

Chemical Analysis Report

NW-DIST-2020-03-11-02

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

Event Description: **Eastern Lakes**
Request ID: **RQ-2020-03-09-19**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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Pensacola, FL 32502-5794
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Date Certified: 30-MAR-2020 10:13



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: SPRING LAKE CENTER

Collection Date/Time: 03/10/2020 11:40

Field ID: G3NW0164

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163893	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P380533	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P380670	
		Sulfate	0.33	I	mg SO4/L	P380671	
	SM 2120 B-2011	Color (true)	10		PCU	P380480	
	SM 2320 B-2011	Total Alkalinity	2.8		mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	24	I	mg/L	P381109	
	SM 2540 D-2011	TSS	2	I	mg/L	P380982	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P381258	
2163895	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P380631	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381096	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P380799	
	SM 5310 B-2011	Organic Carbon	4.3		mg C/L	P380667	
2163897	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380502	

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: CASSIDY LAKE CENTER

Collection Date/Time: 03/10/2020 13:05

Field ID: G3NW0183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163894	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P380533	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P380670	
		Sulfate	0.79		mg SO4/L	P380671	
	SM 2120 B-2011	Color (true)	3.3	I	PCU	P380480	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	15	U	mg/L	P381109	
	SM 2540 D-2011	TSS	2	U	mg/L	P380982	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P381258	
2163896	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P380631	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381096	
	EPA 365.1 Rev. 2.0	Total-P	0.005	I	mg P/L	P380799	
	SM 5310 B-2011	Organic Carbon	2.3		mg C/L	P380667	
2163898	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380502	

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: LAKE JUNIPER CENTER

Collection Date/Time: 03/10/2020 14:25

Field ID: G3NW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163899	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P380533	
	EPA 300.0 Rev. 2.1	Chloride	5.5		mg Cl/L	P380670	
		Sulfate	1.0		mg SO4/L	P380671	
	SM 2120 B-2011	Color (true)	25		PCU	P380480	
	SM 2320 B-2011	Total Alkalinity	2.2	I	mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	21	I	mg/L	P381109	
	SM 2540 D-2011	TSS	2	U	mg/L	P380982	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P381260	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P380631	
2163901	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P381096	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P380799	
	SM 5310 B-2011	Organic Carbon	5.2		mg C/L	P380667	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P380502	
	dissolved						
2163915	EPA 8321B	2,4-D	0.0024	I	ug/L	P380458	
		Acesulfame K**	0.10	U	ug/L	P380603	MS
		AMPA**	0.10	U	ug/L	P380603	
		Sucralose**	1.4		ug/L	P380603	
		Acetaminophen**	0.0080	U	ug/L	P380458	
		Acetamiprid**	0.0020	U	ug/L	P380458	
		Endothall**	0.25	U	ug/L	P380603	
		Glufosinate**	0.10	U	ug/L	P380603	
		Glyphosate**	0.10	U	ug/L	P380603	
		Afidopyrophen**	0.0020	UJ	ug/L	P380458	
		Bentazon	8.0E-04	U	ug/L	P380458	MS
		Benzovindiflupyr**	0.0020	UJ	ug/L	P380458	
		Carbamazepine**	9.9E-04	I	ug/L	P380458	
		Clothianidin**	0.0020	U	ug/L	P380458	
		Dinotefuran**	0.0020	U	ug/L	P380458	
		Diuron	0.0020	U	ug/L	P380458	
		Fenuron	0.016	U	ug/L	P380458	
		Fluridone**	8.0E-04	U	ug/L	P380458	
		Imazapyr**	0.0040	U	ug/L	P380458	
		Hydrocodone**	0.0020	U	ug/L	P380458	
		Ibuprofen**	0.020	U	ug/L	P380458	
		Imidacloprid	0.0021	I	ug/L	P380458	
		Linuron	0.0040	U	ug/L	P380458	
		Mandestrobin**	0.0020	UJ	ug/L	P380458	
		MCP	0.0020	U	ug/L	P380458	
		Naproxen**	0.0080	U	ug/L	P380458	
		Primidone**	0.0042	I	ug/L	P380458	
		Pyraclostrobin**	0.0020	U	ug/L	P380458	
		Thiamethoxam**	0.0020	U	ug/L	P380458	

Field ID: G3NW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163915	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P380458	
		Triclopyr**	0.0040	U	ug/L	P380458	

Ref. Method and Comment:

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

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: LAKE JUNIPER CENTER

Collection Date/Time: 03/10/2020 14:30

Field ID: G3NW0119_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163900	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P380533	
	EPA 300.0 Rev. 2.1	Chloride	5.6		mg Cl/L	P380670	
		Sulfate	1.1		mg SO4/L	P380671	
	SM 2120 B-2011	Color (true)	24		PCU	P380480	
	SM 2320 B-2011	Total Alkalinity	2.1	I	mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	19	I	mg/L	P381109	
	SM 2540 D-2011	TSS	2	I	mg/L	P380982	
2163902	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P381260	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P380631	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.070		mg N/L	P381096	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P380799	
2163904	SM 5310 B-2011	Organic Carbon	5.1		mg C/L	P380667	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380502	
2163916	EPA 8321B	2,4-D	0.0021	I	ug/L	P380458	
		Acesulfame K**	0.10	U	ug/L	P380603	MS
		AMPA**	0.10	U	ug/L	P380603	
		Sucralose**	1.4		ug/L	P380603	
		Acetaminophen**	0.0080	U	ug/L	P380458	
		Acetamiprid**	0.0020	U	ug/L	P380458	
		Endothall**	0.25	U	ug/L	P380603	
		Glufosinate**	0.10	U	ug/L	P380603	
		Glyphosate**	0.10	U	ug/L	P380603	
		Afidopyrophen**	0.0020	UJ	ug/L	P380458	
		Bentazon	8.0E-04	U	ug/L	P380458	MS
		Benzovindiflupyr**	0.0020	UJ	ug/L	P380458	
		Carbamazepine**	0.0011	I	ug/L	P380458	
		Clothianidin**	0.0020	U	ug/L	P380458	
		Dinotefuran**	0.0020	U	ug/L	P380458	
		Diuron	0.0020	U	ug/L	P380458	
		Fenuron	0.016	U	ug/L	P380458	
		Fluridone**	8.0E-04	U	ug/L	P380458	
		Imazapyr**	0.0040	U	ug/L	P380458	
		Hydrocodone**	0.0020	U	ug/L	P380458	
		Ibuprofen**	0.020	U	ug/L	P380458	
		Imidacloprid	0.0021	I	ug/L	P380458	
		Linuron	0.0040	U	ug/L	P380458	
		Mandestrobin**	0.0020	UJ	ug/L	P380458	
		MCPD	0.0020	U	ug/L	P380458	
		Naproxen**	0.0080	U	ug/L	P380458	
		Primidone**	0.0040	I	ug/L	P380458	
		Pyraclostrobin**	0.0020	U	ug/L	P380458	
		Thiamethoxam**	0.0020	U	ug/L	P380458	

Field ID: G3NW0119_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163916	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P380458	
		Triclopyr**	0.0040	U	ug/L	P380458	

Ref. Method and Comment:

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

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: LAKE JUNIPER CENTER

Collection Date/Time: 03/10/2020 14:40

Field ID: FB_03102020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163905	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P380533	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P380670	
		Sulfate	0.20	U	mg SO4/L	P380671	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P380480	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	15	U	mg/L	P381104	
	SM 2540 D-2011	TSS	2	U	mg/L	P380978	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P381260	
2163906	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P380631	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381096	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P380799	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P380673	
2163907	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380504	
2163917	EPA 8321B	2,4-D	0.0020	U	ug/L	P380458	
		Acesulfame K**	0.10	U	ug/L	P380603	MS
		AMPA**	0.10	U	ug/L	P380603	
		Sucralose**	0.010	U	ug/L	P380603	
		Acetaminophen**	0.0080	U	ug/L	P380458	
		Acetamiprid**	0.0020	U	ug/L	P380458	
		Endothall**	0.25	U	ug/L	P380603	
		Glufosinate**	0.10	U	ug/L	P380603	
		Glyphosate**	0.10	U	ug/L	P380603	
		Afidopyrophen**	0.0020	UJ	ug/L	P380458	
		Bentazon	8.0E-04	U	ug/L	P380458	MS
		Benzovindiflupyr**	0.0020	UJ	ug/L	P380458	
		Carbamazepine**	8.0E-04	U	ug/L	P380458	
		Clothianidin**	0.0020	U	ug/L	P380458	
		Dinotefuran**	0.0020	U	ug/L	P380458	
		Diuron	0.0020	U	ug/L	P380458	
		Fenuron	0.016	U	ug/L	P380458	
		Fluridone**	8.0E-04	U	ug/L	P380458	
		Imazapyr**	0.0040	U	ug/L	P380458	
		Hydrocodone**	0.0020	U	ug/L	P380458	
		Ibuprofen**	0.020	U	ug/L	P380458	
		Imidacloprid	0.0020	U	ug/L	P380458	
		Linuron	0.0040	U	ug/L	P380458	
		Mandestrobin**	0.0020	UJ	ug/L	P380458	
		MCPD	0.0020	U	ug/L	P380458	
		Naproxen**	0.0080	U	ug/L	P380458	
		Primidone**	0.0040	U	ug/L	P380458	
		Pyraclostrobin**	0.0020	U	ug/L	P380458	
		Thiamethoxam**	0.0020	U	ug/L	P380458	

Field ID: FB_03102020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163917	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P380458	
		Triclopyr**	0.0040	U	ug/L	P380458	

Ref. Method and Comment:

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

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380533

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380670

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380671

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380969

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380631

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381096

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380799

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380502

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380504

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P380458

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

Reference Method: EPA 8321B

Batch ID: P380603

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: P380480

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P380928

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P381104

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P381109

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P380978

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P380982

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381258

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381260

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P380667

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

Reference Method: SM 5310 B-2011
Batch ID: P380673

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: P380670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380671

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380969

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380631

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381096

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380799

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380502

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.3		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P380458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	105		P	30 - 160
Acetaminophen	70.3		P	30 - 160
Acetamiprid	81.0		P	30 - 160
Afidopyropen	84.1		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P380458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	72.5		P	30 - 160
Benzovindiflupyr	72.1		P	30 - 160
Carbamazepine	89.3		P	30 - 160
Clothianidin	74.9		P	30 - 160
Dinotefuran	73.4		P	30 - 160
Diuron	75.1		P	30 - 160
Fenuron	78.3		P	30 - 160
Fluridone	69.7		P	30 - 160
Hydrocodone	64.8		P	30 - 160
Ibuprofen	75.5		P	30 - 160
Imazapyr	83.4		P	30 - 160
Imidacloprid	86.3		P	30 - 160
Linuron	72.0		P	30 - 160
Mandestrobin	73.3		P	30 - 160
MCPP	95.7		P	30 - 160
Naproxen	74.5		P	30 - 160
Primidone	79.0		P	30 - 160
Pyraclostrobin	71.6		P	30 - 160
Thiamethoxam	85.0		P	30 - 160
Tolfenpyrad	51.1		P	30 - 160
Triclopyr	111		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P380603

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	77.2		P	40 - 150
AMPA	92.5		P	40 - 150
Endothall	128		P	40 - 150
Glufosinate	121		P	40 - 150
Glyphosate	93.7		P	40 - 140
Sucralose	104		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P380480

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

Reference Method: SM 2320 B-2011
Batch ID: P380928

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P381258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	92 - 103

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P381260

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P380667

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.1		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P380673

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163860	Chloride	96.2		P	90 - 110
2164261	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380671

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163860	Sulfate	97.3		P	90 - 110
2164261	Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163864	Ammonia-N	99.3	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380631

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163864	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163866	NO2NO3-N	99.5	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163866	Total-P	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163898	O-Phosphate-P	98.8	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163872	O-Phosphate-P	97.4	98.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P380458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163321	Acetaminophen	82.8	72.8	P/P	30 - 160
2163321	Acetamidiprid	84.6	69.5	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P380458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163321	Afidopyropen	120	115	P/P	30 - 160
2163321	Bentazon	27.3	29.7	F/F	30 - 160
2163321	Benzovindiflupyr	82.4	83.3	P/P	30 - 160
2163321	Carbamazepine	75.6	70.0	P/P	30 - 160
2163321	Clothianidin	68.6	89.2	P/P	30 - 160
2163321	Dinotefuran	97.6	104	P/P	30 - 160
2163321	Diuron	67.1	72.0	P/P	30 - 160
2163321	Fenuron	54.2	70.2	P/P	30 - 160
2163321	Fluridone	75.6	75.2	P/P	30 - 160
2163321	Hydrocodone	70.6	80.5	P/P	30 - 160
2163321	Ibuprofen	68.0	71.3	P/P	30 - 160
2163321	Imazapyr	63.7	67.3	P/P	30 - 160
2163321	Imidacloprid	142	152	P/P	30 - 160
2163321	Linuron	61.0	65.0	P/P	30 - 160
2163321	Mandestrobin	75.1	77.1	P/P	30 - 160
2163321	MCCP	96.0	102	P/P	30 - 160
2163321	Naproxen	78.9	78.0	P/P	30 - 160
2163321	Primidone	72.3	88.2	P/P	30 - 160
2163321	Pyraclostrobin	82.2	84.4	P/P	30 - 160
2163321	Thiamethoxam	109	125	P/P	30 - 160
2163321	Tolfenpyrad	75.9	75.0	P/P	30 - 160
2163321	Triclopyr	132	124	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P380603

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163766	Acesulfame K	19.2	20.2	F/F	40 - 150
2163766	AMPA	96.6	90.1	P/P	40 - 150
2163766	Endothall	111	115	P/P	40 - 150
2163766	Glufosinate	104	113	P/P	40 - 150
2163766	Glyphosate	124	119	P/P	40 - 140
2163766	Sucralose	85.0	109	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
 Batch ID: P381258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163858	Fluoride	97.8	97.8	P/P	89 - 106

Reference Method: SM 4500 F-C-2011
 Batch ID: P381260

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2164225	Fluoride	100	99.3	P/P	89 - 106

Reference Method: SM 5310 B-2011
 Batch ID: P380667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163862	Organic Carbon	100	103	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P380673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2164304	Organic Carbon	95.3	96.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164227	Turbidity	7.17	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163860	Chloride	0.289	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380671

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163860	Sulfate	0.000688	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163864	Ammonia-N	1.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163864	Kjeldahl Nitrogen	1.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163866	NO2NO3-N	1.01	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163866	Total-P	0.628	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163898	O-Phosphate-P	0.813	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163872	O-Phosphate-P	1.33	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P380458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163321	2,4-D	2.12	Spike	P	0 - 30
2163321	Acetaminophen	8.34	Spike	P	0 - 30
2163321	Acetamiprid	19.6	Spike	P	0 - 30
2163321	Afidopyropen	4.94	Spike	P	0 - 30
2163321	Bentazon	2.92	Spike	P	0 - 30
2163321	Benzovindiflupyr	1.08	Spike	P	0 - 30
2163321	Carbamazepine	7.73	Spike	P	0 - 30
2163321	Clothianidin	24.9	Spike	P	0 - 30
2163321	Dinotefuran	6.53	Spike	P	0 - 30
2163321	Diuron	7.03	Spike	P	0 - 30
2163321	Fenuron	25.7	Spike	P	0 - 30
2163321	Fluridone	0.527	Spike	P	0 - 30
2163321	Hydrocodone	13.1	Spike	P	0 - 30
2163321	Ibuprofen	4.75	Spike	P	0 - 30
2163321	Imazapyr	2.10	Spike	P	0 - 30
2163321	Imidacloprid	6.51	Spike	P	0 - 30
2163321	Linuron	6.27	Spike	P	0 - 30
2163321	Mandestrobin	2.63	Spike	P	0 - 30
2163321	MCP	6.38	Spike	P	0 - 30
2163321	Naproxen	1.18	Spike	P	0 - 30
2163321	Primidone	19.8	Spike	P	0 - 30
2163321	Pyraclostrobin	2.59	Spike	P	0 - 30
2163321	Thiamethoxam	13.4	Spike	P	0 - 30
2163321	Tolfenpyrad	1.18	Spike	P	0 - 30
2163321	Triclopyr	6.69	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P380603

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163766	Acesulfame K	3.67	Spike	P	0 - 30
2163766	AMPA	5.88	Spike	P	0 - 30
2163766	Endothall	2.89	Spike	P	0 - 30
2163766	Glufosinate	8.46	Spike	P	0 - 30
2163766	Glyphosate	3.31	Spike	P	0 - 30
2163766	Sucralose	15.7	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P380480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163860	Color (true)	0.973	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
 Batch ID: P380928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163858	Total Alkalinity	0.270	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
 Batch ID: P381104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163251	TDS	3.92	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
 Batch ID: P381109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164224	TDS	5.70	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P381258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163858	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-2011
 Batch ID: P381260

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164225	Fluoride	0.473	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
 Batch ID: P380667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163862	Organic Carbon	1.67	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
 Batch ID: P380673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164304	Organic Carbon	1.12	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2163915
Field Sample ID: G3NW0119

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	113	P	30 - 160
EPA 8321B	Acetaminophen-d4	82.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.8	P	30 - 160
EPA 8321B	Diuron-d6	97.9	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	87.6	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	30 - 160

Lab Sample ID: 2163916
Field Sample ID: G3NW0119_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	111	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	99.7	P	30 - 160
EPA 8321B	Diuron-d6	97.2	P	30 - 160
EPA 8321B	Endothall-d6	137	P	30 - 160
EPA 8321B	Endothall-d6	137	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.8	P	30 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	117	P	30 - 160
EPA 8321B	Sucralose-d6	117	P	30 - 160

Lab Sample ID: 2163917
Field Sample ID: FB_03102020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	67.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.6	P	30 - 160
EPA 8321B	Diuron-d6	82.9	P	30 - 160
EPA 8321B	Endothall-d6	130	P	30 - 160
EPA 8321B	Endothall-d6	130	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.9	P	30 - 160
EPA 8321B	Primidone-d5	80.7	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A98096

Included Lab Sample IDs: 2163893, 2163894, 2163899, 2163900, 2163905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.9	98.6	P/P	90 - 110
Chloride	98.6	98.9	P/P	90 - 110
Sulfate	98.5	99.1	P/P	90 - 110
Sulfate	99.1	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A98133

Included Lab Sample IDs: 2163897, 2163898, 2163903, 2163904, 2163907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.8	96.8	P/P	90 - 110
O-Phosphate-P	98.4	98.6	P/P	90 - 110
O-Phosphate-P	98.6	98.4	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A98135

Included Lab Sample IDs: 2163893, 2163894, 2163899, 2163900, 2163905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A98149

Included Lab Sample IDs: 2163893, 2163894, 2163899, 2163900, 2163905

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

Reference Method: SM 5310 B-2011

Run ID: A98194

Included Lab Sample IDs: 2163895, 2163896, 2163901, 2163902

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

Reference Method: SM 5310 B-2011

Run ID: A98201

Included Lab Sample IDs: 2163906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	95.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A98208

Included Lab Sample IDs: 2163915, 2163916, 2163917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	89.3	97.4	P/P	40 - 200
Glufosinate	115	125	P/P	40 - 200
Glyphosate	100	102	P/P	40 - 200

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98210

Included Lab Sample IDs: 2163915, 2163916, 2163917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	78.7	83.6	P/P	60 - 160
Endothall	119	117	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98214

Included Lab Sample IDs: 2163915, 2163916, 2163917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.6	75.3	P/P	50 - 150
Acetaminophen	92.3	89.6	P/P	60 - 160
Acetamiprid	108	94.0	P/P	50 - 150
Afidopyropen	129	114	P/P	50 - 150
Bentazon	118	129	P/P	50 - 160
Benzovindiflupyr	108	102	P/P	50 - 150
Carbamazepine	112	101	P/P	60 - 150
Clothianidin	98.9	79.4	P/P	60 - 150
Dinotefuran	92.1	86.2	P/P	50 - 150
Diuron	123	107	P/P	60 - 150
Fenuron	95.3	93.2	P/P	60 - 150
Fluridone	98.2	97.1	P/P	60 - 160
Hydrocodone	101	91.7	P/P	60 - 150
Ibuprofen	86.7	90.0	P/P	50 - 160
Imazapyr	100	82.8	P/P	50 - 150
Imidacloprid	98.8	94.9	P/P	60 - 150
Linuron	107	109	P/P	60 - 150
Mandestrobin	101	96.1	P/P	50 - 150
MCPP	70.5	68.0	P/P	50 - 150
Naproxen	95.7	135	P/P	50 - 160
Primidone	94.3	86.6	P/P	60 - 150
Pyraclostrobin	102	99.5	P/P	60 - 150
Thiamethoxam	107	93.8	P/P	50 - 150
Tolfenpyrad	113	116	P/P	60 - 150
Triclopyr	109	95.4	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A98222

Included Lab Sample IDs: 2163895, 2163896, 2163901, 2163902, 2163906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A98229

Included Lab Sample IDs: 2163915, 2163916, 2163917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	63.5	106	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A98293

Included Lab Sample IDs: 2163893, 2163894, 2163899, 2163900, 2163905

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A98309

Included Lab Sample IDs: 2163895, 2163896, 2163901, 2163902, 2163906

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98319

Included Lab Sample IDs: 2163895, 2163896, 2163901, 2163902, 2163906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.2	P/P	90 - 110
Total-P	99.5	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A98374

Included Lab Sample IDs: 2163895, 2163896, 2163901, 2163902, 2163906

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

Reference Method: SM 4500 F-C-2011

Run ID: A98428

Included Lab Sample IDs: 2163893, 2163894, 2163899, 2163900, 2163905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.0	97.6	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					7.17	
EPA 300.0 Rev. 2.1	Chloride	97.7	96.2	97.5		0.289	
	Sulfate	97.5	97.3	98.6		0.0006	
EPA 350.1 Rev. 2.0	Ammonia-N	102	99.3	101			1.12
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.7	102	105			1.92
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	99.5	98.5			1.01
EPA 365.1 Rev. 2.0	Total-P	104	108	107			0.628
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9	98.8	98.0			0.813
	O-Phosphate-P	98.3	97.4	98.7			1.33
EPA 8321B	2,4-D	105					2.12
	Acesulfame K	77.2	19.2	20.2			3.67
	Acetaminophen	70.3	82.8	72.8			8.34
	Acetamiprid	81.0	84.6	69.5			19.6
	Afidopyropen	84.1	120	115			4.94
	AMPA	92.5	96.6	90.1			5.88
	Bentazon	72.5	27.3	29.7			2.92
	Benzovindiflupyr	72.1	82.4	83.3			1.08
	Carbamazepine	89.3	75.6	70.0			7.73
	Clothianidin	74.9	68.6	89.2			24.9
	Dinotefuran	73.4	97.6	104			6.53
	Diuron	75.1	67.1	72.0			7.03
	Endothall	128	111	115			2.89
	Fenuron	78.3	54.2	70.2			25.7
	Fluridone	69.7	75.6	75.2			0.527
	Glufosinate	121	104	113			8.46
	Glyphosate	93.7	124	119			3.31
	Hydrocodone	64.8	70.6	80.5			13.1
	Ibuprofen	75.5	68.0	71.3			4.75
	Imazapyr	83.4	63.7	67.3			2.10
	Imidacloprid	86.3	142	152			6.51
	Linuron	72.0	61.0	65.0			6.27
	Mandestrobin	73.3	75.1	77.1			2.63
	MCPP	95.7	96.0	102			6.38
	Naproxen	74.5	78.9	78.0			1.18
	Primidone	79.0	72.3	88.2			19.8
	Pyraclostrobin	71.6	82.2	84.4			2.59
	Sucralose	104	85.0	109			15.7
	Thiamethoxam	85.0	109	125			13.4
	Tolfenpyrad	51.1	75.9	75.0			1.18
	Triclopyr	111	132	124			6.69
SM 2120 B-2011	Color (true)	101				0.973	
SM 2320 B-2011	Total Alkalinity	104				0.270	
SM 2540 C-2011	TDS					3.92	
	TDS					5.70	
SM 4500 F-C-2011	Fluoride	96.7	97.8	97.8			0.0
	Fluoride	95.3	100	99.3			0.473
SM 5310 B-2011	Organic Carbon	98.1	100	103			1.67
	Organic Carbon	94.6	95.3	96.9			1.12

Reference Method Descriptions

Method	Description	Associated Samples
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Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2163893, 2163894, 2163899, 2163900, 2163905
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2163893, 2163894, 2163899, 2163900, 2163905
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2163893, 2163894, 2163899, 2163900, 2163905
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2163895, 2163896, 2163901, 2163902, 2163906
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2163895, 2163896, 2163901, 2163902, 2163906
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2163895, 2163896, 2163901, 2163902, 2163906
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2163895, 2163896, 2163901, 2163902, 2163906
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2163897, 2163898, 2163903, 2163904, 2163907
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2163915, 2163916, 2163917
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2163915, 2163916, 2163917
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2163893, 2163894, 2163899, 2163900, 2163905
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2163893, 2163894, 2163899, 2163900, 2163905
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2163893, 2163894, 2163899, 2163900, 2163905
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2163893, 2163894, 2163899, 2163900, 2163905
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2163893, 2163894, 2163899, 2163900, 2163905
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2163895, 2163896, 2163901, 2163902, 2163906

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	03/11/2020			03/11/2020 19:16	Yen Ta	2163893, 2163894, 2163899, 2163900, 2163905
EPA 300.0 Rev. 2.1	03/11/2020			03/13/2020 17:43	Lipi Saha	2163893
	03/11/2020			03/13/2020 17:56	Lipi Saha	2163894
	03/11/2020			03/13/2020 18:08	Lipi Saha	2163899
	03/11/2020			03/13/2020 18:20	Lipi Saha	2163900
	03/11/2020			03/13/2020 18:56	Lipi Saha	2163905
EPA 350.1 Rev. 2.0	03/11/2020			03/19/2020 12:49	Ping Hua	2163895
	03/11/2020			03/19/2020 12:50	Ping Hua	2163896
	03/11/2020			03/19/2020 12:52	Ping Hua	2163901
	03/11/2020			03/19/2020 12:53	Ping Hua	2163902
	03/11/2020			03/19/2020 12:55	Ping Hua	2163906
EPA 351.2 Rev. 2.0	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:30	Julia Storbeck	2163895
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:31	Julia Storbeck	2163896
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:33	Julia Storbeck	2163901
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:34	Julia Storbeck	2163902
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:36	Julia Storbeck	2163906
EPA 353.2 Rev. 2.0	03/11/2020			03/20/2020 11:03	Beverly Y. Sanders	2163895
	03/11/2020			03/20/2020 11:04	Beverly Y. Sanders	2163896
	03/11/2020			03/20/2020 11:05	Beverly Y. Sanders	2163901
	03/11/2020			03/20/2020 11:07	Beverly Y. Sanders	2163902
	03/11/2020			03/20/2020 11:08	Beverly Y. Sanders	2163906
EPA 365.1 Rev. 2.0	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 16:51	Benjamin T. Nordmann	2163906
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 16:56	Benjamin T. Nordmann	2163895
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 16:57	Benjamin T. Nordmann	2163896
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 17:04	Benjamin T. Nordmann	2163901
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 17:05	Benjamin T. Nordmann	2163902
EPA 365.1 Rev. 2.0 dissolved	03/11/2020			03/11/2020 14:25	Carlos Miranda	2163898
	03/11/2020			03/11/2020 14:37	Carlos Miranda	2163897
	03/11/2020			03/11/2020 14:38	Carlos Miranda	2163903
	03/11/2020			03/11/2020 14:39	Carlos Miranda	2163904
	03/11/2020			03/11/2020 15:45	Carlos Miranda	2163907
EPA 8321B	03/11/2020	03/12/2020 10:00	Hoor Shaik	03/15/2020 09:28	Juyoung Kim	2163915
	03/11/2020	03/12/2020 10:00	Hoor Shaik	03/15/2020 10:03	Juyoung Kim	2163916
	03/11/2020	03/12/2020 10:00	Hoor Shaik	03/15/2020 10:37	Juyoung Kim	2163917
	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/13/2020 12:58	Mohammad Ghaffari	2163915
	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/13/2020 13:08	Mohammad Ghaffari	2163916
	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/13/2020 13:19	Mohammad Ghaffari	2163917
	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/15/2020 15:10	Mohammad Ghaffari	2163915
	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/15/2020 15:24	Mohammad Ghaffari	2163916

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/15/2020 15:38	Mohammad Ghaffari	2163917
	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/16/2020 13:09	Mohammad Ghaffari	2163915
	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/16/2020 13:21	Mohammad Ghaffari	2163916
	03/11/2020	03/13/2020 11:00	Mohammad Ghaffari	03/16/2020 13:33	Mohammad Ghaffari	2163917
SM 2120 B-2011	03/11/2020			03/11/2020 18:24	Madeline Gruver	2163893
	03/11/2020			03/11/2020 18:25	Madeline Gruver	2163894, 2163899
	03/11/2020			03/11/2020 18:26	Madeline Gruver	2163900
	03/11/2020			03/11/2020 18:27	Madeline Gruver	2163905
SM 2320 B-2011	03/11/2020			03/19/2020 03:43	Dale L. Simmons	2163893
	03/11/2020			03/19/2020 03:54	Dale L. Simmons	2163894
	03/11/2020			03/19/2020 04:07	Dale L. Simmons	2163899
	03/11/2020			03/19/2020 04:20	Dale L. Simmons	2163900
SM 2540 C-2011	03/11/2020			03/19/2020 04:34	Dale L. Simmons	2163905
	03/11/2020			03/13/2020 15:32	Yijie Li	2163893, 2163894, 2163899, 2163900, 2163905
SM 2540 D-2011	03/11/2020			03/13/2020 15:32	Yijie Li	2163893, 2163894, 2163899, 2163900, 2163905
SM 4500 F-C-2011	03/11/2020			03/24/2020 15:17	Dale L. Simmons	2163893
	03/11/2020			03/24/2020 15:22	Dale L. Simmons	2163894
	03/11/2020			03/24/2020 16:10	Dale L. Simmons	2163899
	03/11/2020			03/24/2020 16:15	Dale L. Simmons	2163900
SM 5310 B-2011	03/11/2020			03/24/2020 16:20	Dale L. Simmons	2163905
	03/11/2020			03/13/2020 04:02	Lauren Lees	2163895
	03/11/2020			03/13/2020 04:15	Lauren Lees	2163902
	03/11/2020			03/13/2020 04:28	Lauren Lees	2163901
	03/11/2020			03/13/2020 05:08	Lauren Lees	2163896
	03/11/2020			03/13/2020 07:56	Lauren Lees	2163906