

Chemical Analysis Report

SW-DIST-2023-04-06-01

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

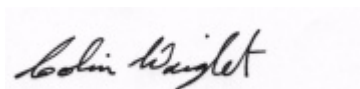
Event Description: **2023 Run 15**
Request ID: **RQ-2023-04-03-37**
Customer: **SW-DIST**
Project ID: **SMP**

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

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 25-APR-2023 08:43

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: ALDERMAN CREEK AT MOSAIC

Collection Date/Time: 04/05/2023 10:15

Field ID: G2SW0101

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2398614	DEP SOP: NU-094-1	Color (true)	24		PCU	P428142	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P428153	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P428563	
		Sulfate	64		mg SO4/L	P428566	
	SM 2320 B-2011	Total Alkalinity	30		mg CaCO3/L	P428356	
	SM 2540 C-2015	TDS	197		mg/L	P428500	
	SM 2540 D-2015	TSS	2	UA	mg/L	P428673	
	SM 4500-F- C-2011	Fluoride	0.49		mg F/L	P428725	
2398615	EPA 350.1 Rev. 2.0	Ammonia-N	0.060		mg N/L	P428200	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51	J	mg N/L	P428323	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.4		mg N/L	P428304	
	EPA 365.1 Rev. 2.0	Total-P	0.42		mg P/L	P428178	
	SM 5310 B-2011	Organic Carbon	4.5		mg C/L	P428293	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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: LIL MANATEE AT TAYLOR GRADE

Collection Date/Time: 04/05/2023 11:40

Field ID: G2SW0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2398624	EPA 8321B	2,4-D	0.0020	U	ug/L	P428189	
		Acesulfame K	0.10	U	ug/L	P428127	
		2,4,5-T	0.0040	U	ug/L	P428189	
		AMPA	0.20	I	ug/L	P428127	
		Acetaminophen	0.0080	U	ug/L	P428189	
		Acetamiprid	0.0020	U	ug/L	P428189	
		Endothall	0.25	U	ug/L	P428127	
		Glufosinate	0.10	U	ug/L	P428127	
		Glyphosate	0.10	U	ug/L	P428127	
		Afidopyropen	0.0020	U	ug/L	P428189	
		Bentazon	8.0E-04	U	ug/L	P428189	
		Sucralose	0.043		ug/L	P428127	
		Benzovindiflupyr	0.0020	U	ug/L	P428189	
		Carbamazepine	8.0E-04	U	ug/L	P428189	
		Clothianidin	0.0020	U	ug/L	P428189	
		Dinotefuran	0.0020	U	ug/L	P428189	
		Diuron	0.0020	U	ug/L	P428189	
		Fenuron	0.032	U	ug/L	P428189	
		Fluridone	8.0E-04	U	ug/L	P428189	
		Imazapyr	0.061		ug/L	P428189	
		Hydrocodone	0.0020	U	ug/L	P428189	
		Ibuprofen	0.080	U	ug/L	P428189	
		Imidacloprid	0.0020	U	ug/L	P428189	
		Linuron	0.0040	U	ug/L	P428189	
		Mandestrobin	0.0020	U	ug/L	P428189	
		MCPP	0.0020	U	ug/L	P428189	
		Naproxen	0.0080	U	ug/L	P428189	
		Primidone	0.0040	U	ug/L	P428189	
		Pyraclostrobin	0.0020	U	ug/L	P428189	
		Silvex	0.0040	U	ug/L	P428189	
		Thiamethoxam	0.0020	U	ug/L	P428189	
		Tolfenpyrad	0.0020	U	ug/L	P428189	
		Triclopyr	0.0040	U	ug/L	P428189	
2398626	EPA 200.7 Rev. 4.4	Calcium	17.9		mg/L	P428188	
		Iron	180		ug/L	P428188	
		Magnesium	7.57		mg/L	P428188	
		Potassium	3.2		mg/L	P428188	
		Sodium	8.5		mg/L	P428188	
		Strontium	207		ug/L	P428188	
		Tin	3.0	U	ug/L	P428188	
		Titanium	0.75	U	ug/L	P428188	
		Vanadium	2.0	U	ug/L	P428188	
		Zinc	5.0	U	ug/L	P428188	
	EPA 200.8 Rev. 5.4	Aluminum	45		ug/L	P428188	

Field ID: G2SW0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2398626	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P428188	
		Arsenic	0.40		ug/L	P428188	
		Barium	5.24		ug/L	P428188	
		Beryllium	0.010	U	ug/L	P428188	
		Boron	25.5		ug/L	P428188	
		Cadmium	0.020	U	ug/L	P428188	
		Chromium	0.40	U	ug/L	P428188	
		Cobalt	0.049	I	ug/L	P428188	
		Copper	0.46	I	ug/L	P428188	
		Lead	0.20	U	ug/L	P428188	
		Manganese	32.5		ug/L	P428188	
		Molybdenum	0.20	I	ug/L	P428188	
		Nickel	0.50	U	ug/L	P428188	
		Selenium	0.20	U	ug/L	P428188	
		Silver	0.010	U	ug/L	P428188	
		Thallium	0.10	U	ug/L	P428188	
	SM 2340 B-2011	Hardness	75.9		mg/L	P428188	

Sample Location: LIL MANATEE RIVER S FORK AT SAFFOLD RD Collection Date/Time: 04/05/2023 12:40

Field ID: G2SW0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2398625	EPA 8321B	2,4-D	0.0020	U	ug/L	P428189	
		Acesulfame K	0.10	U	ug/L	P428127	
		2,4,5-T	0.0040	U	ug/L	P428189	
		AMPA	0.16	I	ug/L	P428127	
		Acetaminophen	0.0080	U	ug/L	P428189	
		Acetamiprid	0.0020	U	ug/L	P428189	
		Endothall	0.25	U	ug/L	P428127	
		Glufosinate	0.10	U	ug/L	P428127	
		Glyphosate	0.10	U	ug/L	P428127	
		Afidopyropen	0.0020	U	ug/L	P428189	
		Bentazon	0.0017	I	ug/L	P428189	
		Sucralose	0.010	U	ug/L	P428127	
		Benzovindiflupyr	0.0020	U	ug/L	P428189	
		Carbamazepine	8.0E-04	U	ug/L	P428189	
		Clothianidin	0.099		ug/L	P428189	
		Dinotefuran	0.0027	I	ug/L	P428189	
		Diuron	0.0020	U	ug/L	P428189	
		Fenuron	0.032	U	ug/L	P428189	
		Fluridone	8.0E-04	U	ug/L	P428189	
		Imazapyr	0.016		ug/L	P428189	
		Hydrocodone	0.0020	U	ug/L	P428189	
		Ibuprofen	0.080	U	ug/L	P428189	
		Imidacloprid	0.14		ug/L	P428189	
		Linuron	0.0040	U	ug/L	P428189	
		Mandestrobin	0.0020	U	ug/L	P428189	
		MCPP	0.0020	U	ug/L	P428189	
		Naproxen	0.0080	U	ug/L	P428189	
		Primidone	0.0040	U	ug/L	P428189	
		Pyraclostrobin	0.0020	U	ug/L	P428189	
		Silvex	0.0040	U	ug/L	P428189	
		Thiamethoxam	0.12		ug/L	P428189	
		Tolfenpyrad	0.0020	U	ug/L	P428189	
		Triclopyr	0.0040	U	ug/L	P428189	
2398627	EPA 200.7 Rev. 4.4	Calcium	32.0		mg/L	P428188	
		Iron	340		ug/L	P428188	
		Magnesium	14.2		mg/L	P428188	
		Potassium	5.4		mg/L	P428188	
		Sodium	8.0		mg/L	P428188	
		Strontium	1.44E+03		ug/L	P428188	
		Tin	3.0	U	ug/L	P428188	
		Titanium	0.86	I	ug/L	P428188	
		Vanadium	3.5	I	ug/L	P428188	
		Zinc	5.0	U	ug/L	P428188	
	EPA 200.8 Rev. 5.4	Aluminum	171		ug/L	P428188	

Field ID: G2SW0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2398627	EPA 200.8 Rev. 5.4	Antimony	0.070	I	ug/L	P428188	
		Arsenic	0.25		ug/L	P428188	
		Barium	20.7		ug/L	P428188	
		Beryllium	0.019	I	ug/L	P428188	
		Boron	31.6		ug/L	P428188	
		Cadmium	0.087		ug/L	P428188	
		Chromium	0.53	I	ug/L	P428188	
		Cobalt	0.146		ug/L	P428188	
		Copper	1.72		ug/L	P428188	
		Lead	0.20	U	ug/L	P428188	
		Manganese	15.3		ug/L	P428188	
		Molybdenum	0.67		ug/L	P428188	
		Nickel	0.50	U	ug/L	P428188	
		Selenium	0.21	I	ug/L	P428188	
		Silver	0.010	U	ug/L	P428188	
		Thallium	0.10	U	ug/L	P428188	
	SM 2340 B-2011	Hardness	138		mg/L	P428188	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P428142

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428153

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428188

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: P428188

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.011	I	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428563

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: P428566

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428200

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428323

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428304

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428178

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

Reference Method: EPA 8321B
Batch ID: P428127

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

Reference Method: EPA 8321B
Batch ID: P428189

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P428189

Component	Result	Code	Units
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: P428356

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

Reference Method: SM 2540 C-2015

Batch ID: P428500

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P428673

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P428725

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P428293

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: P428142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428153

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	106		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	106		P	85 - 115
Sodium	110		P	85 - 115
Strontium	105		P	85 - 115
Tin	105		P	85 - 115
Titanium	104		P	85 - 115
Vanadium	104		P	85 - 115
Zinc	107		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	105		P	85 - 115
Arsenic	104		P	85 - 115
Barium	106		P	85 - 115
Beryllium	96.1		P	85 - 115
Boron	104		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	104		P	85 - 115
Copper	103		P	85 - 115
Lead	105		P	85 - 115
Manganese	99.2		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	104		P	85 - 115
Selenium	102		P	85 - 115
Silver	105		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428563

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428566

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428200

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	92.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428323

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428304

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: P428178

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

Reference Method: EPA 8321B
Batch ID: P428127

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	89.6		P	40 - 150
AMPA	109		P	40 - 150
Endothall	89.8		P	40 - 150
Glufosinate	105		P	40 - 150
Glyphosate	120		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P428189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	107		P	40 - 150
2,4,5-T	88.6		P	40 - 150
Acetaminophen	99.2		P	30 - 150
Acetamiprid	83.0		P	40 - 150
Afidopyropen	86.6		P	30 - 150
Bentazon	93.8		P	30 - 150
Benzovindiflupyr	79.3		P	40 - 150
Carbamazepine	81.1		P	40 - 150
Clothianidin	86.0		P	40 - 150
Dinotefuran	92.9		P	40 - 150
Diuron	77.7		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P428189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	81.5		P	40 - 150
Fluridone	84.1		P	40 - 150
Hydrocodone	96.2		P	40 - 150
Ibuprofen	68.9		P	40 - 150
Imazapyr	91.3		P	40 - 150
Imidacloprid	82.3		P	40 - 150
Linuron	76.6		P	40 - 150
Mandestrobin	81.8		P	40 - 150
MCPP	95.6		P	40 - 150
Naproxen	78.1		P	40 - 150
Primidone	97.0		P	40 - 150
Pyraclostrobin	75.2		P	40 - 150
Silvex	116		P	40 - 150
Thiamethoxam	92.0		P	40 - 150
Tolfenpyrad	46.9		P	30 - 150
Triclopyr	103		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P428356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.9		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P428500

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.7		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P428673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.7		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P428725

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

Reference Method: SM 5310 B-2011
Batch ID: P428293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398664	Calcium	104		P	80 - 120
2398664	Iron	106	105	P/P	80 - 120
2398664	Magnesium	108	105	P/P	80 - 120
2398664	Potassium	111	111	P/P	80 - 120
2398664	Sodium	109	110	P/P	80 - 120
2398664	Strontium	105	105	P/P	80 - 120
2398664	Tin	102	104	P/P	80 - 120
2398664	Titanium	103	104	P/P	80 - 120
2398664	Vanadium	103	104	P/P	80 - 120
2398664	Zinc	103	105	P/P	80 - 120
2398886	Calcium	103		P	80 - 120
2398886	Iron	105		P	80 - 120
2398886	Magnesium	106		P	80 - 120
2398886	Potassium	105		P	80 - 120
2398886	Sodium	111		P	80 - 120
2398886	Strontium	106		P	80 - 120
2398886	Tin	104		P	80 - 120
2398886	Titanium	106		P	80 - 120
2398886	Vanadium	108		P	80 - 120
2398886	Zinc	107		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398664	Aluminum	102	103	P/P	80 - 120
2398664	Antimony	104	105	P/P	80 - 120
2398664	Arsenic	102	103	P/P	80 - 120
2398664	Barium	103	104	P/P	80 - 120
2398664	Beryllium	99.2	95.7	P/P	80 - 120
2398664	Boron	100	102	P/P	80 - 120
2398664	Cadmium	99.7	103	P/P	80 - 120
2398664	Chromium	102	103	P/P	80 - 120
2398664	Cobalt	102	103	P/P	80 - 120
2398664	Copper	100	101	P/P	80 - 120
2398664	Lead	104	103	P/P	80 - 120
2398664	Manganese	100	101	P/P	80 - 120
2398664	Molybdenum	103	103	P/P	80 - 120
2398664	Nickel	102	103	P/P	80 - 120
2398664	Selenium	101	101	P/P	80 - 120
2398664	Silver	105	106	P/P	80 - 120
2398664	Thallium	104	105	P/P	80 - 120
2398886	Aluminum	101		P	80 - 120
2398886	Antimony	103		P	80 - 120
2398886	Arsenic	99.3		P	80 - 120
2398886	Barium	102		P	80 - 120
2398886	Beryllium	95.0		P	80 - 120
2398886	Boron	102		P	80 - 120
2398886	Cadmium	101		P	80 - 120
2398886	Chromium	98.7		P	80 - 120
2398886	Cobalt	99.2		P	80 - 120
2398886	Copper	96.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398886	Lead	101		P	80 - 120
2398886	Manganese	100		P	80 - 120
2398886	Molybdenum	102		P	80 - 120
2398886	Nickel	98.8		P	80 - 120
2398886	Selenium	97.6		P	80 - 120
2398886	Silver	107		P	80 - 120
2398886	Thallium	101		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398781	Chloride	101		P	90 - 110
2398782	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398781	Sulfate	97.4		P	90 - 110
2398782	Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398638	Ammonia-N	97.2	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398615	Kjeldahl Nitrogen	88.4	82.9	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398083	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398589	Total-P	100	99.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P428127

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398314	Acesulfame K	93.7	93.8	P/P	40 - 150
2398314	AMPA	116	114	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P428127

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398314	Endothall	98.3	95.1	P/P	40 - 150
2398314	Glufosinate	95.4	99.3	P/P	40 - 150
2398314	Glyphosate	113	111	P/P	40 - 150
2398314	Sucralose	101	119	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P428189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398266	2,4-D	119	123	P/P	40 - 150
2398266	2,4,5-T	108	109	P/P	40 - 150
2398266	Acetaminophen	110	106	P/P	30 - 150
2398266	Acetamiprid	92.9	93.3	P/P	40 - 150
2398266	Afidopyropen	104	95.1	P/P	30 - 150
2398266	Bentazon	97.5	103	P/P	30 - 150
2398266	Benzovindiflupyr	86.2	84.1	P/P	40 - 150
2398266	Carbamazepine	90.9	98.7	P/P	40 - 150
2398266	Clothianidin	93.2	97.8	P/P	40 - 150
2398266	Dinotefuran	106	116	P/P	40 - 150
2398266	Diuron	70.9	79.9	P/P	40 - 150
2398266	Fenuron	80.7	82.7	P/P	40 - 150
2398266	Fluridone	84.5	83.9	P/P	40 - 150
2398266	Hydrocodone	106	114	P/P	40 - 150
2398266	Ibuprofen	75.3	73.0	P/P	40 - 150
2398266	Imazapyr	108	112	P/P	40 - 150
2398266	Imidacloprid	99.4	104	P/P	40 - 150
2398266	Linuron	79.8	77.3	P/P	40 - 150
2398266	Mandestrobin	90.9	89.8	P/P	40 - 150
2398266	MCP	108	103	P/P	40 - 150
2398266	Naproxen	116	110	P/P	40 - 150
2398266	Primidone	103	113	P/P	40 - 150
2398266	Pyraclostrobin	81.6	83.8	P/P	40 - 150
2398266	Silvex	115	124	P/P	40 - 150
2398266	Thiamethoxam	91.2	90.4	P/P	40 - 150
2398266	Tolfenpyrad	48.9	51.2	P/P	30 - 150
2398266	Triclopyr	104	99.7	P/P	40 - 150

Reference Method: SM 5310 B-2011

Batch ID: P428293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398289	Organic Carbon	94.2	95.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P428142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398585	Color (true)	0.749	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398664	Calcium	0.869	Spike	P	0 - 20
2398664	Iron	0.990	Spike	P	0 - 20
2398664	Magnesium	1.63	Spike	P	0 - 20
2398664	Potassium	0.496	Spike	P	0 - 20
2398664	Sodium	0.234	Spike	P	0 - 20
2398664	Strontium	0.490	Spike	P	0 - 20
2398664	Tin	1.87	Spike	P	0 - 20
2398664	Titanium	0.361	Spike	P	0 - 20
2398664	Vanadium	0.597	Spike	P	0 - 20
2398664	Zinc	2.00	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398664	Aluminum	0.354	Spike	P	0 - 20
2398664	Antimony	1.55	Spike	P	0 - 20
2398664	Arsenic	0.480	Spike	P	0 - 20
2398664	Barium	0.691	Spike	P	0 - 20
2398664	Beryllium	3.60	Spike	P	0 - 20
2398664	Boron	1.15	Spike	P	0 - 20
2398664	Cadmium	3.15	Spike	P	0 - 20
2398664	Chromium	0.870	Spike	P	0 - 20
2398664	Cobalt	0.192	Spike	P	0 - 20
2398664	Copper	1.22	Spike	P	0 - 20
2398664	Lead	0.444	Spike	P	0 - 20
2398664	Manganese	0.788	Spike	P	0 - 20
2398664	Molybdenum	0.774	Spike	P	0 - 20
2398664	Nickel	1.09	Spike	P	0 - 20
2398664	Selenium	0.595	Spike	P	0 - 20
2398664	Silver	1.41	Spike	P	0 - 20
2398664	Thallium	0.961	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398781	Chloride	1.33	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398781	Sulfate	1.52	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398638	Ammonia-N	0.759	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398615	Kjeldahl Nitrogen	4.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398083	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398589	Total-P	0.275	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P428127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398314	Acesulfame K	0.0610	Spike	P	0 - 30
2398314	AMPA	1.77	Spike	P	0 - 30
2398314	Endothall	3.27	Spike	P	0 - 30
2398314	Glufosinate	4.00	Spike	P	0 - 30
2398314	Glyphosate	1.86	Spike	P	0 - 30
2398314	Sucralose	16.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P428189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398266	2,4-D	3.06	Spike	P	0 - 30
2398266	2,4,5-T	0.103	Spike	P	0 - 30
2398266	Acetaminophen	2.86	Spike	P	0 - 30
2398266	Acetamidrid	0.389	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P428189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398266	Afidopyropen	8.59	Spike	P	0 - 30
2398266	Bentazon	4.61	Spike	P	0 - 30
2398266	Benzovindiflupyr	2.44	Spike	P	0 - 30
2398266	Carbamazepine	8.28	Spike	P	0 - 30
2398266	Clothianidin	4.82	Spike	P	0 - 30
2398266	Dinotefuran	8.83	Spike	P	0 - 30
2398266	Diuron	12.0	Spike	P	0 - 30
2398266	Fenuron	2.38	Spike	P	0 - 30
2398266	Fluridone	0.725	Spike	P	0 - 30
2398266	Hydrocodone	6.86	Spike	P	0 - 30
2398266	Ibuprofen	3.12	Spike	P	0 - 30
2398266	Imazapyr	3.99	Spike	P	0 - 30
2398266	Imidacloprid	4.38	Spike	P	0 - 30
2398266	Linuron	3.20	Spike	P	0 - 30
2398266	Mandestrobin	1.26	Spike	P	0 - 30
2398266	MCPP	4.67	Spike	P	0 - 30
2398266	Naproxen	5.99	Spike	P	0 - 30
2398266	Primidone	9.18	Spike	P	0 - 30
2398266	Pyraclostrobin	2.70	Spike	P	0 - 30
2398266	Silvex	7.06	Spike	P	0 - 30
2398266	Thiamethoxam	0.974	Spike	P	0 - 30
2398266	Tolfenpyrad	4.53	Spike	P	0 - 30
2398266	Triclopyr	4.32	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P428356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399083	Total Alkalinity	0.0851	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015

Batch ID: P428500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398646	TDS	2.74	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P428725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398585	Fluoride	0.473	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011

Batch ID: P428293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398289	Organic Carbon	1.28	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2398624
Field Sample ID: G2SW0023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	124	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.7	P	30 - 160
EPA 8321B	Diuron-d6	70.6	P	30 - 160
EPA 8321B	Endothall-d6	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	135	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.6	P	30 - 160
EPA 8321B	Primidone-d5	118	P	30 - 160
EPA 8321B	Sucralose-d6	99.7	P	30 - 160

Lab Sample ID: 2398625
Field Sample ID: G2SW0103

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	121	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	80.0	P	30 - 160
EPA 8321B	Diuron-d6	68.1	P	30 - 160
EPA 8321B	Endothall-d6	103	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	115	P	30 - 160
EPA 8321B	Sucralose-d6	83.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A118419

Included Lab Sample IDs: 2398614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118422

Included Lab Sample IDs: 2398614

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118446

Included Lab Sample IDs: 2398615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.0	96.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A118472

Included Lab Sample IDs: 2398624, 2398625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	91.0	88.3	P/P	60 - 160
Sucralose	123	101	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118473

Included Lab Sample IDs: 2398615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118482

Included Lab Sample IDs: 2398626, 2398627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	101	P/P	90 - 110
Antimony	103	103	P/P	90 - 110
Arsenic	103	101	P/P	90 - 110
Barium	100	101	P/P	90 - 110
Beryllium	98.9	98.6	P/P	90 - 110
Boron	98.7	103	P/P	90 - 110
Cadmium	99.0	100	P/P	90 - 110
Chromium	99.7	99.3	P/P	90 - 110
Cobalt	100	99.4	P/P	90 - 110
Copper	98.9	98.5	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Manganese	98.4	101	P/P	90 - 110
Molybdenum	99.9	99.7	P/P	90 - 110
Nickel	100	98.6	P/P	90 - 110
Selenium	102	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118482

Included Lab Sample IDs: 2398626, 2398627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	102	103	P/P	90 - 110
Thallium	105	105	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118486

Included Lab Sample IDs: 2398615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118495

Included Lab Sample IDs: 2398615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A118496

Included Lab Sample IDs: 2398624, 2398625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	87.0	99.4	P/P	50 - 150
2,4-D	91.0	87.0	P/P	50 - 150
2,4,5-T	101	103	P/P	50 - 150
2,4,5-T	96.8	101	P/P	50 - 150
Acetaminophen	103	109	P/P	60 - 160
Acetaminophen	109	108	P/P	60 - 160
Acetamiprid	94.9	94.5	P/P	50 - 150
Acetamiprid	95.9	94.9	P/P	50 - 150
Afidopyropen	113	87.6	P/P	50 - 150
Afidopyropen	87.6	135	P/P	50 - 150
Bentazon	122	125	P/P	50 - 160
Bentazon	125	114	P/P	50 - 160
Benzovindiflupyr	101	103	P/P	50 - 150
Benzovindiflupyr	103	107	P/P	50 - 150
Carbamazepine	105	108	P/P	60 - 150
Carbamazepine	108	115	P/P	60 - 150
Clothianidin	100	101	P/P	60 - 150
Clothianidin	94.7	100	P/P	60 - 150
Dinotefuran	109	124	P/P	50 - 150
Dinotefuran	124	128	P/P	50 - 150
Diuron	107	87.9	P/P	60 - 160
Diuron	126	107	P/P	60 - 160
Fenuron	101	97.9	P/P	60 - 150
Fenuron	97.9	98.2	P/P	60 - 150
Fluridone	97.6	98.9	P/P	60 - 160
Fluridone	98.9	101	P/P	60 - 160
Hydrocodone	129	132	P/P	60 - 150
Hydrocodone	132	134	P/P	60 - 150
Ibuprofen	104	111	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A118496

Included Lab Sample IDs: 2398624, 2398625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ibuprofen	126	104	P/P	50 - 160
Imazapyr	101	108	P/P	50 - 150
Imazapyr	108	106	P/P	50 - 150
Imidacloprid	91.1	95.7	P/P	60 - 150
Imidacloprid	95.7	93.4	P/P	60 - 150
Linuron	88.4	88.5	P/P	60 - 150
Linuron	88.5	95.5	P/P	60 - 150
Mandestrobin	107	96.9	P/P	50 - 150
Mandestrobin	107	107	P/P	50 - 150
MCPP	95.1	95.4	P/P	50 - 150
MCPP	95.4	94.4	P/P	50 - 150
Naproxen	138	81.2	P/P	50 - 160
Naproxen	81.2	107	P/P	50 - 160
Primidone	111	112	P/P	60 - 150
Primidone	118	111	P/P	60 - 150
Pyraclostrobin	102	103	P/P	60 - 150
Pyraclostrobin	103	103	P/P	60 - 150
Silvex	102	86.2	P/P	50 - 150
Silvex	86.2	87.3	P/P	50 - 150
Thiamethoxam	117	119	P/P	50 - 150
Thiamethoxam	119	113	P/P	50 - 150
Tolfenpyrad	93.7	95.6	P/P	60 - 150
Tolfenpyrad	95.6	95.1	P/P	60 - 150
Triclopyr	94.8	97.1	P/P	50 - 150
Triclopyr	97.1	90.4	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A118497

Included Lab Sample IDs: 2398624, 2398625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	100	P/P	60 - 160
Endothall	99.2	100	P/P	60 - 160
Glufosinate	108	94.6	P/P	60 - 160
Glyphosate	110	108	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A118519

Included Lab Sample IDs: 2398614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.0	93.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118538

Included Lab Sample IDs: 2398615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A118539

Included Lab Sample IDs: 2398626, 2398627

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118603

Included Lab Sample IDs: 2398614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.4	99.3	P/P	90 - 110
Sulfate	97.9	98.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118673

Included Lab Sample IDs: 2398614

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
DEP SOP: NU-094-1	Color (true)	98.7					0.749	
EPA 180.1 Rev. 2.0	Turbidity	100						
EPA 200.7 Rev. 4.4	Calcium	104	104	103				0.869
	Iron	106	106	105	105			0.990
	Magnesium	108	108	105	106			1.63
	Potassium	106	111	111	105			0.496
	Sodium	110	109	110	111			0.234
	Strontium	105	105	105	106			0.490
	Tin	105	102	104	104			1.87
	Titanium	104	106	103	104			0.361
	Vanadium	104	103	104	108			0.597
	Zinc	107	103	105	107			2.00
EPA 200.8 Rev. 5.4	Aluminum	104	102	103	101			0.354
	Antimony	105	104	105	103			1.55
	Arsenic	104	102	103	99.3			0.480
	Barium	106	103	104	102			0.691
	Beryllium	96.1	99.2	95.7	95.0			3.60
	Boron	104	100	102	102			1.15
	Cadmium	103	99.7	103	101			3.15
	Chromium	102	102	103	98.7			0.870
	Cobalt	104	102	103	99.2			0.192
	Copper	103	100	101	96.2			1.22
	Lead	105	104	103	101			0.444
	Manganese	99.2	100	101	100			0.788
	Molybdenum	102	103	103	102			0.774
	Nickel	104	102	103	98.8			1.09
	Selenium	102	101	101	97.6			0.595
	Silver	105	105	106	107			1.41
	Thallium	104	104	105	101			0.961
EPA 300.0 Rev. 2.1	Chloride	101	101	101			1.33	
	Sulfate	98.1	97.4	96.6			1.52	
EPA 350.1 Rev. 2.0	Ammonia-N	92.2	97.2	98.0				0.759
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	88.4	82.9				4.26
EPA 353.2 Rev. 2.0	NO2NO3-N	102	100	100				0.0
EPA 365.1 Rev. 2.0	Total-P	98.6	100	99.9				0.275
EPA 8321B	2,4-D	107	119	123				3.06
	2,4,5-T	88.6	108	109				0.103
	Acesulfame K	89.6	93.7	93.8				0.0610
	Acetaminophen	99.2	110	106				2.86
	Acetamiprid	83.0	92.9	93.3				0.389
	Afidopyropen	86.6	104	95.1				8.59
	AMPA	109	116	114				1.77
	Bentazon	93.8	97.5	103				4.61
	Benzovindiflupyr	79.3	86.2	84.1				2.44
	Carbamazepine	81.1	90.9	98.7				8.28
	Clothianidin	86.0	93.2	97.8				4.82
	Dinotefuran	92.9	106	116				8.83
	Diuron	77.7	70.9	79.9				12.0
	Endothall	89.8	98.3	95.1				3.27
	Fenuron	81.5	80.7	82.7				2.38
	Fluridone	84.1	84.5	83.9				0.725
	Glufosinate	105	95.4	99.3				4.00
	Glyphosate	120	113	111				1.86
	Hydrocodone	96.2	106	114				6.86

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Ibuprofen	68.9	75.3	73.0			3.12
	Imazapyr	91.3	108	112			3.99
	Imidacloprid	82.3	99.4	104			4.38
	Linuron	76.6	79.8	77.3			3.20
	Mandestrobin	81.8	90.9	89.8			1.26
	MCPP	95.6	108	103			4.67
	Naproxen	78.1	116	110			5.99
	Primidone	97.0	103	113			9.18
	Pyraclostrobin	75.2	81.6	83.8			2.70
	Silvex	116	115	124			7.06
	Sucralose	102	101	119			16.3
	Thiamethoxam	92.0	91.2	90.4			0.974
	Tolfenpyrad	46.9	48.9	51.2			4.53
	Triclopyr	103	104	99.7			4.32
SM 2320 B-2011	Total Alkalinity	95.9				0.0851	
SM 2540 C-2015	TDS	97.7				2.74	
SM 2540 D-2015	TSS	91.7					
SM 4500-F- C-2011	Fluoride	99.4					0.473
SM 5310 B-2011	Organic Carbon	92.4	94.2	95.5			1.28

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2398614
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2398614
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2398626, 2398627
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2398626, 2398627
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2398614
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2398614
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2398615
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2398615
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2398615
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2398615
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2398624, 2398625
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2398614
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2398626, 2398627
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2398614
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2398614
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2398614
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2398615

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	04/06/2023			04/06/2023 14:38	Alexis Price	2398614
EPA 180.1 Rev. 2.0	04/06/2023			04/06/2023 14:06	Anna M. Plaviak	2398614
EPA 200.7 Rev. 4.4	04/06/2023	04/07/2023 11:35	George D Taylor	04/12/2023 21:03	McKinley C Carter	2398626
	04/06/2023	04/07/2023 11:35	George D Taylor	04/12/2023 21:11	McKinley C Carter	2398627
EPA 200.8 Rev. 5.4	04/06/2023	04/07/2023 11:35	George D Taylor	04/10/2023 16:35	Emily M Philpot	2398626
	04/06/2023	04/07/2023 11:35	George D Taylor	04/10/2023 16:44	Emily M Philpot	2398627
EPA 300.0 Rev. 2.1	04/06/2023			04/13/2023 08:02	Anna M. Plaviak	2398614
EPA 350.1 Rev. 2.0	04/06/2023			04/07/2023 12:21	Khloe J Berg	2398615
EPA 351.2 Rev. 2.0	04/06/2023	04/11/2023 12:43	Dana G. Hughes	04/12/2023 16:58	Samantha L Bates	2398615
EPA 353.2 Rev. 2.0	04/06/2023			04/11/2023 10:56	Beverly Y. Sanders	2398615
EPA 365.1 Rev. 2.0	04/06/2023	04/07/2023 16:12	Adam P Silver	04/10/2023 12:01	James L Waggeberby	2398615
EPA 8321B	04/06/2023	04/07/2023 15:00	Touraj Touran	04/08/2023 14:12	Manjita Shrestha	2398624
	04/06/2023	04/07/2023 15:00	Touraj Touran	04/08/2023 14:25	Manjita Shrestha	2398625
	04/06/2023	04/07/2023 15:00	Touraj Touran	04/09/2023 14:45	Manjita Shrestha	2398624
	04/06/2023	04/07/2023 15:00	Touraj Touran	04/09/2023 14:59	Manjita Shrestha	2398625
	04/06/2023	04/10/2023 09:00	Hoor Shaik	04/10/2023 21:57	Juyoung Kim	2398624
	04/06/2023	04/10/2023 09:00	Hoor Shaik	04/10/2023 22:35	Juyoung Kim	2398625
SM 2320 B-2011	04/06/2023			04/12/2023 00:22	Dale L. Simmons	2398614
SM 2340 B-2011	04/06/2023			04/12/2023 21:03	McKinley C Carter	2398626
	04/06/2023			04/12/2023 21:11	McKinley C Carter	2398627
SM 2540 C-2015	04/06/2023			04/11/2023 14:15	Blanca Fach	2398614
SM 2540 D-2015	04/06/2023			04/07/2023 14:45	Dana G. Hughes	2398614
SM 4500-F- C-2011	04/06/2023			04/19/2023 15:51	Dale L. Simmons	2398614
SM 5310 B-2011	04/06/2023			04/10/2023 18:52	Elise M. Gillis	2398615