

Chemical Analysis Report

NW-DIST-2020-07-10-01

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

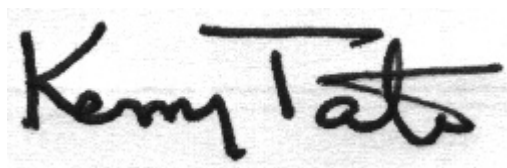
Event Description: **Perdido Run**
Request ID: **RQ-2020-07-06-58**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 30-JUL-2020 11:14

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first 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: Bridge Creek (Tidal Portion)

Collection Date/Time: 07/09/2020 10:20

Field ID: G5NW0129

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182510	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P384416	
	EPA 300.0 Rev. 2.1	Bromide	5.9		mg Br/L	P384895	
	SM 2320 B-2011	Total Alkalinity	26		mg CaCO3/L	P384614	
	SM 2540 D-2011	TSS	3	I	mg/L	P385023	
	SM 4500 F-C-2011	Fluoride	0.16		mg F/L	P384926	
2182511	EPA 350.1 Rev. 2.0	Ammonia-N	0.069		mg N/L	P384455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P384626	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.033		mg N/L	P384646	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P384564	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P384554	
2182512	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384521	
2182533	EPA 8321B	2,4-D	0.011		ug/L	P384331	
		Acesulfame K**	1.0	U	ug/L	P384573	MS
		AMPA**	0.10	U	ug/L	P384573	
		Sucralose**	0.49		ug/L	P384573	
		Acetaminophen**	0.0080	U	ug/L	P384331	
		Endothall**	2.5	U	ug/L	P384573	
		Acetamiprid**	0.0020	U	ug/L	P384331	
		Glufosinate**	0.10	U	ug/L	P384573	
		Glyphosate**	0.10	U	ug/L	P384573	
		Afidopyropen**	0.0020	U	ug/L	P384331	
		Bentazon	8.1E-04	I	ug/L	P384331	
		Benzovindiflupyr**	0.0020	U	ug/L	P384331	
		Carbamazepine**	8.0E-04	U	ug/L	P384331	
		Clothianidin**	0.0020	U	ug/L	P384331	
		Dinotefuran**	0.0020	U	ug/L	P384331	
		Diuron	0.0020	U	ug/L	P384331	
		Fenuron	0.016	U	ug/L	P384331	
		Fluridone**	8.0E-04	U	ug/L	P384331	
		Imazapyr**	0.11		ug/L	P384331	
		Hydrocodone**	0.0020	U	ug/L	P384331	
		Ibuprofen**	0.020	U	ug/L	P384331	
		Imidacloprid	0.026		ug/L	P384331	
		Linuron	0.0040	U	ug/L	P384331	
		Mandestrobin**	0.0020	U	ug/L	P384331	
		MCP	0.0020	U	ug/L	P384331	
		Naproxen**	0.0080	U	ug/L	P384331	
		Primidone**	0.0040	U	ug/L	P384331	
		Pyraclostrobin**	0.0020	U	ug/L	P384331	
		Thiamethoxam**	0.0020	U	ug/L	P384331	
		Tolfenpyrad**	0.0020	U	ug/L	P384331	
		Triclopyr**	0.0040	U	ug/L	P384331	

Field ID: G5NW0129

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch matrix spike recoveries for one of two spiked samples and batch relative percent difference are unavailable because of high analyte concentration in the QC sample.

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

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

EPA 8321B: MDL for some parameters elevated due to matrix interference.

Sample Location: Weekly Bayou Near Mouth

Collection Date/Time: 07/09/2020 11:10

Field ID: G5NW0158

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182513	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P384416	
	EPA 300.0 Rev. 2.1	Bromide	21		mg Br/L	P384895	
	SM 2320 B-2011	Total Alkalinity	51		mg CaCO3/L	P384615	
	SM 2540 D-2011	TSS	4	I	mg/L	P385018	
	SM 4500 F-C-2011	Fluoride	0.46		mg F/L	P384927	
2182515	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P384455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39	I	mg N/L	P384626	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P384646	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P384564	
	SM 5310 B-2011	Organic Carbon	7.0		mg C/L	P384782	
2182517	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P384523	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch matrix spike recoveries for one of two spiked samples and batch relative percent difference are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Weekly Bayou Middle Portion

Collection Date/Time: 07/09/2020 11:25

Field ID: G5NW0157

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182519	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P384416	
	EPA 300.0 Rev. 2.1	Bromide	15		mg Br/L	P384895	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P384615	
	SM 2540 D-2011	TSS	3	UA	mg/L	P385018	
	SM 4500 F-C-2011	Fluoride	0.35		mg F/L	P384927	
2182520	EPA 350.1 Rev. 2.0	Ammonia-N	0.056		mg N/L	P384455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P384626	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P384646	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P384564	
	SM 5310 B-2011	Organic Carbon	9.9		mg C/L	P384782	
2182521	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384523	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch matrix spike recoveries for one of two spiked samples and batch relative percent difference are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Bayou Garcon

Collection Date/Time: 07/09/2020 12:00

Field ID: G5NW0152

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182514	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P384416	
	EPA 300.0 Rev. 2.1	Bromide	29		mg Br/L	P384895	
	SM 2320 B-2011	Total Alkalinity	68		mg CaCO3/L	P384615	
	SM 2540 D-2011	TSS	5	I	mg/L	P385018	
	SM 4500 F-C-2011	Fluoride	0.64		mg F/L	P384927	
2182516	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P384455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P384626	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P384646	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P384564	
	SM 5310 B-2011	Organic Carbon	4.7		mg C/L	P384782	
2182518	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384523	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch matrix spike recoveries for one of two spiked samples and batch relative percent difference are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Bayou Garcon

Collection Date/Time: 07/09/2020 12:10

Field ID: FB_07092020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182522	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P384416	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P384895	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P384614	
	SM 2540 D-2011	TSS	2	U	mg/L	P385023	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P384926	
2182523	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P384456	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P384696	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P384709	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P385033	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P384554	
2182524	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384522	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch matrix spike recoveries for one of two spiked samples and batch relative percent difference are unavailable because of high analyte concentration in the QC sample.

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: P384416

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384895

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384455

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384456

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384626

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384696

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384646

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384709

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384564

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: P385033

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384521

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384522

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384523

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8321B
 Batch ID: P384331

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P384573

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: P384614

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

Reference Method: SM 2320 B-2011
Batch ID: P384615

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

Reference Method: SM 2540 D-2011
Batch ID: P385018

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385023

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P384926

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P384927

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P384554

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: P384782

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384456

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384696

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384646

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384709

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384564

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384521

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384522

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384523

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

Reference Method: EPA 8321B
Batch ID: P384331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.4		P	30 - 160
Acetaminophen	78.5		P	30 - 160
Acetamiprid	75.3		P	30 - 160
Afidopyropen	75.1		P	30 - 160
Bentazon	54.6		P	30 - 160
Benzovindiflupyr	66.2		P	30 - 160
Carbamazepine	66.8		P	30 - 160
Clothianidin	78.9		P	30 - 160
Dinotefuran	94.2		P	30 - 160
Diuron	51.3		P	30 - 160
Fenuron	91.7		P	30 - 160
Fluridone	90.2		P	30 - 160
Hydrocodone	88.4		P	30 - 160
Ibuprofen	81.4		P	30 - 160
Imazapyr	66.6		P	30 - 160
Imidacloprid	94.5		P	30 - 160
Linuron	53.9		P	30 - 160
Mandestrobin	76.5		P	30 - 160
MCPP	90.2		P	30 - 160
Naproxen	54.3		P	30 - 160
Primidone	75.6		P	30 - 160
Pyraclostrobin	64.6		P	30 - 160
Thiamethoxam	89.1		P	30 - 160
Tolfenpyrad	47.3		P	30 - 160
Triclopyr	72.2		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P384573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	79.0		P	40 - 150
AMPA	83.8		P	40 - 150
Endothall	102		P	40 - 150
Glufosinate	96.8		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P384573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	92.2		P	40 - 140
Sucralose	84.9		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P384614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P384615

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P384926

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P384927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P384554

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.5		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P384782

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180365	Bromide	95.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182516	Ammonia-N	99.6	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384456

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182561	Ammonia-N	97.2	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182516	Kjeldahl Nitrogen	105	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182694	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384646

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182511	NO2NO3-N	97.8	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182494	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384564

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182444	Total-P	94.2	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183530	Total-P	109	109	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182512	O-Phosphate-P	99.6	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384522

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182500	O-Phosphate-P	94.5	95.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384523

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182518	O-Phosphate-P	101	103	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P384331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181914	2,4-D	82.2	74.0	P/P	30 - 160
2181914	Acetaminophen	81.7	78.6	P/P	30 - 160
2181914	Acetamiprid	70.7	71.6	P/P	30 - 160
2181914	Afidopyropen	72.3	65.4	P/P	30 - 160
2181914	Benzovindiflupyr	67.2	63.5	P/P	30 - 160
2181914	Carbamazepine	61.0	55.7	P/P	30 - 160
2181914	Clothianidin	71.7	68.4	P/P	30 - 160
2181914	Dinotefuran	88.2	84.9	P/P	30 - 160
2181914	Diuron	51.2	50.5	P/P	30 - 160
2181914	Fenuron	76.1	70.1	P/P	30 - 160
2181914	Fluridone	89.5	85.4	P/P	30 - 160
2181914	Hydrocodone	71.5	65.3	P/P	30 - 160
2181914	Ibuprofen	68.0	66.0	P/P	30 - 160
2181914	Imazapyr	81.9	73.0	P/P	30 - 160
2181914	Imidacloprid	113	107	P/P	30 - 160
2181914	Linuron	56.5	53.5	P/P	30 - 160
2181914	Mandestrobin	76.9	70.7	P/P	30 - 160
2181914	MCPP	86.8	81.7	P/P	30 - 160
2181914	Naproxen	70.1	58.0	P/P	30 - 160
2181914	Primidone	67.1	69.8	P/P	30 - 160
2181914	Pyraclostrobin	62.5	57.8	P/P	30 - 160
2181914	Thiamethoxam	86.8	83.3	P/P	30 - 160
2181914	Tolfenpyrad	41.5	43.8	P/P	30 - 160
2181914	Triclopyr	58.8	60.9	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P384573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182347	Acesulfame K	37.9	38.4	F/F	40 - 150
2182347	AMPA	65.0	61.5	P/P	40 - 150
2182347	Endothall	101	106	P/P	40 - 150
2182347	Glufosinate	81.6	76.2	P/P	40 - 150
2182347	Glyphosate	83.5	73.4	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P384573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182347	Sucralose	60.3	68.1	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P384926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182490	Fluoride	100	99.6	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P384927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182519	Fluoride	100	99.6	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P384554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182496	Organic Carbon	95.4	96.0	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P384782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181853	Organic Carbon	101	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182492	Turbidity	1.96	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182516	Ammonia-N	0.803	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182561	Ammonia-N	1.03	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182516	Kjeldahl Nitrogen	3.63	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182694	Kjeldahl Nitrogen	1.64	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384646

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182511	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182494	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384564

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182444	Total-P	1.51	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183530	Total-P	0.0227	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182512	O-Phosphate-P	0.301	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182500	O-Phosphate-P	0.633	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182518	O-Phosphate-P	1.67	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P384331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181914	2,4-D	6.48	Spike	P	0 - 30
2181914	Acetaminophen	3.94	Spike	P	0 - 30
2181914	Acetamiprid	1.28	Spike	P	0 - 30
2181914	Afidopyropen	9.95	Spike	P	0 - 30
2181914	Bentazon	8.60	Spike	P	0 - 30
2181914	Benzovindiflupyr	5.73	Spike	P	0 - 30
2181914	Carbamazepine	9.04	Spike	P	0 - 30
2181914	Clothianidin	4.15	Spike	P	0 - 30
2181914	Dinotefuran	3.83	Spike	P	0 - 30
2181914	Diuron	1.16	Spike	P	0 - 30
2181914	Fenuron	8.17	Spike	P	0 - 30
2181914	Fluridone	3.56	Spike	P	0 - 30
2181914	Hydrocodone	8.98	Spike	P	0 - 30
2181914	Ibuprofen	3.08	Spike	P	0 - 30
2181914	Imazapyr	11.5	Spike	P	0 - 30
2181914	Imidacloprid	3.14	Spike	P	0 - 30
2181914	Linuron	5.34	Spike	P	0 - 30
2181914	Mandestrobin	8.38	Spike	P	0 - 30
2181914	MCPP	6.04	Spike	P	0 - 30
2181914	Naproxen	19.0	Spike	P	0 - 30
2181914	Primidone	3.54	Spike	P	0 - 30
2181914	Pyraclostrobin	7.80	Spike	P	0 - 30
2181914	Thiamethoxam	3.60	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P384331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181914	Tolfenpyrad	5.59	Spike	P	0 - 30
2181914	Triclopyr	3.54	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P384573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182347	Acesulfame K	1.19	Spike	P	0 - 30
2182347	AMPA	3.25	Spike	P	0 - 30
2182347	Endothall	4.87	Spike	P	0 - 30
2182347	Glufosinate	6.88	Spike	P	0 - 30
2182347	Glyphosate	9.96	Spike	P	0 - 30
2182347	Sucralose	12.0	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P384614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182560	Total Alkalinity	3.08	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P384615

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181548	Total Alkalinity	3.74	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P384926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182490	Fluoride	0.472	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P384927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182519	Fluoride	0.457	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P384554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182496	Organic Carbon	0.443	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P384782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181853	Organic Carbon	0.551	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2182533

Field Sample ID: G5NW0129

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.6	P	30 - 160
EPA 8321B	Diuron-d6	53.8	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	32.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	32.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.7	P	30 - 160
EPA 8321B	Primidone-d5	74.2	P	30 - 160
EPA 8321B	Sucralose-d6	69.3	P	30 - 160
EPA 8321B	Sucralose-d6	69.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100083

Included Lab Sample IDs: 2182523

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99804

Included Lab Sample IDs: 2182510, 2182513, 2182514, 2182519, 2182522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99811

Included Lab Sample IDs: 2182511, 2182515, 2182516, 2182520, 2182523

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	99.0	P/P	90 - 110
Ammonia-N	99.5	98.5	P/P	90 - 110
Ammonia-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99834

Included Lab Sample IDs: 2182512, 2182517, 2182518, 2182521, 2182524

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	101	P/P	90 - 110
O-Phosphate-P	99.2	98.5	P/P	90 - 110
O-Phosphate-P	99.4	99.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99846

Included Lab Sample IDs: 2182533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	84.0	94.0	P/P	50 - 150
Acetaminophen	110	113	P/P	60 - 160
Acetamiprid	107	108	P/P	50 - 150
Afidopyropen	121	118	P/P	50 - 150
Bentazon	113	117	P/P	50 - 160
Benzovindiflupyr	84.9	86.8	P/P	50 - 150
Carbamazepine	102	105	P/P	60 - 150
Clothianidin	100	94.9	P/P	60 - 150
Dinotefuran	105	101	P/P	50 - 150
Diuron	105	105	P/P	60 - 160
Fenuron	94.0	94.7	P/P	60 - 150
Fluridone	104	104	P/P	60 - 160
Hydrocodone	120	116	P/P	60 - 150
Ibuprofen	100	107	P/P	50 - 160
Imazapyr	76.6	86.1	P/P	50 - 150
Imidacloprid	96.0	97.4	P/P	60 - 150
Linuron	89.8	91.0	P/P	60 - 150
Mandestrobin	99.2	93.5	P/P	50 - 150
MCPP	88.4	95.1	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A99846

Included Lab Sample IDs: 2182533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Naproxen	97.8	98.6	P/P	50 - 160
Primidone	86.0	91.3	P/P	60 - 150
Pyraclostrobin	86.8	88.6	P/P	60 - 150
Thiamethoxam	116	117	P/P	50 - 150
Tolfenpyrad	102	108	P/P	60 - 150
Triclopyr	76.6	79.8	P/P	50 - 150

Reference Method: SM 5310 B-2011

Run ID: A99853

Included Lab Sample IDs: 2182511, 2182523

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.4	92.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A99877

Included Lab Sample IDs: 2182510, 2182513, 2182514, 2182519, 2182522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	102	P/P	90 - 110
Total Alkalinity	102	103	P/P	90 - 110
Total Alkalinity	103	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99878

Included Lab Sample IDs: 2182533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	86.7	85.5	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99885

Included Lab Sample IDs: 2182511, 2182515, 2182516, 2182520

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99903

Included Lab Sample IDs: 2182511, 2182515, 2182516, 2182520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99910

Included Lab Sample IDs: 2182523

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99913

Included Lab Sample IDs: 2182511, 2182515, 2182516, 2182520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	103	P/P	90 - 110
Kjeldahl Nitrogen	103	97.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99933

Included Lab Sample IDs: 2182533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	70.5	68.1	P/P	60 - 160
Endothall	99.7	98.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99934

Included Lab Sample IDs: 2182533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	81.5	83.7	P/P	60 - 160
Glufosinate	106	101	P/P	60 - 160
Glyphosate	101	98.7	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A99938

Included Lab Sample IDs: 2182515, 2182516, 2182520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.0	98.9	P/P	90 - 110
Organic Carbon	98.4	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99952

Included Lab Sample IDs: 2182523

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.6	97.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99977

Included Lab Sample IDs: 2182510, 2182513, 2182514, 2182519, 2182522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	92.6	98.0	P/P	90 - 110
Bromide	94.0	92.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99986

Included Lab Sample IDs: 2182510, 2182513, 2182514, 2182519, 2182522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110
Fluoride	101	101	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					1.96	
EPA 300.0 Rev. 2.1	Bromide	96.9	95.2				
EPA 350.1 Rev. 2.0	Ammonia-N	98.7	99.6	98.8			0.803
	Ammonia-N	98.9	97.2	98.5			1.03
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	105	100			3.63
	Kjeldahl Nitrogen	100	101	104			1.64
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	97.8	97.8			0.0
	NO2NO3-N	100	100	100			0.499
EPA 365.1 Rev. 2.0	Total-P	103	94.2	95.8			1.51
	Total-P	107	109	109			0.0227
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	99.6	99.9			0.301
	O-Phosphate-P	102	94.5	95.1			0.633
	O-Phosphate-P	103	101	103			1.67
EPA 8321B	2,4-D	81.4	82.2	74.0			6.48
	Acesulfame K	79.0	37.9	38.4			1.19
	Acetaminophen	78.5	81.7	78.6			3.94
	Acetamiprid	75.3	70.7	71.6			1.28
	Afidopyropen	75.1	72.3	65.4			9.95
	AMPA	83.8	65.0	61.5			3.25
	Bentazon	54.6					8.60
	Benzovindiflupyr	66.2	67.2	63.5			5.73
	Carbamazepine	66.8	61.0	55.7			9.04
	Clothianidin	78.9	71.7	68.4			4.15
	Dinotefuran	94.2	88.2	84.9			3.83
	Diuron	51.3	51.2	50.5			1.16
	Endothall	102	101	106			4.87
	Fenuron	91.7	76.1	70.1			8.17
	Fluridone	90.2	89.5	85.4			3.56
	Glufosinate	96.8	81.6	76.2			6.88
	Glyphosate	92.2	83.5	73.4			9.96
	Hydrocodone	88.4	71.5	65.3			8.98
	Ibuprofen	81.4	68.0	66.0			3.08
	Imazapyr	66.6	81.9	73.0			11.5
	Imidacloprid	94.5	113	107			3.14
	Linuron	53.9	56.5	53.5			5.34
	Mandestrobin	76.5	76.9	70.7			8.38
	MCPP	90.2	86.8	81.7			6.04
	Naproxen	54.3	70.1	58.0			19.0
	Primidone	75.6	67.1	69.8			3.54
	Pyraclostrobin	64.6	62.5	57.8			7.80
	Sucralose	84.9	60.3	68.1			12.0
	Thiamethoxam	89.1	86.8	83.3			3.60
	Tolfenpyrad	47.3	41.5	43.8			5.59
	Triclopyr	72.2	58.8	60.9			3.54
SM 2320 B-2011	Total Alkalinity	101				3.08	
	Total Alkalinity	101				3.74	
SM 4500 F-C-2011	Fluoride	97.4	100	99.6			0.472
	Fluoride	98.3	100	99.6			0.457
SM 5310 B-2011	Organic Carbon	95.5	95.4	96.0			0.443
	Organic Carbon	102	101	101			0.551

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2182510, 2182513, 2182514, 2182519, 2182522
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2182510, 2182513, 2182514, 2182519, 2182522
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2182511, 2182515, 2182516, 2182520, 2182523
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2182511, 2182515, 2182516, 2182520, 2182523
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2182511, 2182515, 2182516, 2182520, 2182523
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2182511, 2182515, 2182516, 2182520, 2182523
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2182512, 2182517, 2182518, 2182521, 2182524
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2182533
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2182533
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2182510, 2182513, 2182514, 2182519, 2182522
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2182510, 2182513, 2182514, 2182519, 2182522
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2182510, 2182513, 2182514, 2182519, 2182522
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2182511, 2182515, 2182516, 2182520, 2182523

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	07/10/2020			07/10/2020 15:21	Yen Ta	2182510, 2182513, 2182514, 2182519, 2182522
EPA 300.0 Rev. 2.1	07/10/2020			07/16/2020 01:24	Julia Storbeck	2182510
	07/10/2020			07/16/2020 01:42	Julia Storbeck	2182513
	07/10/2020			07/16/2020 02:36	Julia Storbeck	2182514
	07/10/2020			07/16/2020 02:55	Julia Storbeck	2182519
	07/10/2020			07/16/2020 03:13	Julia Storbeck	2182522
EPA 350.1 Rev. 2.0	07/10/2020			07/12/2020 17:58	Ping Hua	2182516
	07/10/2020			07/12/2020 18:04	Ping Hua	2182511
	07/10/2020			07/12/2020 18:06	Ping Hua	2182515
	07/10/2020			07/12/2020 18:13	Ping Hua	2182520
	07/10/2020			07/12/2020 18:33	Ping Hua	2182523
EPA 351.2 Rev. 2.0	07/10/2020	07/15/2020 10:50	Jhamieka S. Greenwood	07/16/2020 12:03	Jhamieka S. Greenwood	2182516
	07/10/2020	07/15/2020 10:50	Jhamieka S. Greenwood	07/16/2020 12:18	Jhamieka S. Greenwood	2182511
	07/10/2020	07/15/2020 10:50	Jhamieka S. Greenwood	07/16/2020 12:19	Jhamieka S. Greenwood	2182515
	07/10/2020	07/15/2020 10:50	Jhamieka S. Greenwood	07/16/2020 12:21	Jhamieka S. Greenwood	2182520
	07/10/2020	07/16/2020 09:35	Sima Feizi	07/17/2020 17:17	Jhamieka S. Greenwood	2182523
EPA 353.2 Rev. 2.0	07/10/2020			07/15/2020 10:19	Beverly Y. Sanders	2182511
	07/10/2020			07/15/2020 10:29	Beverly Y. Sanders	2182515
	07/10/2020			07/15/2020 10:31	Beverly Y. Sanders	2182516
	07/10/2020			07/15/2020 10:32	Beverly Y. Sanders	2182520
	07/10/2020			07/16/2020 09:46	Beverly Y. Sanders	2182523
EPA 365.1 Rev. 2.0	07/10/2020	07/14/2020 12:19	Yen Ta	07/16/2020 08:42	Lipi Saha	2182511
	07/10/2020	07/14/2020 12:19	Yen Ta	07/16/2020 08:43	Lipi Saha	2182515
	07/10/2020	07/14/2020 12:19	Yen Ta	07/16/2020 08:44	Lipi Saha	2182516
	07/10/2020	07/14/2020 12:19	Yen Ta	07/16/2020 08:45	Lipi Saha	2182520
	07/10/2020	07/23/2020 10:00	Lipi Saha	07/27/2020 08:04	Lipi Saha	2182523
EPA 365.1 Rev. 2.0 dissolved	07/10/2020			07/10/2020 23:04	Jhamieka S. Greenwood	2182512
	07/10/2020			07/10/2020 23:33	Jhamieka S. Greenwood	2182524
	07/10/2020			07/10/2020 23:41	Jhamieka S. Greenwood	2182518
	07/10/2020			07/10/2020 23:45	Jhamieka S. Greenwood	2182517
	07/10/2020			07/10/2020 23:46	Jhamieka S. Greenwood	2182521
EPA 8321B	07/10/2020	07/13/2020 08:30	Hoor Shaik	07/14/2020 08:48	Juyoung Kim	2182533
	07/10/2020	07/14/2020 15:15	Rebecca Ware	07/15/2020 02:11	Rebecca Ware	2182533
	07/10/2020	07/14/2020 15:15	Rebecca Ware	07/15/2020 13:24	Rebecca Ware	2182533
	07/10/2020	07/14/2020 15:15	Rebecca Ware	07/15/2020 16:31	Rebecca Ware	2182533
SM 2320 B-2011	07/10/2020			07/14/2020 12:55	Dale L. Simmons	2182522
	07/10/2020			07/14/2020 13:31	Dale L. Simmons	2182510
	07/10/2020			07/14/2020 16:43	Dale L. Simmons	2182513
	07/10/2020			07/14/2020 16:55	Dale L. Simmons	2182519

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	07/10/2020			07/14/2020 17:31	Dale L. Simmons	2182514
SM 2540 D-2011	07/10/2020			07/15/2020 15:29	Yijie Li	2182510, 2182513, 2182514, 2182519, 2182522
SM 4500 F-C-2011	07/10/2020			07/21/2020 02:00	Samantha Davila	2182522
	07/10/2020			07/21/2020 02:21	Samantha Davila	2182510
	07/10/2020			07/21/2020 02:46	Samantha Davila	2182519
	07/10/2020			07/21/2020 03:00	Samantha Davila	2182513
	07/10/2020			07/21/2020 04:16	Samantha Davila	2182514
SM 5310 B-2011	07/10/2020			07/13/2020 18:42	David Boose	2182511
	07/10/2020			07/13/2020 18:54	David Boose	2182523
	07/10/2020			07/17/2020 06:32	David Boose	2182515
	07/10/2020			07/17/2020 07:21	David Boose	2182516
	07/10/2020			07/17/2020 07:33	David Boose	2182520