416589	
		MCPP	0.0040	U	ug/L	P416589	
		Naproxen	0.0080	U	ug/L	P416589	
		Primidone	0.0040	U	ug/L	P416589	
		Pyraclostrobin	0.0020	U	ug/L	P416589	
		Silvex	0.0040	U	ug/L	P416589	
		Thiamethoxam	0.0020	U	ug/L	P416589	
		Tolfenpyrad	0.0020	U	ug/L	P416589	
		Triclopyr	0.0040	U	ug/L	P416589	

Ref. Method and Comment:

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

EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Boggy Bayou Mouth

Collection Date/Time: 07/12/2022 14:00

Field ID: G3NW0186

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341208	EPA 180.1 Rev. 2.0	Turbidity	0.95	I	NTU	P416612	
	SM 2320 B-2011	Total Alkalinity	73		mg CaCO3/L	P417020	
	SM 2540 D-2011	TSS	6	IA	mg/L	P416982	
	SM 4500-F- C-2011	Fluoride	0.68		mg F/L	P417024	
2341210	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P417006	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26	I	mg N/L	P416824	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P416858	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P416807	
	SM 5310 B-2011	Organic Carbon	2.6		mg C/L	P416760	

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: Black Creek

Collection Date/Time: 07/12/2022 10:20

Field ID: G3NW0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341231	EPA 8321B	2,4-D	0.0020	U	ug/L	P416789	
		Acesulfame K	0.10	U	ug/L	P416590	
		2,4,5-T	0.0040	U	ug/L	P416789	
		AMPA	0.10	U	ug/L	P416590	
		Acetaminophen	0.0080	U	ug/L	P416789	
		Acetamiprid	0.0020	U	ug/L	P416789	
		Endothall	0.25	U	ug/L	P416590	
		Glufosinate	0.10	UJ	ug/L	P416590	LCS
		Glyphosate	0.10	U	ug/L	P416590	
		Afidopyropen	0.0020	U	ug/L	P416789	
		Bentazon	8.0E-04	U	ug/L	P416789	
		Sucralose	0.053		ug/L	P416590	
		Benzovindiflupyr	0.0020	U	ug/L	P416789	
		Carbamazepine	8.0E-04	U	ug/L	P416789	
		Clothianidin	0.0020	U	ug/L	P416789	
		Dinotefuran	0.0020	U	ug/L	P416789	
		Diuron	0.0020	U	ug/L	P416789	
		Fenuron	0.032	U	ug/L	P416789	
		Fluridone	8.0E-04	U	ug/L	P416789	
		Imazapyr	0.019		ug/L	P416789	
		Hydrocodone	0.0020	U	ug/L	P416789	
		Ibuprofen	0.080	U	ug/L	P416789	
		Imidacloprid	0.0020	U	ug/L	P416789	MS
		Linuron	0.0040	U	ug/L	P416789	
		Mandestrobin	0.0020	U	ug/L	P416789	
		MCPP	0.0040	U	ug/L	P416789	
		Naproxen	0.0080	U	ug/L	P416789	
		Primidone	0.0040	U	ug/L	P416789	
		Pyraclostrobin	0.0020	U	ug/L	P416789	
		Silvex	0.0040	U	ug/L	P416789	
		Thiamethoxam	0.0020	U	ug/L	P416789	
		Tolfenpyrad	0.0020	U	ug/L	P416789	
		Triclopyr	0.0040	U	ug/L	P416789	

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Alaqua Bayou Center

Collection Date/Time: 07/12/2022 11:45

Field ID: G3NW0180

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341209	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P416612	
	SM 2320 B-2011	Total Alkalinity	52	A	mg CaCO3/L	P417020	
	SM 2540 D-2011	TSS	3	I	mg/L	P416981	
	SM 4500-F- C-2011	Fluoride	0.40		mg F/L	P417024	
2341211	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P417006	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P416824	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P417164	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P416807	
	SM 5310 B-2011	Organic Carbon	4.1		mg C/L	P417102	

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: FB

Collection Date/Time: 07/12/2022 11:50

Field ID: FB_07122022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341212	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P416612	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P417026	
	SM 2540 D-2011	TSS	2	U	mg/L	P416979	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P417023	MS
2341213	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P417119	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P416778	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417105	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P416805	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P416759	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416612

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417006

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417119

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416778

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416824

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416858

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417105

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417164

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416805

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416807

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

Reference Method: EPA 8321B
Batch ID: P416589

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	0.080	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: EPA 8321B
Batch ID: P416590

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: P416789

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P416789

Component	Result	Code	Units
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	0.080	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: P417020

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

Reference Method: SM 2320 B-2011

Batch ID: P417026

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

Reference Method: SM 2540 D-2011

Batch ID: P416979

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P416981

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P416982

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417024

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P416759

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

Reference Method: SM 5310 B-2011
Batch ID: P416760

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

Reference Method: SM 5310 B-2011
Batch ID: P417102

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: P416612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	94.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417006

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416778

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416824

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416858

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417105

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417164

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416805

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.6		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P416807

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

Reference Method: EPA 8321B

Batch ID: P416589

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	83.4		P	40 - 150
2,4,5-T	91.6		P	40 - 150
Acetaminophen	94.6		P	30 - 150
Acetamiprid	96.4		P	40 - 150
Afidopyropen	52.6		P	30 - 150
Bentazon	106		P	30 - 150
Benzovindiflupyr	95.8		P	40 - 150
Carbamazepine	101		P	40 - 150
Clothianidin	114		P	40 - 150
Dinotefuran	110		P	40 - 150
Diuron	87.2		P	40 - 150
Fenuron	103		P	40 - 150
Fluridone	97.1		P	40 - 150
Hydrocodone	100		P	40 - 150
Ibuprofen	86.1		P	40 - 150
Imazapyr	108		P	40 - 150
Imidacloprid	98.1		P	40 - 150
Linuron	94.7		P	40 - 150
Mandestrobin	88.3		P	40 - 150
MCPP	95.9		P	40 - 150
Naproxen	87.0		P	40 - 150
Primidone	111		P	40 - 150
Pyraclostrobin	93.9		P	40 - 150
Silvex	83.7		P	40 - 150
Thiamethoxam	107		P	40 - 150
Tolfenpyrad	62.3		P	30 - 150
Triclopyr	118		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	81.4		P	40 - 150
AMPA	118		P	40 - 150
Endothall	123		P	40 - 150
Glufosinate	155		F	40 - 150
Glyphosate	113		P	40 - 150
Sucralose	93.6		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	40 - 150
2,4,5-T	94.6		P	40 - 150
Acetaminophen	95.0		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P416789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetamiprid	103		P	40 - 150
Afidopyropen	73.9		P	30 - 150
Bentazon	116		P	30 - 150
Benzovindiflupyr	96.4		P	40 - 150
Carbamazepine	95.8		P	40 - 150
Clothianidin	102		P	40 - 150
Dinotefuran	101		P	40 - 150
Diuron	88.1		P	40 - 150
Fenuron	108		P	40 - 150
Fluridone	102		P	40 - 150
Hydrocodone	98.4		P	40 - 150
Ibuprofen	89.9		P	40 - 150
Imazapyr	103		P	40 - 150
Imidacloprid	141		P	40 - 150
Linuron	96.5		P	40 - 150
Mandestrobin	95.9		P	40 - 150
MCPP	110		P	40 - 150
Naproxen	72.7		P	40 - 150
Primidone	106		P	40 - 150
Pyraclostrobin	86.4		P	40 - 150
Silvex	88.4		P	40 - 150
Thiamethoxam	98.5		P	40 - 150
Tolfenpyrad	57.9		P	30 - 150
Triclopyr	105		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P417020

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

Reference Method: SM 2320 B-2011

Batch ID: P417026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P417023

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

Reference Method: SM 4500-F- C-2011

Batch ID: P417024

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P416759

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P416760

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P417102

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341133	Ammonia-N	104	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341149	Ammonia-N	95.8	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416778

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340690	Kjeldahl Nitrogen	99.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416824

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341112	Kjeldahl Nitrogen	99.3	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341132	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341549	NO2NO3-N	96.0	95.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341131	NO2NO3-N	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341151	Total-P	98.3	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341485	Total-P	94.5	91.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P416589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340862	2,4-D	91.9	83.2	P/P	40 - 150
2340862	2,4,5-T	70.5	72.6	P/P	40 - 150
2340862	Acetaminophen	111	94.4	P/P	30 - 150
2340862	Acetamiprid	54.5	51.5	P/P	40 - 150
2340862	Afidopyropen	59.3	49.9	P/P	30 - 150
2340862	Benzovindiflupyr	88.3	82.3	P/P	40 - 150
2340862	Carbamazepine	81.3	79.7	P/P	40 - 150
2340862	Clothianidin	120	102	P/P	40 - 150
2340862	Dinotefuran	143	127	P/P	40 - 150
2340862	Diuron	57.4	60.3	P/P	40 - 150
2340862	Fenuron	70.0	67.7	P/P	40 - 150
2340862	Fluridone	76.8	67.0	P/P	40 - 150
2340862	Hydrocodone	90.9	89.6	P/P	40 - 150
2340862	Ibuprofen	62.1	60.7	P/P	40 - 150
2340862	Imidacloprid	132	129	P/P	40 - 150
2340862	Linuron	74.8	65.2	P/P	40 - 150
2340862	Mandestrobin	74.3	67.5	P/P	40 - 150
2340862	MCPP	84.7	78.5	P/P	40 - 150
2340862	Naproxen	61.5	65.7	P/P	40 - 150
2340862	Primidone	102	105	P/P	40 - 150
2340862	Pyraclostrobin	83.6	76.3	P/P	40 - 150
2340862	Silvex	96.2	88.8	P/P	40 - 150
2340862	Thiamethoxam	146	133	P/P	40 - 150
2340862	Tolfenpyrad	50.2	50.1	P/P	30 - 150
2340862	Triclopyr	81.8	77.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341960	Acesulfame K	84.3	84.3	P/P	40 - 150
2341960	AMPA	101	101	P/P	40 - 150
2341960	Endothall	122	121	P/P	40 - 150
2341960	Glufosinate	86.5	92.8	P/P	40 - 150
2341960	Glyphosate	86.1	87.6	P/P	40 - 150
2341960	Sucralose	92.1	91.7	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341960	2,4,5-T	94.1	77.6	P/P	40 - 150
2341960	Acetaminophen	116	110	P/P	30 - 150
2341960	Acetamiprid	89.2	83.7	P/P	40 - 150
2341960	Afidopyropen	85.7	83.8	P/P	30 - 150
2341960	Bentazon	105	92.6	P/P	30 - 150
2341960	Benzovindiflupyr	93.6	87.0	P/P	40 - 150
2341960	Carbamazepine	99.7	92.9	P/P	40 - 150
2341960	Clothianidin	121	110	P/P	40 - 150
2341960	Dinotefuran	137	136	P/P	40 - 150
2341960	Diuron	77.3	69.4	P/P	40 - 150
2341960	Fenuron	97.3	89.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P416789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341960	Fluridone	102	104	P/P	40 - 150
2341960	Hydrocodone	104	104	P/P	40 - 150
2341960	Ibuprofen	84.4	82.3	P/P	40 - 150
2341960	Imazapyr	103	94.7	P/P	40 - 150
2341960	Imidacloprid	150	141	F/P	40 - 150
2341960	Linuron	86.5	88.8	P/P	40 - 150
2341960	Mandestrobin	90.1	85.5	P/P	40 - 150
2341960	MCCP	110	103	P/P	40 - 150
2341960	Naproxen	86.7	78.6	P/P	40 - 150
2341960	Primidone	120	115	P/P	40 - 150
2341960	Pyraclostrobin	87.1	84.5	P/P	40 - 150
2341960	Silvex	91.9	80.7	P/P	40 - 150
2341960	Thiamethoxam	133	126	P/P	40 - 150
2341960	Tolfenpyrad	58.2	57.2	P/P	30 - 150
2341960	Triclopyr	96.7	89.0	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P417023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341350	Fluoride	111	110	F/F	94 - 104

Reference Method: SM 4500-F- C-2011

Batch ID: P417024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341209	Fluoride	100	99.7	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P416759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341155	Organic Carbon	102	103	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P416760

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341210	Organic Carbon	89.1	89.0	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P417102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341211	Organic Carbon	91.6	90.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341148	Turbidity	8.24	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341133	Ammonia-N	2.49	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341149	Ammonia-N	1.48	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416778

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340690	Kjeldahl Nitrogen	1.47	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341112	Kjeldahl Nitrogen	0.162	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341132	NO2NO3-N	1.44	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341549	NO2NO3-N	1.05	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341131	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341151	Total-P	1.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341485	Total-P	2.55	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P416589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340862	2,4-D	7.77	Spike	P	0 - 30
2340862	2,4,5-T	2.92	Spike	P	0 - 30
2340862	Acetaminophen	15.9	Spike	P	0 - 30
2340862	Acetamiprid	5.63	Spike	P	0 - 30
2340862	Afidopyropen	17.3	Spike	P	0 - 30
2340862	Bentazon	16.0	Spike	P	0 - 30
2340862	Benzovindiflupyr	7.06	Spike	P	0 - 30
2340862	Carbamazepine	1.91	Spike	P	0 - 30
2340862	Clothianidin	16.5	Spike	P	0 - 30
2340862	Dinotefuran	10.8	Spike	P	0 - 30
2340862	Diuron	5.00	Spike	P	0 - 30
2340862	Fenuron	3.30	Spike	P	0 - 30
2340862	Fluridone	13.6	Spike	P	0 - 30
2340862	Hydrocodone	1.41	Spike	P	0 - 30
2340862	Ibuprofen	2.29	Spike	P	0 - 30
2340862	Imazapyr	0.309	Spike	P	0 - 30
2340862	Imidacloprid	1.71	Spike	P	0 - 30
2340862	Linuron	13.6	Spike	P	0 - 30
2340862	Mandestrobin	9.52	Spike	P	0 - 30
2340862	MCP	7.68	Spike	P	0 - 30
2340862	Naproxen	6.56	Spike	P	0 - 30
2340862	Primidone	2.93	Spike	P	0 - 30
2340862	Pyraclostrobin	9.05	Spike	P	0 - 30
2340862	Silvex	7.98	Spike	P	0 - 30
2340862	Thiamethoxam	9.48	Spike	P	0 - 30
2340862	Tolfenpyrad	0.332	Spike	P	0 - 30
2340862	Triclopyr	5.31	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P416590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341960	Acesulfame K	0.0195	Spike	P	0 - 30
2341960	AMPA	0.312	Spike	P	0 - 30
2341960	Endothall	1.50	Spike	P	0 - 30
2341960	Glufosinate	7.05	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P416590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341960	Glyphosate	1.72	Spike	P	0 - 30
2341960	Sucralose	0.321	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P416789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341960	2,4-D	9.74	Spike	P	0 - 30
2341960	2,4,5-T	19.2	Spike	P	0 - 30
2341960	Acetaminophen	5.68	Spike	P	0 - 30
2341960	Acetamiprid	6.36	Spike	P	0 - 30
2341960	Afidopyropen	2.21	Spike	P	0 - 30
2341960	Bentazon	9.87	Spike	P	0 - 30
2341960	Benzovindiflupyr	7.34	Spike	P	0 - 30
2341960	Carbamazepine	7.03	Spike	P	0 - 30
2341960	Clothianidin	9.52	Spike	P	0 - 30
2341960	Dinotefuran	1.19	Spike	P	0 - 30
2341960	Diuron	10.8	Spike	P	0 - 30
2341960	Fenuron	8.47	Spike	P	0 - 30
2341960	Fluridone	1.05	Spike	P	0 - 30
2341960	Hydrocodone	0.319	Spike	P	0 - 30
2341960	Ibuprofen	2.57	Spike	P	0 - 30
2341960	Imazapyr	7.78	Spike	P	0 - 30
2341960	Imidacloprid	6.37	Spike	P	0 - 30
2341960	Linuron	2.69	Spike	P	0 - 30
2341960	Mandestrobin	5.27	Spike	P	0 - 30
2341960	MCP	6.98	Spike	P	0 - 30
2341960	Naproxen	9.78	Spike	P	0 - 30
2341960	Primidone	4.39	Spike	P	0 - 30
2341960	Pyraclostrobin	3.07	Spike	P	0 - 30
2341960	Silvex	13.1	Spike	P	0 - 30
2341960	Thiamethoxam	5.47	Spike	P	0 - 30
2341960	Tolfenpyrad	1.80	Spike	P	0 - 30
2341960	Triclopyr	8.32	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P417020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341209	Total Alkalinity	2.90	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P417026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341350	Total Alkalinity	0.00504	Sample	P	0 - 3.8

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341350	Fluoride	1.00	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P417024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341209	Fluoride	0.483	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P416759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341155	Organic Carbon	0.483	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P416760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341210	Organic Carbon	0.105	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P417102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341211	Organic Carbon	1.14	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2341230

Field Sample ID: OKALOOSA355

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.0	P	30 - 160
EPA 8321B	Diuron-d6	91.6	P	30 - 160
EPA 8321B	Endothall-d6	58.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.0	P	30 - 160
EPA 8321B	Primidone-d5	95.4	P	30 - 160
EPA 8321B	Sucralose-d6	78.9	P	30 - 160

Lab Sample ID: 2341231

Field Sample ID: G3NW0131

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	109	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.6	P	30 - 160
EPA 8321B	Diuron-d6	80.6	P	30 - 160
EPA 8321B	Endothall-d6	51.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.8	P	30 - 160
EPA 8321B	Primidone-d5	96.1	P	30 - 160
EPA 8321B	Sucralose-d6	93.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113480

Included Lab Sample IDs: 2341208, 2341209, 2341212

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

Reference Method: EPA 8321B

Run ID: A113508

Included Lab Sample IDs: 2341230

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.6	97.8	P/P	50 - 150
2,4,5-T	97.1	97.9	P/P	50 - 150
Acetaminophen	99.9	99.1	P/P	60 - 160
Acetamiprid	103	103	P/P	50 - 150
Afidopyropen	99.8	93.4	P/P	50 - 150
Bentazon	120	111	P/P	50 - 160
Benzovindiflupyr	103	93.7	P/P	50 - 150
Carbamazepine	96.9	104	P/P	60 - 150
Clothianidin	97.0	97.8	P/P	60 - 150
Dinotefuran	102	104	P/P	50 - 150
Diuron	97.8	95.1	P/P	60 - 160
Fenuron	100	99.5	P/P	60 - 150
Fluridone	107	110	P/P	60 - 160
Hydrocodone	101	100	P/P	60 - 150
Ibuprofen	110	100	P/P	50 - 160
Imazapyr	96.0	94.5	P/P	50 - 150
Imidacloprid	104	95.4	P/P	60 - 150
Linuron	109	88.9	P/P	60 - 150
Mandestrobin	101	100	P/P	50 - 150
MCPP	99.2	110	P/P	50 - 150
Naproxen	147	88.5	P/P	50 - 160
Primidone	97.4	106	P/P	60 - 150
Pyraclostrobin	104	106	P/P	60 - 150
Silvex	93.4	90.7	P/P	50 - 150
Thiamethoxam	101	101	P/P	50 - 150
Tolfenpyrad	99.5	105	P/P	60 - 150
Triclopyr	113	108	P/P	50 - 150

Reference Method: SM 5310 B-2011

Run ID: A113546

Included Lab Sample IDs: 2341210, 2341213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	91.2	P/P	90 - 110
Organic Carbon	98.9	97.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A113571

Included Lab Sample IDs: 2341230, 2341231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	107	P/P	60 - 160
AMPA	99.8	105	P/P	60 - 160
Endothall	65.0	63.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A113571

Included Lab Sample IDs: 2341230, 2341231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	74.8	78.3	P/P	60 - 160
Glufosinate	75.5	78.0	P/P	60 - 160
Glyphosate	96.3	102	P/P	60 - 160
Glyphosate	98.6	98.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A113572

Included Lab Sample IDs: 2341230, 2341231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	87.8	88.1	P/P	60 - 160
Sucralose	94.2	97.0	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113585

Included Lab Sample IDs: 2341210

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113617

Included Lab Sample IDs: 2341210, 2341211, 2341213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.8	P/P	90 - 110
Total-P	98.8	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113630

Included Lab Sample IDs: 2341213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	97.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113645

Included Lab Sample IDs: 2341210, 2341211

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113648

Included Lab Sample IDs: 2341210, 2341211

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A113656
Included Lab Sample IDs: 2341231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.6	86.6	P/P	50 - 150
2,4,5-T	100	97.6	P/P	50 - 150
Acetaminophen	102	100	P/P	60 - 160
Acetamiprid	101	94.2	P/P	50 - 150
Afidopyropen	108	97.8	P/P	50 - 150
Bentazon	85.0	108	P/P	50 - 160
Benzovindiflupyr	104	96.8	P/P	50 - 150
Carbamazepine	96.8	97.6	P/P	60 - 150
Clothianidin	104	101	P/P	60 - 150
Dinotefuran	99.2	102	P/P	50 - 150
Diuron	108	110	P/P	60 - 160
Fenuron	98.9	96.3	P/P	60 - 150
Fluridone	112	106	P/P	60 - 160
Hydrocodone	96.2	97.6	P/P	60 - 150
Ibuprofen	95.2	96.3	P/P	50 - 160
Imazapyr	95.0	76.5	P/P	50 - 150
Imidacloprid	99.2	96.1	P/P	60 - 150
Linuron	94.5	91.7	P/P	60 - 150
Mandestrobin	98.2	102	P/P	50 - 150
MCPP	98.6	90.5	P/P	50 - 150
Naproxen	134	127	P/P	50 - 160
Primidone	107	106	P/P	60 - 150
Pyraclostrobin	96.0	95.5	P/P	60 - 150
Silvex	87.6	79.5	P/P	50 - 150
Thiamethoxam	97.8	99.1	P/P	50 - 150
Tolfenpyrad	93.7	93.7	P/P	60 - 150
Triclopyr	95.1	87.3	P/P	50 - 150

Reference Method: SM 2320 B-2011
Run ID: A113658
Included Lab Sample IDs: 2341208, 2341209, 2341212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.4	P/P	90 - 110
Total Alkalinity	101	98.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A113658
Included Lab Sample IDs: 2341208, 2341209, 2341212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	102	P/P	90 - 110
Fluoride	104	102	P/P	90 - 110
Fluoride	105	104	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A113688
Included Lab Sample IDs: 2341211

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.9	95.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113689

Included Lab Sample IDs: 2341213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113707

Included Lab Sample IDs: 2341211

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113708

Included Lab Sample IDs: 2341213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.5	98.6	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		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity	94.8				8.24	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	104	101			2.49
	Ammonia-N	97.6	95.8	98.2			1.48
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	99.2	101			1.47
	Kjeldahl Nitrogen	101	99.3	99.1			0.162
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104	105			1.44
	NO2NO3-N	100	96.0	95.0			1.05
	NO2NO3-N	102	108	108			0.0
EPA 365.1 Rev. 2.0	Total-P	99.6	98.3	100			1.22
	Total-P	103	94.5	91.7			2.55
EPA 8321B	2,4-D	83.4	91.9	83.2			7.77
	2,4-D	111					9.74
	2,4,5-T	91.6	70.5	72.6			2.92
	2,4,5-T	94.6	94.1	77.6			19.2
	Acesulfame K	81.4	84.3	84.3			0.0195
	Acetaminophen	94.6	111	94.4			15.9
	Acetaminophen	95.0	116	110			5.68
	Acetamiprid	96.4	54.5	51.5			5.63
	Acetamiprid	103	89.2	83.7			6.36
	Afidopyropen	52.6	59.3	49.9			17.3
	Afidopyropen	73.9	85.7	83.8			2.21
	AMPA	118	101	101			0.312
	Bentazon	106					16.0
	Bentazon	116	105	92.6			9.87
	Benzovindiflupyr	95.8	88.3	82.3			7.06
	Benzovindiflupyr	96.4	93.6	87.0			7.34
	Carbamazepine	101	81.3	79.7			1.91
	Carbamazepine	95.8	99.7	92.9			7.03
	Clothianidin	114	120	102			16.5
	Clothianidin	102	121	110			9.52
	Dinotefuran	110	143	127			10.8
	Dinotefuran	101	137	136			1.19
	Diuron	87.2	57.4	60.3			5.00
	Diuron	88.1	77.3	69.4			10.8
	Endothall	123	122	121			1.50
	Fenuron	103	70.0	67.7			3.30
	Fenuron	108	97.3	89.4			8.47
	Fluridone	97.1	76.8	67.0			13.6
	Fluridone	102	102	104			1.05
	Glufosinate	155	86.5	92.8			7.05
	Glyphosate	113	86.1	87.6			1.72
	Hydrocodone	100	90.9	89.6			1.41
	Hydrocodone	98.4	104	104			0.319
	Ibuprofen	86.1	62.1	60.7			2.29
	Ibuprofen	89.9	84.4	82.3			2.57
	Imazapyr	108					0.309
	Imazapyr	103	103	94.7			7.78
	Imidacloprid	98.1	132	129			1.71
	Imidacloprid	141	150	141			6.37
	Linuron	94.7	74.8	65.2			13.6
	Linuron	96.5	86.5	88.8			2.69
	Mandestrobin	88.3	74.3	67.5			9.52
	Mandestrobin	95.9	90.1	85.5			5.27
	MCPP	95.9	84.7	78.5			7.68

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	MCP	110	110	103			6.98
	Naproxen	87.0	61.5	65.7			6.56
	Naproxen	72.7	86.7	78.6			9.78
	Primidone	111	102	105			2.93
	Primidone	106	120	115			4.39
	Pyraclostrobin	93.9	83.6	76.3			9.05
	Pyraclostrobin	86.4	87.1	84.5			3.07
	Silvex	83.7	96.2	88.8			7.98
	Silvex	88.4	91.9	80.7			13.1
	Sucralose	93.6	92.1	91.7			0.321
	Thiamethoxam	107	146	133			9.48
	Thiamethoxam	98.5	133	126			5.47
	Tolfenpyrad	62.3	50.2	50.1			0.332
	Tolfenpyrad	57.9	58.2	57.2			1.80
	Triclopyr	118	81.8	77.6			5.31
	Triclopyr	105	96.7	89.0			8.32
SM 2320 B-2011	Total Alkalinity	100				2.90	
	Total Alkalinity	101				0.0050	
SM 4500-F- C-2011	Fluoride	104	111	110			1.00
	Fluoride	102	100	99.7			0.483
SM 5310 B-2011	Organic Carbon	98.2	102	103			0.483
	Organic Carbon	98.8	89.1	89.0			0.105
	Organic Carbon	97.6	91.6	90.5			1.14

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2341208, 2341209, 2341212
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2341210, 2341211, 2341213
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2341210, 2341211, 2341213
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2341210, 2341211, 2341213
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2341210, 2341211, 2341213
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2341230, 2341231
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2341208, 2341209, 2341212
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2341208, 2341209, 2341212
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2341208, 2341209, 2341212
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2341210, 2341211, 2341213

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	07/13/2022			07/13/2022 15:37	Khloe J Berg	2341208, 2341209
	07/13/2022			07/13/2022 15:38	Khloe J Berg	2341212
	07/13/2022			07/21/2022 13:32	Ping Hua	2341210
EPA 350.1 Rev. 2.0	07/13/2022			07/21/2022 13:33	Ping Hua	2341211
	07/13/2022			07/25/2022 12:20	Judith K. Clark	2341213
	07/13/2022	07/19/2022 11:11	Samantha L Bates	07/20/2022 16:49	Alexandra J Mattheus	2341213
EPA 351.2 Rev. 2.0	07/13/2022	07/20/2022 11:06	Samantha L Bates	07/21/2022 12:26	Alexandra J Mattheus	2341210
	07/13/2022	07/20/2022 11:06	Samantha L Bates	07/21/2022 12:27	Alexandra J Mattheus	2341211
	07/13/2022			07/19/2022 14:55	Judith K. Clark	2341210
EPA 353.2 Rev. 2.0	07/13/2022			07/25/2022 09:38	Beverly Y. Sanders	2341213
	07/13/2022			07/26/2022 10:18	Beverly Y. Sanders	2341211
	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 14:40	James L Waggeberby	2341213
EPA 365.1 Rev. 2.0	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 15:13	James L Waggeberby	2341210
	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 15:14	James L Waggeberby	2341211
	07/13/2022	07/14/2022 10:00	Hoor Shaik	07/15/2022 09:05	Juyoung Kim	2341230
EPA 8321B	07/13/2022	07/18/2022 10:10	Umesh Chiluwal	07/18/2022 13:33	Umesh Chiluwal	2341230
	07/13/2022	07/18/2022 10:10	Umesh Chiluwal	07/18/2022 13:46	Umesh Chiluwal	2341231
	07/13/2022	07/18/2022 10:10	Umesh Chiluwal	07/18/2022 17:53	Umesh Chiluwal	2341230
	07/13/2022	07/18/2022 10:10	Umesh Chiluwal	07/19/2022 05:46	Umesh Chiluwal	2341230
	07/13/2022	07/18/2022 10:10	Umesh Chiluwal	07/19/2022 06:01	Umesh Chiluwal	2341231
	07/13/2022	07/19/2022 09:00	June Rhew	07/21/2022 21:23	Juyoung Kim	2341231
	07/13/2022			07/21/2022 04:28	Dale L. Simmons	2341212
SM 2320 B-2011	07/13/2022			07/21/2022 09:23	Dale L. Simmons	2341209
	07/13/2022			07/21/2022 11:11	Dale L. Simmons	2341208
	07/13/2022			07/18/2022 15:45	Yijie Li	2341208, 2341209, 2341212
SM 2540 D-2011	07/13/2022			07/21/2022 04:28	Dale L. Simmons	2341212
	07/13/2022			07/21/2022 07:07	Dale L. Simmons	2341209
	07/13/2022			07/21/2022 08:58	Dale L. Simmons	2341208
SM 4500-F- C-2011	07/13/2022			07/15/2022 21:48	Khloe J Berg	2341213
	07/13/2022			07/16/2022 00:24	Khloe J Berg	2341210
	07/13/2022			07/19/2022 04:11	Khloe J Berg	2341211