

Chemical Analysis Report

SW-DIST-2023-02-21-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Run 14**
Request ID: **RQ-2023-02-20-35**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

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

Date Certified: 13-MAR-2023 09:18

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the 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: Little Bullfrog CR Downstream of US 301 Bridge

Collection Date/Time: 02/20/2023 10:50

Field ID: G2SW0162

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389003	DEP SOP: NU-094-1	Color (true)	47		PCU	P426179	
	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P426185	
	EPA 300.0 Rev. 2.1	Chloride	36		mg Cl/L	P426650	
	SM 2320 B-2011	Total Alkalinity	52		mg CaCO3/L	P426434	
	SM 2540 C-2015	TDS	190		mg/L	P426737	
	SM 2540 D-2015	TSS	2	I	mg/L	P426639	
	SM 4500-F- C-2011	Fluoride	0.17		mg F/L	P426436	
2389009	EPA 350.1 Rev. 2.0	Ammonia-N	0.081		mg N/L	P426604	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P426404	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P426408	
	EPA 365.1 Rev. 2.0	Total-P	0.085		mg P/L	P426384	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P426710	
2389014	EPA 300.0 Rev. 2.1 dissolved	Sulfate	42	A	mg SO4/L	P426875	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.054		mg P/L	P426186	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Wolf Branch Canal @ Manns Harbor Dr Boatlift Collection Date/Time: 02/20/2023 11:38

Field ID: G1SW0092

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389005	DEP SOP: NU-094-1	Color (true)	3.5	I	PCU	P426179	
	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P426185	
	EPA 300.0 Rev. 2.1	Chloride	1.5E+04		mg Cl/L	P426650	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P426643	
	SM 2540 C-2015	TDS	2.56E+04		mg/L	P426738	
	SM 2540 D-2015	TSS	3	I	mg/L	P426641	
	SM 4500-F- C-2011	Fluoride	1.0		mg F/L	P426644	
2389010	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P426548	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P426400	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P426359	
	EPA 365.1 Rev. 2.0	Total-P	0.075		mg P/L	P426380	
	SM 5310 B-2011	Organic Carbon	5.3		mg C/L	P426589	
2389015	EPA 300.0 Rev. 2.1 dissolved	Sulfate	2.3E+03		mg SO4/L	P426875	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P426187	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Wolf Branch Canal @ Middle of Lake

Collection Date/Time: 02/20/2023 12:00

Field ID: G1SW0139

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389019	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P426185	
	SM 2320 B-2011	Total Alkalinity	106		mg CaCO3/L	P426643	
	SM 2540 D-2015	TSS	6	I	mg/L	P426641	
	SM 4500-F- C-2011	Fluoride	0.76		mg F/L	P426644	
2389020	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P426548	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P426400	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P426359	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P426380	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P426334	
2389021	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P426187	
2389050	EPA 8321B	2,4-D	0.039		ug/L	P426090	
		Acesulfame K	0.10	U	ug/L	P425983	MS
		2,4,5-T	0.0040	U	ug/L	P426090	
		AMPA	1.0	U	ug/L	P425983	
		Acetaminophen	0.0080	U	ug/L	P426090	
		Acetamiprid	0.0020	U	ug/L	P426090	
		Endothall	0.25	U	ug/L	P425983	
		Glufosinate	1.0	U	ug/L	P425983	MS
		Glyphosate	1.0	U	ug/L	P425983	
		Afidopyropen	0.0020	U	ug/L	P426090	
		Bentazon	0.18		ug/L	P426090	
		Sucralose	1.3		ug/L	P425983	
		Benzovindiflupyr	0.0020	U	ug/L	P426090	
		Carbamazepine	8.0E-04	U	ug/L	P426090	
		Clothianidin	0.0020	U	ug/L	P426090	
		Dinotefuran	0.0020	U	ug/L	P426090	
		Diuron	0.0039	I	ug/L	P426090	
		Fenuron	0.032	U	ug/L	P426090	
		Fluridone	0.41		ug/L	P426090	
		Imazapyr	0.064		ug/L	P426090	
		Hydrocodone	0.0020	U	ug/L	P426090	
		Ibuprofen	0.080	U	ug/L	P426090	
		Imidacloprid	0.0039	I	ug/L	P426090	
		Linuron	0.0040	U	ug/L	P426090	
		Mandestrobin	0.0020	U	ug/L	P426090	
		MCP	0.011		ug/L	P426090	
		Naproxen	0.0080	U	ug/L	P426090	
		Primidone	0.0040	U	ug/L	P426090	
		Pyraclostrobin	0.0020	U	ug/L	P426090	
		Silvex	0.0040	U	ug/L	P426090	
		Thiamethoxam	0.0020	U	ug/L	P426090	
		Tolfenpyrad	0.0020	U	ug/L	P426090	
		Triclopyr	0.0040	U	ug/L	P426090	

Field ID: G1SW0139

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Wolf Branch @ 19th Ave. NE

Collection Date/Time: 02/20/2023 12:40

Field ID: G1SW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389006	DEP SOP: NU-094-1	Color (true)	66	A	PCU	P426180	
	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P426185	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P426650	
	SM 2320 B-2011	Total Alkalinity	64		mg CaCO3/L	P426434	
	SM 2540 C-2015	TDS	212		mg/L	P426737	
	SM 2540 D-2015	TSS	4	I	mg/L	P426639	
	SM 4500-F- C-2011	Fluoride	0.22		mg F/L	P426436	
2389011	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P426547	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P426404	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010		mg N/L	P426408	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P426384	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P426711	
2389016	EPA 300.0 Rev. 2.1 dissolved	Sulfate	64		mg SO4/L	P426875	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.043		mg P/L	P426186	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Wolf Branch @ 12th Street NE

Collection Date/Time: 02/20/2023 13:05

Field ID: G1SW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389007	DEP SOP: NU-094-1	Color (true)	35	A	PCU	P426181	
	EPA 180.1 Rev. 2.0	Turbidity	23		NTU	P426185	
	EPA 300.0 Rev. 2.1	Chloride	41		mg Cl/L	P426650	
	SM 2320 B-2011	Total Alkalinity	132		mg CaCO3/L	P426434	
	SM 2540 C-2015	TDS	340		mg/L	P426737	
	SM 2540 D-2015	TSS	22		mg/L	P426639	
	SM 4500-F- C-2011	Fluoride	0.36		mg F/L	P426436	
2389012	EPA 350.1 Rev. 2.0	Ammonia-N	0.011	U	mg N/L	P426547	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P426404	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004		mg N/L	P426408	
	EPA 365.1 Rev. 2.0	Total-P	0.35		mg P/L	P426384	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P426711	
2389017	EPA 300.0 Rev. 2.1 dissolved	Sulfate	89		mg SO4/L	P426875	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.059		mg P/L	P426186	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Heritage Park Creek

Collection Date/Time: 02/20/2023 14:10

Field ID: G2SW0138

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389008	DEP SOP: NU-094-1	Color (true)	33		PCU	P426180	
	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P426185	
	EPA 300.0 Rev. 2.1	Chloride	8.9E+03		mg Cl/L	P426650	
	SM 2320 B-2011	Total Alkalinity	83		mg CaCO3/L	P426643	
	SM 2540 C-2015	TDS	1.50E+04		mg/L	P426738	
	SM 2540 D-2015	TSS	4	IA	mg/L	P426641	
	SM 4500-F- C-2011	Fluoride	0.70		mg F/L	P426644	
2389013	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P426548	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P426400	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P426359	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P426380	
	SM 5310 B-2011	Organic Carbon	8.7		mg C/L	P426334	
2389018	EPA 300.0 Rev. 2.1 dissolved	Sulfate	1.3E+03		mg SO4/L	P426875	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P426187	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Buffalo Canal Past the WW Discharge

Collection Date/Time: 02/20/2023 15:00

Field ID: G1SW0140

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389022	DEP SOP: NU-094-1	Color (true)	30		PCU	P426180	
	EPA 180.1 Rev. 2.0	Turbidity	9.4		NTU	P426185	
	EPA 300.0 Rev. 2.1	Chloride	61		mg Cl/L	P426650	
	SM 2320 B-2011	Total Alkalinity	190		mg CaCO3/L	P426434	
	SM 2540 C-2015	TDS	437		mg/L	P426737	
	SM 2540 D-2015	TSS	12		mg/L	P426639	
	SM 4500-F- C-2011	Fluoride	0.83		mg F/L	P426436	
2389023	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P426547	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P426404	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P426408	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P426385	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P426711	
2389024	EPA 300.0 Rev. 2.1 dissolved	Sulfate	76		mg SO4/L	P426875	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P426187	
2389039	EPA 200.7 Rev. 4.4	Calcium	77.2		mg/L	P426283	
		Iron	710		ug/L	P426283	
		Magnesium	21.3		mg/L	P426283	
		Potassium	5.9		mg/L	P426283	
		Sodium	33.8		mg/L	P426283	
		Strontium	650		ug/L	P426283	
		Tin	3.0	U	ug/L	P426283	
	EPA 200.8 Rev. 5.4	Titanium	1.2	I	ug/L	P426283	
		Vanadium	3.1	I	ug/L	P426283	
		Zinc	5.0	U	ug/L	P426283	
		Aluminum	99		ug/L	P426283	
		Antimony	0.29		ug/L	P426283	
		Arsenic	4.84		ug/L	P426283	
		Barium	20.6		ug/L	P426283	
		Beryllium	0.014	I	ug/L	P426283	
		Boron	81.0		ug/L	P426283	
		Cadmium	0.020	U	ug/L	P426283	
		Chromium	0.40	I	ug/L	P426283	
		Cobalt	0.221		ug/L	P426283	
		Copper	0.93		ug/L	P426283	
		Lead	0.20	U	ug/L	P426283	
		Manganese	45.2		ug/L	P426283	
		Molybdenum	3.91		ug/L	P426283	
		Nickel	2.8		ug/L	P426283	
		Selenium	0.37	I	ug/L	P426283	
		Silver	0.010	U	ug/L	P426283	
		Thallium	0.10	U	ug/L	P426283	
	SM 2340 B-2011	Hardness	281		mg/L	P426283	
2389049	EPA 8321B	2,4-D	0.027		ug/L	P426090	

Field ID: G1SW0140

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389049	EPA 8321B	Acesulfame K	0.22	I	ug/L	P425983	MS
		2,4,5-T	0.0040	U	ug/L	P426090	
		AMPA	1.3		ug/L	P425983	
		Acetaminophen	0.0080	U	ug/L	P426090	
		Acetamiprid	0.0020	U	ug/L	P426090	
		Endothall	0.25	U	ug/L	P425983	
		Glufosinate	0.10	U	ug/L	P425983	MS
		Glyphosate	2.4		ug/L	P425983	
		Afidopyropen	0.0020	U	ug/L	P426090	
		Bentazon	0.31		ug/L	P426090	
		Sucralose	6.5		ug/L	P425983	
		Benzovindiflupyr	0.0020	U	ug/L	P426090	
		Carbamazepine	0.0079		ug/L	P426090	
		Clothianidin	0.0029	I	ug/L	P426090	
		Dinotefuran	0.0020	U	ug/L	P426090	
		Diuron	0.0059	I	ug/L	P426090	
		Fenuron	0.032	U	ug/L	P426090	
		Fluridone	0.20		ug/L	P426090	
		Imazapyr	0.21		ug/L	P426090	
		Hydrocodone	0.0020	U	ug/L	P426090	
		Ibuprofen	0.080	U	ug/L	P426090	
		Imidacloprid	0.017		ug/L	P426090	
		Linuron	0.0040	U	ug/L	P426090	
		Mandestrobin	0.0020	U	ug/L	P426090	
		MCPP	0.0020	U	ug/L	P426090	
		Naproxen	0.0080	U	ug/L	P426090	
		Primidone	0.025		ug/L	P426090	
		Pyraclostrobin	0.0020	U	ug/L	P426090	
		Silvex	0.0040	U	ug/L	P426090	
		Thiamethoxam	0.0020	U	ug/L	P426090	
		Tolfenpyrad	0.0020	U	ug/L	P426090	
		Triclopyr	0.0040	U	ug/L	P426090	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

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

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P426179

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P426180

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P426181

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426185

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P426283

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426283

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426283

Component	Result	Code	Units
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: P426650

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1 dissolved
Batch ID: P426875

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426547

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426548

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426604

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426400

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426404

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426359

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426408

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426380

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426384

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426385

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426186

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426187

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

Reference Method: EPA 8321B
Batch ID: P425983

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: P426090

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P426090

Component	Result	Code	Units
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P426434

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

Reference Method: SM 2320 B-2011

Batch ID: P426643

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

Reference Method: SM 2540 C-2015

Batch ID: P426737

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015

Batch ID: P426738

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P426639

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P426641

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P426436

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P426644

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P426334

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

Reference Method: SM 5310 B-2011
Batch ID: P426589

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

Reference Method: SM 5310 B-2011
Batch ID: P426710

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

Reference Method: SM 5310 B-2011
Batch ID: P426711

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P426179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P426180

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.6		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P426181

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.4		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426185

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P426283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	104		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	98.7		P	85 - 115
Sodium	98.8		P	85 - 115
Strontium	100		P	85 - 115
Tin	104		P	85 - 115
Titanium	104		P	85 - 115
Vanadium	99.3		P	85 - 115
Zinc	99.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.0		P	85 - 115
Antimony	98.2		P	85 - 115
Arsenic	98.1		P	85 - 115
Barium	99.7		P	85 - 115
Beryllium	93.6		P	85 - 115
Boron	97.8		P	85 - 115
Cadmium	96.4		P	85 - 115
Chromium	97.9		P	85 - 115
Cobalt	98.0		P	85 - 115
Copper	97.6		P	85 - 115
Lead	96.5		P	85 - 115
Manganese	96.8		P	85 - 115
Molybdenum	96.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Nickel	99.3		P	85 - 115
Selenium	96.5		P	85 - 115
Silver	96.6		P	85 - 115
Thallium	98.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426650

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

Reference Method: EPA 300.0 Rev. 2.1 dissolved
Batch ID: P426875

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426547

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426604

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426400

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426404

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426359

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426408

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426380

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426384

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426385

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426186

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P425983

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	119		P	40 - 150
AMPA	107		P	40 - 150
Endothall	105		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	105		P	40 - 150
Sucralose	111		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P426090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	140		P	40 - 150
2,4,5-T	105		P	40 - 150
Acetaminophen	94.6		P	30 - 150
Acetamiprid	103		P	40 - 150
Afidopyropen	80.8		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P426090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	134		P	30 - 150
Benzovindiflupyr	90.3		P	40 - 150
Carbamazepine	95.2		P	40 - 150
Clothianidin	72.7		P	40 - 150
Dinotefuran	115		P	40 - 150
Diuron	70.3		P	40 - 150
Fenuron	78.2		P	40 - 150
Fluridone	83.5		P	40 - 150
Hydrocodone	88.0		P	40 - 150
Ibuprofen	65.6		P	40 - 150
Imazapyr	94.9		P	40 - 150
Imidacloprid	107		P	40 - 150
Linuron	71.4		P	40 - 150
Mandestrobin	102		P	40 - 150
MCPP	96.7		P	40 - 150
Naproxen	75.2		P	40 - 150
Primidone	94.3		P	40 - 150
Pyraclostrobin	82.1		P	40 - 150
Silvex	102		P	40 - 150
Thiamethoxam	87.7		P	40 - 150
Tolfenpyrad	49.5		P	30 - 150
Triclopyr	93.9		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P426434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P426643

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.1		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P426737

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.2		P	90 - 110

Reference Method: SM 2540 C-2015
Batch ID: P426738

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.1		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P426639

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	98.4		P	85 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P426641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	89.6		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P426436

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P426644

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P426334

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

Reference Method: SM 5310 B-2011
Batch ID: P426589

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.3		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P426710

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P426711

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P426283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388653	Calcium	105	103	P/P	80 - 120
2388653	Iron	104	103	P/P	80 - 120
2388653	Magnesium	107	105	P/P	80 - 120
2388653	Potassium	99.3	98.7	P/P	80 - 120
2388653	Sodium	96.8		P	80 - 120
2388653	Strontium	100	99.8	P/P	80 - 120
2388653	Tin	105	105	P/P	80 - 120
2388653	Titanium	104	105	P/P	80 - 120
2388653	Vanadium	102	102	P/P	80 - 120
2388653	Zinc	99.3	98.6	P/P	80 - 120
2388971	Calcium	98.3		P	80 - 120
2388971	Iron	102		P	80 - 120
2388971	Magnesium	104		P	80 - 120
2388971	Potassium	96.1		P	80 - 120
2388971	Sodium	98.6		P	80 - 120
2388971	Strontium	97.9		P	80 - 120
2388971	Tin	101		P	80 - 120
2388971	Titanium	104		P	80 - 120
2388971	Vanadium	101		P	80 - 120
2388971	Zinc	98.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388653	Aluminum	96.1	96.6	P/P	80 - 120
2388653	Antimony	98.5	98.9	P/P	80 - 120
2388653	Arsenic	97.6	97.5	P/P	80 - 120
2388653	Barium	99.4	99.7	P/P	80 - 120
2388653	Beryllium	92.1	93.1	P/P	80 - 120
2388653	Boron	95.4	97.9	P/P	80 - 120
2388653	Cadmium	99.6	97.8	P/P	80 - 120
2388653	Chromium	99.4	100	P/P	80 - 120
2388653	Cobalt	98.2	98.8	P/P	80 - 120
2388653	Copper	97.9	97.7	P/P	80 - 120
2388653	Lead	96.3	96.1	P/P	80 - 120
2388653	Manganese	100	101	P/P	80 - 120
2388653	Molybdenum	96.9	97.2	P/P	80 - 120
2388653	Nickel	100	100	P/P	80 - 120
2388653	Selenium	94.8	95.0	P/P	80 - 120
2388653	Silver	98.2	98.6	P/P	80 - 120
2388653	Thallium	98.2	100	P/P	80 - 120
2388971	Aluminum	97.0		P	80 - 120
2388971	Antimony	99.8		P	80 - 120
2388971	Arsenic	97.0		P	80 - 120
2388971	Barium	98.5		P	80 - 120
2388971	Beryllium	93.5		P	80 - 120
2388971	Boron	100		P	80 - 120
2388971	Cadmium	99.6		P	80 - 120
2388971	Chromium	96.2		P	80 - 120
2388971	Cobalt	95.4		P	80 - 120
2388971	Copper	92.6		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388971	Lead	97.1		P	80 - 120
2388971	Manganese	99.2		P	80 - 120
2388971	Molybdenum	99.4		P	80 - 120
2388971	Nickel	94.8		P	80 - 120
2388971	Selenium	93.6		P	80 - 120
2388971	Silver	99.1		P	80 - 120
2388971	Thallium	101		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P426650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389052	Chloride	101		P	90 - 110
2389063	Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1 dissolved

Batch ID: P426875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389014	Sulfate	99.5		P	90 - 110
2390051	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P426547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388959	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P426548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389693	Ammonia-N	97.0	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P426400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388186	Kjeldahl Nitrogen	103	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P426404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388960	Kjeldahl Nitrogen	99.8	97.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P426359

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388943	NO2NO3-N	103	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389009	NO2NO3-N	97.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426380

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388186	Total-P	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388980	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426385

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389023	Total-P	98.4	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388963	O-Phosphate-P	96.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389015	O-Phosphate-P	97.9	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P425983

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388155	Acesulfame K	150	151	F/F	40 - 150
2388155	Endothall	110	113	P/P	40 - 150
2388155	Glufosinate	232	184	F/F	40 - 150
2388155	Sucralose	108	113	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P426090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388382	2,4-D	103	108	P/P	40 - 150
2388382	2,4,5-T	96.2	98.7	P/P	40 - 150
2388382	Acetaminophen	96.8	109	P/P	30 - 150
2388382	Acetamiprid	79.0	69.2	P/P	40 - 150
2388382	Afidopyropen	55.5	52.6	P/P	30 - 150
2388382	Bentazon	90.4	93.0	P/P	30 - 150
2388382	Benzovindiflupyr	77.8	88.0	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P426090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388382	Carbamazepine	64.8	72.3	P/P	40 - 150
2388382	Clothianidin	67.5	65.4	P/P	40 - 150
2388382	Dinotefuran	102	107	P/P	40 - 150
2388382	Diuron	47.5	51.0	P/P	40 - 150
2388382	Fenuron	53.0	52.8	P/P	40 - 150
2388382	Fluridone	65.6	63.1	P/P	40 - 150
2388382	Hydrocodone	71.6	71.9	P/P	40 - 150
2388382	Ibuprofen	79.0	86.7	P/P	40 - 150
2388382	Imazapyr	90.7	96.1	P/P	40 - 150
2388382	Linuron	61.5	68.4	P/P	40 - 150
2388382	Mandestrobin	87.5	90.9	P/P	40 - 150
2388382	MCPP	91.6	97.3	P/P	40 - 150
2388382	Naproxen	111	101	P/P	40 - 150
2388382	Primidone	75.1	81.6	P/P	40 - 150
2388382	Pyraclostrobin	80.7	80.8	P/P	40 - 150
2388382	Silvex	111	113	P/P	40 - 150
2388382	Thiamethoxam	82.2	78.2	P/P	40 - 150
2388382	Tolfenpyrad	55.8	53.8	P/P	30 - 150
2388382	Triclopyr	104	116	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P426436

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388899	Fluoride	102	103	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P426644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389384	Fluoride	97.6	97.6	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P426334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388186	Organic Carbon	85.0	87.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P426589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389308	Organic Carbon	90.4	90.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P426710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389009	Organic Carbon	97.0	98.2	P/P	85 - 115

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P426711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389482	Organic Carbon	96.4	95.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P426179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388978	Color (true)	0.912	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P426180

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389006	Color (true)	1.80	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P426181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389007	Color (true)	1.65	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388979	Turbidity	9.33	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P426283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388653	Calcium	1.03	Spike	P	0 - 20
2388653	Iron	1.56	Spike	P	0 - 20
2388653	Magnesium	1.82	Spike	P	0 - 20
2388653	Potassium	0.543	Spike	P	0 - 20
2388653	Sodium	0.927	Spike	P	0 - 20
2388653	Strontium	0.484	Spike	P	0 - 20
2388653	Tin	0.133	Spike	P	0 - 20
2388653	Titanium	0.318	Spike	P	0 - 20
2388653	Vanadium	0.150	Spike	P	0 - 20
2388653	Zinc	0.675	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P426283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388653	Aluminum	0.441	Spike	P	0 - 20
2388653	Antimony	0.360	Spike	P	0 - 20
2388653	Arsenic	0.147	Spike	P	0 - 20
2388653	Barium	0.236	Spike	P	0 - 20
2388653	Beryllium	0.979	Spike	P	0 - 20
2388653	Boron	2.31	Spike	P	0 - 20
2388653	Cadmium	1.84	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P426283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388653	Chromium	0.800	Spike	P	0 - 20
2388653	Cobalt	0.622	Spike	P	0 - 20
2388653	Copper	0.172	Spike	P	0 - 20
2388653	Lead	0.180	Spike	P	0 - 20
2388653	Manganese	0.234	Spike	P	0 - 20
2388653	Molybdenum	0.298	Spike	P	0 - 20
2388653	Nickel	0.248	Spike	P	0 - 20
2388653	Selenium	0.178	Spike	P	0 - 20
2388653	Silver	0.437	Spike	P	0 - 20
2388653	Thallium	2.25	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P426650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389052	Chloride	0.304	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1 dissolved

Batch ID: P426875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389014	Sulfate	2.75	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P426547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388959	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P426548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389693	Ammonia-N	1.34	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P426604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389155	Ammonia-N	1.36	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P426400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388186	Kjeldahl Nitrogen	2.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388960	Kjeldahl Nitrogen	2.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388943	NO2NO3-N	0.943	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389009	NO2NO3-N	0.277	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388186	Total-P	0.302	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388980	Total-P	0.960	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389023	Total-P	0.127	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388963	O-Phosphate-P	1.71	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389015	O-Phosphate-P	1.50	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P425983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388155	Acesulfame K	0.853	Spike	P	0 - 30
2388155	AMPA	2.29	Spike	P	0 - 30
2388155	Endothall	2.28	Spike	P	0 - 30
2388155	Glufosinate	23.4	Spike	P	0 - 30
2388155	Glyphosate	1.90	Spike	P	0 - 30
2388155	Sucralose	2.95	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P426090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388382	2,4-D	4.39	Spike	P	0 - 30
2388382	2,4,5-T	2.53	Spike	P	0 - 30
2388382	Acetaminophen	11.7	Spike	P	0 - 30
2388382	Acetamiprid	13.3	Spike	P	0 - 30
2388382	Afidopyropen	5.46	Spike	P	0 - 30
2388382	Bentazon	2.83	Spike	P	0 - 30
2388382	Benzovindiflupyr	12.3	Spike	P	0 - 30
2388382	Carbamazepine	10.8	Spike	P	0 - 30
2388382	Clothianidin	2.18	Spike	P	0 - 30
2388382	Dinotefuran	4.68	Spike	P	0 - 30
2388382	Diuron	6.48	Spike	P	0 - 30
2388382	Fenuron	0.337	Spike	P	0 - 30
2388382	Fluridone	3.86	Spike	P	0 - 30
2388382	Hydrocodone	0.472	Spike	P	0 - 30
2388382	Ibuprofen	9.21	Spike	P	0 - 30
2388382	Imazapyr	5.34	Spike	P	0 - 30
2388382	Imidacloprid	4.45	Spike	P	0 - 30
2388382	Linuron	10.5	Spike	P	0 - 30
2388382	Mandestrobin	3.84	Spike	P	0 - 30
2388382	MCPP	6.09	Spike	P	0 - 30
2388382	Naproxen	9.58	Spike	P	0 - 30
2388382	Primidone	8.35	Spike	P	0 - 30
2388382	Pyraclostrobin	0.147	Spike	P	0 - 30
2388382	Silvex	1.65	Spike	P	0 - 30
2388382	Thiamethoxam	3.28	Spike	P	0 - 30
2388382	Tolfenpyrad	3.77	Spike	P	0 - 30
2388382	Triclopyr	10.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P426434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388899	Total Alkalinity	0.00137	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P426643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389384	Total Alkalinity	0.633	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P426737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388703	TDS	8.47	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P426738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389064	TDS	4.00	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P426436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388899	Fluoride	0.520	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P426644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389384	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P426334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388186	Organic Carbon	2.56	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P426589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389308	Organic Carbon	0.332	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P426710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389009	Organic Carbon	0.786	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P426711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389482	Organic Carbon	0.319	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2389049

Field Sample ID: G1SW0140

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	99.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.6	P	30 - 160
EPA 8321B	Diuron-d6	45.5	P	30 - 160
EPA 8321B	Endothall-d6	135	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	99.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	55.4	P	30 - 160
EPA 8321B	Primidone-d5	65.8	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160

Lab Sample ID: 2389050

Field Sample ID: G1SW0139

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	66.7	P	30 - 160
EPA 8321B	Diuron-d6	56.7	P	30 - 160
EPA 8321B	Endothall-d6	95.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	47.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.8	P	30 - 160
EPA 8321B	Primidone-d5	79.9	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A117573

Included Lab Sample IDs: 2389003, 2389005, 2389006, 2389007, 2389008, 2389022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 110
Color (true)	101	98.9	P/P	90 - 110
Color (true)	101	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A117574

Included Lab Sample IDs: 2389003, 2389005, 2389006, 2389007, 2389008, 2389019, 2389022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A117575

Included Lab Sample IDs: 2389014, 2389015, 2389016, 2389017, 2389018, 2389021, 2389024

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.3	98.9	P/P	90 - 110
O-Phosphate-P	98.9	98.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A117585

Included Lab Sample IDs: 2389049, 2389050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	107	109	P/P	60 - 160
AMPA	115	107	P/P	60 - 160
Endothall	116	111	P/P	60 - 160
Glufosinate	111	91.1	P/P	60 - 160
Glufosinate	91.1	106	P/P	60 - 160
Glyphosate	111	93.7	P/P	60 - 160
Glyphosate	93.7	112	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A117586

Included Lab Sample IDs: 2389049, 2389050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	130	125	P/P	60 - 160
Sucralose	119	119	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117643

Included Lab Sample IDs: 2389010, 2389013, 2389020

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	97.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A117645

Included Lab Sample IDs: 2389013, 2389020

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.6	96.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A117655

Included Lab Sample IDs: 2389049, 2389050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	118	120	P/P	50 - 150
2,4,5-T	99.9	104	P/P	50 - 150
Acetaminophen	103	102	P/P	60 - 160
Acetamiprid	77.9	87.6	P/P	50 - 150
Afidopyropen	107	97.1	P/P	50 - 150
Bentazon	138	118	P/P	50 - 160
Benzovindiflupyr	106	111	P/P	50 - 150
Carbamazepine	119	124	P/P	60 - 150
Clothianidin	105	106	P/P	60 - 150
Dinotefuran	115	116	P/P	50 - 150
Diuron	108	108	P/P	60 - 160
Fenuron	108	109	P/P	60 - 150
Fluridone	107	118	P/P	60 - 160
Fluridone	110	114	P/P	60 - 160
Hydrocodone	124	121	P/P	60 - 150
Ibuprofen	125	119	P/P	50 - 160
Imazapyr	101	100	P/P	50 - 150
Imidacloprid	78.6	92.0	P/P	60 - 150
Linuron	91.9	103	P/P	60 - 150
Mandestrobin	116	114	P/P	50 - 150
MCPP	102	96.6	P/P	50 - 150
Naproxen	106	93.5	P/P	50 - 160
Primidone	103	95.1	P/P	60 - 150
Pyraclostrobin	106	109	P/P	60 - 150
Silvex	95.8	103	P/P	50 - 150
Thiamethoxam	115	122	P/P	50 - 150
Tolfenpyrad	99.9	107	P/P	60 - 150
Triclopyr	101	104	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117669

Included Lab Sample IDs: 2389039

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.4	96.4	P/P	90 - 110
Antimony	97.8	97.2	P/P	90 - 110
Arsenic	95.3	94.1	P/P	90 - 110
Barium	95.9	96.2	P/P	90 - 110
Beryllium	94.2	92.4	P/P	90 - 110
Boron	98.3	94.7	P/P	90 - 110
Cadmium	97.5	96.4	P/P	90 - 110
Chromium	94.5	92.2	P/P	90 - 110
Cobalt	93.3	91.6	P/P	90 - 110
Copper	92.6	91.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117669

Included Lab Sample IDs: 2389039

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	96.3	94.9	P/P	90 - 110
Manganese	100	96.3	P/P	90 - 110
Molybdenum	95.3	94.2	P/P	90 - 110
Nickel	92.9	92.5	P/P	90 - 110
Selenium	95.9	94.9	P/P	90 - 110
Silver	97.0	96.3	P/P	90 - 110
Thallium	99.9	98.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117680

Included Lab Sample IDs: 2389009, 2389011, 2389012, 2389023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A117687

Included Lab Sample IDs: 2389003, 2389005, 2389006, 2389007, 2389008, 2389022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.4	97.6	P/P	90 - 110
Chloride	97.6	98.3	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A117689

Included Lab Sample IDs: 2389003, 2389006, 2389007, 2389022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.4	99.7	P/P	90 - 110
Total Alkalinity	96.4	95.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117689

Included Lab Sample IDs: 2389003, 2389006, 2389007, 2389022

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117698

Included Lab Sample IDs: 2389009, 2389011, 2389012, 2389013, 2389020, 2389023

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117718

Included Lab Sample IDs: 2389010

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.2	95.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117733

Included Lab Sample IDs: 2389010, 2389013, 2389020

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117738

Included Lab Sample IDs: 2389011, 2389012, 2389023

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

Reference Method: SM 5310 B-2011

Run ID: A117756

Included Lab Sample IDs: 2389010

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	94.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117761

Included Lab Sample IDs: 2389009

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

Reference Method: SM 2320 B-2011

Run ID: A117776

Included Lab Sample IDs: 2389005, 2389008, 2389019

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.1	98.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117776

Included Lab Sample IDs: 2389005, 2389008, 2389019

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117796

Included Lab Sample IDs: 2389010, 2389013, 2389020

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	99.0	P/P	90 - 110
Kjeldahl Nitrogen	104	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117803

Included Lab Sample IDs: 2389009, 2389011, 2389012, 2389023

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

Reference Method: SM 5310 B-2011

Run ID: A117812

Included Lab Sample IDs: 2389009, 2389011, 2389012, 2389023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.1	96.2	P/P	90 - 110
Organic Carbon	97.1	95.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A117832

Included Lab Sample IDs: 2389039

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.7	101	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Magnesium	101	103	P/P	90 - 110
Potassium	99.7	100	P/P	90 - 110
Sodium	99.4	100	P/P	90 - 110
Strontium	101	101	P/P	90 - 110
Tin	105	104	P/P	90 - 110
Titanium	103	102	P/P	90 - 110
Vanadium	102	101	P/P	90 - 110
Zinc	103	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1 dissolved

Run ID: A117833

Included Lab Sample IDs: 2389014, 2389015, 2389016, 2389017, 2389018, 2389024

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	98.8				0.912	
	Color (true)	99.6				1.80	
	Color (true)	99.4				1.65	
EPA 180.1 Rev. 2.0	Turbidity	99.5				9.33	
EPA 200.7 Rev. 4.4	Calcium	103	105	103	98.3		1.03
	Iron	104	104	103	102		1.56
	Magnesium	107	107	105	104		1.82
	Potassium	98.7	99.3	98.7	96.1		0.543
	Sodium	98.8	96.8	98.6			0.927
	Strontium	100	100	99.8	97.9		0.484
	Tin	104	105	105	101		0.133
	Titanium	104	104	105	104		0.318
	Vanadium	99.3	102	102	101		0.150
	Zinc	99.5	99.3	98.6	98.4		0.675
EPA 200.8 Rev. 5.4	Aluminum	97.0	96.1	96.6	97.0		0.441
	Antimony	98.2	98.5	98.9	99.8		0.360
	Arsenic	98.1	97.6	97.5	97.0		0.147
	Barium	99.7	99.4	99.7	98.5		0.236
	Beryllium	93.6	92.1	93.1	93.5		0.979
	Boron	97.8	95.4	97.9	100		2.31
	Cadmium	96.4	99.6	97.8	99.6		1.84
	Chromium	97.9	99.4	100	96.2		0.800
	Cobalt	98.0	98.2	98.8	95.4		0.622
	Copper	97.6	97.9	97.7	92.6		0.172
	Lead	96.5	96.3	96.1	97.1		0.180
	Manganese	96.8	100	101	99.2		0.234
	Molybdenum	96.6	96.9	97.2	99.4		0.298
	Nickel	99.3	100	100	94.8		0.248
	Selenium	96.5	94.8	95.0	93.6		0.178
	Silver	96.6	98.2	98.6	99.1		0.437
	Thallium	98.0	98.2	100	101		2.25
EPA 300.0 Rev. 2.1	Chloride	100	101	99.4		0.304	
EPA 300.0 Rev. 2.1 dissolved	Sulfate	107	99.5	105		2.75	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	100	100			0.0
	Ammonia-N	93.0	97.0	98.4			1.34
	Ammonia-N	99.6					1.36
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	103	99.8			2.62
	Kjeldahl Nitrogen	100	99.8	97.7			2.11
EPA 353.2 Rev. 2.0	NO2NO3-N	100	103	102			0.943
	NO2NO3-N	99.5	97.5	98.0			0.277
EPA 365.1 Rev. 2.0	Total-P	101	100	101			0.302
	Total-P	105	103	104			0.960
	Total-P	102	98.4	98.2			0.127
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5	96.0	98.0			1.71
	O-Phosphate-P	99.3	97.9	100			1.50
EPA 8321B	2,4-D	140	103	108			4.39
	2,4,5-T	105	96.2	98.7			2.53
	Acesulfame K	119	150	151			0.853
	Acetaminophen	94.6	96.8	109			11.7
	Acetamiprid	103	79.0	69.2			13.3
	Afidopyropen	80.8	55.5	52.6			5.46
	AMPA	107					2.29
	Bentazon	134	90.4	93.0			2.83
	Benzovindiflupyr	90.3	77.8	88.0			12.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Carbamazepine	95.2	64.8	72.3			10.8
	Clothianidin	72.7	67.5	65.4			2.18
	Dinotefuran	115	102	107			4.68
	Diuron	70.3	47.5	51.0			6.48
	Endothall	105	110	113			2.28
	Fenuron	78.2	53.0	52.8			0.337
	Fluridone	83.5	65.6	63.1			3.86
	Glufosinate	101	232	184			23.4
	Glyphosate	105					1.90
	Hydrocodone	88.0	71.6	71.9			0.472
	Ibuprofen	65.6	79.0	86.7			9.21
	Imazapyr	94.9	90.7	96.1			5.34
	Imidacloprid	107					4.45
	Linuron	71.4	61.5	68.4			10.5
	Mandestrobin	102	87.5	90.9			3.84
	MCPP	96.7	91.6	97.3			6.09
	Naproxen	75.2	111	101			9.58
	Primidone	94.3	75.1	81.6			8.35
	Pyraclostrobin	82.1	80.7	80.8			0.147
	Silvex	102	111	113			1.65
	Sucralose	111	108	113			2.95
	Thiamethoxam	87.7	82.2	78.2			3.28
	Tolfenpyrad	49.5	55.8	53.8			3.77
	Triclopyr	93.9	104	116			10.7
SM 2320 B-2011	Total Alkalinity	99.3				0.0013	
	Total Alkalinity	97.1				0.633	
SM 2540 C-2015	TDS	94.2				8.47	
	TDS	97.1				4.00	
SM 2540 D-2015	TSS	98.4					
	TSS	89.6					
SM 4500-F- C-2011	Fluoride	101	102	103			0.520
	Fluoride	99.4	97.6	97.6			0.0
SM 5310 B-2011	Organic Carbon	95.4	85.0	87.8			2.56
	Organic Carbon	98.3	90.4	90.8			0.332
	Organic Carbon	94.8	97.0	98.2			0.786
	Organic Carbon	95.7	96.4	95.8			0.319

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2389003, 2389005, 2389006, 2389007, 2389008, 2389022
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2389003, 2389005, 2389006, 2389007, 2389008, 2389019, 2389022
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2389039
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2389039
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2389003, 2389005, 2389006, 2389007, 2389008, 2389022
EPA 300.0 Rev. 2.1 dissolved	Sulfate, dissolved, in filtered, aqueous matrices	2389014, 2389015, 2389016, 2389017, 2389018, 2389024
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2389009, 2389010, 2389011, 2389012, 2389013, 2389020, 2389023

Reference Method Descriptions

Method	Description	Associated Samples
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2389009, 2389010, 2389011, 2389012, 2389013, 2389020, 2389023
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2389009, 2389010, 2389011, 2389012, 2389013, 2389020, 2389023
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2389009, 2389010, 2389011, 2389012, 2389013, 2389020, 2389023
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2389014, 2389015, 2389016, 2389017, 2389018, 2389021, 2389024
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2389049, 2389050
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2389003, 2389005, 2389006, 2389007, 2389008, 2389019, 2389022
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2389039
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2389003, 2389005, 2389006, 2389007, 2389008, 2389022
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2389003, 2389005, 2389006, 2389007, 2389008, 2389019, 2389022
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2389003, 2389005, 2389006, 2389007, 2389008, 2389019, 2389022
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2389009, 2389010, 2389011, 2389012, 2389013, 2389020, 2389023

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	02/21/2023			02/21/2023 14:24	Alexis Price	2389003, 2389005
	02/21/2023			02/21/2023 14:28	Alexis Price	2389006
	02/21/2023			02/21/2023 14:29	Alexis Price	2389008, 2389022
	02/21/2023			02/21/2023 14:35	Alexis Price	2389007
EPA 180.1 Rev. 2.0	02/21/2023			02/21/2023 14:20	Anna M. Plaviak	2389003, 2389005
	02/21/2023			02/21/2023 14:22	Anna M. Plaviak	2389006
	02/21/2023			02/21/2023 14:23	Anna M. Plaviak	2389007
	02/21/2023			02/21/2023 14:24	Anna M. Plaviak	2389008
	02/21/2023			02/21/2023 14:27	Anna M. Plaviak	2389019
	02/21/2023			02/21/2023 14:28	Anna M. Plaviak	2389022
EPA 200.7 Rev. 4.4	02/21/2023	02/23/2023 13:50	George D Taylor	03/06/2023 19:50	McKinley C Carter	2389039
EPA 200.8 Rev. 5.4	02/21/2023	02/23/2023 13:50	George D Taylor	02/24/2023 20:38	Conrad Hartmann	2389039
EPA 300.0 Rev. 2.1	02/21/2023			03/02/2023 14:12	Judith K. Clark	2389003
	02/21/2023			03/02/2023 14:27	Judith K. Clark	2389005
	02/21/2023			03/02/2023 14:59	Judith K. Clark	2389006
	02/21/2023			03/02/2023 15:16	Judith K. Clark	2389007
	02/21/2023			03/02/2023 16:39	Judith K. Clark	2389008
	02/21/2023			03/02/2023 16:54	Judith K. Clark	2389022
EPA 300.0 Rev. 2.1 dissolved	02/21/2023			03/08/2023 10:31	Judith K. Clark	2389014
	02/21/2023			03/08/2023 12:17	Judith K. Clark	2389015
	02/21/2023			03/08/2023 12:32	Judith K. Clark	2389016
	02/21/2023			03/08/2023 12:47	Judith K. Clark	2389017
	02/21/2023			03/08/2023 13:02	Judith K. Clark	2389018
	02/21/2023			03/08/2023 13:17	Judith K. Clark	2389024
EPA 350.1 Rev. 2.0	02/21/2023			03/01/2023 13:03	Ping Hua	2389010
	02/21/2023			03/01/2023 13:05	Ping Hua	2389013
	02/21/2023			03/01/2023 13:06	Ping Hua	2389020
	02/21/2023			03/01/2023 13:20	Khloe J Berg	2389011
	02/21/2023			03/01/2023 13:21	Khloe J Berg	2389012
	02/21/2023			03/01/2023 13:23	Khloe J Berg	2389023
	02/21/2023			03/02/2023 10:45	Ping Hua	2389009
EPA 351.2 Rev. 2.0	02/21/2023	02/27/2023 12:30	Simonne.V. Calhoun	03/03/2023 15:32	Judith K. Clark	2389010
	02/21/2023	02/27/2023 12:30	Simonne.V. Calhoun	03/03/2023 15:33	Judith K. Clark	2389013
	02/21/2023	02/27/2023 12:30	Simonne.V. Calhoun	03/03/2023 15:38	Judith K. Clark	2389020
	02/21/2023	02/27/2023 12:30	Simonne.V. Calhoun	03/03/2023 17:50	Judith K. Clark	2389009
	02/21/2023	02/27/2023 12:30	Simonne.V. Calhoun	03/03/2023 17:51	Judith K. Clark	2389011
	02/21/2023	02/27/2023 12:30	Simonne.V. Calhoun	03/03/2023 17:52	Judith K. Clark	2389012
	02/21/2023	02/27/2023 12:30	Simonne.V. Calhoun	03/03/2023 17:54	Judith K. Clark	2389023
EPA 353.2 Rev. 2.0	02/21/2023			02/24/2023 08:40	Beverly Y. Sanders	2389010
	02/21/2023			02/24/2023 08:41	Beverly Y. Sanders	2389013

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	02/21/2023			02/24/2023 08:42	Beverly Y. Sanders	2389020
	02/21/2023			02/27/2023 08:55	Beverly Y. Sanders	2389009
	02/21/2023			02/27/2023 09:01	Beverly Y. Sanders	2389011
	02/21/2023			02/27/2023 09:02	Beverly Y. Sanders	2389012
	02/21/2023			02/27/2023 09:04	Beverly Y. Sanders	2389023
EPA 365.1 Rev. 2.0	02/21/2023	02/27/2023 14:45	Alexis Price	02/28/2023 09:13	James L Waggeberby	2389013
	02/21/2023	02/27/2023 14:45	Alexis Price	02/28/2023 09:14	James L Waggeberby	2389020
	02/21/2023	02/27/2023 14:45	Alexis Price	02/28/2023 09:55	James L Waggeberby	2389009
	02/21/2023	02/27/2023 14:45	Alexis Price	02/28/2023 09:56	James L Waggeberby	2389011
	02/21/2023	02/27/2023 14:45	Alexis Price	02/28/2023 09:57	James L Waggeberby	2389012
	02/21/2023	02/27/2023 14:45	Alexis Price	02/28/2023 10:01	James L Waggeberby	2389023
EPA 365.1 Rev. 2.0 dissolved	02/21/2023	02/27/2023 14:45	Alexis Price	02/28/2023 14:48	James L Waggeberby	2389010
	02/21/2023			02/21/2023 15:15	Elise M. Gillis	2389014
	02/21/2023			02/21/2023 15:16	Elise M. Gillis	2389016, 2389017
	02/21/2023			02/21/2023 15:23	Elise M. Gillis	2389015
	02/21/2023			02/21/2023 15:26	Elise M. Gillis	2389018
	02/21/2023			02/21/2023 15:27	Elise M. Gillis	2389021
EPA 8321B	02/21/2023			02/21/2023 15:28	Elise M. Gillis	2389024
	02/21/2023	02/21/2023 14:00	Manjita Shrestha	02/21/2023 16:25	Manjita Shrestha	2389049
	02/21/2023	02/21/2023 14:00	Manjita Shrestha	02/21/2023 16:38	Manjita Shrestha	2389050
	02/21/2023	02/21/2023 14:00	Manjita Shrestha	02/21/2023 17:31	Manjita Shrestha	2389050
	02/21/2023	02/21/2023 14:00	Manjita Shrestha	02/22/2023 00:41	Manjita Shrestha	2389049
	02/21/2023	02/21/2023 14:00	Manjita Shrestha	02/22/2023 00:55	Manjita Shrestha	2389050
	02/21/2023	02/23/2023 08:30	Hoor Shaik	02/24/2023 00:47	Juyoung Kim	2389049
	02/21/2023	02/23/2023 08:30	Hoor Shaik	02/24/2023 01:05	Juyoung Kim	2389050
	02/21/2023	02/23/2023 08:30	Hoor Shaik	02/24/2023 12:12	Juyoung Kim	2389049
SM 2320 B-2011	02/21/2023	02/23/2023 08:30	Hoor Shaik	02/24/2023 12:31	Juyoung Kim	2389050
	02/21/2023			02/27/2023 22:01	Chandler E Cox	2389003
	02/21/2023			02/27/2023 22:15	Chandler E Cox	2389006
	02/21/2023			02/27/2023 23:07	Chandler E Cox	2389007
	02/21/2023			02/27/2023 23:22	Chandler E Cox	2389022
	02/21/2023			03/02/2023 20:09	Chandler E Cox	2389019
	02/21/2023			03/02/2023 20:32	Chandler E Cox	2389008
	02/21/2023			03/02/2023 21:33	Chandler E Cox	2389005
	02/21/2023			03/06/2023 19:50	McKinley C Carter	2389039
SM 2340 B-2011	02/21/2023			02/24/2023 16:46	Yijie Li	2389003, 2389005, 2389006, 2389007, 2389008, 2389022
SM 2540 C-2015	02/21/2023					
SM 2540 D-2015	02/21/2023			02/24/2023 16:46	Yijie Li	2389003, 2389005, 2389006, 2389007, 2389008, 2389019, 2389022
SM 4500-F- C-2011	02/21/2023			02/27/2023 22:01	Chandler E Cox	2389003

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500-F- C-2011	02/21/2023			02/27/2023 22:15	Chandler E Cox	2389006
	02/21/2023			02/27/2023 23:07	Chandler E Cox	2389007
	02/21/2023			02/27/2023 23:22	Chandler E Cox	2389022
	02/21/2023			03/02/2023 17:15	Chandler E Cox	2389019
	02/21/2023			03/02/2023 17:25	Chandler E Cox	2389008
	02/21/2023			03/02/2023 18:02	Chandler E Cox	2389005
SM 5310 B-2011	02/21/2023			02/23/2023 09:37	Elise M. Gillis	2389013
	02/21/2023			02/23/2023 09:52	Elise M. Gillis	2389020
	02/21/2023			03/01/2023 17:10	Elise M. Gillis	2389010
	02/21/2023			03/03/2023 16:07	Khloe J Berg	2389009
	02/21/2023			03/04/2023 01:38	Khloe J Berg	2389011
	02/21/2023			03/04/2023 01:53	Khloe J Berg	2389012
	02/21/2023			03/04/2023 02:09	Khloe J Berg	2389023