

Chemical Analysis Report

NE-DIST-2020-09-11-02

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

Event Description: **Nassau East Boat**
Request ID: **RQ-2020-09-07-29**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 01-OCT-2020 09:06

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: Metals, 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: Thomas Creek 7 Miles Down From Ethel

Collection Date/Time: 09/10/2020 09:55

Field ID: G4NE0299

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2195700	EPA 180.1 Rev. 2.0	Turbidity	4.5	A	NTU	P387276	
	EPA 300.0 Rev. 2.1	Bromide	0.12		mg Br/L	P387503	
	SM 2320 B-2011	Total Alkalinity	22		mg CaCO3/L	P387363	
	SM 2540 D-2011	TSS	6	I	mg/L	P387633	
	SM 4500 F-C-2011	Fluoride	0.069	I	mg F/L	P387365	
2195702	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P387306	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P387477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P387468	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P387808	
	SM 5310 B-2011	Organic Carbon	37		mg C/L	P387426	
2195704	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.18		mg P/L	P387520	
2195722	EPA 8321B	2,4-D	0.0020	U	ug/L	P387335	
		Acesulfame K**	0.10	U	ug/L	P387254	
		AMPA**	0.31	I	ug/L	P387254	
		Sucralose**	0.010	U	ug/L	P387254	
		Acetaminophen**	0.0080	U	ug/L	P387335	
		Acetamiprid**	0.0020	U	ug/L	P387335	
		Endothall**	0.25	U	ug/L	P387254	
		Glufosinate**	0.10	U	ug/L	P387254	
		Glyphosate**	0.10	U	ug/L	P387254	
		Afidopyropen**	0.0020	U	ug/L	P387335	
		Bentazon	8.0E-04	U	ug/L	P387335	
		Benzovindiflupyr**	0.0020	U	ug/L	P387335	
		Carbamazepine**	8.0E-04	U	ug/L	P387335	
		Clothianidin**	0.0020	U	ug/L	P387335	
		Dinotefuran**	0.0020	U	ug/L	P387335	
		Diuron	0.0020	U	ug/L	P387335	
		Fenuron	0.016	U	ug/L	P387335	
		Fluridone**	9.7E-04	I	ug/L	P387335	
		Imazapyr**	0.085		ug/L	P387335	
		Hydrocodone**	0.0020	U	ug/L	P387335	
		Ibuprofen**	0.020	U	ug/L	P387335	
		Imidacloprid	0.0020	U	ug/L	P387335	
		Linuron	0.0040	U	ug/L	P387335	
		Mandestrobin**	0.0020	U	ug/L	P387335	
		MCP	0.0020	U	ug/L	P387335	
		Naproxen**	0.0080	U	ug/L	P387335	
		Primidone**	0.0040	U	ug/L	P387335	
		Pyraclostrobin**	0.0020	U	ug/L	P387335	
		Thiamethoxam**	0.0020	U	ug/L	P387335	
		Tolfenpyrad**	0.0020	U	ug/L	P387335	
		Triclopyr**	0.0040	U	ug/L	P387335	
2195731	EPA 200.7 Rev. 4.4	Iron	1.04E+03		ug/L	P387388	

Field ID: G4NE0299

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2195731	EPA 200.7 Rev. 4.4	Manganese	19.9		ug/L	P387388	
		Zinc	5.0	U	ug/L	P387388	
	EPA 200.8 Rev. 5.4	Aluminum	409		ug/L	P387388	
		Antimony	0.061	I	ug/L	P387388	
		Arsenic	0.92		ug/L	P387388	
		Cadmium	0.020	U	ug/L	P387388	
		Chromium	0.81	I	ug/L	P387388	
		Copper	0.50	I	ug/L	P387388	
		Lead	0.64		ug/L	P387388	
		Nickel	0.73	I	ug/L	P387388	
		Selenium	0.20	U	ug/L	P387388	
		Silver	0.010	U	ug/L	P387388	
		Thallium	0.10	U	ug/L	P387388	

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

Sample Location: Thomas CR 6.0 Mi Below City Prison

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

Field ID: G4NE0008

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2195701	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P387276	
	EPA 300.0 Rev. 2.1	Bromide	0.11		mg Br/L	P387503	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P387363	
	SM 2540 D-2011	TSS	5	I	mg/L	P387633	
	SM 4500 F-C-2011	Fluoride	0.070	I	mg F/L	P387365	
2195703	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P387306	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P387477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P387468	
	EPA 365.1 Rev. 2.0	Total-P	0.27		mg P/L	P387808	
	SM 5310 B-2011	Organic Carbon	39		mg C/L	P387426	
2195705	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.20		mg P/L	P387520	
2195723	EPA 8321B	2,4-D	0.0020	U	ug/L	P387335	
		Acesulfame K**	0.10	U	ug/L	P387254	
		AMPA**	0.37	I	ug/L	P387254	
		Sucralose**	0.010	I	ug/L	P387254	
		Acetaminophen**	0.0080	U	ug/L	P387335	
		Acetamiprid**	0.0020	U	ug/L	P387335	
		Endothall**	0.25	U	ug/L	P387254	
		Glufosinate**	0.10	U	ug/L	P387254	
		Glyphosate**	0.10	U	ug/L	P387254	
		Afidopyropen**	0.0020	U	ug/L	P387335	
		Bentazon	8.0E-04	U	ug/L	P387335	
		Benzovindiflupyr**	0.0020	U	ug/L	P387335	
		Carbamazepine**	8.0E-04	U	ug/L	P387335	
		Clothianidin**	0.0020	U	ug/L	P387335	
		Dinotefuran**	0.0020	U	ug/L	P387335	
		Diuron	0.0020	U	ug/L	P387335	
		Fenuron	0.016	U	ug/L	P387335	
		Fluridone**	9.0E-04	I	ug/L	P387335	
		Imazapyr**	0.085		ug/L	P387335	
		Hydrocodone**	0.0020	U	ug/L	P387335	
		Ibuprofen**	0.020	U	ug/L	P387335	
		Imidacloprid	0.0020	U	ug/L	P387335	
		Linuron	0.0040	U	ug/L	P387335	
		Mandestrobin**	0.0020	U	ug/L	P387335	
		MCP	0.0020	U	ug/L	P387335	
		Naproxen**	0.0080	U	ug/L	P387335	
		Primidone**	0.0040	U	ug/L	P387335	
		Pyraclostrobin**	0.0020	U	ug/L	P387335	
		Thiamethoxam**	0.0020	U	ug/L	P387335	
		Tolfenpyrad**	0.0020	U	ug/L	P387335	
		Triclopyr**	0.0040	U	ug/L	P387335	
2195732	EPA 200.7 Rev. 4.4	Iron	1.04E+03		ug/L	P387388	

Field ID: G4NE0008

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2195732	EPA 200.7 Rev. 4.4	Manganese	18.7		ug/L	P387388	
		Zinc	5.0	U	ug/L	P387388	
	EPA 200.8 Rev. 5.4	Aluminum	404		ug/L	P387388	
		Antimony	0.052	I	ug/L	P387388	
		Arsenic	0.92		ug/L	P387388	
		Cadmium	0.020	U	ug/L	P387388	
		Chromium	0.78	I	ug/L	P387388	
		Copper	0.48	I	ug/L	P387388	
		Lead	0.63		ug/L	P387388	
		Nickel	0.71	I	ug/L	P387388	
		Selenium	0.20	U	ug/L	P387388	
		Silver	0.010	U	ug/L	P387388	
		Thallium	0.10	U	ug/L	P387388	

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

Sample Location: Field Blank

Collection Date/Time: 09/10/2020 10:15

Field ID: FB091020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2195712	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P387503	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P387364	
	SM 2540 D-2011	TSS	2	U	mg/L	P387634	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P387366	
2195713	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P387306	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P387477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P387468	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P387808	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P387426	
2195714	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P387283	
2195724	EPA 8321B	2,4-D	0.0020	U	ug/L	P387335	
		Acesulfame K**	0.10	U	ug/L	P387254	
		AMPA**	0.10	U	ug/L	P387254	
		Sucralose**	0.010	U	ug/L	P387254	
		Acetaminophen**	0.0080	U	ug/L	P387335	
		Acetamiprid**	0.0020	U	ug/L	P387335	
		Endothall**	0.25	U	ug/L	P387254	
		Glufosinate**	0.10	U	ug/L	P387254	
		Glyphosate**	0.10	U	ug/L	P387254	
		Afidopyropen**	0.0020	U	ug/L	P387335	
		Bentazon	8.0E-04	U	ug/L	P387335	
		Benzovindiflupyr**	0.0020	U	ug/L	P387335	
		Carbamazepine**	8.0E-04	U	ug/L	P387335	
		Clothianidin**	0.0020	U	ug/L	P387335	
		Dinotefuran**	0.0020	U	ug/L	P387335	
		Diuron	0.0020	U	ug/L	P387335	
		Fenuron	0.016	U	ug/L	P387335	
		Fluridone**	8.0E-04	U	ug/L	P387335	
		Imazapyr**	0.0040	U	ug/L	P387335	
		Hydrocodone**	0.0020	U	ug/L	P387335	
		Ibuprofen**	0.020	U	ug/L	P387335	
		Imidacloprid	0.0020	U	ug/L	P387335	
		Linuron	0.0040	U	ug/L	P387335	
		Mandestrobin**	0.0020	U	ug/L	P387335	
		MCPP	0.0020	U	ug/L	P387335	
		Naproxen**	0.0080	U	ug/L	P387335	
		Primidone**	0.0040	U	ug/L	P387335	
		Pyraclostrobin**	0.0020	U	ug/L	P387335	
		Thiamethoxam**	0.0020	U	ug/L	P387335	
		Tolfenpyrad**	0.0020	U	ug/L	P387335	
		Triclopyr**	0.0040	U	ug/L	P387335	
2195735	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P387388	
		Manganese	1.0	U	ug/L	P387388	

Field ID: FB091020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2195735	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P387388	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P387388	
		Antimony	0.050	U	ug/L	P387388	
		Arsenic	0.050	U	ug/L	P387388	
		Cadmium	0.020	U	ug/L	P387388	
		Chromium	0.40	U	ug/L	P387388	
		Copper	0.40	U	ug/L	P387388	
		Lead	0.20	U	ug/L	P387388	
		Nickel	0.50	U	ug/L	P387388	
		Selenium	0.20	U	ug/L	P387388	
		Silver	0.010	U	ug/L	P387388	
		Thallium	0.10	U	ug/L	P387388	

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

Sample Location: Thomas Creek 5 Miles Down From Ethel

Collection Date/Time: 09/10/2020 10:40

Field ID: G4NE0298

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2195706	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P387276	
	EPA 300.0 Rev. 2.1	Bromide	0.075		mg Br/L	P387503	
	SM 2320 B-2011	Total Alkalinity	16		mg CaCO3/L	P387363	
	SM 2540 D-2011	TSS	4	I	mg/L	P387634	
	SM 4500 F-C-2011	Fluoride	0.061	I	mg F/L	P387365	
2195708	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P387306	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P387477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P387468	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P387808	
	SM 5310 B-2011	Organic Carbon	39		mg C/L	P387426	
2195710	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.21		mg P/L	P387520	
2195733	EPA 200.7 Rev. 4.4	Iron	1.11E+03		ug/L	P387388	
		Manganese	23.1		ug/L	P387388	
		Zinc	5.0	U	ug/L	P387388	
	EPA 200.8 Rev. 5.4	Aluminum	386		ug/L	P387388	
		Antimony	0.050	I	ug/L	P387388	
		Arsenic	0.79		ug/L	P387388	
		Cadmium	0.020	U	ug/L	P387388	
		Chromium	0.69	I	ug/L	P387388	
		Copper	0.53	I	ug/L	P387388	
		Lead	0.63		ug/L	P387388	
		Nickel	0.76	I	ug/L	P387388	
		Selenium	0.20	U	ug/L	P387388	
		Silver	0.010	U	ug/L	P387388	
		Thallium	0.10	U	ug/L	P387388	

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: Thomas CR Mi Below City Prison

Collection Date/Time: 09/10/2020 10:50

Field ID: 19020033

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2195707	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P387276	
	EPA 300.0 Rev. 2.1	Bromide	0.070		mg Br/L	P387503	
	SM 2320 B-2011	Total Alkalinity	16		mg CaCO3/L	P387364	
	SM 2540 D-2011	TSS	3	IA	mg/L	P387634	
	SM 4500 F-C-2011	Fluoride	0.061	I	mg F/L	P387366	
2195709	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P387306	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P387477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P387468	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P387808	
	SM 5310 B-2011	Organic Carbon	38		mg C/L	P387426	
2195711	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.19		mg P/L	P387520	
2195734	EPA 200.7 Rev. 4.4	Iron	1.11E+03		ug/L	P387388	
		Manganese	24.7		ug/L	P387388	
		Zinc	5.0	U	ug/L	P387388	
	EPA 200.8 Rev. 5.4	Aluminum	388		ug/L	P387388	
		Antimony	0.050	U	ug/L	P387388	
		Arsenic	0.75		ug/L	P387388	
		Cadmium	0.020	U	ug/L	P387388	
		Chromium	0.64	I	ug/L	P387388	
		Copper	0.40	U	ug/L	P387388	
		Lead	0.60		ug/L	P387388	
		Nickel	0.64	I	ug/L	P387388	
		Selenium	0.20	U	ug/L	P387388	
		Silver	0.010	U	ug/L	P387388	
		Thallium	0.10	U	ug/L	P387388	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387276

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387388

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387388

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387503

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387306

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387477

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387468

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P387808

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P387283

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P387520

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

Reference Method: EPA 8321B
 Batch ID: P387254

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

Reference Method: EPA 8321B
 Batch ID: P387335

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P387335

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

Reference Method: SM 2320 B-2011
Batch ID: P387363

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

Reference Method: SM 2320 B-2011
Batch ID: P387364

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

Reference Method: SM 2540 D-2011
Batch ID: P387633

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P387634

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P387365

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P387366

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P387426

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387388

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	102		P	85 - 115
Manganese	105		P	85 - 115
Zinc	98.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387388

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.0		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	96.7		P	85 - 115
Cadmium	95.9		P	85 - 115
Chromium	95.8		P	85 - 115
Copper	94.9		P	85 - 115
Lead	96.4		P	85 - 115
Nickel	95.1		P	85 - 115
Selenium	94.1		P	85 - 115
Silver	97.0		P	85 - 115
Thallium	98.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387503

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387306

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	92.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387477

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387468

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: P387808

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387283

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: P387520

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

Reference Method: EPA 8321B
Batch ID: P387254

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	110		P	40 - 150
AMPA	60.4		P	40 - 150
Endothall	84.0		P	40 - 150
Glufosinate	97.6		P	40 - 150
Glyphosate	114		P	40 - 140
Sucralose	114		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P387335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	129		P	30 - 160
Acetaminophen	93.0		P	30 - 160
Acetamiprid	73.9		P	30 - 160
Afidopyropen	57.2		P	30 - 160
Bentazon	58.2		P	30 - 160
Benzovindiflupyr	72.8		P	30 - 160
Carbamazepine	68.1		P	30 - 160
Clothianidin	82.3		P	30 - 160
Dinotefuran	95.5		P	30 - 160
Diuron	55.9		P	30 - 160
Fenuron	91.5		P	30 - 160
Fluridone	81.3		P	30 - 160
Hydrocodone	88.8		P	30 - 160
Ibuprofen	77.4		P	30 - 160
Imazapyr	76.8		P	30 - 160
Imidacloprid	115		P	30 - 160
Linuron	68.2		P	30 - 160
Mandestrobin	82.5		P	30 - 160
MCPP	116		P	30 - 160
Naproxen	67.0		P	30 - 160
Primidone	83.0		P	30 - 160
Pyraclostrobin	69.7		P	30 - 160
Thiamethoxam	90.4		P	30 - 160
Tolfenpyrad	57.7		P	30 - 160
Triclopyr	109		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P387363

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

Reference Method: SM 2320 B-2011
Batch ID: P387364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.7		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P387365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P387366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P387426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195695	Iron	102		P	80 - 120
2195695	Manganese	102		P	80 - 120
2195695	Zinc	98.1		P	80 - 120
2195751	Iron	103	102	P/P	80 - 120
2195751	Manganese	105	101	P/P	80 - 120
2195751	Zinc	102	98.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195695	Aluminum	93.8		P	80 - 120
2195695	Antimony	102		P	80 - 120
2195695	Arsenic	96.2		P	80 - 120
2195695	Cadmium	97.0		P	80 - 120
2195695	Chromium	95.6		P	80 - 120
2195695	Copper	94.3		P	80 - 120
2195695	Lead	96.5		P	80 - 120
2195695	Nickel	94.9		P	80 - 120
2195695	Selenium	94.9		P	80 - 120
2195695	Silver	94.7		P	80 - 120
2195695	Thallium	99.8		P	80 - 120
2195751	Aluminum	94.0	95.3	P/P	80 - 120
2195751	Antimony	102	104	P/P	80 - 120
2195751	Arsenic	97.5	98.5	P/P	80 - 120
2195751	Cadmium	96.0	96.5	P/P	80 - 120
2195751	Chromium	96.7	97.2	P/P	80 - 120
2195751	Copper	95.4	95.7	P/P	80 - 120
2195751	Lead	96.8	98.3	P/P	80 - 120
2195751	Nickel	94.6	95.2	P/P	80 - 120
2195751	Selenium	96.0	95.2	P/P	80 - 120
2195751	Silver	96.2	97.8	P/P	80 - 120
2195751	Thallium	98.6	102	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195337	Bromide	92.4	93.8	P/P	90 - 110
2195700	Bromide	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195677	Ammonia-N	95.0	96.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195742	Kjeldahl Nitrogen	105	110	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195726	NO2NO3-N	98.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387808

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195702	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195767	O-Phosphate-P	98.4	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195704	O-Phosphate-P	97.2	97.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P387254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194750	Acesulfame K	104	103	P/P	40 - 150
2194750	AMPA	90.9	94.1	P/P	40 - 150
2194750	Endothall	70.3	79.6	P/P	40 - 150
2194750	Glufosinate	92.0	97.1	P/P	40 - 150
2194750	Glyphosate	120	114	P/P	40 - 140
2194750	Sucralose	95.4	96.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P387335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195541	Acetaminophen	99.2	100	P/P	30 - 160
2195541	Acetamiprid	65.3	70.2	P/P	30 - 160
2195541	Afidopyropen	48.0	57.2	P/P	30 - 160
2195541	Benzovindiflupyr	68.2	66.5	P/P	30 - 160
2195541	Carbamazepine	53.7	52.5	P/P	30 - 160
2195541	Clothianidin	72.9	75.0	P/P	30 - 160
2195541	Dinotefuran	96.8	96.0	P/P	30 - 160
2195541	Diuron	45.5	50.6	P/P	30 - 160
2195541	Fenuron	76.0	75.8	P/P	30 - 160
2195541	Fluridone	67.0	65.0	P/P	30 - 160
2195541	Hydrocodone	80.2	76.1	P/P	30 - 160
2195541	Ibuprofen	67.9	60.5	P/P	30 - 160
2195541	Imazapyr	66.3	83.3	P/P	30 - 160
2195541	Imidacloprid	140	138	P/P	30 - 160
2195541	Linuron	54.3	54.8	P/P	30 - 160
2195541	Mandestrobin	75.0	75.3	P/P	30 - 160
2195541	MCP	104	100	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P387335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195541	Naproxen	54.2	57.7	P/P	30 - 160
2195541	Primidone	83.4	83.5	P/P	30 - 160
2195541	Pyraclostrobin	68.2	65.5	P/P	30 - 160
2195541	Thiamethoxam	70.5	80.6	P/P	30 - 160
2195541	Tolfenpyrad	49.2	47.8	P/P	30 - 160
2195541	Triclopyr	114	102	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P387365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195676	Fluoride	101	99.9	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P387366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195758	Fluoride	98.3	99.2	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P387426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195578	Organic Carbon	98.5	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195700	Turbidity	3.59	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195751	Iron	1.25	Spike	P	0 - 20
2195751	Manganese	3.06	Spike	P	0 - 20
2195751	Zinc	4.22	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195751	Aluminum	1.40	Spike	P	0 - 20
2195751	Antimony	1.76	Spike	P	0 - 20
2195751	Arsenic	1.00	Spike	P	0 - 20
2195751	Cadmium	0.532	Spike	P	0 - 20
2195751	Chromium	0.565	Spike	P	0 - 20
2195751	Copper	0.343	Spike	P	0 - 20
2195751	Lead	1.50	Spike	P	0 - 20
2195751	Nickel	0.657	Spike	P	0 - 20
2195751	Selenium	0.929	Spike	P	0 - 20
2195751	Silver	1.71	Spike	P	0 - 20
2195751	Thallium	2.97	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195337	Bromide	1.29	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195677	Ammonia-N	1.21	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195742	Kjeldahl Nitrogen	2.76	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195726	NO2NO3-N	0.220	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195702	Total-P	0.430	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195767	O-Phosphate-P	0.303	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195704	O-Phosphate-P	0.373	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P387254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194750	Acesulfame K	0.805	Spike	P	0 - 30
2194750	AMPA	3.07	Spike	P	0 - 30
2194750	Endothall	12.5	Spike	P	0 - 30
2194750	Glufosinate	5.47	Spike	P	0 - 30
2194750	Glyphosate	5.22	Spike	P	0 - 30
2194750	Sucralose	1.61	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P387335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195541	2,4-D	0.766	Spike	P	0 - 30
2195541	Acetaminophen	1.03	Spike	P	0 - 30
2195541	Acetamiprid	7.20	Spike	P	0 - 30
2195541	Afidopyropen	17.5	Spike	P	0 - 30
2195541	Bentazon	0.785	Spike	P	0 - 30
2195541	Benzovindiflupyr	2.55	Spike	P	0 - 30
2195541	Carbamazepine	1.91	Spike	P	0 - 30
2195541	Clothianidin	2.56	Spike	P	0 - 30
2195541	Dinotefuran	0.764	Spike	P	0 - 30
2195541	Diuron	10.0	Spike	P	0 - 30
2195541	Fenuron	0.256	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P387335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195541	Fluridone	2.13	Spike	P	0 - 30
2195541	Hydrocodone	5.30	Spike	P	0 - 30
2195541	Ibuprofen	11.5	Spike	P	0 - 30
2195541	Imazapyr	10.8	Spike	P	0 - 30
2195541	Imidacloprid	0.942	Spike	P	0 - 30
2195541	Linuron	0.894	Spike	P	0 - 30
2195541	Mandestrobin	0.347	Spike	P	0 - 30
2195541	MCP	3.82	Spike	P	0 - 30
2195541	Naproxen	6.13	Spike	P	0 - 30
2195541	Primidone	0.0866	Spike	P	0 - 30
2195541	Pyraclostrobin	3.99	Spike	P	0 - 30
2195541	Thiamethoxam	8.86	Spike	P	0 - 30
2195541	Tolfenpyrad	2.86	Spike	P	0 - 30
2195541	Triclopyr	10.4	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P387363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195676	Total Alkalinity	0.703	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P387364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195758	Total Alkalinity	2.82	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P387365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195676	Fluoride	0.967	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P387366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195758	Fluoride	0.451	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P387426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195578	Organic Carbon	1.51	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2195722
Field Sample ID: G4NE0299

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	92.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.8	P	30 - 160
EPA 8321B	Diuron-d6	50.5	P	30 - 160
EPA 8321B	Endothall-d6	114	P	30 - 160
EPA 8321B	Endothall-d6	114	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	90.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	90.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	73.3	P	30 - 160
EPA 8321B	Primidone-d5	63.8	P	30 - 160
EPA 8321B	Sucralose-d6	54.5	P	30 - 160
EPA 8321B	Sucralose-d6	54.5	P	30 - 160

Lab Sample ID: 2195723
Field Sample ID: G4NE0008

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.1	P	30 - 160
EPA 8321B	Diuron-d6	49.2	P	30 - 160
EPA 8321B	Endothall-d6	120	P	30 - 160
EPA 8321B	Endothall-d6	120	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.9	P	30 - 160
EPA 8321B	Primidone-d5	62.7	P	30 - 160
EPA 8321B	Sucralose-d6	68.6	P	30 - 160
EPA 8321B	Sucralose-d6	68.6	P	30 - 160

Lab Sample ID: 2195724
Field Sample ID: FB091020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	72.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	66.6	P	30 - 160
EPA 8321B	Diuron-d6	69.2	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Ibuprofen-d3	68.1	P	30 - 160
EPA 8321B	Primidone-d5	78.5	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A100939

Included Lab Sample IDs: 2195700, 2195701, 2195706, 2195707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100940

Included Lab Sample IDs: 2195704, 2195705, 2195710, 2195711, 2195714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.8	97.5	P/P	90 - 110
O-Phosphate-P	97.5	96.9	P/P	90 - 110
O-Phosphate-P	97.5	97.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100947

Included Lab Sample IDs: 2195702, 2195703, 2195708, 2195709, 2195713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.6	98.1	P/P	90 - 110
Ammonia-N	98.1	95.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100961

Included Lab Sample IDs: 2195722, 2195723, 2195724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	113	118	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A100975

Included Lab Sample IDs: 2195700, 2195701, 2195706, 2195707, 2195712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.0	P/P	90 - 110
Total Alkalinity	99.0	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100975

Included Lab Sample IDs: 2195700, 2195701, 2195706, 2195707, 2195712

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

Reference Method: EPA 8321B

Run ID: A100976

Included Lab Sample IDs: 2195722, 2195723, 2195724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	60.3	60.0	P/P	60 - 160
Glufosinate	98.8	107	P/P	60 - 160
Glyphosate	120	116	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100977

Included Lab Sample IDs: 2195722, 2195723, 2195724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	93.1	89.7	P/P	60 - 160
Endothall	106	108	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A101004

Included Lab Sample IDs: 2195702, 2195703, 2195708, 2195709, 2195713

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A101022

Included Lab Sample IDs: 2195700, 2195701, 2195706, 2195707, 2195712

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101029

Included Lab Sample IDs: 2195702, 2195703, 2195708, 2195709, 2195713

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A101037

Included Lab Sample IDs: 2195731, 2195732, 2195733, 2195734, 2195735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	98.8	P/P	95 - 105
Iron	98.8	99.7	P/P	90 - 110
Manganese	101	100	P/P	90 - 110
Manganese	102	101	P/P	95 - 105
Zinc	96.8	97.1	P/P	95 - 105
Zinc	97.1	97.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101044

Included Lab Sample IDs: 2195722, 2195723, 2195724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	114	107	P/P	50 - 150
Acetaminophen	119	118	P/P	60 - 160
Acetamiprid	120	120	P/P	50 - 150
Afidopyrophen	99.9	102	P/P	50 - 150
Bentazon	116	105	P/P	50 - 160
Benzovindiflupyr	122	120	P/P	50 - 150
Carbamazepine	111	108	P/P	60 - 150
Clothianidin	102	101	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A101044

Included Lab Sample IDs: 2195722, 2195723, 2195724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dinotefuran	97.9	96.5	P/P	50 - 150
Diuron	111	105	P/P	60 - 160
Fenuron	115	116	P/P	60 - 150
Fluridone	116	120	P/P	60 - 160
Hydrocodone	110	105	P/P	60 - 150
Ibuprofen	102	98.5	P/P	50 - 160
Imazapyr	111	130	P/P	50 - 160
Imidacloprid	97.4	104	P/P	60 - 150
Linuron	103	96.4	P/P	60 - 150
Mandestrobin	111	111	P/P	50 - 150
MCPP	114	113	P/P	50 - 150
Naproxen	129	65.5	P/P	50 - 160
Primidone	85.6	94.0	P/P	60 - 150
Pyraclostrobin	105	104	P/P	60 - 150
Thiamethoxam	109	104	P/P	50 - 150
Tolfenpyrad	110	106	P/P	60 - 150
Triclopyr	101	118	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101057

Included Lab Sample IDs: 2195702, 2195703, 2195708, 2195709, 2195713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A101063

Included Lab Sample IDs: 2195731, 2195732, 2195733, 2195734, 2195735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.2	94.2	P/P	90 - 110
Aluminum	94.6	94.2	P/P	90 - 110
Antimony	103	104	P/P	90 - 110
Antimony	104	103	P/P	90 - 110
Arsenic	94.2	94.5	P/P	90 - 110
Arsenic	94.3	94.2	P/P	90 - 110
Cadmium	93.8	94.2	P/P	90 - 110
Cadmium	94.2	94.7	P/P	90 - 110
Chromium	93.5	93.4	P/P	90 - 110
Chromium	93.6	93.5	P/P	90 - 110
Copper	92.2	92.6	P/P	90 - 110
Copper	93.3	92.2	P/P	90 - 110
Lead	94.8	95.6	P/P	90 - 110
Lead	95.5	94.8	P/P	90 - 110
Nickel	92.1	92.1	P/P	90 - 110
Nickel	92.7	92.1	P/P	90 - 110
Selenium	93.2	94.1	P/P	90 - 110
Selenium	94.1	93.7	P/P	90 - 110
Silver	95.6	96.2	P/P	90 - 110
Silver	96.4	95.6	P/P	90 - 110
Thallium	94.6	94.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A101063

Included Lab Sample IDs: 2195731, 2195732, 2195733, 2195734, 2195735

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101204

Included Lab Sample IDs: 2195702, 2195703, 2195708, 2195709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	104	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101251

Included Lab Sample IDs: 2195713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.0	96.0	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						3.59	
EPA 200.7 Rev. 4.4	Iron	102	102	103	102			1.25
	Manganese	105	102	105	101			3.06
	Zinc	98.8	98.1	102	98.1			4.22
EPA 200.8 Rev. 5.4	Aluminum	95.0	94.0	95.3	93.8			1.40
	Antimony	101	102	104	102			1.76
	Arsenic	96.7	97.5	98.5	96.2			1.00
	Cadmium	95.9	96.0	96.5	97.0			0.532
	Chromium	95.8	96.7	97.2	95.6			0.565
	Copper	94.9	95.4	95.7	94.3			0.343
	Lead	96.4	96.8	98.3	96.5			1.50
	Nickel	95.1	94.6	95.2	94.9			0.657
	Selenium	94.1	96.0	95.2	94.9			0.929
	Silver	97.0	96.2	97.8	94.7			1.71
	Thallium	98.3	98.6	102	99.8			2.97
EPA 300.0 Rev. 2.1	Bromide	101	92.4	93.8	97.4			1.29
EPA 350.1 Rev. 2.0	Ammonia-N	92.5	95.0	96.3				1.21
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	105	110				2.76
EPA 353.2 Rev. 2.0	NO2NO3-N	102	98.8					0.220
EPA 365.1 Rev. 2.0	Total-P	105	104	104				0.430
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	98.4	98.8				0.303
	O-Phosphate-P	99.9	97.2	97.9				0.373
EPA 8321B	2,4-D	129						0.766
	Acesulfame K	110	104	103				0.805
	Acetaminophen	93.0	99.2	100				1.03
	Acetamiprid	73.9	65.3	70.2				7.20
	Afidopyropen	57.2	48.0	57.2				17.5
	AMPA	60.4	90.9	94.1				3.07
	Bentazon	58.2						0.785
	Benzovindiflupyr	72.8	68.2	66.5				2.55
	Carbamazepine	68.1	53.7	52.5				1.91
	Clothianidin	82.3	72.9	75.0				2.56
	Dinotefuran	95.5	96.8	96.0				0.764
	Diuron	55.9	45.5	50.6				10.0
	Endothall	84.0	70.3	79.6				12.5
	Fenuron	91.5	76.0	75.8				0.256
	Fluridone	81.3	67.0	65.0				2.13
	Glufosinate	97.6	92.0	97.1				5.47
	Glyphosate	114	120	114				5.22
	Hydrocodone	88.8	80.2	76.1				5.30
	Ibuprofen	77.4	67.9	60.5				11.5
	Imazapyr	76.8	66.3	83.3				10.8
	Imidacloprid	115	140	138				0.942
	Linuron	68.2	54.3	54.8				0.894
	Mandestrobin	82.5	75.0	75.3				0.347
	MCPP	116	104	100				3.82
	Naproxen	67.0	54.2	57.7				6.13
	Primidone	83.0	83.4	83.5				0.0866
	Pyraclostrobin	69.7	68.2	65.5				3.99
	Sucralose	114	95.4	96.9				1.61
	Thiamethoxam	90.4	70.5	80.6				8.86
	Tolfenpyrad	57.7	49.2	47.8				2.86
	Triclopyr	109	114	102				10.4
SM 2320 B-2011	Total Alkalinity	101					0.703	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 2320 B-2011	Total Alkalinity	98.7			2.82	
SM 4500 F-C-2011	Fluoride	102	101	99.9		0.967
	Fluoride	101	99.2	98.3		0.451
SM 5310 B-2011	Organic Carbon	99.8	98.5	100		1.51

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2195700, 2195701, 2195706, 2195707
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2195731, 2195732, 2195733, 2195734, 2195735
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2195731, 2195732, 2195733, 2195734, 2195735
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2195700, 2195701, 2195706, 2195707, 2195712
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2195702, 2195703, 2195708, 2195709, 2195713
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2195702, 2195703, 2195708, 2195709, 2195713
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2195702, 2195703, 2195708, 2195709, 2195713
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2195702, 2195703, 2195708, 2195709, 2195713
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2195704, 2195705, 2195710, 2195711, 2195714
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2195722, 2195723, 2195724
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2195722, 2195723, 2195724
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2195700, 2195701, 2195706, 2195707, 2195712
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2195700, 2195701, 2195706, 2195707, 2195712
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2195700, 2195701, 2195706, 2195707, 2195712
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2195702, 2195703, 2195708, 2195709, 2195713

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	09/11/2020			09/11/2020 14:50	Yen Ta	2195700, 2195701, 2195706, 2195707
EPA 200.7 Rev. 4.4	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/16/2020 15:28	Betina Topolski	2195735
	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/16/2020 17:14	Betina Topolski	2195731
	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/16/2020 17:21	Betina Topolski	2195732
	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/16/2020 17:29	Betina Topolski	2195733
	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/16/2020 17:37	Betina Topolski	2195734
EPA 200.8 Rev. 5.4	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/17/2020 21:59	Alexander Thompson	2195735
	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/17/2020 23:45	Alexander Thompson	2195731
	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/17/2020 23:53	Alexander Thompson	2195732
	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/18/2020 00:00	Alexander Thompson	2195733
	09/11/2020	09/15/2020 15:15	Elliott D. Healy	09/18/2020 00:08	Alexander Thompson	2195734
EPA 300.0 Rev. 2.1	09/11/2020			09/16/2020 23:31	Elliott Rodriguez	2195700
	09/11/2020			09/17/2020 03:48	Elliott Rodriguez	2195701
	09/11/2020			09/17/2020 04:05	Elliott Rodriguez	2195706
	09/11/2020			09/17/2020 04:22	Elliott Rodriguez	2195707
	09/11/2020			09/17/2020 04:39	Elliott Rodriguez	2195712
EPA 350.1 Rev. 2.0	09/11/2020			09/13/2020 14:10	Ping Hua	2195702
	09/11/2020			09/13/2020 14:11	Ping Hua	2195703
	09/11/2020			09/13/2020 14:13	Ping Hua	2195708
	09/11/2020			09/13/2020 14:14	Ping Hua	2195709
	09/11/2020			09/13/2020 14:23	Ping Hua	2195713
EPA 351.2 Rev. 2.0	09/11/2020	09/16/2020 12:40	David Boose	09/17/2020 12:57	Virginia P. Brown	2195702
	09/11/2020	09/16/2020 12:40	David Boose	09/17/2020 12:59	Virginia P. Brown	2195703
	09/11/2020	09/16/2020 12:40	David Boose	09/17/2020 13:00	Virginia P. Brown	2195708
	09/11/2020	09/16/2020 12:40	David Boose	09/17/2020 13:02	Virginia P. Brown	2195709
	09/11/2020	09/16/2020 12:40	David Boose	09/17/2020 13:04	Virginia P. Brown	2195713
EPA 353.2 Rev. 2.0	09/11/2020			09/16/2020 11:16	Beverly Y. Sanders	2195709
	09/11/2020			09/16/2020 11:17	Beverly Y. Sanders	2195713
	09/11/2020			09/16/2020 11:23	Beverly Y. Sanders	2195702
	09/11/2020			09/16/2020 11:24	Beverly Y. Sanders	2195703
	09/11/2020			09/16/2020 11:25	Beverly Y. Sanders	2195708
EPA 365.1 Rev. 2.0	09/11/2020	09/24/2020 11:57	Yen Ta	09/25/2020 14:15	Benjamin T. Nordmann	2195702
	09/11/2020	09/24/2020 11:57	Yen Ta	09/25/2020 14:18	Benjamin T. Nordmann	2195703
	09/11/2020	09/24/2020 11:57	Yen Ta	09/25/2020 14:19	Benjamin T. Nordmann	2195708
	09/11/2020	09/24/2020 11:57	Yen Ta	09/25/2020 14:20	Benjamin T. Nordmann	2195709
	09/11/2020	09/24/2020 11:57	Yen Ta	09/29/2020 11:47	Lipi Saha	2195713
EPA 365.1 Rev. 2.0 dissolved	09/11/2020			09/11/2020 15:51	Samantha Davila	2195714
	09/11/2020			09/11/2020 16:04	Samantha Davila	2195704
	09/11/2020			09/11/2020 16:11	Samantha Davila	2195705, 2195710
	09/11/2020			09/11/2020 16:12	Samantha Davila	2195711

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/12/2020 01:56	Rebecca Ware	2195722
	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/12/2020 02:08	Rebecca Ware	2195723
	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/12/2020 02:20	Rebecca Ware	2195724
	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/14/2020 14:52	Rebecca Ware	2195722
	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/14/2020 15:06	Rebecca Ware	2195723
	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/14/2020 15:20	Rebecca Ware	2195724
	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/14/2020 19:30	Rebecca Ware	2195722
	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/14/2020 19:41	Rebecca Ware	2195723
	09/11/2020	09/11/2020 14:00	Rebecca Ware	09/14/2020 19:52	Rebecca Ware	2195724
	09/11/2020	09/15/2020 13:00	Hoor Shaik	09/18/2020 02:27	Juyoung Kim	2195722
	09/11/2020	09/15/2020 13:00	Hoor Shaik	09/18/2020 03:02	Juyoung Kim	2195723
	09/11/2020	09/15/2020 13:00	Hoor Shaik	09/18/2020 03:37	Juyoung Kim	2195724
	09/11/2020			09/14/2020 22:11	Dale L. Simmons	2195700
SM 2320 B-2011	09/11/2020			09/14/2020 22:58	Dale L. Simmons	2195701
	09/11/2020			09/14/2020 23:10	Dale L. Simmons	2195706
	09/11/2020			09/15/2020 00:29	Dale L. Simmons	2195707
	09/11/2020			09/15/2020 00:37	Dale L. Simmons	2195712
	09/11/2020			09/16/2020 15:09	Yijie Li	2195700, 2195701, 2195706, 2195707, 2195712
SM 2540 D-2011	09/11/2020			09/14/2020 22:11	Dale L. Simmons	2195700
	09/11/2020			09/14/2020 22:58	Dale L. Simmons	2195701
	09/11/2020			09/14/2020 23:10	Dale L. Simmons	2195706
	09/11/2020			09/15/2020 00:29	Dale L. Simmons	2195707
	09/11/2020			09/15/2020 00:37	Dale L. Simmons	2195712
SM 4500 F-C-2011	09/11/2020			09/15/2020 23:07	David Boose	2195702
	09/11/2020			09/15/2020 23:44	David Boose	2195703
	09/11/2020			09/15/2020 23:56	David Boose	2195708
	09/11/2020			09/16/2020 00:09	David Boose	2195709
	09/11/2020			09/16/2020 00:21	David Boose	2195713
SM 5310 B-2011	09/11/2020					
	09/11/2020					
	09/11/2020					
	09/11/2020					
	09/11/2020					