

Chemical Analysis Report

SO-DIST-2023-06-28-02

Florida DEP Laboratory
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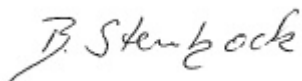
Event Description: **2023 SMP : Land O' Lakes**
Request ID: **RQ-2023-06-12-25**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 19-JUL-2023 14:34



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: BONNET CREEK AT SR 64

Collection Date/Time: 06/27/2023 10:25

Field ID: G4SD0107

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2420197	DEP SOP: NU-094-1	Color (true)	260		PCU	P431888	
	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P431890	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P432085	
		Sulfate	28		mg SO4/L	P432088	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P432207	
	SM 2540 C-2015	TDS	88		mg/L	P432261	
	SM 2540 D-2015	TSS	2	I	mg/L	P432164	
2420198	SM 4500-F- C-2011	Fluoride	0.083	I	mg F/L	P432209	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P432107	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P432014	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P432103	
	EPA 365.1 Rev. 2.0	Total-P	0.93		mg P/L	P431904	
2420214	SM 5310 B-2011	Organic Carbon	32		mg C/L	P432071	
	EPA 8321B	2,4-D	0.0023	I	ug/L	P431897	
		Acesulfame K	0.10	U	ug/L	P431789	
		2,4,5-T	0.0040	U	ug/L	P431897	
		AMPA	0.30	I	ug/L	P431789	
		Acetaminophen	0.0080	U	ug/L	P431897	
		Acetamiprid	0.0020	U	ug/L	P431897	
		Endothall	0.25	U	ug/L	P431789	
		Glufosinate	0.10	U	ug/L	P431789	
		Glyphosate	0.10	U	ug/L	P431789	
		Afidopyropen	0.0020	U	ug/L	P431897	
		Bentazon	0.0070		ug/L	P431897	
		Sucralose	0.050		ug/L	P431789	
		Benzovindiflupyr	0.0020	U	ug/L	P431897	
		Carbamazepine	8.0E-04	U	ug/L	P431897	
		Clothianidin	0.0041	I	ug/L	P431897	
		Dinotefuran	0.0020	U	ug/L	P431897	
		Diuron	0.0020	U	ug/L	P431897	MS, RPD
		Fenuron	0.032	U	ug/L	P431897	
		Fluridone	8.0E-04	U	ug/L	P431897	
		Imazapyr	0.0040	U	ug/L	P431897	
		Hydrocodone	0.0020	U	ug/L	P431897	
		Ibuprofen	0.080	U	ug/L	P431897	
		Imidacloprid	0.016		ug/L	P431897	
		Linuron	0.0040	U	ug/L	P431897	
		Mandestrobin	0.0020	U	ug/L	P431897	
		MCPP	0.0020	U	ug/L	P431897	
		Naproxen	0.0080	U	ug/L	P431897	
		Primidone	0.0040	U	ug/L	P431897	
		Pyraclostrobin	0.0020	U	ug/L	P431897	
		Silvex	0.0040	U	ug/L	P431897	
		Thiamethoxam	0.016		ug/L	P431897	

Field ID: G4SD0107

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2420214	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P431897	
		Triclopyr	0.0040	U	ug/L	P431897	

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: LAKE GLENADA

Collection Date/Time: 06/27/2023 11:05

Field ID: G4SD0179

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2420191	DEP SOP: NU-094-1	Color (true)	33		PCU	P431888	
	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P431890	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P432085	
		Sulfate	16		mg SO4/L	P432088	
	SM 2320 B-2011	Total Alkalinity	31		mg CaCO3/L	P432206	
	SM 2540 C-2015	TDS	109		mg/L	P432261	
	SM 2540 D-2015	TSS	4	I	mg/L	P432164	
	SM 4500-F- C-2011	Fluoride	0.080	I	mg F/L	P432208	
2420192	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P431992	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P432014	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P432103	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P431904	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P432071	

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: RED WATER LAKE AT MID

Collection Date/Time: 06/27/2023 12:05

Field ID: G4SD0224

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2420193	DEP SOP: NU-094-1	Color (true)	14		PCU	P431888	
	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P431890	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P432085	
		Sulfate	28		mg SO4/L	P432088	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P432206	
	SM 2540 C-2015	TDS	112		mg/L	P432261	
	SM 2540 D-2015	TSS	3	I	mg/L	P432164	
	SM 4500-F- C-2011	Fluoride	0.052	I	mg F/L	P432208	
2420194	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P432107	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P432014	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P432103	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P431904	
	SM 5310 B-2011	Organic Carbon	9.3		mg C/L	P432071	

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: LAKEPLACIDOUTLETATSR70W

Collection Date/Time: 06/27/2023 13:15

Field ID: G4SD0213

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2420195	DEP SOP: NU-094-1	Color (true)	470		PCU	P431888	
	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P431890	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P432085	
		Sulfate	16		mg SO4/L	P432088	
	SM 2320 B-2011	Total Alkalinity	2.4	I	mg CaCO3/L	P432206	
	SM 2540 C-2015	TDS	82		mg/L	P432261	
	SM 2540 D-2015	TSS	2	U	mg/L	P432164	
2420196	SM 4500-F- C-2011	Fluoride	0.070	I	mg F/L	P432208	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P432107	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P432142	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P432103	
	EPA 365.1 Rev. 2.0	Total-P	0.96		mg P/L	P431904	
2420215	SM 5310 B-2011	Organic Carbon	43		mg C/L	P432071	
	EPA 200.7 Rev. 4.4	Barium	3.9	I	ug/L	P431939	
		Calcium	8.36		mg/L	P431939	
		Iron	170		ug/L	P431939	
		Magnesium	4.79		mg/L	P431939	
		Potassium	9.7		mg/L	P431939	
		Sodium	5.0		mg/L	P431939	
		Strontium	372		ug/L	P431939	
		Tin	3.0	U	ug/L	P431939	
		Titanium	7.7		ug/L	P431939	
		Vanadium	2.0	U	ug/L	P431939	
		Zinc	5.1	I	ug/L	P431939	
	EPA 200.8 Rev. 5.4	Aluminum	433		ug/L	P431939	
		Antimony	0.050	U	ug/L	P431939	
		Arsenic	0.69		ug/L	P431939	
		Beryllium	0.019	I	ug/L	P431939	
		Boron	40.5		ug/L	P431939	
		Cadmium	0.020	U	ug/L	P431939	
		Chromium	0.54	I	ug/L	P431939	
		Cobalt	0.176		ug/L	P431939	
		Copper	0.69	I	ug/L	P431939	
		Lead	0.20	I	ug/L	P431939	
		Manganese	8.00		ug/L	P431939	
		Molybdenum	0.28	I	ug/L	P431939	
		Nickel	0.66	I	ug/L	P431939	
		Selenium	0.33	I	ug/L	P431939	
		Silver	0.010	U	ug/L	P431939	
		Thallium	0.10	U	ug/L	P431939	
		Hardness	40.6		mg/L	P431939	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P431888

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431890

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431939

Component	Result	Code	Units
Barium	1.0	U	ug/L
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: P431939

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432085

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432088

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431992

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432107

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432014

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432142

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432103

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431904

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

Reference Method: EPA 8321B
Batch ID: P431789

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: P431897

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: P432206

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

Reference Method: SM 2320 B-2011

Batch ID: P432207

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

Reference Method: SM 2540 C-2015

Batch ID: P432261

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P432164

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P432208

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P432209

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P432071

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: P431888

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431890

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431939

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	100		P	85 - 115
Iron	104		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	96.0		P	85 - 115
Sodium	97.0		P	85 - 115
Strontium	95.4		P	85 - 115
Tin	96.0		P	85 - 115
Titanium	99.1		P	85 - 115
Vanadium	96.5		P	85 - 115
Zinc	97.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431939

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	101		P	85 - 115
Beryllium	96.4		P	85 - 115
Boron	107		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	97.4		P	85 - 115
Cobalt	104		P	85 - 115
Copper	98.2		P	85 - 115
Lead	106		P	85 - 115
Manganese	100		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	98.1		P	85 - 115
Selenium	102		P	85 - 115
Silver	110		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432085

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432088

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431992

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432142

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432103

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431904

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

Reference Method: EPA 8321B
Batch ID: P431789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	117		P	40 - 150
Endothall	95.8		P	40 - 150
Glufosinate	94.9		P	40 - 150
Glyphosate	105		P	40 - 150
Sucralose	89.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P431897

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	103		P	40 - 150
2,4,5-T	95.1		P	40 - 150
Acetaminophen	87.0		P	30 - 150
Acetamiprid	74.5		P	40 - 150
Afidopyropen	68.2		P	30 - 150
Bentazon	102		P	30 - 150
Benzovindiflupyr	88.9		P	40 - 150
Carbamazepine	73.1		P	40 - 150
Clothianidin	90.6		P	40 - 150
Dinotefuran	91.2		P	40 - 150
Diuron	67.0		P	40 - 150
Fenuron	92.4		P	40 - 150
Fluridone	105		P	40 - 150
Hydrocodone	93.1		P	40 - 150
Ibuprofen	75.8		P	40 - 150
Imazapyr	94.2		P	40 - 150
Imidacloprid	85.9		P	40 - 150
Linuron	90.2		P	40 - 150
Mandestrobin	95.8		P	40 - 150
MCPP	116		P	40 - 150
Naproxen	87.8		P	40 - 150
Primidone	73.0		P	40 - 150
Pyraclostrobin	90.8		P	40 - 150
Silvex	113		P	40 - 150
Thiamethoxam	87.2		P	40 - 150
Tolfenpyrad	60.2		P	30 - 150
Triclopyr	103		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P432206

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.0		P	92 - 105

Reference Method: SM 2320 B-2011

Batch ID: P432207

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.6		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P432261

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

Reference Method: SM 2540 D-2015

Batch ID: P432164

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P432208

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

Reference Method: SM 4500-F- C-2011
Batch ID: P432209

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

Reference Method: SM 5310 B-2011
Batch ID: P432071

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P431939

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420025	Barium	105	104	P/P	80 - 120
2420025	Calcium	110	104	P/P	80 - 120
2420025	Iron	109	106	P/P	80 - 120
2420025	Magnesium	111	109	P/P	80 - 120
2420025	Potassium	101	97.4	P/P	80 - 120
2420025	Sodium	105	99.9	P/P	80 - 120
2420025	Strontium	101	97.4	P/P	80 - 120
2420025	Tin	101	100	P/P	80 - 120
2420025	Titanium	106	105	P/P	80 - 120
2420025	Vanadium	103	101	P/P	80 - 120
2420025	Zinc	103	102	P/P	80 - 120
2420245	Barium	101		P	80 - 120
2420245	Calcium	99.0		P	80 - 120
2420245	Iron	107		P	80 - 120
2420245	Magnesium	107		P	80 - 120
2420245	Potassium	97.8		P	80 - 120
2420245	Sodium	94.7		P	80 - 120
2420245	Strontium	97.7		P	80 - 120
2420245	Tin	100		P	80 - 120
2420245	Titanium	103		P	80 - 120
2420245	Vanadium	102		P	80 - 120
2420245	Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P431939

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420025	Aluminum	102	101	P/P	80 - 120
2420025	Antimony	104	103	P/P	80 - 120
2420025	Arsenic	100	99.5	P/P	80 - 120
2420025	Beryllium	97.0	99.2	P/P	80 - 120
2420025	Boron	104	104	P/P	80 - 120
2420025	Cadmium	102	102	P/P	80 - 120
2420025	Chromium	98.3	97.5	P/P	80 - 120
2420025	Cobalt	103	102	P/P	80 - 120
2420025	Copper	98.9	98.1	P/P	80 - 120
2420025	Lead	106	106	P/P	80 - 120
2420025	Manganese	100	98.7	P/P	80 - 120
2420025	Molybdenum	103	102	P/P	80 - 120
2420025	Nickel	97.6	97.4	P/P	80 - 120
2420025	Selenium	102	100	P/P	80 - 120
2420025	Silver	109	109	P/P	80 - 120
2420025	Thallium	103	104	P/P	80 - 120
2420245	Aluminum	102		P	80 - 120
2420245	Antimony	105		P	80 - 120
2420245	Arsenic	101		P	80 - 120
2420245	Beryllium	103		P	80 - 120
2420245	Boron	105		P	80 - 120
2420245	Cadmium	104		P	80 - 120
2420245	Chromium	97.0		P	80 - 120
2420245	Cobalt	101		P	80 - 120
2420245	Copper	97.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431939

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420245	Lead	106		P	80 - 120
2420245	Manganese	99.6		P	80 - 120
2420245	Molybdenum	102		P	80 - 120
2420245	Nickel	96.9		P	80 - 120
2420245	Selenium	103		P	80 - 120
2420245	Silver	108		P	80 - 120
2420245	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420055	Chloride	98.6		P	90 - 110
2420193	Chloride	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420055	Sulfate	95.7		P	90 - 110
2420193	Sulfate	93.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420075	Ammonia-N	95.0	95.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420194	Ammonia-N	95.8	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420268	Kjeldahl Nitrogen	108	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2421081	Kjeldahl Nitrogen	106	111	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420165	NO2NO3-N	97.0	98.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420188	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P431789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419763	Acesulfame K	111	115	P/P	40 - 150
2419763	AMPA	130	124	P/P	40 - 150
2419763	Endothall	101	102	P/P	40 - 150
2419763	Glufosinate	90.3	90.8	P/P	40 - 150
2419763	Glyphosate	92.9	94.1	P/P	40 - 150
2419763	Sucralose	92.4	92.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P431897

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420079	2,4-D	97.4	104	P/P	40 - 150
2420079	2,4,5-T	94.4	104	P/P	40 - 150
2420079	Acetaminophen	86.3	83.3	P/P	30 - 150
2420079	Acetamiprid	78.8	84.7	P/P	40 - 150
2420079	Afidopyrophen	61.3	69.1	P/P	30 - 150
2420079	Bentazon	99.4	103	P/P	30 - 150
2420079	Benzovindiflupyr	89.7	94.5	P/P	40 - 150
2420079	Carbamazepine	66.9	69.6	P/P	40 - 150
2420079	Clothianidin	109	110	P/P	40 - 150
2420079	Dinotefuran	93.8	83.2	P/P	40 - 150
2420079	Diuron	64.2	29.9	P/F	40 - 150
2420079	Fenuron	79.7	77.0	P/P	40 - 150
2420079	Fluridone	101	104	P/P	40 - 150
2420079	Hydrocodone	87.1	87.0	P/P	40 - 150
2420079	Ibuprofen	79.0	79.6	P/P	40 - 150
2420079	Imazapyr	105	108	P/P	40 - 150
2420079	Imidacloprid	117	119	P/P	40 - 150
2420079	Linuron	64.2	67.3	P/P	40 - 150
2420079	Mandestrobin	88.5	93.7	P/P	40 - 150
2420079	MCPP	124	127	P/P	40 - 150
2420079	Naproxen	81.3	102	P/P	40 - 150
2420079	Primidone	79.1	71.4	P/P	40 - 150
2420079	Pyraclostrobin	88.8	88.6	P/P	40 - 150
2420079	Silvex	122	123	P/P	40 - 150
2420079	Thiamethoxam	88.2	91.3	P/P	40 - 150
2420079	Tolfenpyrad	59.6	61.6	P/P	30 - 150
2420079	Triclopyr	110	113	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P432208

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420358	Fluoride	95.7	96.2	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P432209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420981	Fluoride	100	98.9	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432071

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2419813	Organic Carbon	93.8	93.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P431888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420159	Color (true)	0.347	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420158	Turbidity	0.729	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420025	Barium	0.983	Spike	P	0 - 20
2420025	Calcium	4.24	Spike	P	0 - 20
2420025	Iron	2.11	Spike	P	0 - 20
2420025	Magnesium	2.18	Spike	P	0 - 20
2420025	Potassium	3.09	Spike	P	0 - 20
2420025	Sodium	3.52	Spike	P	0 - 20
2420025	Strontium	3.73	Spike	P	0 - 20
2420025	Tin	1.08	Spike	P	0 - 20
2420025	Titanium	1.19	Spike	P	0 - 20
2420025	Vanadium	1.25	Spike	P	0 - 20
2420025	Zinc	1.11	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420025	Aluminum	0.388	Spike	P	0 - 20
2420025	Antimony	1.71	Spike	P	0 - 20
2420025	Arsenic	0.900	Spike	P	0 - 20
2420025	Beryllium	2.18	Spike	P	0 - 20
2420025	Boron	0.722	Spike	P	0 - 20
2420025	Cadmium	0.398	Spike	P	0 - 20
2420025	Chromium	0.783	Spike	P	0 - 20
2420025	Cobalt	1.09	Spike	P	0 - 20
2420025	Copper	0.777	Spike	P	0 - 20
2420025	Lead	0.0775	Spike	P	0 - 20
2420025	Manganese	1.41	Spike	P	0 - 20
2420025	Molybdenum	0.983	Spike	P	0 - 20
2420025	Nickel	0.185	Spike	P	0 - 20
2420025	Selenium	1.60	Spike	P	0 - 20
2420025	Silver	0.741	Spike	P	0 - 20
2420025	Thallium	0.250	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420055	Chloride	0.958	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420055	Sulfate	0.997	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420075	Ammonia-N	0.190	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420194	Ammonia-N	1.89	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420268	Kjeldahl Nitrogen	2.35	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421081	Kjeldahl Nitrogen	3.88	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420165	NO2NO3-N	0.541	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420188	Total-P	0.563	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P431789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419763	Acesulfame K	3.19	Spike	P	0 - 30
2419763	AMPA	4.05	Spike	P	0 - 30
2419763	Endothall	1.23	Spike	P	0 - 30
2419763	Glufosinate	0.600	Spike	P	0 - 30
2419763	Glyphosate	1.25	Spike	P	0 - 30
2419763	Sucralose	0.215	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P431897

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420079	2,4-D	5.29	Spike	P	0 - 30
2420079	2,4,5-T	9.54	Spike	P	0 - 30
2420079	Acetaminophen	3.48	Spike	P	0 - 30
2420079	Acetamiprid	7.26	Spike	P	0 - 30
2420079	Afidopyropen	11.9	Spike	P	0 - 30
2420079	Bentazon	3.19	Spike	P	0 - 30
2420079	Benzovindiflupyr	5.20	Spike	P	0 - 30
2420079	Carbamazepine	3.95	Spike	P	0 - 30
2420079	Clothianidin	1.70	Spike	P	0 - 30
2420079	Dinotefuran	12.0	Spike	P	0 - 30
2420079	Diuron	72.9	Spike	F	0 - 30
2420079	Fenuron	3.46	Spike	P	0 - 30
2420079	Fluridone	2.38	Spike	P	0 - 30
2420079	Hydrocodone	0.208	Spike	P	0 - 30
2420079	Ibuprofen	0.751	Spike	P	0 - 30
2420079	Imazapyr	2.44	Spike	P	0 - 30
2420079	Imidacloprid	1.68	Spike	P	0 - 30
2420079	Linuron	4.66	Spike	P	0 - 30
2420079	Mandestrobin	5.67	Spike	P	0 - 30
2420079	MCPP	3.08	Spike	P	0 - 30
2420079	Naproxen	22.4	Spike	P	0 - 30
2420079	Primidone	10.2	Spike	P	0 - 30
2420079	Pyraclostrobin	0.237	Spike	P	0 - 30
2420079	Silvex	0.757	Spike	P	0 - 30
2420079	Thiamethoxam	3.46	Spike	P	0 - 30
2420079	Tolfenpyrad	3.27	Spike	P	0 - 30
2420079	Triclopyr	2.05	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P432206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420358	Total Alkalinity	0.0655	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P432207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420981	Total Alkalinity	1.95	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P432261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420164	TDS	2.49	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P432208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420358	Fluoride	0.506	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P432209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420981	Fluoride	1.05	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P432071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2419813	Organic Carbon	0.136	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2420214
Field Sample ID: G4SD0107

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	99.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	73.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	45.8	P	30 - 160
EPA 8321B	Diuron-d6	39.5	P	30 - 160
EPA 8321B	Endothall-d6	115	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.6	P	30 - 160
EPA 8321B	Primidone-d5	67.7	P	30 - 160
EPA 8321B	Sucralose-d6	92.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A120075

Included Lab Sample IDs: 2420191, 2420193, 2420195, 2420197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 110
Color (true)	99.8	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120077

Included Lab Sample IDs: 2420191, 2420193, 2420195, 2420197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	101	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120120

Included Lab Sample IDs: 2420196, 2420198

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120125

Included Lab Sample IDs: 2420192

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	99.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120145

Included Lab Sample IDs: 2420215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	103	102	P/P	90 - 110
Arsenic	101	100	P/P	90 - 110
Beryllium	100	99.4	P/P	90 - 110
Boron	99.1	99.3	P/P	90 - 110
Cadmium	104	103	P/P	90 - 110
Chromium	99.8	99.3	P/P	90 - 110
Cobalt	104	103	P/P	90 - 110
Copper	98.1	96.6	P/P	90 - 110
Lead	106	105	P/P	90 - 110
Manganese	101	102	P/P	90 - 110
Molybdenum	103	101	P/P	90 - 110
Nickel	98.6	97.9	P/P	90 - 110
Selenium	103	102	P/P	90 - 110
Silver	108	107	P/P	90 - 110
Thallium	103	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A120150
Included Lab Sample IDs: 2420214

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	129	135	P/P	60 - 160
Sucralose	83.0	86.4	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A120153
Included Lab Sample IDs: 2420214

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	134	136	P/P	60 - 160
Endothall	98.0	99.7	P/P	60 - 160
Glufosinate	104	103	P/P	60 - 160
Glyphosate	113	108	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A120154
Included Lab Sample IDs: 2420214

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	82.9	86.3	P/P	50 - 150
2,4,5-T	85.3	92.7	P/P	50 - 150
Acetaminophen	90.6	84.6	P/P	60 - 160
Acetamiprid	103	103	P/P	50 - 150
Afidopyropen	98.7	90.0	P/P	50 - 150
Bentazon	115	118	P/P	50 - 160
Benzovindiflupyr	117	117	P/P	50 - 150
Carbamazepine	102	104	P/P	60 - 150
Clothianidin	105	107	P/P	60 - 150
Dinotefuran	110	97.2	P/P	50 - 150
Diuron	115	96.3	P/P	60 - 160
Fenuron	104	104	P/P	60 - 150
Fluridone	114	117	P/P	60 - 160
Hydrocodone	107	109	P/P	60 - 150
Ibuprofen	79.2	113	P/P	50 - 160
Imazapyr	103	96.1	P/P	50 - 150
Imidacloprid	95.5	97.1	P/P	60 - 150
Linuron	113	98.3	P/P	60 - 150
Mandestrobin	119	111	P/P	50 - 150
MCPP	85.7	82.7	P/P	50 - 150
Naproxen	133	91.3	P/P	50 - 160
Primidone	89.9	84.1	P/P	60 - 150
Pyraclostrobin	116	115	P/P	60 - 150
Silvex	83.3	82.7	P/P	50 - 150
Thiamethoxam	107	105	P/P	50 - 150
Tolfenpyrad	107	101	P/P	60 - 150
Triclopyr	86.5	84.5	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A120159
Included Lab Sample IDs: 2420192, 2420194

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120159

Included Lab Sample IDs: 2420192, 2420194

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

Reference Method: SM 5310 B-2011

Run ID: A120177

Included Lab Sample IDs: 2420192, 2420194, 2420196, 2420198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120184

Included Lab Sample IDs: 2420191, 2420193, 2420195, 2420197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	106	106	P/P	90 - 110
Chloride	106	106	P/P	90 - 110
Sulfate	103	104	P/P	90 - 110
Sulfate	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120185

Included Lab Sample IDs: 2420192, 2420194, 2420198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.0	94.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120188

Included Lab Sample IDs: 2420192, 2420194, 2420196, 2420198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120189

Included Lab Sample IDs: 2420194, 2420196, 2420198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	98.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120207

Included Lab Sample IDs: 2420215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	107	98.4	P/P	90 - 110
Calcium	108	97.7	P/P	90 - 110
Iron	109	98.1	P/P	90 - 110
Magnesium	109	98.6	P/P	90 - 110
Potassium	104	95.0	P/P	90 - 110
Sodium	104	93.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120207

Included Lab Sample IDs: 2420215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Strontium	108	95.0	P/P	90 - 110
Tin	108	98.6	P/P	90 - 110
Titanium	107	98.4	P/P	90 - 110
Vanadium	106	97.5	P/P	90 - 110
Zinc	108	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120243

Included Lab Sample IDs: 2420191, 2420193, 2420195, 2420197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.4	95.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120243

Included Lab Sample IDs: 2420191, 2420193, 2420195, 2420197

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120254

Included Lab Sample IDs: 2420196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.8	106	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	98.8				0.347	
EPA 180.1 Rev. 2.0	Turbidity	100				0.729	
EPA 200.7 Rev. 4.4	Barium	100	105	104	101		0.983
	Calcium	100	110	104	99.0		4.24
	Iron	104	109	106	107		2.11
	Magnesium	106	111	109	107		2.18
	Potassium	96.0	101	97.4	97.8		3.09
	Sodium	97.0	105	99.9	94.7		3.52
	Strontium	95.4	101	97.4	97.7		3.73
	Tin	96.0	101	100	100		1.08
	Titanium	99.1	106	105	103		1.19
	Vanadium	96.5	103	101	102		1.25
	Zinc	97.7	103	102	103		1.11
EPA 200.8 Rev. 5.4	Aluminum	101	102	101	102		0.388
	Antimony	103	104	103	105		1.71
	Arsenic	101	100	99.5	101		0.900
	Beryllium	96.4	97.0	99.2	103		2.18
	Boron	107	104	104	105		0.722
	Cadmium	103	102	102	104		0.398
	Chromium	97.4	98.3	97.5	97.0		0.783
	Cobalt	104	103	102	101		1.09
	Copper	98.2	98.9	98.1	97.0		0.777
	Lead	106	106	106	106		0.0775
	Manganese	100	99.6	100	98.7		1.41
	Molybdenum	102	103	102	102		0.983
	Nickel	98.1	97.6	97.4	96.9		0.185
	Selenium	102	102	100	103		1.60
	Silver	110	109	109	108		0.741
	Thallium	101	103	104	104		0.250
EPA 300.0 Rev. 2.1	Chloride	97.0	98.6	97.6		0.958	
	Sulfate	94.2	93.7	95.7		0.997	
EPA 350.1 Rev. 2.0	Ammonia-N	96.8	95.0	95.2			0.190
	Ammonia-N	93.6	95.8	97.8			1.89
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.4	108	104			2.35
	Kjeldahl Nitrogen	107	106	111			3.88
EPA 353.2 Rev. 2.0	NO2NO3-N	102	97.0	98.0			0.541
EPA 365.1 Rev. 2.0	Total-P	101	102	102			0.563
EPA 8321B	2,4-D	103	97.4	104			5.29
	2,4,5-T	95.1	94.4	104			9.54
	Acesulfame K	101	111	115			3.19
	Acetaminophen	87.0	86.3	83.3			3.48
	Acetamiprid	74.5	78.8	84.7			7.26
	Afidopyropen	68.2	61.3	69.1			11.9
	AMPA	117	130	124			4.05
	Bentazon	102	99.4	103			3.19
	Benzovindiflupyr	88.9	89.7	94.5			5.20
	Carbamazepine	73.1	66.9	69.6			3.95
	Clothianidin	90.6	109	110			1.70
	Dinotefuran	91.2	93.8	83.2			12.0
	Diuron	67.0	64.2	29.9			72.9
	Endothall	95.8	101	102			1.23
	Fenuron	92.4	79.7	77.0			3.46
	Fluridone	105	101	104			2.38
	Glufosinate	94.9	90.3	90.8			0.600

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Glyphosate	105	92.9	94.1			1.25
	Hydrocodone	93.1	87.1	87.0			0.208
	Ibuprofen	75.8	79.0	79.6			0.751
	Imazapyr	94.2	105	108			2.44
	Imidacloprid	85.9	117	119			1.68
	Linuron	90.2	64.2	67.3			4.66
	Mandestrobin	95.8	88.5	93.7			5.67
	MCPP	116	124	127			3.08
	Naproxen	87.8	81.3	102			22.4
	Primidone	73.0	79.1	71.4			10.2
	Pyraclostrobin	90.8	88.8	88.6			0.237
	Silvex	113	122	123			0.757
	Sucralose	89.5	92.4	92.2			0.215
	Thiamethoxam	87.2	88.2	91.3			3.46
	Tolfenpyrad	60.2	59.6	61.6			3.27
	Triclopyr	103	110	113			2.05
SM 2320 B-2011	Total Alkalinity	97.0				0.0655	
	Total Alkalinity	94.6				1.95	
SM 2540 C-2015	TDS	97.1				2.49	
SM 2540 D-2015	TSS	91.4					
SM 4500-F- C-2011	Fluoride	97.1	95.7	96.2			0.506
	Fluoride	98.1	98.9	100			1.05
SM 5310 B-2011	Organic Carbon	95.2	93.8	93.6			0.136

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2420191, 2420193, 2420195, 2420197
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2420191, 2420193, 2420195, 2420197
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2420215
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2420215
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2420191, 2420193, 2420195, 2420197
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2420191, 2420193, 2420195, 2420197
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2420192, 2420194, 2420196, 2420198
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2420192, 2420194, 2420196, 2420198
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2420192, 2420194, 2420196, 2420198
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2420192, 2420194, 2420196, 2420198
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2420214
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2420191, 2420193, 2420195, 2420197
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2420215
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2420191, 2420193, 2420195, 2420197
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2420191, 2420193, 2420195, 2420197
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2420191, 2420193, 2420195, 2420197
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2420192, 2420194, 2420196, 2420198

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	06/28/2023			06/28/2023 14:47	Alexis Price	2420191
	06/28/2023			06/28/2023 14:48	Alexis Price	2420193
	06/28/2023			06/28/2023 15:02	Alexis Price	2420195
	06/28/2023			06/28/2023 15:03	Alexis Price	2420197
EPA 180.1 Rev. 2.0	06/28/2023			06/28/2023 13:19	Alexis Price	2420191
	06/28/2023			06/28/2023 13:22	Alexis Price	2420193
	06/28/2023			06/28/2023 13:23	Alexis Price	2420195, 2420197
EPA 200.7 Rev. 4.4	06/28/2023	06/29/2023 11:55	George D Taylor	07/06/2023 15:29	Chase Roberts	2420215
EPA 200.8 Rev. 5.4	06/28/2023	06/29/2023 11:55	George D Taylor	06/30/2023 16:32	Conrad Hartmann	2420215
EPA 300.0 Rev. 2.1	06/28/2023			07/05/2023 18:25	James L Waggeberby	2420193
	06/28/2023			07/05/2023 21:40	James L Waggeberby	2420191
	06/28/2023			07/05/2023 21:55	James L Waggeberby	2420195
	06/28/2023			07/05/2023 22:11	James L Waggeberby	2420197
EPA 350.1 Rev. 2.0	06/28/2023			06/30/2023 12:16	Khloe J Berg	2420192
	06/28/2023			07/06/2023 11:16	Khloe J Berg	2420194
	06/28/2023			07/06/2023 11:20	Khloe J Berg	2420196
	06/28/2023			07/06/2023 11:21	Khloe J Berg	2420198
EPA 351.2 Rev. 2.0	06/28/2023	07/05/2023 16:53	Ping Hua	07/06/2023 10:36	Ping Hua	2420192
	06/28/2023	07/05/2023 16:53	Ping Hua	07/06/2023 10:37	Ping Hua	2420194
	06/28/2023	07/05/2023 16:53	Ping Hua	07/06/2023 10:40	Ping Hua	2420198
	06/28/2023	07/07/2023 11:48	Simonne.V. Calhoun	07/10/2023 09:06	Samantha L Bates	2420196
EPA 353.2 Rev. 2.0	06/28/2023			07/06/2023 09:36	Beverly Y. Sanders	2420192
	06/28/2023			07/06/2023 09:37	Beverly Y. Sanders	2420194
	06/28/2023			07/06/2023 09:38	Beverly Y. Sanders	2420196
	06/28/2023			07/06/2023 09:40	Beverly Y. Sanders	2420198
EPA 365.1 Rev. 2.0	06/28/2023	06/29/2023 16:14	Adam P Silver	06/30/2023 09:52	James L Waggeberby	2420196
	06/28/2023	06/29/2023 16:14	Adam P Silver	06/30/2023 09:53	James L Waggeberby	2420198
	06/28/2023	06/29/2023 16:14	Adam P Silver	07/05/2023 13:19	James L Waggeberby	2420192
	06/28/2023	06/29/2023 16:14	Adam P Silver	07/05/2023 13:20	James L Waggeberby	2420194
EPA 8321B	06/28/2023	06/29/2023 16:00	Hana Lee	06/30/2023 21:48	Tae K Lee	2420214
	06/28/2023	06/29/2023 16:00	Hana Lee	07/01/2023 19:02	Tae K Lee	2420214
	06/28/2023	06/30/2023 09:00	Hoor Shaik	07/01/2023 02:53	Juyoung Kim	2420214
SM 2320 B-2011	06/28/2023			07/06/2023 23:31	Dale L. Simmons	2420191
	06/28/2023			07/06/2023 23:43	Dale L. Simmons	2420193
	06/28/2023			07/06/2023 23:54	Dale L. Simmons	2420195
	06/28/2023			07/07/2023 01:15	Dale L. Simmons	2420197
SM 2340 B-2011	06/28/2023			07/06/2023 15:29	Chase Roberts	2420215
SM 2540 C-2015	06/28/2023			06/29/2023 12:56	Dana G. Hughes	2420191, 2420193, 2420195, 2420197
SM 2540 D-2015	06/28/2023			06/29/2023 12:56	Dana G. Hughes	2420191, 2420193, 2420195, 2420197
SM 4500-F- C-2011	06/28/2023			07/06/2023 23:31	Dale L. Simmons	2420191

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	06/28/2023			07/06/2023 23:43	Dale L. Simmons	2420193
	06/28/2023			07/06/2023 23:54	Dale L. Simmons	2420195
	06/28/2023			07/07/2023 01:15	Dale L. Simmons	2420197
SM 5310 B-2011	06/28/2023			07/05/2023 23:06	Elise M. Gillis	2420192
	06/28/2023			07/05/2023 23:21	Elise M. Gillis	2420194
	06/28/2023			07/05/2023 23:36	Elise M. Gillis	2420196
	06/28/2023			07/05/2023 23:51	Elise M. Gillis	2420198