

Chemical Analysis Report

SW-DIST-2023-07-26-01

Florida DEP Laboratory
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DOH Accreditation E31780

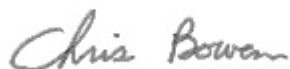
Event Description: **Run 7**
Request ID: **RQ-2023-07-17-52**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 10-AUG-2023 14:05



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: LIVINGSTON CREEK AT OLD AVON PARK RD Collection Date/Time: 07/25/2023 10:10

Field ID: G4SW0104

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426735	DEP SOP: NU-094-1	Color (true)	220	A	PCU	P433048	
	EPA 180.1 Rev. 2.0	Turbidity	40		NTU	P433057	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P433206	
		Sulfate	2.8		mg SO4/L	P433208	
	SM 2320 B-2011	Total Alkalinity	15		mg CaCO3/L	P433201	
	SM 2540 C-2015	TDS	178		mg/L	P433342	
	SM 2540 D-2015	TSS	68		mg/L	P433235	
	SM 4500-F- C-2011	Fluoride	0.085	I	mg F/L	P433204	
2426736	EPA 350.1 Rev. 2.0	Ammonia-N	0.23		mg N/L	P433228	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.2		mg N/L	P433101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P433111	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P433070	
	SM 5310 B-2011	Organic Carbon	32		mg C/L	P433313	

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: PAYNE CREEK IN STATE PARK

Collection Date/Time: 07/25/2023 11:20

Field ID: G3SW0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426739	DEP SOP: NU-094-1	Color (true)	55	A	PCU	P433046	
	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P433058	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P433207	
		Sulfate	47		mg SO4/L	P433209	
	SM 2320 B-2011	Total Alkalinity	113		mg CaCO3/L	P433201	
	SM 2540 C-2015	TDS	261		mg/L	P433343	
	SM 2540 D-2015	TSS	6	I	mg/L	P433236	
	SM 4500-F- C-2011	Fluoride	1.2		mg F/L	P433204	
2426742	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P433399	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P433101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.29		mg N/L	P433111	
	EPA 365.1 Rev. 2.0	Total-P	0.93		mg P/L	P433070	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P433313	
2426766	EPA 200.7 Rev. 4.4	Calcium	36.8		mg/L	P433182	
		Iron	230		ug/L	P433182	
		Magnesium	20.1		mg/L	P433182	
		Potassium	3.1		mg/L	P433182	
		Sodium	24.6		mg/L	P433182	
		Strontium	136		ug/L	P433182	
		Tin	5.4	I	ug/L	P433182	
		Titanium	1.4	I	ug/L	P433182	
	EPA 200.8 Rev. 5.4	Vanadium	2.2	I	ug/L	P433182	
		Zinc	5.0	U	ug/L	P433182	
		Aluminum	163		ug/L	P433182	
		Antimony	0.17	I	ug/L	P433182	
		Arsenic	1.74		ug/L	P433182	
		Barium	4.74		ug/L	P433182	
		Beryllium	0.010	U	ug/L	P433182	
		Boron	266		ug/L	P433182	
		Cadmium	0.023	I	ug/L	P433182	
		Chromium	0.51	I	ug/L	P433182	
		Cobalt	0.121		ug/L	P433182	
		Copper	0.40	U	ug/L	P433182	
		Lead	0.20	U	ug/L	P433182	
		Manganese	21.8		ug/L	P433182	
		Molybdenum	3.66		ug/L	P433182	
		Nickel	0.66	I	ug/L	P433182	
		Selenium	0.48	I	ug/L	P433182	
		Silver	0.010	U	ug/L	P433182	
		Thallium	0.10	U	ug/L	P433182	
	SM 2340 B-2011	Hardness	175		mg/L	P433182	

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: PAYNES CRK AT HOBBS RD

Collection Date/Time: 07/25/2023 11:40

Field ID: G3SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426737	DEP SOP: NU-094-1	Color (true)	120		PCU	P433046	
	EPA 180.1 Rev. 2.0	Turbidity	4.2	A	NTU	P433058	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P433206	
		Sulfate	31		mg SO4/L	P433208	
	SM 2320 B-2011	Total Alkalinity	69		mg CaCO3/L	P433201	
	SM 2540 C-2015	TDS	201	A	mg/L	P433343	
	SM 2540 D-2015	TSS	3	IA	mg/L	P433236	
2426738	SM 4500-F- C-2011	Fluoride	0.62		mg F/L	P433204	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P433392	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P433101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.93		mg N/L	P433114	
	EPA 365.1 Rev. 2.0	Total-P	0.80		mg P/L	P433070	
2426765	EPA 8321B	SM 5310 B-2011	Organic Carbon	17	mg C/L	P433313	
		2,4-D	0.0060	I	ug/L	P433066	
		Acesulfame K	0.10	U	ug/L	P432932	
		2,4,5-T	0.0040	U	ug/L	P433066	
		AMPA	0.34	I	ug/L	P432932	
		Acetaminophen	0.0080	U	ug/L	P433066	
		Endothall	0.25	U	ug/L	P432932	
		Acetamiprid	0.0020	U	ug/L	P433066	RPD
		Glufosinate	0.10	U	ug/L	P432932	
		Glyphosate	0.22	I	ug/L	P432932	
		Afidopyropen	0.0020	U	ug/L	P433066	
		Sucralose	0.11		ug/L	P432932	
		Bentazon	8.6E-04	I	ug/L	P433066	MS
		Benzovindiflupyr	0.0020	U	ug/L	P433066	
		Carbamazepine	8.0E-04	U	ug/L	P433066	
		Clothianidin	0.010		ug/L	P433066	
		Dinotefuran	0.0020	U	ug/L	P433066	
		Diuron	0.0020	U	ug/L	P433066	MS
		Fenuron	0.032	U	ug/L	P433066	
		Fluridone	8.0E-04	U	ug/L	P433066	
		Imazapyr	0.067		ug/L	P433066	
		Hydrocodone	0.0020	U	ug/L	P433066	
		Ibuprofen	0.080	U	ug/L	P433066	
		Imidacloprid	0.029		ug/L	P433066	
		Linuron	0.0040	U	ug/L	P433066	
		Mandestrobin	0.0020	U	ug/L	P433066	
		MCP	0.0020	U	ug/L	P433066	
		Naproxen	0.0080	U	ug/L	P433066	
		Primidone	0.0040	U	ug/L	P433066	
		Pyraclostrobin	0.0020	U	ug/L	P433066	
		Silvex	0.0040	U	ug/L	P433066	
		Thiamethoxam	0.011		ug/L	P433066	

Field ID: G3SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426765	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P433066	
		Triclopyr	0.0040	U	ug/L	P433066	

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: HORSE CREEK

Collection Date/Time: 07/25/2023 12:15

Field ID: G3SW0012

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426740	DEP SOP: NU-094-1	Color (true)	130		PCU	P433046	
	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P433058	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P433207	
		Sulfate	89		mg SO4/L	P433409	
	SM 2320 B-2011	Total Alkalinity	108		mg CaCO3/L	P433353	
	SM 2540 C-2015	TDS	307		mg/L	P433343	
	SM 2540 D-2015	TSS	3	I	mg/L	P433236	
2426743	SM 4500-F- C-2011	Fluoride	0.58		mg F/L	P433356	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P433392	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0	J	mg N/L	P433102	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.048		mg N/L	P433111	
	EPA 365.1 Rev. 2.0	Total-P	0.47		mg P/L	P433070	
2426767	SM 5310 B-2011	Organic Carbon	27		mg C/L	P433314	
	EPA 200.7 Rev. 4.4	Calcium	45.2		mg/L	P433182	
		Iron	210		ug/L	P433182	
		Magnesium	22.3		mg/L	P433182	
		Potassium	1.1	I	mg/L	P433182	
		Sodium	23.7		mg/L	P433182	
		Strontium	209		ug/L	P433182	
		Tin	3.6	I	ug/L	P433182	
		Titanium	0.98	I	ug/L	P433182	
		Vanadium	2.0	U	ug/L	P433182	
		Zinc	5.0	U	ug/L	P433182	
	EPA 200.8 Rev. 5.4	Aluminum	100		ug/L	P433182	
		Antimony	0.099	I	ug/L	P433182	
		Arsenic	1.83		ug/L	P433182	
		Barium	11.6		ug/L	P433182	
		Beryllium	0.010	U	ug/L	P433182	
		Boron	33.8		ug/L	P433182	
		Cadmium	0.020	U	ug/L	P433182	
		Chromium	0.67	I	ug/L	P433182	
		Cobalt	0.083		ug/L	P433182	
		Copper	0.40	U	ug/L	P433182	
		Lead	0.20	U	ug/L	P433182	
		Manganese	15.8		ug/L	P433182	
		Molybdenum	3.54		ug/L	P433182	
		Nickel	0.50	U	ug/L	P433182	
		Selenium	0.33	I	ug/L	P433182	
		Silver	0.010	U	ug/L	P433182	
		Thallium	0.10	U	ug/L	P433182	
	SM 2340 B-2011	Hardness	205		mg/L	P433182	
2426774	EPA 8321B	2,4-D	0.0020	U	ug/L	P433066	
		Acesulfame K	0.10	U	ug/L	P432932	
		2,4,5-T	0.0040	U	ug/L	P433066	

Field ID: G3SW0012

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426774	EPA 8321B	AMPA	1.0		ug/L	P432932	
		Acetaminophen	0.0080	U	ug/L	P433066	
		Endothall	0.25	U	ug/L	P432932	
		Acetamiprid	0.0020	U	ug/L	P433066	RPD
		Glufosinate	0.10	U	ug/L	P432932	
		Glyphosate	0.73		ug/L	P432932	
		Afidopyropen	0.0020	U	ug/L	P433066	
		Sucralose	0.023	I	ug/L	P432932	
		Bentazon	0.0045		ug/L	P433066	MS
		Benzovindiflupyr	0.0020	U	ug/L	P433066	
		Carbamazepine	8.0E-04	U	ug/L	P433066	
		Clothianidin	0.0020	U	ug/L	P433066	
		Dinotefuran	0.0020	U	ug/L	P433066	
		Diuron	0.0020	U	ug/L	P433066	MS
		Fenuron	0.032	U	ug/L	P433066	
		Fluridone	8.0E-04	U	ug/L	P433066	
		Imazapyr	0.050		ug/L	P433066	
		Hydrocodone	0.0020	U	ug/L	P433066	
		Ibuprofen	0.080	U	ug/L	P433066	
		Imidacloprid	0.0020	U	ug/L	P433066	
		Linuron	0.0040	U	ug/L	P433066	
		Mandestrobin	0.0020	U	ug/L	P433066	
		MCPP	0.0020	U	ug/L	P433066	
		Naproxen	0.0080	U	ug/L	P433066	
		Primidone	0.0040	U	ug/L	P433066	
		Pyraclostrobin	0.0020	U	ug/L	P433066	
		Silvex	0.0040	U	ug/L	P433066	
		Thiamethoxam	0.0020	U	ug/L	P433066	
		Tolfenpyrad	0.0020	U	ug/L	P433066	
		Triclopyr	0.0040	U	ug/L	P433066	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: FB

Collection Date/Time: 07/25/2023 11:30

Field ID: FB_07252023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426741	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P433046	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P433058	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P433207	
		Sulfate	0.20	U	mg SO4/L	P433209	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P433353	
	SM 2540 C-2015	TDS	15	U	mg/L	P433342	
	SM 2540 D-2015	TSS	2	U	mg/L	P433235	
2426744	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P433356	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P433392	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P433102	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P433112	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P433298	
2426768	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P433314	
	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P433182	
		Iron	30	U	ug/L	P433182	
		Magnesium	0.040	U	mg/L	P433182	
		Potassium	0.30	U	mg/L	P433182	
		Sodium	0.50	U	mg/L	P433182	
		Strontium	2.0	U	ug/L	P433182	
		Tin	3.0	U	ug/L	P433182	
		Titanium	0.75	U	ug/L	P433182	
		Vanadium	2.0	U	ug/L	P433182	
		Zinc	5.0	U	ug/L	P433182	
		Aluminum	5.0	U	ug/L	P433182	
		Antimony	0.050	U	ug/L	P433182	
		Arsenic	0.050	U	ug/L	P433182	
		Barium	0.20	U	ug/L	P433182	
		Beryllium	0.010	U	ug/L	P433182	
		Boron	2.0	U	ug/L	P433182	
		Cadmium	0.020	U	ug/L	P433182	
		Chromium	0.40	U	ug/L	P433182	
		Cobalt	0.020	U	ug/L	P433182	
		Copper	0.40	U	ug/L	P433182	
		Lead	0.20	U	ug/L	P433182	
		Manganese	0.10	U	ug/L	P433182	
		Molybdenum	0.15	U	ug/L	P433182	
		Nickel	0.50	U	ug/L	P433182	
		Selenium	0.20	U	ug/L	P433182	
		Silver	0.010	U	ug/L	P433182	
		Thallium	0.10	U	ug/L	P433182	
	SM 2340 B-2011	Hardness	0.35	U	mg/L	P433182	

Ref. Method and Comment:

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

SM 4500-F- C-2011: 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: P433046

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P433048

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433057

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433058

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433182

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: P433182

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: P433182

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: P433206

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433207

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433208

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433209

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433409

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433228

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433392

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433399

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433101

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433102

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433111

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433112

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433114

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433070

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433298

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

Reference Method: EPA 8321B
Batch ID: P432932

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P433066

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: SM 2320 B-2011

Batch ID: P433201

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

Reference Method: SM 2320 B-2011

Batch ID: P433353

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

Reference Method: SM 2540 C-2015

Batch ID: P433342

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015

Batch ID: P433343

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P433235

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P433236

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P433204

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P433356

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P433313

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

Reference Method: SM 5310 B-2011
Batch ID: P433314

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: P433046

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P433048

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433057

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433058

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	109		P	85 - 115
Iron	109		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	103		P	85 - 115
Sodium	107		P	85 - 115
Strontium	102		P	85 - 115
Tin	106		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	108		P	80 - 120
Antimony	107		P	80 - 120
Arsenic	100		P	80 - 120
Barium	108		P	80 - 120
Beryllium	99.8		P	80 - 120
Boron	111		P	80 - 120
Cadmium	105		P	80 - 120
Chromium	100		P	80 - 120
Cobalt	99.2		P	80 - 120
Copper	96.9		P	80 - 120
Lead	106		P	80 - 120
Manganese	109		P	80 - 120
Molybdenum	103		P	80 - 120

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Nickel	98.5		P	80 - 120
Selenium	104		P	80 - 120
Silver	106		P	80 - 120
Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433206

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433207

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433208

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433209

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433409

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433228

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	92.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433392

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433399

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433101

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433102

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433111

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433112

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433114

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433070

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: P433298

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

Reference Method: EPA 8321B
Batch ID: P432932

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	94.9		P	40 - 150
AMPA	57.2		P	40 - 150
Endothall	91.1		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	110		P	40 - 150
Sucralose	96.0		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P433066

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.2		P	40 - 150
2,4,5-T	79.8		P	40 - 150
Acetaminophen	83.3		P	30 - 150
Acetamiprid	80.9		P	40 - 150
Afidopyropen	54.4		P	30 - 150
Bentazon	137		P	30 - 150
Benzovindiflupyr	79.0		P	40 - 150
Carbamazepine	73.7		P	40 - 150
Clothianidin	97.5		P	40 - 150
Dinotefuran	114		P	40 - 150
Diuron	60.5		P	40 - 150
Fenuron	103		P	40 - 150
Fluridone	96.6		P	40 - 150
Hydrocodone	96.8		P	40 - 150
Ibuprofen	70.8		P	40 - 150
Imazapyr	84.6		P	40 - 150
Imidacloprid	86.4		P	40 - 150
Linuron	66.0		P	40 - 150
Mandestrobin	89.7		P	40 - 150
MCPP	85.6		P	40 - 150
Naproxen	78.2		P	40 - 150
Primidone	91.1		P	40 - 150
Pyraclostrobin	57.1		P	40 - 150
Silvex	85.4		P	40 - 150
Thiamethoxam	93.2		P	40 - 150
Tolfenpyrad	30.6		P	30 - 150
Triclopyr	79.8		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P433201

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.0		P	92 - 105

Reference Method: SM 2320 B-2011

Batch ID: P433353

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.6		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P433342

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.4		P	90 - 110

Reference Method: SM 2540 C-2015

Batch ID: P433343

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P433235

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.8		P	85 - 106

Reference Method: SM 2540 D-2015
Batch ID: P433236

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.4		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P433204

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P433356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P433313

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

Reference Method: SM 5310 B-2011
Batch ID: P433314

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P433182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427008	Calcium	101		P	80 - 120
2427008	Iron	107	106	P/P	80 - 120
2427008	Magnesium	99.5		P	80 - 120
2427008	Potassium	102	101	P/P	80 - 120
2427008	Sodium	104	104	P/P	80 - 120
2427008	Strontium	100	100	P/P	80 - 120
2427008	Tin	102	99.1	P/P	80 - 120
2427008	Titanium	104	101	P/P	80 - 120
2427008	Vanadium	105	103	P/P	80 - 120
2427008	Zinc	100	96.8	P/P	80 - 120
2427063	Calcium	109		P	80 - 120
2427063	Iron	107		P	80 - 120
2427063	Magnesium	105		P	80 - 120
2427063	Potassium	101		P	80 - 120
2427063	Sodium	104		P	80 - 120
2427063	Strontium	99.8		P	80 - 120
2427063	Tin	105		P	80 - 120
2427063	Titanium	102		P	80 - 120
2427063	Vanadium	102		P	80 - 120
2427063	Zinc	99.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P433182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427008	Aluminum	107	107	P/P	80 - 120
2427008	Antimony	109	109	P/P	80 - 120
2427008	Arsenic	102	102	P/P	80 - 120
2427008	Barium	110	110	P/P	80 - 120
2427008	Beryllium	95.7	99.5	P/P	80 - 120
2427008	Boron	108	108	P/P	80 - 120
2427008	Cadmium	106	106	P/P	80 - 120
2427008	Chromium	100	100	P/P	80 - 120
2427008	Cobalt	97.1	96.7	P/P	80 - 120
2427008	Copper	95.4	95.5	P/P	80 - 120
2427008	Lead	106	106	P/P	80 - 120
2427008	Manganese	112	112	P/P	80 - 120
2427008	Molybdenum	106	107	P/P	80 - 120
2427008	Nickel	97.6	97.2	P/P	80 - 120
2427008	Selenium	103	102	P/P	80 - 120
2427008	Silver	107	108	P/P	80 - 120
2427008	Thallium	106	107	P/P	80 - 120
2427063	Aluminum	111		P	80 - 120
2427063	Antimony	109		P	80 - 120
2427063	Arsenic	102		P	80 - 120
2427063	Barium	111		P	80 - 120
2427063	Beryllium	97.0		P	80 - 120
2427063	Boron	112		P	80 - 120
2427063	Cadmium	104		P	80 - 120
2427063	Chromium	102		P	80 - 120
2427063	Cobalt	98.2		P	80 - 120
2427063	Copper	95.7		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427063	Lead	109		P	80 - 120
2427063	Manganese	114		P	80 - 120
2427063	Molybdenum	106		P	80 - 120
2427063	Nickel	97.9		P	80 - 120
2427063	Selenium	105		P	80 - 120
2427063	Silver	110		P	80 - 120
2427063	Thallium	109		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433206

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426606	Chloride	94.2		P	90 - 110
2426737	Chloride	93.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427018	Chloride	98.4		P	90 - 110
2427053	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433208

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426606	Sulfate	91.5		P	90 - 110
2426737	Sulfate	90.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427018	Sulfate	93.9		P	90 - 110
2427053	Sulfate	96.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427181	Sulfate	98.6		P	90 - 110
2427210	Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433228

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426694	Ammonia-N	99.0	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433392

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426738	Ammonia-N	99.8	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427169	Ammonia-N	99.2	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426738	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426743	Kjeldahl Nitrogen	95.7	87.3	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426619	NO2NO3-N	99.0	94.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426747	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426633	NO2NO3-N	96.2	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433070

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426748	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426999	Total-P	108	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P432932

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426070	Acesulfame K	109	118	P/P	40 - 150
2426070	AMPA	61.9	66.9	P/P	40 - 150
2426070	Endothall	128	127	P/P	40 - 150
2426070	Glufosinate	82.2	77.1	P/P	40 - 150
2426070	Glyphosate	116	111	P/P	40 - 150
2426070	Sucralose	104	94.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P433066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426540	2,4-D	93.6	91.2	P/P	40 - 150
2426540	2,4,5-T	104	90.1	P/P	40 - 150
2426540	Acetaminophen	89.1	84.9	P/P	30 - 150
2426540	Acetamiprid	59.0	40.7	P/P	40 - 150
2426540	Afidopyropen	49.2	36.7	P/P	30 - 150
2426540	Bentazon	153	157	F/F	30 - 150
2426540	Benzovindiflupyr	79.5	78.6	P/P	40 - 150
2426540	Carbamazepine	56.5	56.5	P/P	40 - 150
2426540	Clothianidin	92.3	94.4	P/P	40 - 150
2426540	Dinotefuran	84.5	81.0	P/P	40 - 150
2426540	Diuron	32.0	24.8	F/F	40 - 150
2426540	Fenuron	71.4	61.6	P/P	40 - 150
2426540	Fluridone	91.1	84.2	P/P	40 - 150
2426540	Hydrocodone	66.6	65.9	P/P	40 - 150
2426540	Ibuprofen	84.5	75.5	P/P	40 - 150
2426540	Imazapyr	107	99.5	P/P	40 - 150
2426540	Imidacloprid	121	117	P/P	40 - 150
2426540	Linuron	61.3	61.0	P/P	40 - 150
2426540	Mandestrobin	87.2	82.0	P/P	40 - 150
2426540	MCPP	115	108	P/P	40 - 150
2426540	Naproxen	89.1	86.8	P/P	40 - 150
2426540	Primidone	89.7	83.2	P/P	40 - 150
2426540	Pyraclostrobin	83.8	83.4	P/P	40 - 150
2426540	Silvex	95.8	96.6	P/P	40 - 150
2426540	Thiamethoxam	81.0	80.3	P/P	40 - 150
2426540	Tolfenpyrad	59.7	58.5	P/P	30 - 150
2426540	Triclopyr	89.1	90.4	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P433204

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426550	Fluoride	98.2	98.8	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P433313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426553	Organic Carbon	94.4	97.0	P/P	85 - 115

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P433314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426747	Organic Carbon	94.6	96.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P433046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426739	Color (true)	0.278	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P433048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426735	Color (true)	3.21	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426551	Turbidity	6.34	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426737	Turbidity	1.65	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427008	Calcium	0.826	Spike	P	0 - 20
2427008	Iron	1.54	Spike	P	0 - 20
2427008	Magnesium	1.44	Spike	P	0 - 20
2427008	Potassium	0.327	Spike	P	0 - 20
2427008	Sodium	0.0219	Spike	P	0 - 20
2427008	Strontium	0.358	Spike	P	0 - 20
2427008	Tin	2.79	Spike	P	0 - 20
2427008	Titanium	3.30	Spike	P	0 - 20
2427008	Vanadium	2.53	Spike	P	0 - 20
2427008	Zinc	3.29	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427008	Aluminum	0.149	Spike	P	0 - 20
2427008	Antimony	0.113	Spike	P	0 - 20
2427008	Arsenic	0.329	Spike	P	0 - 20
2427008	Barium	0.191	Spike	P	0 - 20
2427008	Beryllium	3.89	Spike	P	0 - 20
2427008	Boron	0.568	Spike	P	0 - 20
2427008	Cadmium	0.266	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427008	Chromium	0.201	Spike	P	0 - 20
2427008	Cobalt	0.348	Spike	P	0 - 20
2427008	Copper	0.0285	Spike	P	0 - 20
2427008	Lead	0.0783	Spike	P	0 - 20
2427008	Manganese	0.0157	Spike	P	0 - 20
2427008	Molybdenum	0.517	Spike	P	0 - 20
2427008	Nickel	0.415	Spike	P	0 - 20
2427008	Selenium	0.634	Spike	P	0 - 20
2427008	Silver	0.865	Spike	P	0 - 20
2427008	Thallium	0.834	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426606	Chloride	0.0950	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427018	Chloride	0.599	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426606	Sulfate	0.422	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427018	Sulfate	0.800	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427181	Sulfate	0.839	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433228

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426694	Ammonia-N	1.54	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426738	Ammonia-N	1.14	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427169	Ammonia-N	0.501	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426738	Kjeldahl Nitrogen	0.0955	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426743	Kjeldahl Nitrogen	5.62	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426619	NO2NO3-N	3.20	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426747	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426633	NO2NO3-N	0.824	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433070

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426748	Total-P	1.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426999	Total-P	0.252	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P432932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426070	Acesulfame K	7.96	Spike	P	0 - 30
2426070	AMPA	5.89	Spike	P	0 - 30
2426070	Endothall	0.873	Spike	P	0 - 30
2426070	Glufosinate	6.34	Spike	P	0 - 30
2426070	Glyphosate	4.09	Spike	P	0 - 30
2426070	Sucralose	9.11	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P433066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426540	2,4-D	2.60	Spike	P	0 - 30
2426540	2,4,5-T	14.3	Spike	P	0 - 30
2426540	Acetaminophen	4.80	Spike	P	0 - 30
2426540	Acetamiprid	36.9	Spike	F	0 - 30
2426540	Afidopyropen	29.1	Spike	P	0 - 30
2426540	Bentazon	2.84	Spike	P	0 - 30
2426540	Benzovindiflupyr	1.20	Spike	P	0 - 30
2426540	Carbamazepine	0.00991	Spike	P	0 - 30
2426540	Clothianidin	2.22	Spike	P	0 - 30
2426540	Dinotefuran	4.28	Spike	P	0 - 30
2426540	Diuron	25.7	Spike	P	0 - 30
2426540	Fenuron	14.8	Spike	P	0 - 30
2426540	Fluridone	7.87	Spike	P	0 - 30
2426540	Hydrocodone	1.00	Spike	P	0 - 30
2426540	Ibuprofen	11.3	Spike	P	0 - 30
2426540	Imazapyr	6.94	Spike	P	0 - 30
2426540	Imidacloprid	3.86	Spike	P	0 - 30
2426540	Linuron	0.422	Spike	P	0 - 30
2426540	Mandestrobin	6.05	Spike	P	0 - 30
2426540	MCPP	6.47	Spike	P	0 - 30
2426540	Naproxen	2.64	Spike	P	0 - 30
2426540	Primidone	7.53	Spike	P	0 - 30
2426540	Pyraclostrobin	0.378	Spike	P	0 - 30
2426540	Silvex	0.857	Spike	P	0 - 30
2426540	Thiamethoxam	0.849	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P433066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426540	Tolfenpyrad	1.96	Spike	P	0 - 30
2426540	Triclopyr	1.47	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P433201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426550	Total Alkalinity	1.04	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P433353

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426991	Total Alkalinity	0.774	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P433342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426224	TDS	0.797	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P433343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426737	TDS	2.99	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P433204

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426550	Fluoride	0.483	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P433356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426991	Fluoride	0.476	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P433313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426553	Organic Carbon	2.72	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P433314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426747	Organic Carbon	1.85	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2426765
Field Sample ID: G3SW0118

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	79.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	39.2	P	30 - 160
EPA 8321B	Diuron-d6	35.1	P	30 - 160
EPA 8321B	Endothall-d6	125	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	122	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.9	P	30 - 160
EPA 8321B	Primidone-d5	59.9	P	30 - 160
EPA 8321B	Sucralose-d6	82.8	P	30 - 160

Lab Sample ID: 2426774
Field Sample ID: G3SW0012

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	89.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	62.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	33.0	P	30 - 160
EPA 8321B	Diuron-d6	35.8	P	30 - 160
EPA 8321B	Endothall-d6	142	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	119	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.4	P	30 - 160
EPA 8321B	Primidone-d5	42.3	P	30 - 160
EPA 8321B	Sucralose-d6	80.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A120651

Included Lab Sample IDs: 2426735, 2426737, 2426739, 2426740, 2426741

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.9	98.5	P/P	90 - 110
Color (true)	99.9	99.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120655

Included Lab Sample IDs: 2426735, 2426737, 2426739, 2426740, 2426741

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120682

Included Lab Sample IDs: 2426736, 2426738, 2426742, 2426743, 2426744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	98.5	98.5	P/P	90 - 110
NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120686

Included Lab Sample IDs: 2426735, 2426737, 2426739, 2426740, 2426741

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Chloride	100	100	P/P	90 - 110
Chloride	99.8	100	P/P	90 - 110
Sulfate	100	99.9	P/P	90 - 110
Sulfate	99.6	100	P/P	90 - 110
Sulfate	99.7	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120700

Included Lab Sample IDs: 2426736, 2426738, 2426742, 2426743

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

Reference Method: SM 2320 B-2011

Run ID: A120725

Included Lab Sample IDs: 2426735, 2426737, 2426739

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.5	93.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120725

Included Lab Sample IDs: 2426735, 2426737, 2426739

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A120726

Included Lab Sample IDs: 2426765, 2426774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	96.2	106	P/P	60 - 160
Sucralose	87.9	87.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A120727

Included Lab Sample IDs: 2426765, 2426774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	97.6	102	P/P	60 - 160
Endothall	86.8	88.4	P/P	60 - 160
Glufosinate	91.5	94.7	P/P	60 - 160
Glyphosate	99.0	103	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A120735

Included Lab Sample IDs: 2426765, 2426774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	86.3	P/P	50 - 150
2,4-D	86.3	83.1	P/P	50 - 150
2,4,5-T	105	98.2	P/P	50 - 150
2,4,5-T	88.6	105	P/P	50 - 150
Acetaminophen	103	89.5	P/P	60 - 160
Acetaminophen	89.5	90.2	P/P	60 - 160
Acetamiprid	102	105	P/P	50 - 150
Acetamiprid	99.4	102	P/P	50 - 150
Afidopyropen	95.3	98.0	P/P	50 - 150
Afidopyropen	98.0	89.1	P/P	50 - 150
Bentazon	104	126	P/P	50 - 160
Bentazon	126	112	P/P	50 - 160
Benzovindiflupyr	112	113	P/P	50 - 150
Benzovindiflupyr	114	112	P/P	50 - 150
Carbamazepine	103	103	P/P	60 - 150
Carbamazepine	103	103	P/P	60 - 150
Clothianidin	108	117	P/P	60 - 150
Clothianidin	117	104	P/P	60 - 150
Dinotefuran	108	105	P/P	50 - 150
Dinotefuran	99.0	108	P/P	50 - 150
Diuron	92.8	97.2	P/P	60 - 160
Diuron	97.2	91.6	P/P	60 - 160
Fenuron	102	107	P/P	60 - 150
Fenuron	107	103	P/P	60 - 150
Fluridone	102	109	P/P	60 - 160
Fluridone	109	104	P/P	60 - 160
Hydrocodone	111	118	P/P	60 - 150
Hydrocodone	118	113	P/P	60 - 150
Ibuprofen	113	91.5	P/P	50 - 160
Ibuprofen	132	113	P/P	50 - 160
Imazapyr	86.6	89.9	P/P	50 - 150
Imazapyr	89.9	90.7	P/P	50 - 150
Imidacloprid	101	96.2	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A120735

Included Lab Sample IDs: 2426765, 2426774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	96.2	94.1	P/P	60 - 150
Linuron	108	130	P/P	60 - 150
Linuron	130	94.9	P/P	60 - 150
Mandestrobin	104	101	P/P	50 - 150
Mandestrobin	107	104	P/P	50 - 150
MCPP	105	92.3	P/P	50 - 150
MCPP	90.8	105	P/P	50 - 150
Naproxen	107	133	P/P	50 - 160
Naproxen	133	145	P/P	50 - 160
Primidone	107	113	P/P	60 - 150
Primidone	113	103	P/P	60 - 150
Pyraclostrobin	109	113	P/P	60 - 150
Pyraclostrobin	113	113	P/P	60 - 150
Silvex	87.1	87.2	P/P	50 - 150
Silvex	87.2	97.2	P/P	50 - 150
Thiamethoxam	108	115	P/P	50 - 150
Thiamethoxam	111	108	P/P	50 - 150
Tolfenpyrad	91.8	94.3	P/P	60 - 150
Tolfenpyrad	94.3	106	P/P	60 - 150
Triclopyr	91.8	92.6	P/P	50 - 150
Triclopyr	93.0	91.8	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120737

Included Lab Sample IDs: 2426736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120746

Included Lab Sample IDs: 2426736, 2426738, 2426742, 2426743, 2426744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.3	99.3	P/P	90 - 110
Kjeldahl Nitrogen	93.4	91.3	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120749

Included Lab Sample IDs: 2426766, 2426767, 2426768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	107	105	P/P	90 - 110
Calcium	107	107	P/P	90 - 110
Iron	107	104	P/P	90 - 110
Iron	107	107	P/P	90 - 110
Magnesium	105	102	P/P	90 - 110
Magnesium	105	105	P/P	90 - 110
Potassium	103	101	P/P	90 - 110
Potassium	103	103	P/P	90 - 110
Sodium	103	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120749

Included Lab Sample IDs: 2426766, 2426767, 2426768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	104	104	P/P	90 - 110
Strontium	100	104	P/P	90 - 110
Strontium	102	100	P/P	90 - 110
Tin	103	103	P/P	90 - 110
Tin	103	104	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110
Zinc	102	102	P/P	90 - 110
Zinc	102	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120750

Included Lab Sample IDs: 2426766, 2426767, 2426768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	104	P/P	90 - 110
Aluminum	108	103	P/P	90 - 110
Antimony	106	102	P/P	90 - 110
Arsenic	101	98.2	P/P	90 - 110
Arsenic	98.2	98.3	P/P	90 - 110
Barium	103	103	P/P	90 - 110
Barium	106	103	P/P	90 - 110
Beryllium	100	97.7	P/P	90 - 110
Beryllium	97.7	97.3	P/P	90 - 110
Boron	101	101	P/P	90 - 110
Boron	105	101	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Cadmium	105	101	P/P	90 - 110
Chromium	103	98.6	P/P	90 - 110
Chromium	98.6	99.1	P/P	90 - 110
Cobalt	95.8	96.5	P/P	90 - 110
Cobalt	99.4	95.8	P/P	90 - 110
Copper	94.8	94.3	P/P	90 - 110
Copper	98.3	94.8	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Lead	106	102	P/P	90 - 110
Manganese	106	107	P/P	90 - 110
Manganese	106	106	P/P	90 - 110
Molybdenum	103	99.9	P/P	90 - 110
Molybdenum	99.9	100	P/P	90 - 110
Nickel	95.6	96.0	P/P	90 - 110
Nickel	100	95.6	P/P	90 - 110
Selenium	101	102	P/P	90 - 110
Selenium	103	101	P/P	90 - 110
Silver	101	97.8	P/P	90 - 110
Silver	97.8	98.2	P/P	90 - 110
Thallium	103	102	P/P	90 - 110
Thallium	107	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120763

Included Lab Sample IDs: 2426740

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	101	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120776

Included Lab Sample IDs: 2426766, 2426767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	94.0	91.7	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A120780

Included Lab Sample IDs: 2426736, 2426738, 2426742, 2426743, 2426744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	97.2	P/P	90 - 110
Organic Carbon	97.2	97.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120803

Included Lab Sample IDs: 2426740, 2426741

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.6	93.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120803

Included Lab Sample IDs: 2426740, 2426741

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120821

Included Lab Sample IDs: 2426738, 2426743, 2426744

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120823

Included Lab Sample IDs: 2426742

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120829

Included Lab Sample IDs: 2426744

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

Quality Assurance Report

Calibration Verification

* 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)	99.9				0.278	
	Color (true)	97.8				3.21	
EPA 180.1 Rev. 2.0	Turbidity	100				6.34	
	Turbidity	100				1.65	
EPA 200.7 Rev. 4.4	Calcium	109	101	109			0.826
	Iron	109	107	106	107		1.54
	Magnesium	107	99.5	105			1.44
	Potassium	103	102	101	101		0.327
	Sodium	107	104	104	104		0.0219
	Strontium	102	100	100	99.8		0.358
	Tin	106	102	99.1	105		2.79
	Titanium	102	104	101	102		3.30
	Vanadium	102	105	103	102		2.53
	Zinc	103	100	96.8	99.9		3.29
EPA 200.8 Rev. 5.4	Aluminum	108	107	107	111		0.149
	Antimony	107	109	109	109		0.113
	Arsenic	100	102	102	102		0.329
	Barium	108	110	110	111		0.191
	Beryllium	99.8	95.7	99.5	97.0		3.89
	Boron	111	108	108	112		0.568
	Cadmium	105	106	106	104		0.266
	Chromium	100	100	100	102		0.201
	Cobalt	99.2	97.1	96.7	98.2		0.348
	Copper	96.9	95.4	95.5	95.7		0.0285
	Lead	106	106	106	109		0.0783
	Manganese	109	112	112	114		0.0157
	Molybdenum	103	106	107	106		0.517
	Nickel	98.5	97.6	97.2	97.9		0.415
	Selenium	104	103	102	105		0.634
	Silver	106	107	108	110		0.865
	Thallium	103	106	107	109		0.834
EPA 300.0 Rev. 2.1	Chloride	99.5	94.2	93.7		0.0950	
	Chloride	98.8	98.4	98.2		0.599	
	Sulfate	95.9	91.5	90.9		0.422	
	Sulfate	97.5	93.9	96.5		0.800	
	Sulfate	99.7	98.6	99.7		0.839	
EPA 350.1 Rev. 2.0	Ammonia-N	92.8	99.0	101			1.54
	Ammonia-N	101	99.8	102			1.14
	Ammonia-N	100	99.2	99.8			0.501
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.8	105	104			0.0955
	Kjeldahl Nitrogen	103	95.7	87.3			5.62
EPA 353.2 Rev. 2.0	NO2NO3-N	102	99.0	94.0			3.20
	NO2NO3-N	100	102	102			0.0
	NO2NO3-N	100	96.2	97.5			0.824
EPA 365.1 Rev. 2.0	Total-P	104	102	101			1.32
	Total-P	105	108	107			0.252
EPA 8321B	2,4-D	85.2	93.6	91.2			2.60
	2,4,5-T	79.8	104	90.1			14.3
	Acesulfame K	94.9	109	118			7.96
	Acetaminophen	83.3	89.1	84.9			4.80
	Acetamiprid	80.9	59.0	40.7			36.9
	Afidopyrophen	54.4	49.2	36.7			29.1
	AMPA	57.2	61.9	66.9			5.89
	Bentazon	137	153	157			2.84

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Benzovindiflupyr	79.0	79.5	78.6		
	Carbamazepine	73.7	56.5	56.5		
	Clothianidin	97.5	92.3	94.4		
	Dinotefuran	114	84.5	81.0		
	Diuron	60.5	32.0	24.8		
	Endothall	91.1	128	127		
	Fenuron	103	71.4	61.6		
	Fluridone	96.6	91.1	84.2		
	Glufosinate	104	82.2	77.1		
	Glyphosate	110	116	111		
	Hydrocodone	96.8	66.6	65.9		
	Ibuprofen	70.8	84.5	75.5		
	Imazapyr	84.6	107	99.5		
	Imidacloprid	86.4	121	117		
	Linuron	66.0	61.3	61.0		
	Mandestrobin	89.7	87.2	82.0		
	MCPP	85.6	115	108		
	Naproxen	78.2	89.1	86.8		
	Primidone	91.1	89.7	83.2		
	Pyraclostrobin	57.1	83.8	83.4		
	Silvex	85.4	95.8	96.6		
	Sucralose	96.0	104	94.5		
	Thiamethoxam	93.2	81.0	80.3		
	Tolfenpyrad	30.6	59.7	58.5		
	Triclopyr	79.8	89.1	90.4		
SM 2320 B-2011	Total Alkalinity	95.0				1.04
	Total Alkalinity	96.6				0.774
SM 2540 C-2015	TDS	97.4				0.797
	TDS	104				2.99
SM 2540 D-2015	TSS	95.8				
	TSS	91.4				
SM 4500-F- C-2011	Fluoride	98.1	98.2	98.8		0.483
	Fluoride	96.9				0.476
SM 5310 B-2011	Organic Carbon	94.6	94.4	97.0		2.72
	Organic Carbon	93.4	94.6	96.9		1.85

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2426735, 2426737, 2426739, 2426740, 2426741
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2426735, 2426737, 2426739, 2426740, 2426741
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2426766, 2426767, 2426768
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2426766, 2426767, 2426768
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2426735, 2426737, 2426739, 2426740, 2426741
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2426735, 2426737, 2426739, 2426740, 2426741
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2426736, 2426738, 2426742, 2426743, 2426744
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2426736, 2426738, 2426742, 2426743, 2426744

Reference Method Descriptions

Method	Description	Associated Samples
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2426736, 2426738, 2426742, 2426743, 2426744
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2426736, 2426738, 2426742, 2426743, 2426744
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2426765, 2426774
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2426735, 2426737, 2426739, 2426740, 2426741
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2426766, 2426767, 2426768
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2426735, 2426737, 2426739, 2426740, 2426741
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2426735, 2426737, 2426739, 2426740, 2426741
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2426735, 2426737, 2426739, 2426740, 2426741
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2426736, 2426738, 2426742, 2426743, 2426744

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	07/26/2023			07/26/2023 14:08	Samantha L Bates	2426737
	07/26/2023			07/26/2023 14:10	Samantha L Bates	2426739
	07/26/2023			07/26/2023 14:11	Samantha L Bates	2426740, 2426741
	07/26/2023			07/26/2023 14:25	Samantha L Bates	2426735
EPA 180.1 Rev. 2.0	07/26/2023			07/26/2023 13:58	Anna M. Plaviak	2426737
	07/26/2023			07/26/2023 13:59	Anna M. Plaviak	2426739
	07/26/2023			07/26/2023 14:01	Anna M. Plaviak	2426740, 2426741
	07/26/2023			07/26/2023 14:17	Anna M. Plaviak	2426735
EPA 200.7 Rev. 4.4	07/26/2023	07/28/2023 12:50	George D Taylor	07/31/2023 15:35	Samatha Luckman	2426768
	07/26/2023	07/28/2023 12:50	George D Taylor	07/31/2023 16:57	Samatha Luckman	2426766
	07/26/2023	07/28/2023 12:50	George D Taylor	07/31/2023 17:05	Samatha Luckman	2426767
EPA 200.8 Rev. 5.4	07/26/2023	07/28/2023 12:50	George D Taylor	07/31/2023 14:10	Conrad Hartmann	2426768
	07/26/2023	07/28/2023 12:50	George D Taylor	07/31/2023 15:58	Conrad Hartmann	2426766
	07/26/2023	07/28/2023 12:50	George D Taylor	07/31/2023 16:07	Conrad Hartmann	2426767
	07/26/2023	07/28/2023 12:50	George D Taylor	08/02/2023 00:47	Conrad Hartmann	2426766
	07/26/2023	07/28/2023 12:50	George D Taylor	08/02/2023 00:55	Conrad Hartmann	2426767
EPA 300.0 Rev. 2.1	07/26/2023			07/28/2023 14:02	Anna M. Plaviak	2426737
	07/26/2023			07/28/2023 19:33	Anna M. Plaviak	2426735
	07/26/2023			07/28/2023 22:03	Anna M. Plaviak	2426739
	07/26/2023			07/28/2023 22:18	Anna M. Plaviak	2426740
	07/26/2023			07/28/2023 22:33	Anna M. Plaviak	2426741
	07/26/2023			08/02/2023 12:00	James L Waggeberby	2426740
EPA 350.1 Rev. 2.0	07/26/2023			07/31/2023 13:29	Ping Hua	2426736
	07/26/2023			08/03/2023 11:02	Ping Hua	2426738
	07/26/2023			08/03/2023 11:12	Ping Hua	2426743
	07/26/2023			08/03/2023 11:14	Ping Hua	2426744
	07/26/2023			08/03/2023 14:02	Ping Hua	2426742
EPA 351.2 Rev. 2.0	07/26/2023	07/27/2023 12:39	Dana G. Hughes	07/31/2023 16:23	Samantha L Bates	2426736
	07/26/2023	07/27/2023 12:39	Dana G. Hughes	07/31/2023 16:24	Samantha L Bates	2426738
	07/26/2023	07/27/2023 12:39	Dana G. Hughes	07/31/2023 16:29	Samantha L Bates	2426742
	07/26/2023	07/27/2023 12:39	Dana G. Hughes	07/31/2023 16:37	Samantha L Bates	2426743
	07/26/2023	07/27/2023 12:39	Dana G. Hughes	07/31/2023 16:42	Samantha L Bates	2426744
EPA 353.2 Rev. 2.0	07/26/2023			07/27/2023 11:44	Beverly Y. Sanders	2426736
	07/26/2023			07/27/2023 11:47	Beverly Y. Sanders	2426743
	07/26/2023			07/27/2023 12:00	Beverly Y. Sanders	2426744
	07/26/2023			07/27/2023 12:54	Beverly Y. Sanders	2426738
	07/26/2023			07/27/2023 12:55	Beverly Y. Sanders	2426742
EPA 365.1 Rev. 2.0	07/26/2023	07/27/2023 14:45	Simonne.V. Calhoun	07/28/2023 10:03	Chandler E Cox	2426736
	07/26/2023	07/27/2023 14:45	Simonne.V. Calhoun	07/28/2023 10:04	Chandler E Cox	2426738
	07/26/2023	07/27/2023 14:45	Simonne.V. Calhoun	07/28/2023 10:05	Chandler E Cox	2426742

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0	07/26/2023	07/27/2023 14:45	Simonne.V. Calhoun	07/28/2023 10:06	Chandler E Cox	2426743
	07/26/2023	08/02/2023 14:24	Alexis Price	08/03/2023 16:25	James L Waggeberby	2426744
EPA 8321B	07/26/2023	07/26/2023 12:30	Hana Lee	07/26/2023 15:08	Tae K Lee	2426765
	07/26/2023	07/26/2023 12:30	Hana Lee	07/26/2023 15:21	Tae K Lee	2426774
	07/26/2023	07/26/2023 12:30	Hana Lee	07/27/2023 11:33	Tae K Lee	2426765
	07/26/2023	07/26/2023 12:30	Hana Lee	07/27/2023 11:47	Tae K Lee	2426774
	07/26/2023	07/27/2023 09:00	Hoor Shaik	07/28/2023 19:36	Juyoung Kim	2426765
	07/26/2023	07/27/2023 09:00	Hoor Shaik	07/28/2023 20:13	Juyoung Kim	2426774
SM 2320 B-2011	07/26/2023			07/28/2023 04:14	Dale L. Simmons	2426735
	07/26/2023			07/28/2023 04:28	Dale L. Simmons	2426737
	07/26/2023			07/28/2023 04:42	Dale L. Simmons	2426739
	07/26/2023			08/01/2023 22:40	Dale L. Simmons	2426740
	07/26/2023			08/01/2023 22:50	Dale L. Simmons	2426741
SM 2340 B-2011	07/26/2023			07/31/2023 15:35	Samatha Luckman	2426768
	07/26/2023			07/31/2023 16:57	Samatha Luckman	2426766
	07/26/2023			07/31/2023 17:05	Samatha Luckman	2426767
SM 2540 C-2015	07/26/2023			07/27/2023 16:02	Yijie Li	2426735, 2426737, 2426739, 2426740, 2426741
SM 2540 D-2015	07/26/2023			07/27/2023 16:02	Yijie Li	2426735, 2426737, 2426739, 2426740, 2426741
SM 4500-F- C-2011	07/26/2023			07/28/2023 04:14	Dale L. Simmons	2426735
	07/26/2023			07/28/2023 04:28	Dale L. Simmons	2426737
	07/26/2023			07/28/2023 04:42	Dale L. Simmons	2426739
	07/26/2023			08/01/2023 22:40	Dale L. Simmons	2426740
	07/26/2023			08/01/2023 22:50	Dale L. Simmons	2426741
SM 5310 B-2011	07/26/2023			08/01/2023 18:31	Elise M. Gillis	2426736
	07/26/2023			08/01/2023 18:46	Elise M. Gillis	2426738
	07/26/2023			08/01/2023 19:01	Elise M. Gillis	2426742
	07/26/2023			08/01/2023 21:08	Elise M. Gillis	2426743
	07/26/2023			08/01/2023 21:23	Elise M. Gillis	2426744