

Chemical Analysis Report

NW-DIST-2021-03-05-01

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

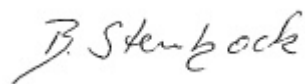
Event Description: **Twin Lakes Run**
Request ID: **RQ-2021-03-01-59**
Customer: **NW-DIST**
Project ID: **SMP**

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

Date Certified: 24-MAR-2021 17:49



NON-CONFORMANCE REPORT INCLUDED

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: Twin Lake South Lobe

Collection Date/Time: 03/04/2021 12:35

Field ID: G3NW0448

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2229539	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P394573	
	EPA 300.0 Rev. 2.1	Bromide	0.12		mg Br/L	P394860	
		Chloride	25		mg Cl/L	P394699	
		Sulfate	8.6		mg SO4/L	P394701	
	SM 2120 B-2011	Color (true)	52		PCU	P394580	
	SM 2320 B-2011	Total Alkalinity	58		mg CaCO3/L	P394734	
	SM 2540 C-2011	TDS	120		mg/L	P394830	
	SM 2540 D-2011	TSS	3	I	mg/L	P394835	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P394739	
2229544	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P394923	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62	J	mg N/L	P394786	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P394712	
	EPA 365.1 Rev. 2.0	Total-P	0.38		mg P/L	P394655	
	SM 5310 B-2011	Organic Carbon	8.8		mg C/L	P395113	
2229549	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.32		mg P/L	P394570	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Allen Lake Input

Collection Date/Time: 03/04/2021 11:30

Field ID: G3NW0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2229595	EPA 8321B	2,4-D	0.0020	U	ug/L	P394600	
		Acesulfame K	0.10	U	ug/L	P394640	MS
		2,4,5-T	0.0040	U	ug/L	P394600	
		AMPA	0.10	U	ug/L	P394640	
		Sucralose	0.010	U	ug/L	P394640	
		Acetaminophen	0.0080	U	ug/L	P394600	
		Acetamiprid	0.0020	U	ug/L	P394600	
		Endothall	0.25	U	ug/L	P394640	
		Glufosinate	0.10	U	ug/L	P394640	
		Glyphosate	0.10	U	ug/L	P394640	MS
		Afidopyropen	0.0020	U	ug/L	P394600	
		Bentazon	8.0E-04	U	ug/L	P394600	
		Benzovindiflupyr	0.0020	U	ug/L	P394600	
		Carbamazepine	8.0E-04	U	ug/L	P394600	
		Clothianidin	0.0020	U	ug/L	P394600	
		Dinotefuran	0.0025	I	ug/L	P394600	
		Diuron	0.0020	U	ug/L	P394600	
		Fenuron	0.016	U	ug/L	P394600	
		Fluridone	8.0E-04	U	ug/L	P394600	
		Imazapyr	0.0040	U	ug/L	P394600	
		Hydrocodone	0.0020	U	ug/L	P394600	
		Ibuprofen	0.020	U	ug/L	P394600	
		Imidacloprid	0.083		ug/L	P394600	
		Linuron	0.0040	U	ug/L	P394600	
		Mandestrobin	0.0020	U	ug/L	P394600	
		MCPP	0.0020	U	ug/L	P394600	
		Naproxen	0.0080	U	ug/L	P394600	
		Primidone	0.0040	U	ug/L	P394600	
		Pyraclostrobin	0.0020	U	ug/L	P394600	
		Thiamethoxam	0.0020	U	ug/L	P394600	
		Tolfenpyrad	0.0020	U	ug/L	P394600	
		Triclopyr	0.0040	U	ug/L	P394600	

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.

Sample Location: Twin Lake

Collection Date/Time: 03/04/2021 12:15

Field ID: G3NW0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2229540	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P394573	
	EPA 300.0 Rev. 2.1	Bromide	0.083		mg Br/L	P394860	
		Chloride	40		mg Cl/L	P394699	
		Sulfate	14		mg SO4/L	P394701	
	SM 2120 B-2011	Color (true)	53		PCU	P394580	
	SM 2320 B-2011	Total Alkalinity	65		mg CaCO3/L	P394734	
	SM 2540 C-2011	TDS	154		mg/L	P394830	
	SM 2540 D-2011	TSS	2	I	mg/L	P394835	
	SM 4500 F-C-2011	Fluoride	0.21		mg F/L	P394739	
2229545	EPA 350.1 Rev. 2.0	Ammonia-N	0.055		mg N/L	P394633	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P394786	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P394622	
	EPA 365.1 Rev. 2.0	Total-P	1.1		mg P/L	P394655	
	SM 5310 B-2011	Organic Carbon	7.3		mg C/L	P395113	
2229550	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	1.0		mg P/L	P394570	

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: Twin Lakes eastern Lake

Collection Date/Time: 03/04/2021 13:00

Field ID: G3NW0449

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2229541	EPA 180.1 Rev. 2.0	Turbidity	4.9	A	NTU	P394574	
	EPA 300.0 Rev. 2.1	Bromide	0.034	I	mg Br/L	P394860	
		Chloride	19		mg Cl/L	P394699	
		Sulfate	7.1		mg SO4/L	P394701	
	SM 2120 B-2011	Color (true)	30		PCU	P394580	
	SM 2320 B-2011	Total Alkalinity	46		mg CaCO3/L	P394734	
	SM 2540 C-2011	TDS	84		mg/L	P394830	
	SM 2540 D-2011	TSS	6	I	mg/L	P394835	
	SM 4500 F-C-2011	Fluoride	0.068	I	mg F/L	P394739	
2229546	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P394633	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P394786	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P394622	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P394655	
	SM 5310 B-2011	Organic Carbon	6.2		mg C/L	P395113	
2229551	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.089		mg P/L	P394570	

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: Coleman Lake

Collection Date/Time: 03/04/2021 13:30

Field ID: G3NW0216

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2229542	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P394574	
	EPA 300.0 Rev. 2.1	Bromide	0.053		mg Br/L	P394860	
		Chloride	28		mg Cl/L	P394699	
		Sulfate	10		mg SO4/L	P394701	
	SM 2120 B-2011	Color (true)	49	A	PCU	P394581	
	SM 2320 B-2011	Total Alkalinity	56		mg CaCO3/L	P394734	
	SM 2540 C-2011	TDS	131		mg/L	P394830	
	SM 2540 D-2011	TSS	4	I	mg/L	P394835	
	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P394739	
2229547	EPA 350.1 Rev. 2.0	Ammonia-N	0.075		mg N/L	P394633	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P394786	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.33		mg N/L	P394712	
	EPA 365.1 Rev. 2.0	Total-P	0.52		mg P/L	P394655	
	SM 5310 B-2011	Organic Carbon	6.6		mg C/L	P395113	
2229552	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.45		mg P/L	P394570	

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: Kell-aire Lake

Collection Date/Time: 03/04/2021 13:50

Field ID: G3NW0217

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2229543	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P394574	
	EPA 300.0 Rev. 2.1	Bromide	0.050		mg Br/L	P394860	
		Chloride	26	A	mg Cl/L	P394883	
		Sulfate	9.3	A	mg SO4/L	P394885	
	SM 2120 B-2011	Color (true)	47		PCU	P394581	
	SM 2320 B-2011	Total Alkalinity	54		mg CaCO3/L	P394734	
	SM 2540 C-2011	TDS	125	A	mg/L	P394831	
	SM 2540 D-2011	TSS	6	IA	mg/L	P394836	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P394739	
2229553	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.33		mg P/L	P394571	

Ref. Method and Comment:

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

Non-Conformance Report

NCR ID: 8708

Event(s)

NW-DIST-2021-03-05-01

Job(s)

TLH-2021-03-05-61

Sample(s)

2229548

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample logged in accordance to SMP protocol.
Customer notified via email, correspondence attached.
Customer asked for the sample to be cancelled.

Authorized by/Date: Joshua Ayres 3/12/2021

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P394573

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P394574

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394699

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394701

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394860

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394883

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394885

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394633

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394923

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394786

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394622

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394712

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394655

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394570

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394571

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

Reference Method: EPA 8321B
Batch ID: P394600

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	0.016	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P394600

Component	Result	Code	Units
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

Reference Method: EPA 8321B

Batch ID: P394640

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 2120 B-2011

Batch ID: P394580

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011

Batch ID: P394581

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P394734

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

Reference Method: SM 2540 C-2011

Batch ID: P394830

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011

Batch ID: P394831

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P394835

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P394836

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P394739

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P395113

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: P394699

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394701

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394860

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394883

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394885

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394633

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394923

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394622

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394712

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: P394655

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394570

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394571

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

Reference Method: EPA 8321B
Batch ID: P394600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	107		P	30 - 160
2,4,5-T	90.3		P	30 - 160
Acetaminophen	87.2		P	30 - 160
Acetamiprid	89.1		P	30 - 160
Afidopyropen	68.4		P	30 - 160
Bentazon	83.9		P	30 - 160
Benzovindiflupyr	89.3		P	30 - 160
Carbamazepine	95.9		P	30 - 160
Clothianidin	95.9		P	30 - 160
Dinotefuran	88.4		P	30 - 160
Diuron	71.1		P	30 - 160
Fenuron	104		P	30 - 160
Fluridone	93.2		P	30 - 160
Hydrocodone	98.7		P	30 - 160
Ibuprofen	83.2		P	30 - 160
Imazapyr	90.3		P	30 - 160
Imidacloprid	93.9		P	30 - 160
Linuron	78.5		P	30 - 160
Mandestrobin	85.6		P	30 - 160
MCPP	115		P	30 - 160
Naproxen	52.1		P	30 - 160
Primidone	96.1		P	30 - 160
Pyraclostrobin	81.7		P	30 - 160
Thiamethoxam	102		P	30 - 160
Tolfenpyrad	55.3		P	30 - 160
Triclopyr	97.6		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P394640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	70.7		P	40 - 150
AMPA	92.7		P	40 - 150
Endothall	104		P	40 - 150
Glufosinate	132		P	40 - 150
Glyphosate	127		P	40 - 140
Sucralose	99.7		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P394580

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P394581

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P394734

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P394739

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P395113

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394699

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229453	Chloride	104	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229453	Sulfate	100	98.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394860

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229539	Bromide	97.1	94.9	P/P	90 - 110
2229543	Bromide	95.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229543	Chloride	98.8		P	90 - 110
2229796	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229543	Sulfate	95.2		P	90 - 110
2229796	Sulfate	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229632	Ammonia-N	93.2	95.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229786	Ammonia-N	99.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229544	Kjeldahl Nitrogen	107	115	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394622

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229520	NO2NO3-N	100	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P394712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229445	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P394655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229488	Total-P	108	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P394570

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229489	O-Phosphate-P	94.7	95.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P394571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229627	O-Phosphate-P	103	103	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P394600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229501	2,4-D	101	118	P/P	30 - 160
2229501	2,4,5-T	93.4	95.3	P/P	30 - 160
2229501	Acetaminophen	100	126	P/P	30 - 160
2229501	Acetamiprid	79.0	83.1	P/P	30 - 160
2229501	Afidopyropen	67.2	68.3	P/P	30 - 160
2229501	Benzovindiflupyr	80.2	88.5	P/P	30 - 160
2229501	Carbamazepine	73.6	81.6	P/P	30 - 160
2229501	Clothianidin	95.5	101	P/P	30 - 160
2229501	Dinotefuran	112	122	P/P	30 - 160
2229501	Diuron	41.9	51.6	P/P	30 - 160
2229501	Fenuron	76.7	80.2	P/P	30 - 160
2229501	Fluridone	69.6	64.0	P/P	30 - 160
2229501	Hydrocodone	90.4	103	P/P	30 - 160
2229501	Ibuprofen	77.0	87.8	P/P	30 - 160
2229501	Imidacloprid	132	138	P/P	30 - 160
2229501	Linuron	53.8	63.3	P/P	30 - 160
2229501	Mandestrobin	73.1	80.1	P/P	30 - 160
2229501	MCPP	102	103	P/P	30 - 160
2229501	Naproxen	62.5	81.4	P/P	30 - 160
2229501	Primidone	81.8	97.6	P/P	30 - 160
2229501	Pyraclostrobin	77.1	85.8	P/P	30 - 160
2229501	Thiamethoxam	133	147	P/P	30 - 160
2229501	Tolfenpyrad	51.5	58.3	P/P	30 - 160
2229501	Triclopyr	97.7	102	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P394640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229501	Acesulfame K	141	165	P/F	40 - 150
2229501	AMPA	118	116	P/P	40 - 150
2229501	Endothall	148	113	P/P	40 - 150
2229501	Glufosinate	118	130	P/P	40 - 150
2229501	Glyphosate	39.6	54.5	F/P	40 - 140
2229501	Sucralose	123	120	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P394739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229495	Fluoride	99.8	99.8	P/P	94 - 107

Reference Method: SM 5310 B-2011

Batch ID: P395113

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2229546	Organic Carbon	94.1	94.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P394573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229444	Turbidity	2.64	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P394574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229541	Turbidity	4.45	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394699

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229453	Chloride	1.47	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229453	Sulfate	0.856	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394860

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229539	Bromide	1.81	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229543	Chloride	1.85	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229543	Sulfate	1.52	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229632	Ammonia-N	1.91	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P394923

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229786	Ammonia-N	1.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P394786

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229544	Kjeldahl Nitrogen	5.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P394622

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229520	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P394712

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229445	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P394655

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229488	Total-P	1.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P394570

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229489	O-Phosphate-P	0.736	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P394571

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229627	O-Phosphate-P	0.388	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P394600

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229501	2,4-D	9.49	Spike	P	0 - 30
2229501	2,4,5-T	2.09	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P394600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229501	Acetaminophen	13.7	Spike	P	0 - 30
2229501	Acetamiprid	5.14	Spike	P	0 - 30
2229501	Afidopyropen	1.64	Spike	P	0 - 30
2229501	Bentazon	7.56	Spike	P	0 - 30
2229501	Benzovindiflupyr	9.79	Spike	P	0 - 30
2229501	Carbamazepine	9.68	Spike	P	0 - 30
2229501	Clothianidin	5.83	Spike	P	0 - 30
2229501	Dinotefuran	8.45	Spike	P	0 - 30
2229501	Diuron	16.8	Spike	P	0 - 30
2229501	Fenuron	4.42	Spike	P	0 - 30
2229501	Fluridone	4.91	Spike	P	0 - 30
2229501	Hydrocodone	13.0	Spike	P	0 - 30
2229501	Ibuprofen	13.1	Spike	P	0 - 30
2229501	Imazapyr	12.0	Spike	P	0 - 30
2229501	Imidacloprid	3.44	Spike	P	0 - 30
2229501	Linuron	16.3	Spike	P	0 - 30
2229501	Mandestrobin	9.19	Spike	P	0 - 30
2229501	MCPP	0.679	Spike	P	0 - 30
2229501	Naproxen	26.2	Spike	P	0 - 30
2229501	Primidone	14.9	Spike	P	0 - 30
2229501	Pyraclostrobin	10.6	Spike	P	0 - 30
2229501	Thiamethoxam	10.3	Spike	P	0 - 30
2229501	Tolfenpyrad	12.4	Spike	P	0 - 30
2229501	Triclopyr	3.94	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P394640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229501	Acesulfame K	13.2	Spike	P	0 - 30
2229501	AMPA	1.65	Spike	P	0 - 30
2229501	Endothall	27.2	Spike	P	0 - 30
2229501	Glufosinate	9.09	Spike	P	0 - 30
2229501	Glyphosate	17.2	Spike	P	0 - 30
2229501	Sucralose	1.86	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
 Batch ID: P394580

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229453	Color (true)	0.664	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
 Batch ID: P394581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229542	Color (true)	0.138	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P394734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229495	Total Alkalinity	1.47	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P394830

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229453	TDS	3.91	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P394831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229543	TDS	6.40	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P394739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229495	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P395113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2229546	Organic Carbon	0.479	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2229595

Field Sample ID: G3NW0177

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	92.1	P	30 - 160
EPA 8321B	Diuron-d6	62.9	P	30 - 160
EPA 8321B	Endothall-d6	121	P	40 - 160
EPA 8321B	Endothall-d6	121	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	80.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	80.1	P	40 - 160
EPA 8321B	Ibuprofen-d3	74.2	P	30 - 160
EPA 8321B	Primidone-d5	83.7	P	30 - 160
EPA 8321B	Sucralose-d6	95.2	P	30 - 160
EPA 8321B	Sucralose-d6	95.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103917

Included Lab Sample IDs: 2229549, 2229550, 2229551, 2229552, 2229553

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	99.2	P/P	90 - 110
O-Phosphate-P	99.4	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103918

Included Lab Sample IDs: 2229539, 2229540, 2229541, 2229542, 2229543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A103920

Included Lab Sample IDs: 2229539, 2229540, 2229541, 2229542, 2229543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	103	P/P	90 - 115
Color (true)	103	102	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103943

Included Lab Sample IDs: 2229545, 2229546

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: A103952

Included Lab Sample IDs: 2229545, 2229546, 2229547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	97.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A103966

Included Lab Sample IDs: 2229595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	81.0	90.1	P/P	50 - 150
2,4,5-T	87.5	84.3	P/P	50 - 150
Acetaminophen	104	110	P/P	60 - 160
Acetamiprid	107	104	P/P	50 - 150
Afidopyropen	84.7	86.3	P/P	50 - 150
Bentazon	109	106	P/P	50 - 160
Benzovindiflupyr	107	106	P/P	50 - 160
Carbamazepine	99.6	100	P/P	60 - 150
Clothianidin	102	107	P/P	60 - 150
Dinotefuran	115	109	P/P	50 - 150
Diuron	107	106	P/P	60 - 160
Fenuron	108	104	P/P	60 - 150
Fluridone	110	125	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A103966
Included Lab Sample IDs: 2229595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	112	106	P/P	60 - 150
Ibuprofen	95.5	91.6	P/P	50 - 160
Imazapyr	89.6	101	P/P	50 - 160
Imidacloprid	101	90.2	P/P	60 - 150
Linuron	101	107	P/P	60 - 150
Mandestrobin	104	99.6	P/P	50 - 150
MCP	100	92.7	P/P	50 - 150
Naproxen	65.4	84.0	P/P	50 - 160
Primidone	92.0	94.7	P/P	60 - 150
Pyraclostrobin	98.1	99.8	P/P	60 - 150
Thiamethoxam	104	108	P/P	50 - 150
Tolfenpyrad	97.1	97.2	P/P	60 - 150
Triclopyr	93.4	101	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A103974
Included Lab Sample IDs: 2229539, 2229540, 2229541, 2229542, 2229543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	98.3	98.3	P/P	90 - 110
Sulfate	97.3	96.7	P/P	90 - 110
Sulfate	99.8	99.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A103978
Included Lab Sample IDs: 2229595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	60.2	84.3	P/P	60 - 160
AMPA	81.7	84.0	P/P	60 - 160
Endothall	99.9	121	P/P	60 - 160
Glufosinate	103	79.2	P/P	60 - 160
Glyphosate	141	151	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A103979
Included Lab Sample IDs: 2229544, 2229547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A103980
Included Lab Sample IDs: 2229539, 2229540, 2229541, 2229542, 2229543

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A103988

Included Lab Sample IDs: 2229544, 2229545, 2229546, 2229547

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

Reference Method: SM 2320 B-2011

Run ID: A103989

Included Lab Sample IDs: 2229539, 2229540, 2229541, 2229542, 2229543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	97.7	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A103989

Included Lab Sample IDs: 2229539, 2229540, 2229541, 2229542, 2229543

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A104046

Included Lab Sample IDs: 2229544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A104061

Included Lab Sample IDs: 2229544, 2229545, 2229546, 2229547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	107	P/P	90 - 110
Kjeldahl Nitrogen	107	106	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A104071

Included Lab Sample IDs: 2229595

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	108	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A104113

Included Lab Sample IDs: 2229544, 2229545, 2229546, 2229547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.4	94.8	P/P	90 - 110
Organic Carbon	94.5	94.4	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					2.64	
	Turbidity					4.45	
EPA 300.0 Rev. 2.1	Bromide	99.5	97.1	94.9	95.7		1.81
	Chloride	101	104	101			1.47
	Chloride	98.2	98.8	98.6		1.85	
	Sulfate	99.4	100	98.8			0.856
	Sulfate	96.7	95.2	96.7		1.52	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	93.2	95.6			1.91
	Ammonia-N	96.0	99.2	101			1.60
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.6	107	115			5.11
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	100			0.0
	NO2NO3-N	102	100	100			0.499
EPA 365.1 Rev. 2.0	Total-P	109	108	106			1.32
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	94.7	95.4			0.736
	O-Phosphate-P	101	103	103			0.388
EPA 8321B	2,4-D	107	101	118			9.49
	2,4,5-T	90.3	93.4	95.3			2.09
	Acesulfame K	70.7	141	165			13.2
	Acetaminophen	87.2	100	126			13.7
	Acetamiprid	89.1	79.0	83.1			5.14
	Afidopyropen	68.4	67.2	68.3			1.64
	AMPA	92.7	118	116			1.65
	Bentazon	83.9					7.56
	Benzovindiflupyr	89.3	80.2	88.5			9.79
	Carbamazepine	95.9	73.6	81.6			9.68
	Clothianidin	95.9	95.5	101			5.83
	Dinotefuran	88.4	112	122			8.45
	Diuron	71.1	41.9	51.6			16.8
	Endothall	104	148	113			27.2
	Fenuron	104	76.7	80.2			4.42
	Fluridone	93.2	69.6	64.0			4.91
	Glufosinate	132	118	130			9.09
	Glyphosate	127	39.6	54.5			17.2
	Hydrocodone	98.7	90.4	103			13.0
	Ibuprofen	83.2	77.0	87.8			13.1
	Imazapyr	90.3					12.0
	Imidacloprid	93.9	132	138			3.44
	Linuron	78.5	53.8	63.3			16.3
	Mandestrobin	85.6	73.1	80.1			9.19
	MCPP	115	102	103			0.679
	Naproxen	52.1	62.5	81.4			26.2
	Primidone	96.1	81.8	97.6			14.9
	Pyraclostrobin	81.7	77.1	85.8			10.6
	Sucralose	99.7	123	120			1.86
	Thiamethoxam	102	133	147			10.3
	Tolfenpyrad	55.3	51.5	58.3			12.4
	Triclopyr	97.6	97.7	102			3.94
SM 2120 B-2011	Color (true)	101				0.664	
	Color (true)	102				0.138	
SM 2320 B-2011	Total Alkalinity	98.4				1.47	
SM 2540 C-2011	TDS					3.91	
	TDS					6.40	
SM 4500 F-C-2011	Fluoride	98.2	99.8	99.8			0.0
SM 5310 B-2011	Organic Carbon	94.0	94.1	94.7			0.479

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2229539, 2229540, 2229541, 2229542, 2229543
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2229539, 2229540, 2229541, 2229542, 2229543
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2229539, 2229540, 2229541, 2229542, 2229543
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2229539, 2229540, 2229541, 2229542, 2229543
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2229544, 2229545, 2229546, 2229547
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2229544, 2229545, 2229546, 2229547
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2229544, 2229545, 2229546, 2229547
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2229544, 2229545, 2229546, 2229547
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2229549, 2229550, 2229551, 2229552, 2229553
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2229595
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2229595
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2229539, 2229540, 2229541, 2229542, 2229543
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2229539, 2229540, 2229541, 2229542, 2229543
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2229539, 2229540, 2229541, 2229542, 2229543
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2229539, 2229540, 2229541, 2229542, 2229543
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2229539, 2229540, 2229541, 2229542, 2229543
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2229544, 2229545, 2229546, 2229547

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	03/05/2021			03/05/2021 14:57	Yen Ta	2229539, 2229540, 2229541, 2229542, 2229543
EPA 300.0 Rev. 2.1	03/05/2021			03/09/2021 02:38	Lipi Saha	2229539
	03/05/2021			03/09/2021 02:50	Lipi Saha	2229540
	03/05/2021			03/09/2021 03:02	Lipi Saha	2229541
	03/05/2021			03/09/2021 03:14	Lipi Saha	2229542
	03/05/2021			03/10/2021 14:26	Lipi Saha	2229539
	03/05/2021			03/10/2021 15:20	Lipi Saha	2229543
	03/05/2021			03/10/2021 16:05	Lipi Saha	2229543
	03/05/2021			03/10/2021 16:32	Lipi Saha	2229540
	03/05/2021			03/10/2021 16:51	Lipi Saha	2229541
	03/05/2021			03/10/2021 17:09	Lipi Saha	2229542
EPA 350.1 Rev. 2.0	03/05/2021			03/08/2021 17:31	Ping Hua	2229545
	03/05/2021			03/08/2021 17:32	Ping Hua	2229546
	03/05/2021			03/08/2021 17:34	Ping Hua	2229547
	03/05/2021			03/12/2021 17:35	Ping Hua	2229544
EPA 351.2 Rev. 2.0	03/05/2021	03/11/2021 12:20	Benjamin T. Nordmann	03/15/2021 10:42	Virginia P. Brown	2229544
	03/05/2021	03/11/2021 12:20	Benjamin T. Nordmann	03/15/2021 10:50	Virginia P. Brown	2229545
	03/05/2021	03/11/2021 12:20	Benjamin T. Nordmann	03/15/2021 10:52	Virginia P. Brown	2229546
	03/05/2021	03/11/2021 12:20	Benjamin T. Nordmann	03/15/2021 10:53	Virginia P. Brown	2229547
EPA 353.2 Rev. 2.0	03/05/2021			03/08/2021 12:12	Beverly Y. Sanders	2229545
	03/05/2021			03/08/2021 12:13	Beverly Y. Sanders	2229546
	03/05/2021			03/10/2021 09:14	Beverly Y. Sanders	2229544
	03/05/2021			03/10/2021 09:15	Beverly Y. Sanders	2229547
EPA 365.1 Rev. 2.0	03/05/2021	03/09/2021 11:56	Yen Ta	03/10/2021 14:20	Shengyu Ding	2229544
	03/05/2021	03/09/2021 11:56	Yen Ta	03/10/2021 14:23	Shengyu Ding	2229545, 2229546
	03/05/2021	03/09/2021 11:56	Yen Ta	03/10/2021 14:24	Shengyu Ding	2229547
EPA 365.1 Rev. 2.0 dissolved	03/05/2021			03/05/2021 15:27	Patrick M. Roche	2229549
	03/05/2021			03/05/2021 15:28	Patrick M. Roche	2229550
	03/05/2021			03/05/2021 15:29	Patrick M. Roche	2229551
	03/05/2021			03/05/2021 15:30	Patrick M. Roche	2229552
	03/05/2021			03/05/2021 15:43	Patrick M. Roche	2229553
EPA 8321B	03/05/2021	03/09/2021 10:00	Hoor Shaik	03/10/2021 01:19	Juyoung Kim	2229595
	03/05/2021	03/09/2021 10:00	Rebecca Ware	03/09/2021 13:02	Rebecca Ware	2229595
	03/05/2021	03/09/2021 10:00	Rebecca Ware	03/12/2021 20:17	Rebecca Ware	2229595
SM 2120 B-2011	03/05/2021			03/05/2021 15:42	Benjamin T. Nordmann	2229539
	03/05/2021			03/05/2021 15:43	Benjamin T. Nordmann	2229540, 2229541
	03/05/2021			03/05/2021 15:48	Benjamin T. Nordmann	2229542
	03/05/2021			03/05/2021 15:49	Benjamin T. Nordmann	2229543
SM 2320 B-2011	03/05/2021			03/10/2021 03:22	Dale L. Simmons	2229539

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	03/05/2021			03/10/2021 03:36	Dale L. Simmons	2229540
	03/05/2021			03/10/2021 03:50	Dale L. Simmons	2229541
	03/05/2021			03/10/2021 04:04	Dale L. Simmons	2229542
	03/05/2021			03/10/2021 04:19	Dale L. Simmons	2229543
SM 2540 C-2011	03/05/2021			03/08/2021 14:25	Yijie Li	2229539, 2229540, 2229541, 2229542, 2229543
SM 2540 D-2011	03/05/2021			03/08/2021 14:25	Yijie Li	2229539, 2229540, 2229541, 2229542, 2229543
SM 4500 F-C-2011	03/05/2021			03/10/2021 03:22	Dale L. Simmons	2229539
	03/05/2021			03/10/2021 03:36	Dale L. Simmons	2229540
	03/05/2021			03/10/2021 03:50	Dale L. Simmons	2229541
	03/05/2021			03/10/2021 04:04	Dale L. Simmons	2229542
	03/05/2021			03/10/2021 04:19	Dale L. Simmons	2229543
SM 5310 B-2011	03/05/2021			03/17/2021 01:14	Madeline Gruver	2229546
	03/05/2021			03/17/2021 03:35	Madeline Gruver	2229544
	03/05/2021			03/17/2021 03:45	Madeline Gruver	2229545
	03/05/2021			03/17/2021 04:02	Madeline Gruver	2229547