

Chemical Analysis Report

SW-DIST-2023-10-03-01

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

Event Description: **Run 14**
Request ID: **RQ-2023-10-02-70**
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: Colin Wright, Program Administrator

Date Certified: 19-OCT-2023 10:14

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: 10/02/2023 10:05**

Field ID: G2SW0162

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442288	DEP SOP: NU-094-1	Color (true)	92	A	PCU	P435890	
	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P435886	
	EPA 300.0 Rev. 2.1	Chloride	45	A	mg Cl/L	P436168	
		Sulfate	30	A	mg SO4/L	P436171	
	SM 2320 B-2011	Total Alkalinity	53	A	mg CaCO3/L	P436023	
	SM 2540 C-2015	TDS	184		mg/L	P436426	
	SM 2540 D-2015	TSS	4	I	mg/L	P436385	
	SM 4500-F- C-2011	Fluoride	0.22		mg F/L	P436026	
2442292	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P436132	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P436479	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.044		mg N/L	P436311	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P435990	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P436003	

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: MILLER MAC RD DITCH AT US 41 N OF DI
 MERE PACKING**

Collection Date/Time: 10/02/2023 10:30

Field ID: G1SW0138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442289	DEP SOP: NU-094-1	Color (true)	80		PCU	P435890	
	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P435886	
	EPA 300.0 Rev. 2.1	Chloride	47		mg Cl/L	P436168	
		Sulfate	110		mg SO4/L	P436171	
	SM 2320 B-2011	Total Alkalinity	70		mg CaCO3/L	P436023	
	SM 2540 C-2015	TDS	336		mg/L	P436426	
	SM 2540 D-2015	TSS	7	I	mg/L	P436385	
	SM 4500-F- C-2011	Fluoride	0.18		mg F/L	P436026	
2442293	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P436132	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P436479	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P436374	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P435990	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P436003	

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 AT MANNS HARBOR
DR BOATLIFT**

Collection Date/Time: 10/02/2023 10:45

Field ID: G1SW0092

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442298	DEP SOP: NU-094-1	Color (true)	18		PCU	P435890	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P435886	
	EPA 300.0 Rev. 2.1	Chloride	1.1E+04		mg Cl/L	P436168	
		Sulfate	1.6E+03		mg SO4/L	P436171	
	SM 2320 B-2011	Total Alkalinity	99		mg CaCO3/L	P436024	
	SM 2540 C-2015	TDS	1.88E+04		mg/L	P436427	
	SM 2540 D-2015	TSS	6	I	mg/L	P436388	
	SM 4500-F- C-2011	Fluoride	0.92		mg F/L	P436027	
2442300	EPA 350.1 Rev. 2.0	Ammonia-N	0.082		mg N/L	P436135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P436156	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P436447	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P436117	
	SM 5310 B-2011	Organic Carbon	9.7		mg C/L	P436473	

Ref. Method and Comment:

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

Sample Location: WOLF BRANCH CANAL AT MIDDLE OF LAKE Collection Date/Time: 10/02/2023 11:10

Field ID: G1SW0139

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442296	DEP SOP: NU-094-1	Color (true)	25		PCU	P435890	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P435886	
	EPA 300.0 Rev. 2.1	Chloride	9.2E+03		mg Cl/L	P436168	
		Sulfate	1.3E+03		mg SO4/L	P436171	
	SM 2320 B-2011	Total Alkalinity	93	A	mg CaCO3/L	P436024	
	SM 2540 C-2015	TDS	1.50E+04		mg/L	P436427	
	SM 2540 D-2015	TSS	5	IA	mg/L	P436388	
2442297	SM 4500-F- C-2011	Fluoride	0.80		mg F/L	P436027	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P436135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P436156	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P436447	
	EPA 365.1 Rev. 2.0	Total-P	0.096		mg P/L	P436117	
2442321	SM 5310 B-2011	Organic Carbon	11		mg C/L	P436473	
	EPA 8321B	Acesulfame K	0.10	U	ug/L	P435922	
		2,4-D	0.26		ug/L	P435876	
		AMPA	1.0	U	ug/L	P435922	
		2,4,5-T	0.0040	U	ug/L	P435876	
		Acetaminophen	0.0080	U	ug/L	P435876	
		Endothall	0.25	U	ug/L	P435922	
		Acetamiprid	0.0020	U	ug/L	P435876	
		Glufosinate	1.0	U	ug/L	P435922	
		Glyphosate	1.0	U	ug/L	P435922	
		Afidopyropen	0.0020	U	ug/L	P435876	
		Sucralose	1.4		ug/L	P435922	
		Bentazon	0.20		ug/L	P435876	
		Benzovindiflupyr	0.0020	U	ug/L	P435876	
		Carbamazepine	8.0E-04	U	ug/L	P435876	
		Clothianidin	0.0020	U	ug/L	P435876	
		Dinotefuran	0.0020	U	ug/L	P435876	
		Diuron	0.0020	U	ug/L	P435876	
		Fenuron	0.032	U	ug/L	P435876	
		Fluridone	0.051		ug/L	P435876	
		Imazapyr	0.17		ug/L	P435876	
		Hydrocodone	0.0020	U	ug/L	P435876	
		Ibuprofen	0.080	U	ug/L	P435876	
		Imidacloprid	0.043		ug/L	P435876	
		Linuron	0.0040	U	ug/L	P435876	
		Mandestrobin	0.0020	U	ug/L	P435876	
		MCP	0.059		ug/L	P435876	
		Naproxen	0.0080	U	ug/L	P435876	
		Primidone	0.0049	I	ug/L	P435876	
		Pyraclostrobin	0.0020	U	ug/L	P435876	
		Silvex	0.0040	U	ug/L	P435876	
		Thiamethoxam	0.0020	U	ug/L	P435876	

RPD

Field ID: G1SW0139

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442321	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P435876	
		Triclopyr	0.0040	U	ug/L	P435876	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. LFB is unavailable because of analytical difficulties.
EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Sample Location: WOLF BRANCH AT 12TH STREET NE

Collection Date/Time: 10/02/2023 11:45

Field ID: G1SW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442290	DEP SOP: NU-094-1	Color (true)	110		PCU	P435890	
	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P435886	
	EPA 300.0 Rev. 2.1	Chloride	240		mg Cl/L	P436168	
		Sulfate	110		mg SO4/L	P436171	
	SM 2320 B-2011	Total Alkalinity	55		mg CaCO3/L	P436023	
	SM 2540 C-2015	TDS	596		mg/L	P436426	
	SM 2540 D-2015	TSS	5	I	mg/L	P436385	
	SM 4500-F- C-2011	Fluoride	0.30		mg F/L	P436026	
2442294	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P436132	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P436479	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P436374	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P435991	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P436111	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: WOLF BRANCH AT 19TH AVE NE

Collection Date/Time: 10/02/2023 11:55

Field ID: G1SW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442291	DEP SOP: NU-094-1	Color (true)	190		PCU	P435890	
	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P435886	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P436168	
		Sulfate	72		mg SO4/L	P436171	
	SM 2320 B-2011	Total Alkalinity	34		mg CaCO3/L	P436023	
	SM 2540 C-2015	TDS	214		mg/L	P436426	
	SM 2540 D-2015	TSS	2	I	mg/L	P436385	
	SM 4500-F- C-2011	Fluoride	0.17		mg F/L	P436026	
2442295	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P436132	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P436479	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P436374	
	EPA 365.1 Rev. 2.0	Total-P	0.063		mg P/L	P435991	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P436111	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: HERITAGE PARK CREEK

Collection Date/Time: 10/02/2023 12:15

Field ID: G2SW0138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442299	DEP SOP: NU-094-1	Color (true)	130		PCU	P435890	
	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P435886	
	EPA 300.0 Rev. 2.1	Chloride	430		mg Cl/L	P436168	
		Sulfate	110		mg SO4/L	P436171	
	SM 2320 B-2011	Total Alkalinity	31		mg CaCO3/L	P436023	
	SM 2540 C-2015	TDS	900		mg/L	P436426	
	SM 2540 D-2015	TSS	14		mg/L	P436385	
	SM 4500-F- C-2011	Fluoride	0.28		mg F/L	P436026	
2442301	EPA 350.1 Rev. 2.0	Ammonia-N	0.058		mg N/L	P436132	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P436479	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P436374	
	EPA 365.1 Rev. 2.0	Total-P	0.39		mg P/L	P435991	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P436111	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: BUFFALO CANAL PAST THE WW DISCHARGE Collection Date/Time: 10/02/2023 13:00

Field ID: G1SW0140

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442302	DEP SOP: NU-094-1	Color (true)	35		PCU	P435890	
	EPA 180.1 Rev. 2.0	Turbidity	8.4	A	NTU	P435887	
	EPA 300.0 Rev. 2.1	Chloride	71		mg Cl/L	P436168	
		Sulfate	65		mg SO4/L	P436171	
	SM 2320 B-2011	Total Alkalinity	175		mg CaCO3/L	P436023	
	SM 2540 C-2015	TDS	418	A	mg/L	P436427	
	SM 2540 D-2015	TSS	8	I	mg/L	P436385	
2442303	SM 4500-F- C-2011	Fluoride	0.74		mg F/L	P436026	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.25		mg N/L	P436132	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P436479	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P436374	
	EPA 365.1 Rev. 2.0	Total-P	0.48		mg P/L	P435991	
2442322	SM 5310 B-2011	Organic Carbon	13		mg C/L	P436111	
	EPA 8321B	2,4-D	0.070		ug/L	P435876	
		Acesulfame K	0.15	I	ug/L	P435922	
		2,4,5-T	0.0040	U	ug/L	P435876	
		AMPA	5.5		ug/L	P435922	
		Acetaminophen	0.0080	U	ug/L	P435876	
		Acetamiprid	0.0020	U	ug/L	P435876	
		Endothall	0.25	U	ug/L	P435922	
		Glufosinate	0.10	U	ug/L	P435922	
		Glyphosate	57		ug/L	P435922	
		Afidopyropen	0.0020	U	ug/L	P435876	
		Bentazon	0.25		ug/L	P435876	
		Sucralose	9.3		ug/L	P435922	
		Benzovindiflupyr	0.0020	U	ug/L	P435876	
		Carbamazepine	0.0053		ug/L	P435876	
		Clothianidin	0.0045	I	ug/L	P435876	
		Dinotefuran	0.0020	U	ug/L	P435876	
		Diuron	0.0039	I	ug/L	P435876	RPD
		Fenuron	0.032	U	ug/L	P435876	
		Fluridone	8.0E-04	U	ug/L	P435876	
		Imazapyr	0.23		ug/L	P435876	
		Hydrocodone	0.0020	U	ug/L	P435876	
		Ibuprofen	0.080	U	ug/L	P435876	
		Imidacloprid	0.032		ug/L	P435876	
		Linuron	0.0040	U	ug/L	P435876	
		Mandestrobin	0.0020	U	ug/L	P435876	
		MCP	0.0029	I	ug/L	P435876	
		Naproxen	0.0080	U	ug/L	P435876	
		Primidone	0.026		ug/L	P435876	
		Pyraclostrobin	0.0020	U	ug/L	P435876	
		Silvex	0.0040	U	ug/L	P435876	
		Thiamethoxam	0.0020	U	ug/L	P435876	

Field ID: G1SW0140

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2442322	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P435876	
		Triclopyr	0.0040	U	ug/L	P435876	
2442323	EPA 200.7 Rev. 4.4	Calcium	69.8		mg/L	P435947	
		Iron	430		ug/L	P435947	
		Magnesium	22.4		mg/L	P435947	
		Potassium	8.5		mg/L	P435947	
		Sodium	41.3		mg/L	P435947	
		Strontium	697		ug/L	P435947	
		Tin	5.5	I	ug/L	P435947	
		Titanium	1.2	I	ug/L	P435947	
		Vanadium	4.1	I	ug/L	P435947	
		Zinc	5.0	U	ug/L	P435947	
	EPA 200.8 Rev. 5.4	Aluminum	176		ug/L	P435947	
		Antimony	0.30		ug/L	P435947	
		Arsenic	5.72		ug/L	P435947	
		Barium	19.4		ug/L	P435947	
		Beryllium	0.019	I	ug/L	P435947	
		Boron	104		ug/L	P435947	
		Cadmium	0.020	U	ug/L	P435947	
		Chromium	0.51	I	ug/L	P435947	
		Cobalt	0.177		ug/L	P435947	
		Copper	1.20		ug/L	P435947	
		Lead	0.29	I	ug/L	P435947	
		Manganese	32.5		ug/L	P435947	
		Molybdenum	2.81		ug/L	P435947	
		Nickel	2.3		ug/L	P435947	
		Selenium	0.30	I	ug/L	P435947	
		Silver	0.010	U	ug/L	P435947	
		Thallium	0.10	U	ug/L	P435947	
	SM 2340 B-2011	Hardness	267		mg/L	P435947	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P435890

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435886

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435887

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P435947

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: P435947

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
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436168

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436171

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436132

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436135

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436156

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436479

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436311

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436374

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436447

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: P435990

Component	Result	Code	Units
Total-P	0.010	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435991

Component	Result	Code	Units
Total-P	0.010	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436117

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

Reference Method: EPA 8321B
Batch ID: P435876

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	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: EPA 8321B
Batch ID: P435922

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P435922

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

Reference Method: SM 2320 B-2011
Batch ID: P436023

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

Reference Method: SM 2320 B-2011
Batch ID: P436024

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

Reference Method: SM 2540 C-2015
Batch ID: P436426

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P436427

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P436385

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P436388

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P436026

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P436027

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P436003

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

Reference Method: SM 5310 B-2011
Batch ID: P436111

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

Reference Method: SM 5310 B-2011
Batch ID: P436473

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: P435890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435886

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435887

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P435947

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	107		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	101		P	85 - 115
Sodium	104		P	85 - 115
Strontium	102		P	85 - 115
Tin	104		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P435947

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	97.3		P	85 - 115
Arsenic	99.6		P	85 - 115
Barium	102		P	85 - 115
Beryllium	96.1		P	85 - 115
Boron	102		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	96.8		P	85 - 115
Cobalt	97.7		P	85 - 115
Copper	98.5		P	85 - 115
Lead	96.4		P	85 - 115
Manganese	99.7		P	85 - 115
Molybdenum	97.9		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	99.2		P	85 - 115
Silver	106		P	85 - 115
Thallium	101		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436168

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436171

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436132

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436135

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436156

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436479

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436311

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436374

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436447

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435990

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435991

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436117

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

Reference Method: EPA 8321B
Batch ID: P435876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	113		P	40 - 150
2,4,5-T	110		P	40 - 150
Acetaminophen	74.8		P	30 - 150
Acetamiprid	85.7		P	40 - 150
Afidopyropen	72.0		P	30 - 150
Bentazon	68.5		P	30 - 150
Benzovindiflupyr	104		P	40 - 150
Carbamazepine	74.1		P	40 - 150
Clothianidin	89.8		P	40 - 150
Dinotefuran	93.8		P	40 - 150
Diuron	60.3		P	40 - 150
Fenuron	87.5		P	40 - 150
Fluridone	79.8		P	40 - 150
Hydrocodone	79.6		P	40 - 150
Ibuprofen	75.8		P	40 - 150
Imazapyr	75.8		P	40 - 150
Imidacloprid	93.9		P	40 - 150
Linuron	63.5		P	40 - 150
Mandestrobin	92.2		P	40 - 150
MCPP	114		P	40 - 150
Naproxen	65.1		P	40 - 150
Primidone	85.6		P	40 - 150
Pyraclostrobin	79.3		P	40 - 150
Silvex	80.3		P	40 - 150
Thiamethoxam	91.2		P	40 - 150
Tolfenpyrad	45.2		P	30 - 150
Triclopyr	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P435922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	85.1		P	40 - 150
AMPA	101		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P435922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endothall	87.7		P	40 - 150
Glufosinate	82.5		P	40 - 150
Glyphosate	92.4		P	40 - 150
Sucralose	120		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P436023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.9		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P436024

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.7		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P436426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.4		P	85 - 115

Reference Method: SM 2540 C-2015
Batch ID: P436427

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

Reference Method: SM 2540 D-2015
Batch ID: P436385

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	106		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P436026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P436027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P436003

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P436111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P436473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P435947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441887	Calcium	107		P	80 - 120
2441887	Iron	107	111	P/P	80 - 120
2441887	Magnesium	105	110	P/P	80 - 120
2441887	Potassium	103	104	P/P	80 - 120
2441887	Sodium	108	107	P/P	80 - 120
2441887	Strontium	104	105	P/P	80 - 120
2441887	Tin	107	107	P/P	80 - 120
2441887	Titanium	102	103	P/P	80 - 120
2441887	Vanadium	105	106	P/P	80 - 120
2441887	Zinc	104	103	P/P	80 - 120
2442117	Calcium	107		P	80 - 120
2442117	Iron	107		P	80 - 120
2442117	Magnesium	110		P	80 - 120
2442117	Potassium	101		P	80 - 120
2442117	Sodium	106		P	80 - 120
2442117	Strontium	103		P	80 - 120
2442117	Tin	105		P	80 - 120
2442117	Titanium	102		P	80 - 120
2442117	Vanadium	104		P	80 - 120
2442117	Zinc	105		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P435947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441887	Aluminum	98.1	99.1	P/P	80 - 120
2441887	Antimony	96.9	96.7	P/P	80 - 120
2441887	Arsenic	97.8	97.6	P/P	80 - 120
2441887	Barium	101	102	P/P	80 - 120
2441887	Beryllium	97.6	96.9	P/P	80 - 120
2441887	Boron	100	101	P/P	80 - 120
2441887	Cadmium	98.9	97.3	P/P	80 - 120
2441887	Chromium	96.1	97.3	P/P	80 - 120
2441887	Cobalt	95.7	96.1	P/P	80 - 120
2441887	Copper	97.6	96.7	P/P	80 - 120
2441887	Lead	94.7	95.3	P/P	80 - 120
2441887	Manganese	101	101	P/P	80 - 120
2441887	Molybdenum	97.5	97.0	P/P	80 - 120
2441887	Nickel	96.1	96.2	P/P	80 - 120
2441887	Selenium	98.7	100	P/P	80 - 120
2441887	Silver	107	106	P/P	80 - 120
2441887	Thallium	101	101	P/P	80 - 120
2442117	Aluminum	98.3		P	80 - 120
2442117	Antimony	97.6		P	80 - 120
2442117	Arsenic	98.1		P	80 - 120
2442117	Barium	101		P	80 - 120
2442117	Beryllium	94.0		P	80 - 120
2442117	Boron	102		P	80 - 120
2442117	Cadmium	97.6		P	80 - 120
2442117	Chromium	94.6		P	80 - 120
2442117	Cobalt	93.8		P	80 - 120
2442117	Copper	96.1		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P435947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442117	Lead	97.1		P	80 - 120
2442117	Manganese	94.0		P	80 - 120
2442117	Molybdenum	97.7		P	80 - 120
2442117	Nickel	94.3		P	80 - 120
2442117	Selenium	97.9		P	80 - 120
2442117	Silver	104		P	80 - 120
2442117	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442288	Chloride	108		P	90 - 110
2442378	Chloride	110		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442288	Sulfate	106		P	90 - 110
2442378	Sulfate	109		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442292	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442649	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436156

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442184	Kjeldahl Nitrogen	98.8	97.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436479

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442294	Kjeldahl Nitrogen	104	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436311

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441960	NO2NO3-N	98.0	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436374

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442293	NO2NO3-N	97.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436447

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442180	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442272	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442187	Total-P	101	99.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P435876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441109	2,4-D	132	136	P/P	40 - 150
2441109	2,4,5-T	131	109	P/P	40 - 150
2441109	Acetaminophen	88.0	88.8	P/P	30 - 150
2441109	Acetamiprid	75.7	74.3	P/P	40 - 150
2441109	Afidopyropen	58.2	44.2	P/P	30 - 150
2441109	Bentazon	70.7	67.6	P/P	30 - 150
2441109	Benzovindiflupyr	113	102	P/P	40 - 150
2441109	Carbamazepine	69.8	72.0	P/P	40 - 150
2441109	Clothianidin	106	95.6	P/P	40 - 150
2441109	Dinotefuran	108	111	P/P	40 - 150
2441109	Diuron	42.6	61.3	P/P	40 - 150
2441109	Fenuron	73.2	73.3	P/P	40 - 150
2441109	Fluridone	68.6	63.2	P/P	40 - 150
2441109	Hydrocodone	80.0	81.1	P/P	40 - 150
2441109	Ibuprofen	63.8	53.8	P/P	40 - 150
2441109	Imazapyr	91.3	86.7	P/P	40 - 150
2441109	Imidacloprid	144	142	P/P	40 - 150
2441109	Linuron	58.9	56.9	P/P	40 - 150
2441109	Mandestrobin	79.9	81.0	P/P	40 - 150
2441109	MCCP	104	118	P/P	40 - 150
2441109	Naproxen	79.9	97.6	P/P	40 - 150
2441109	Primidone	92.5	92.0	P/P	40 - 150
2441109	Pyraclostrobin	66.6	84.4	P/P	40 - 150
2441109	Silvex	59.6	69.9	P/P	40 - 150
2441109	Thiamethoxam	109	109	P/P	40 - 150
2441109	Tolfenpyrad	39.7	49.0	P/P	30 - 150
2441109	Triclopyr	103	108	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P435922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441886	Acesulfame K	91.6	97.0	P/P	40 - 150
2441886	AMPA	77.9	80.9	P/P	40 - 150
2441886	Endothall	88.1	85.3	P/P	40 - 150
2441886	Glufosinate	100	99.7	P/P	40 - 150
2441886	Glyphosate	101	103	P/P	40 - 150
2441886	Sucralose	104	119	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P436026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442288	Fluoride	101	101	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P436027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442296	Fluoride	103	104	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P436003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441891	Organic Carbon	93.6	96.7	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P436111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442303	Organic Carbon	92.9	95.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P436473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442297	Organic Carbon	93.4	90.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P435890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442288	Color (true)	1.38	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435886

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442150	Turbidity	4.28	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442302	Turbidity	1.07	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P435947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441887	Calcium	0.346	Spike	P	0 - 20
2441887	Iron	3.81	Spike	P	0 - 20
2441887	Magnesium	2.21	Spike	P	0 - 20
2441887	Potassium	0.630	Spike	P	0 - 20
2441887	Sodium	0.582	Spike	P	0 - 20
2441887	Strontium	0.959	Spike	P	0 - 20
2441887	Tin	0.204	Spike	P	0 - 20
2441887	Titanium	0.386	Spike	P	0 - 20
2441887	Vanadium	1.26	Spike	P	0 - 20
2441887	Zinc	0.942	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P435947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441887	Aluminum	0.871	Spike	P	0 - 20
2441887	Antimony	0.137	Spike	P	0 - 20
2441887	Arsenic	0.222	Spike	P	0 - 20
2441887	Barium	0.246	Spike	P	0 - 20
2441887	Beryllium	0.693	Spike	P	0 - 20
2441887	Boron	0.678	Spike	P	0 - 20
2441887	Cadmium	1.61	Spike	P	0 - 20
2441887	Chromium	1.25	Spike	P	0 - 20
2441887	Cobalt	0.421	Spike	P	0 - 20
2441887	Copper	0.861	Spike	P	0 - 20
2441887	Lead	0.595	Spike	P	0 - 20
2441887	Manganese	0.335	Spike	P	0 - 20
2441887	Molybdenum	0.518	Spike	P	0 - 20
2441887	Nickel	0.143	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P435947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441887	Selenium	1.51	Spike	P	0 - 20
2441887	Silver	1.12	Spike	P	0 - 20
2441887	Thallium	0.487	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442288	Chloride	0.195	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442288	Sulfate	0.246	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442292	Ammonia-N	0.811	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442649	Ammonia-N	0.183	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436156

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442184	Kjeldahl Nitrogen	0.965	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442294	Kjeldahl Nitrogen	2.24	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436311

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441960	NO2NO3-N	1.97	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442293	NO2NO3-N	0.476	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436447

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442180	NO2NO3-N	0.582	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442272	Total-P	1.19	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435991

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442303	Total-P	0.768	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442187	Total-P	1.97	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P435876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441109	2,4-D	3.14	Spike	P	0 - 30
2441109	2,4,5-T	17.7	Spike	P	0 - 30
2441109	Acetaminophen	0.884	Spike	P	0 - 30
2441109	Acetamiprid	1.97	Spike	P	0 - 30
2441109	Afidopyropen	27.2	Spike	P	0 - 30
2441109	Bentazon	2.77	Spike	P	0 - 30
2441109	Benzovindiflupyr	9.92	Spike	P	0 - 30
2441109	Carbamazepine	3.11	Spike	P	0 - 30
2441109	Clothianidin	10.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P435876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441109	Dinotefuran	1.67	Spike	P	0 - 30
2441109	Diuron	36.0	Spike	F	0 - 30
2441109	Fenuron	0.162	Spike	P	0 - 30
2441109	Fluridone	8.22	Spike	P	0 - 30
2441109	Hydrocodone	1.46	Spike	P	0 - 30
2441109	Ibuprofen	16.9	Spike	P	0 - 30
2441109	Imazapyr	5.18	Spike	P	0 - 30
2441109	Imidacloprid	0.920	Spike	P	0 - 30
2441109	Linuron	3.45	Spike	P	0 - 30
2441109	Mandestrobin	1.44	Spike	P	0 - 30
2441109	MCPPP	12.4	Spike	P	0 - 30
2441109	Naproxen	20.0	Spike	P	0 - 30
2441109	Primidone	0.589	Spike	P	0 - 30
2441109	Pyraclostrobin	23.6	Spike	P	0 - 30
2441109	Silvex	16.0	Spike	P	0 - 30
2441109	Thiamethoxam	0.298	Spike	P	0 - 30
2441109	Tolfenpyrad	21.0	Spike	P	0 - 30
2441109	Triclopyr	4.40	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P435922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441886	Acesulfame K	5.55	Spike	P	0 - 30
2441886	AMPA	3.76	Spike	P	0 - 30
2441886	Endothall	3.20	Spike	P	0 - 30
2441886	Glufosinate	0.523	Spike	P	0 - 30
2441886	Glyphosate	2.17	Spike	P	0 - 30
2441886	Sucralose	12.6	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P436023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442288	Total Alkalinity	1.11	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P436024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442296	Total Alkalinity	0.304	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P436426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441657	TDS	4.71	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P436427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442302	TDS	2.39	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P436026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442288	Fluoride	0.506	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P436027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442296	Fluoride	0.467	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P436003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441891	Organic Carbon	2.82	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P436111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442303	Organic Carbon	1.83	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P436473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442297	Organic Carbon	2.19	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2442321

Field Sample ID: G1SW0139

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	60.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.0	P	30 - 160
EPA 8321B	Diuron-d6	56.4	P	30 - 160
EPA 8321B	Endothall-d6	69.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	35.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.6	P	30 - 160
EPA 8321B	Primidone-d5	70.2	P	30 - 160
EPA 8321B	Sucralose-d6	88.1	P	30 - 160

Lab Sample ID: 2442322

Field Sample ID: G1SW0140

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	49.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	47.3	P	30 - 160
EPA 8321B	Diuron-d6	63.3	P	30 - 160
EPA 8321B	Endothall-d6	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	30 - 160
EPA 8321B	Ibuprofen-d3	48.3	P	30 - 160
EPA 8321B	Primidone-d5	57.4	P	30 - 160
EPA 8321B	Sucralose-d6	140	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A121920

Included Lab Sample IDs: 2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302

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

Reference Method: DEP SOP: NU-094-1

Run ID: A121921

Included Lab Sample IDs: 2442288, 2442289, 2442290, 2442296, 2442298, 2442299, 2442302

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

Reference Method: DEP SOP: NU-094-1

Run ID: A121922

Included Lab Sample IDs: 2442291

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121948

Included Lab Sample IDs: 2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302

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

Reference Method: SM 5310 B-2011

Run ID: A121969

Included Lab Sample IDs: 2442292, 2442293

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.8	94.6	P/P	90 - 110
Organic Carbon	95.6	95.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A121975

Included Lab Sample IDs: 2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	97.7	P/P	90 - 110
Total Alkalinity	96.8	97.8	P/P	90 - 110
Total Alkalinity	97.7	96.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121975

Included Lab Sample IDs: 2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121991

Included Lab Sample IDs: 2442323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.9	97.4	P/P	90 - 110
Antimony	93.1	94.0	P/P	90 - 110
Arsenic	97.4	96.4	P/P	90 - 110
Barium	98.3	99.2	P/P	90 - 110
Beryllium	97.7	94.5	P/P	90 - 110
Boron	92.9	93.3	P/P	90 - 110
Cadmium	97.5	98.5	P/P	90 - 110
Chromium	96.2	95.5	P/P	90 - 110
Cobalt	95.4	94.6	P/P	90 - 110
Copper	95.0	93.9	P/P	90 - 110
Lead	93.1	93.8	P/P	90 - 110
Manganese	97.8	96.9	P/P	90 - 110
Molybdenum	95.5	96.5	P/P	90 - 110
Nickel	95.2	94.2	P/P	90 - 110
Selenium	97.7	99.3	P/P	90 - 110
Silver	95.3	96.9	P/P	90 - 110
Thallium	95.3	95.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121992

Included Lab Sample IDs: 2442321, 2442322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	109	P/P	60 - 160
Endothall	85.4	89.4	P/P	60 - 160
Endothall	89.4	90.5	P/P	60 - 160
Glufosinate	70.5	89.9	P/P	60 - 160
Glufosinate	89.9	87.9	P/P	60 - 160
Glyphosate	108	113	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A121999

Included Lab Sample IDs: 2442294, 2442295, 2442301, 2442303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	96.2	P/P	90 - 110
Organic Carbon	96.2	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122004

Included Lab Sample IDs: 2442292, 2442293, 2442294, 2442295, 2442301, 2442303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	100	P/P	90 - 110
Total-P	102	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122005

Included Lab Sample IDs: 2442321, 2442322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A122005

Included Lab Sample IDs: 2442321, 2442322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	115	89.1	P/P	50 - 150
2,4,5-T	104	105	P/P	50 - 150
Acetaminophen	111	110	P/P	60 - 160
Acetamiprid	110	111	P/P	50 - 150
Afidopyropen	102	116	P/P	50 - 150
Bentazon	136	153	P/P	50 - 160
Benzovindiflupyr	107	99.5	P/P	50 - 150
Carbamazepine	113	117	P/P	60 - 150
Clothianidin	119	127	P/P	60 - 150
Dinotefuran	110	113	P/P	50 - 150
Diuron	138	88.6	P/P	60 - 160
Fenuron	110	111	P/P	60 - 150
Fluridone	106	103	P/P	60 - 160
Hydrocodone	118	128	P/P	60 - 150
Ibuprofen	72.6	96.3	P/P	50 - 160
Imazapyr	98.2	82.5	P/P	50 - 150
Imidacloprid	104	104	P/P	60 - 150
Linuron	90.7	98.4	P/P	60 - 150
Mandestrobin	108	104	P/P	50 - 150
MCPP	87.5	95.9	P/P	50 - 150
Naproxen	72.4	101	P/P	50 - 160
Primidone	120	140	P/P	60 - 150
Pyraclostrobin	109	104	P/P	60 - 150
Silvex	90.7	97.2	P/P	50 - 150
Thiamethoxam	116	118	P/P	50 - 150
Tolfenpyrad	87.4	85.7	P/P	60 - 150
Triclopyr	88.5	97.8	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122010

Included Lab Sample IDs: 2442292, 2442293, 2442294, 2442295, 2442297, 2442300, 2442301, 2442303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.9	P/P	90 - 110
Ammonia-N	100	100	P/P	90 - 110
Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A122017

Included Lab Sample IDs: 2442323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	105	P/P	90 - 110
Iron	105	106	P/P	90 - 110
Magnesium	105	106	P/P	90 - 110
Potassium	102	102	P/P	90 - 110
Sodium	103	105	P/P	90 - 110
Strontium	103	104	P/P	90 - 110
Tin	102	104	P/P	90 - 110
Titanium	101	102	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A122025

Included Lab Sample IDs: 2442321, 2442322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	102	97.8	P/P	60 - 160
Acesulfame K	86.3	102	P/P	60 - 160
Sucralose	107	107	P/P	60 - 160
Sucralose	113	107	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122031

Included Lab Sample IDs: 2442297, 2442300

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A122060

Included Lab Sample IDs: 2442323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	107	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122065

Included Lab Sample IDs: 2442292

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122091

Included Lab Sample IDs: 2442293, 2442294, 2442295, 2442301, 2442303

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122092

Included Lab Sample IDs: 2442297, 2442300

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	99.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122126

Included Lab Sample IDs: 2442297, 2442300

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A122134

Included Lab Sample IDs: 2442297, 2442300

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.1	95.0	P/P	90 - 110
Organic Carbon	95.8	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122164

Included Lab Sample IDs: 2442292, 2442293, 2442294, 2442295, 2442301, 2442303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	90.4	P/P	90 - 110
Kjeldahl Nitrogen	95.3	103	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)	102				1.38	
EPA 180.1 Rev. 2.0	Turbidity	105				4.28	
	Turbidity	105				1.07	
EPA 200.7 Rev. 4.4	Calcium	103	107	107			0.346
	Iron	107	107	111	107		3.81
	Magnesium	109	105	110	110		2.21
	Potassium	101	103	104	101		0.630
	Sodium	104	108	107	106		0.582
	Strontium	102	104	105	103		0.959
	Tin	104	107	107	105		0.204
	Titanium	103	102	103	102		0.386
	Vanadium	103	105	106	104		1.26
	Zinc	105	104	103	105		0.942
EPA 200.8 Rev. 5.4	Aluminum	101	98.1	99.1	98.3		0.871
	Antimony	97.3	96.9	96.7	97.6		0.137
	Arsenic	99.6	97.8	97.6	98.1		0.222
	Barium	102	101	102	101		0.246
	Beryllium	96.1	97.6	96.9	94.0		0.693
	Boron	102	100	101	102		0.678
	Cadmium	100	98.9	97.3	97.6		1.61
	Chromium	96.8	96.1	97.3	94.6		1.25
	Cobalt	97.7	95.7	96.1	93.8		0.421
	Copper	98.5	97.6	96.7	96.1		0.861
	Lead	96.4	94.7	95.3	97.1		0.595
	Manganese	99.7	101	101	94.0		0.335
	Molybdenum	97.9	97.5	97.0	97.7		0.518
	Nickel	97.9	96.1	96.2	94.3		0.143
	Selenium	99.2	98.7	100	97.9		1.51
	Silver	106	107	106	104		1.12
	Thallium	101	101	101	103		0.487
EPA 300.0 Rev. 2.1	Chloride	105	108	110		0.195	
	Sulfate	106	106	109		0.246	
EPA 350.1 Rev. 2.0	Ammonia-N	102	102	100			0.811
	Ammonia-N	103	102	102			0.183
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.9	98.8	97.7			0.965
	Kjeldahl Nitrogen	96.7	104	100			2.24
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	98.0	100			1.97
	NO2NO3-N	99.0	97.2				0.476
	NO2NO3-N	101	100	102			0.582
EPA 365.1 Rev. 2.0	Total-P	104	104	106			1.19
	Total-P	104					0.768
	Total-P	103	101	99.5			1.97
EPA 8321B	2,4-D	113	132	136			3.14
	2,4,5-T	110	131	109			17.7
	Acesulfame K	85.1	91.6	97.0			5.55
	Acetaminophen	74.8	88.0	88.8			0.884
	Acetamiprid	85.7	75.7	74.3			1.97
	Afidopyropen	72.0	58.2	44.2			27.2
	AMPA	101	77.9	80.9			3.76
	Bentazon	68.5	70.7	67.6			2.77
	Benzovindiflupyr	104	113	102			9.92
	Carbamazepine	74.1	69.8	72.0			3.11
	Clothianidin	89.8	106	95.6			10.1
	Dinotefuran	93.8	108	111			1.67

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Diuron	60.3	42.6	61.3		36.0
	Endothall	87.7	88.1	85.3		3.20
	Fenuron	87.5	73.2	73.3		0.162
	Fluridone	79.8	68.6	63.2		8.22
	Glufosinate	82.5	100	99.7		0.523
	Glyphosate	92.4	101	103		2.17
	Hydrocodone	79.6	80.0	81.1		1.46
	Ibuprofen	75.8	63.8	53.8		16.9
	Imazapyr	75.8	91.3	86.7		5.18
	Imidacloprid	93.9	144	142		0.920
	Linuron	63.5	58.9	56.9		3.45
	Mandestrobin	92.2	79.9	81.0		1.44
	MCPP	114	104	118		12.4
	Naproxen	65.1	79.9	97.6		20.0
	Primidone	85.6	92.5	92.0		0.589
	Pyraclostrobin	79.3	66.6	84.4		23.6
	Silvex	80.3	59.6	69.9		16.0
	Sucralose	120	104	119		12.6
	Thiamethoxam	91.2	109	109		0.298
	Tolfenpyrad	45.2	39.7	49.0		21.0
	Triclopyr	102	103	108		4.40
SM 2320 B-2011	Total Alkalinity	94.9			1.11	
	Total Alkalinity	96.7			0.304	
SM 2540 C-2015	TDS	98.4			4.71	
	TDS	94.0			2.39	
SM 2540 D-2015	TSS	106				
SM 4500-F- C-2011	Fluoride	101	101	101		0.506
	Fluoride	102	103	104		0.467
SM 5310 B-2011	Organic Carbon	95.4	93.6	96.7		2.82
	Organic Carbon	97.4	92.9	95.8		1.83
	Organic Carbon	94.9	93.4	90.8		2.19

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2442323
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2442323
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2442292, 2442293, 2442294, 2442295, 2442297, 2442300, 2442301, 2442303
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2442292, 2442293, 2442294, 2442295, 2442297, 2442300, 2442301, 2442303
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2442292, 2442293, 2442294, 2442295, 2442297, 2442300, 2442301, 2442303
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2442292, 2442293, 2442294, 2442295, 2442297, 2442300, 2442301, 2442303

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2442321, 2442322
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2442323
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2442292, 2442293, 2442294, 2442295, 2442297, 2442300, 2442301, 2442303

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	10/03/2023			10/03/2023 15:09	Samantha L Bates	2442288, 2442289
	10/03/2023			10/03/2023 15:10	Samantha L Bates	2442290
	10/03/2023			10/03/2023 15:11	Samantha L Bates	2442296, 2442298
	10/03/2023			10/03/2023 15:12	Samantha L Bates	2442299, 2442302
	10/03/2023			10/03/2023 15:31	Samantha L Bates	2442291
EPA 180.1 Rev. 2.0	10/03/2023			10/03/2023 14:01	Alexis Price	2442288
	10/03/2023			10/03/2023 14:03	Alexis Price	2442289
	10/03/2023			10/03/2023 14:04	Alexis Price	2442290, 2442291
	10/03/2023			10/03/2023 14:05	Alexis Price	2442296
	10/03/2023			10/03/2023 14:06	Alexis Price	2442298
	10/03/2023			10/03/2023 14:07	Alexis Price	2442299
EPA 200.7 Rev. 4.4	10/03/2023			10/03/2023 14:10	Alexis Price	2442302
	10/03/2023	10/04/2023 13:10	George D Taylor	10/06/2023 18:07	Samatha Luckman	2442323
	10/03/2023	10/04/2023 13:10	George D Taylor	10/10/2023 16:34	Samatha Luckman	2442323
EPA 200.8 Rev. 5.4	10/03/2023	10/04/2023 13:10	George D Taylor	10/05/2023 16:33	Conrad Hartmann	2442323
EPA 300.0 Rev. 2.1	10/03/2023			10/06/2023 06:25	James L Waggeberby	2442288
	10/03/2023			10/06/2023 08:56	James L Waggeberby	2442289
	10/03/2023			10/06/2023 09:11	James L Waggeberby	2442290
	10/03/2023			10/06/2023 09:56	James L Waggeberby	2442291
	10/03/2023			10/06/2023 10:11	James L Waggeberby	2442296
	10/03/2023			10/06/2023 10:26	James L Waggeberby	2442298
	10/03/2023			10/06/2023 10:42	James L Waggeberby	2442299
	10/03/2023			10/06/2023 10:57	James L Waggeberby	2442302
EPA 350.1 Rev. 2.0	10/03/2023			10/06/2023 12:25	Ping Hua	2442292
	10/03/2023			10/06/2023 12:29	Ping Hua	2442293
	10/03/2023			10/06/2023 12:32	Ping Hua	2442294
	10/03/2023			10/06/2023 12:33	Ping Hua	2442295
	10/03/2023			10/06/2023 12:35	Ping Hua	2442301
	10/03/2023			10/06/2023 13:49	Ping Hua	2442297
	10/03/2023			10/06/2023 13:51	Ping Hua	2442300
	10/03/2023			10/06/2023 14:43	Ping Hua	2442303
EPA 351.2 Rev. 2.0	10/03/2023	10/09/2023 11:53	Simonne.V. Calhoun	10/11/2023 14:48	Samantha L Bates	2442297
	10/03/2023	10/09/2023 11:53	Simonne.V. Calhoun	10/11/2023 14:50	Samantha L Bates	2442300
	10/03/2023	10/13/2023 12:35	Simonne.V. Calhoun	10/16/2023 10:27	Samantha L Bates	2442292
	10/03/2023	10/13/2023 12:35	Simonne.V. Calhoun	10/16/2023 10:29	Samantha L Bates	2442293
	10/03/2023	10/13/2023 12:35	Simonne.V. Calhoun	10/16/2023 10:30	Samantha L Bates	2442294
	10/03/2023	10/13/2023 12:35	Simonne.V. Calhoun	10/16/2023 10:35	Samantha L Bates	2442295
	10/03/2023	10/13/2023 12:35	Simonne.V. Calhoun	10/16/2023 10:40	Samantha L Bates	2442301
	10/03/2023	10/13/2023 12:35	Simonne.V. Calhoun	10/16/2023 10:42	Samantha L Bates	2442303
EPA 353.2 Rev. 2.0	10/03/2023			10/10/2023 15:29	Fadila Guebre	2442292

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	10/03/2023			10/11/2023 12:28	Anna M. Plaviak	2442293
	10/03/2023			10/11/2023 12:33	Anna M. Plaviak	2442294
	10/03/2023			10/11/2023 12:35	Anna M. Plaviak	2442295
	10/03/2023			10/11/2023 12:36	Anna M. Plaviak	2442301
	10/03/2023			10/11/2023 12:37	Anna M. Plaviak	2442303
	10/03/2023			10/12/2023 14:14	Fadila Guebre	2442297
	10/03/2023			10/12/2023 14:15	Fadila Guebre	2442300
	10/03/2023	10/05/2023 13:10	Alexis Price	10/06/2023 12:35	Simonne.V. Calhoun	2442292
EPA 365.1 Rev. 2.0	10/03/2023	10/05/2023 13:10	Alexis Price	10/06/2023 12:36	Simonne.V. Calhoun	2442293
	10/03/2023	10/05/2023 13:10	Alexis Price	10/06/2023 12:41	Simonne.V. Calhoun	2442303
	10/03/2023	10/05/2023 13:10	Alexis Price	10/06/2023 12:44	Simonne.V. Calhoun	2442294
	10/03/2023	10/05/2023 13:10	Alexis Price	10/06/2023 12:45	Simonne.V. Calhoun	2442295
	10/03/2023	10/05/2023 13:10	Alexis Price	10/06/2023 12:46	Simonne.V. Calhoun	2442301
	10/03/2023	10/06/2023 14:30	Alexis Price	10/09/2023 17:45	James L Waggeberby	2442297, 2442300
	10/03/2023	10/04/2023 11:00	Hoor Shaik	10/06/2023 09:55	Juyoung Kim	2442321
	10/03/2023	10/04/2023 11:00	Hoor Shaik	10/06/2023 10:12	Juyoung Kim	2442322
EPA 8321B	10/03/2023	10/04/2023 11:00	Hoor Shaik	10/06/2023 13:10	Juyoung Kim	2442321
	10/03/2023	10/04/2023 11:00	Hoor Shaik	10/06/2023 13:28	Juyoung Kim	2442322
	10/03/2023	10/05/2023 08:00	Tae K Lee	10/05/2023 12:29	Hana Lee	2442321
	10/03/2023	10/05/2023 08:00	Tae K Lee	10/05/2023 12:55	Hana Lee	2442322
	10/03/2023	10/05/2023 08:00	Tae K Lee	10/05/2023 16:12	Hana Lee	2442321
	10/03/2023	10/05/2023 08:00	Tae K Lee	10/05/2023 16:25	Hana Lee	2442322
	10/03/2023	10/05/2023 08:00	Tae K Lee	10/06/2023 12:10	Hana Lee	2442321
	10/03/2023	10/05/2023 08:00	Tae K Lee	10/06/2023 12:38	Hana Lee	2442322
SM 2320 B-2011	10/03/2023			10/04/2023 23:34	Adam P Silver	2442288
	10/03/2023			10/05/2023 00:05	Adam P Silver	2442289
	10/03/2023			10/05/2023 00:17	Adam P Silver	2442291
	10/03/2023			10/05/2023 00:32	Adam P Silver	2442302
	10/03/2023			10/05/2023 01:52	Adam P Silver	2442290
	10/03/2023			10/05/2023 02:04	Adam P Silver	2442299
	10/03/2023			10/05/2023 04:36	Adam P Silver	2442296
	10/03/2023			10/05/2023 04:50	Adam P Silver	2442298
SM 2340 B-2011	10/03/2023			10/06/2023 18:07	Samatha Luckman	2442323
SM 2540 C-2015	10/03/2023			10/04/2023 15:07	Yijie Li	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
SM 2540 D-2015	10/03/2023			10/04/2023 15:07	Yijie Li	2442288, 2442289, 2442290, 2442291, 2442296, 2442298, 2442299, 2442302
SM 4500-F- C-2011	10/03/2023			10/04/2023 23:23	Adam P Silver	2442288
	10/03/2023			10/05/2023 00:05	Adam P Silver	2442289
	10/03/2023			10/05/2023 00:17	Adam P Silver	2442291

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	10/03/2023			10/05/2023 00:32	Adam P Silver	2442302
	10/03/2023			10/05/2023 01:52	Adam P Silver	2442290
	10/03/2023			10/05/2023 02:04	Adam P Silver	2442299
	10/03/2023			10/05/2023 03:04	Adam P Silver	2442296
	10/03/2023			10/05/2023 03:18	Adam P Silver	2442298
SM 5310 B-2011	10/03/2023			10/04/2023 16:25	Elise M. Gillis	2442292
	10/03/2023			10/04/2023 22:00	Elise M. Gillis	2442293
	10/03/2023			10/05/2023 15:12	Elise M. Gillis	2442303
	10/03/2023			10/05/2023 16:37	Elise M. Gillis	2442294
	10/03/2023			10/05/2023 16:50	Elise M. Gillis	2442295
	10/03/2023			10/05/2023 17:34	Elise M. Gillis	2442301
	10/03/2023			10/12/2023 18:11	Elise M. Gillis	2442297
	10/03/2023			10/13/2023 02:18	Elise M. Gillis	2442300